

Air Ministry  
METEOROLOGICAL OFFICE



THE  
OBSERVATORIES' YEAR BOOK  
1933

Comprising the meteorological and geophysical results obtained from autographic records and eye observations at the observatories at Lerwick, Aberdeen, Eskdalemuir, Cahirciveen (Valentia Observatory), and Richmond (Kew Observatory), and the results of soundings of the upper atmosphere by means of registering balloons.

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## PREFACE.

From 1908 to 1921, the serial statistical publications of the Meteorological Office were grouped together as though they were parts of one comprehensive book. This book, which was entitled "The British Meteorological and Magnetic Year Book," consisted of :—

Part I	..	..	..	..	The Weekly Weather Report.
Part II	..	..	..	..	The Monthly Weather Report.
Part III, Section I	..	..	..	..	Daily Readings at Meteorological stations of the First and Second Orders.
Section II	..	..	..	..	Geophysical Journal, Daily Values of Meteorological and Geophysical Elements.
Part IV, Section I	..	..	..	..	Hourly Values from Autographic Records, Meteorological Section.
Section II	..	..	..	..	Hourly Values from Autographic Records, Geophysical Section.
Part V	..	..	..	..	Réseau Mondial.

The data for the year 1922 and subsequent years are found in the following publications :—

New Publication from 1922.				Corresponding parts of the British Meteorological and Magnetic Year Book until the end of 1921.	
The Weekly Weather Report	..	..	..	..	Part I.
The Monthly Weather Report	..	..	..	..	Part II.
The Observatories' Year Book	..	..	..	..	Part III, Section II.
					Part IV, Section I.*
					Part IV, Section II.
The Réseau Mondial	..	..	..	..	Part V.

It will be noticed that Part III, Section I, of the old publication is not included in the new issues. This part contained "Daily Readings at Meteorological Stations of the First and Second Orders," and it has been decided that as the Observatories' Year Book contains daily values of the meteorological elements for the principal first order stations and the Daily Weather Report contains daily values for these and about 40 other stations, it is not necessary to revive the issue of this section, which ceased with the data for 1921.

The present volume is the twelfth issue of the Observatories' Year Book. It contains geophysical data for Lerwick, Eskdalemuir, Cahirciveen and Richmond, meteorological data for Aberdeen, Eskdalemuir, Cahirciveen and Richmond, and in addition an aerological section giving the results of soundings of the upper atmosphere by means of registering balloons.

The table of mean annual values of magnetic data for observatories of the globe has been contributed by the Astronomer Royal. It will be found at the end of the Eskdalemuir section.

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\*Part IV, Section I, Hourly Values from Autographic Records, Meteorological Section, was discontinued after the data for 1913 had been published. The hourly values for the years 1914 to 1921 are, however, available in manuscript.



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## ERRATA IN PREVIOUS VOLUMES.

### *Hourly Values, 1918.*

P. 27. Table XXIII.—Heading. *For North read Vertical.*

### *Hourly Values, 1919.*

P. 17. (Magnetic Section). Table III.—January 21st. V component at 8h. *For 1983 read 1083.*

P. 26. (Magnetic Section). Table XXII.—June 1st. W. component at 8 h. *For 951 read 851.*

### *Year Book, 1922.*

P. 159. Table 207.—March 27th. V component at 10h. *For 1071 read 1017.*

### *Year Book, 1930.*

P. 347. Table A. March  $a_2$ . *For 33 read 147.*  
 April  $a_2$ . *For 34 read 146.*  
 Year  $c_2$ . *For .258 read .360.*  
 Year  $a_2$ . *For 136 read 151.*  
 Equinox  $c_2$ . *For .178 read .412.*  
 Equinox  $a_2$ . *For 94 read 155.*

### *Year Book, 1932.*

P. 40. Table II.—Minimum Value Vertical Force. *For 25756γ read 45756γ.* ✓



## LIST OF OBSERVATORIES.

	Latitude.	Longitude.	G.M.T. of Local Mean Noon.	Height above M.S.L.
	° ' "	° ' "	h m	metres
Lerwick, Shetland Isles .. .. .	60 8 N.	1 11 W.	12 5	81·7
Aberdeen .. .. .	57 10 N.	2 6 W.	12 8	{ 11·4† 24·1
Eskdalemuir, Dumfries-shire .. ..	55 19 N.	3 12 W.	12 13	242·0
Valentia Observatory, Cahirciveen, Co. Kerry.	51 56 N.	10 15 W.	12 41	9·1
Kew Observatory, Richmond, Surrey ..	51 28 N.	0 19 W.	12 1	5·5

*Note.*—The height given is that of the site of the rain-gauge. The heights of other meteorological instruments are shown in the appropriate Tables.

† The site of the rain-gauge was altered on 1st June 1928 to a height of 11·4 metres and on 1st April 1933 to a height of 24·1 metres.

## NORMAL VALUES AND MONTHLY SUMMARIES.

Monthly and annual normals of pressure, dry bulb temperature, and rainfall for each hour of the day and for the period of 45 years, 1871–1915, are published for the observatories, Aberdeen, Cahirciveen, Richmond and Falmouth in *Hourly Values from Autographic Records*, 1917 (Part IV of the British Meteorological and Magnetic Year Book, 1917), and in previous volumes of that series. Corresponding normals of wind-speed and sunshine\* are published there for the same observatories and for the period of 35 years, 1881–1915, while corresponding normals of relative humidity are also published there for the period of 30 years, 1886–1915. For Eskdalemuir the same publication gives hourly averages for the months and for the year, referred to the period 1911–1915.

It should be noted, however, that the normal hourly values in the case of wind, rainfall and sunshine refer to periods of 60 minutes centred at exact hours G.M.T., and are therefore not directly comparable with the values printed in this volume which refer to periods of 60 minutes ended at exact hours G.M.T.

Summaries giving additional mean values and frequencies of occurrence of various meteorological phenomena will be found for all the observatories in *The Monthly Weather Report* and its Annual Summary. The latter also contains special summaries of the tabulations of the anemographs.

Monthly normal values of maximum, minimum and mean temperature, rainfall and sunshine for the period 1881–1915 are published in the *Book of Normals*, Section I, for Aberdeen, Cahirciveen, Richmond and Falmouth. Section IV of the same publication gives information regarding the range of variation of temperature and rainfall at the same observatories, and monthly frequencies of the normal numbers of days of hail, thunder, snow, snow-lying and ground frost. Section VI of the *Book of Normals* gives tables and isopleth diagrams showing the normal diurnal and seasonal variation of relative humidity at all the observatories for which data of relative humidity are included in this volume.

Monthly average values of maximum, minimum and mean temperature for 1901–1930 in the cases of Aberdeen, Cahirciveen and Richmond, and for the period 1910–1930 in the case of Eskdalemuir are published in *Averages of Temperature for the British Isles*.

Averages of total monthly duration and daily mean duration of bright sunshine for similar periods are published in *Averages of Bright Sunshine for the British Isles*.

\*The normals of hourly values of sunshine for Aberdeen for all months except February are incorrect, owing to an error in computation. The published values except February, should be increased by one-third.



## GENERAL INTRODUCTION TO THE METEOROLOGICAL TABLES.

The elements dealt with in the following meteorological tables for the Observatories at Aberdeen, Eskdalemuir, Cahirciveen and Richmond are :—barometric pressure, air temperature, humidity, rainfall, sunshine, wind speed and direction, minimum night temperature on the grass, temperature in the ground, cloud, visibility and weather, and in some cases solar radiation and level of underground water.

The positions of the Observatories and the heights of the sites are given on p. 8.

### NOTES ON THE INSTRUMENTS AND TABULATION OF THE RECORDS.

A detailed description of the barograph, thermograph, and Beckley rain-gauge used for obtaining the records of pressure, temperature, humidity, and rainfall is given in the *Reports* of the Meteorological Office for the years 1867 and 1869; for a description of other instruments in use reference may be made to the *Meteorological Observer's Handbook* and to the article on Meteorological Instruments in the *Dictionary of Applied Physics*, Vol. III. The following notes are supplementary and are given partly for reference and partly as containing information necessary for the interpretation of the tables.

**Barometer.**—The record of barometric pressure is obtained photographically from a mercurial barometer.

By means of a source of light, a condenser and an objective arranged as in the ordinary optical lantern, an image of the space above the mercury in the tube, reduced to very small width by means of a diaphragm, is projected upside down upon a sheet of photographic ("bromide") paper carried upon a cylinder which is rotated by means of clockwork and makes one revolution about its vertical axis in rather more than 48 hours. The image is in the form of a vertical line of light, the upper edge of which is defined by the position of the mercury in the barometer tube, while the lower edge is defined by a plate actuated by a zinc rod. The purpose of the zinc rod is to provide an automatic compensation for temperature changes, the arrangement being such that any shortening of the line of light due to a rise of temperature and consequent expansion of mercury in the tube is balanced by an equal lengthening due to movement of the plate carried on the zinc rod.

The barogram is, therefore, a continuous photograph of a narrow illuminated vertical line and appears as a horizontal ribbon, the depth of which is constantly varying with the rise or fall of the mercury in the tube of the barometer.

A time-scale is recorded upon the barogram by means of a shutter actuated by the clock. This shutter cuts off the light for the space of four minutes every two hours, thus producing interruptions which appear on the record as narrow white spaces corresponding with intervals of four minutes centred at the half hours 1h 30m, 3h 30m, etc. Until 1918 these time-breaks occurred at the even hours, 2h, 4h, 6h, etc., but it was found that when the edge of the record was not critically sharp owing to various causes, a systematic error was introduced when measuring the records, whereby the values at the even hours were slightly in excess of those at the odd hours where no time-break existed. From 1918 onwards the clock was so arranged that the time-breaks should occur half an hour before the even hours; by this means both even and odd hour-values are measured at points on the trace which are unaffected by any systematic difference.

Control readings of a standard barometer are taken three times a day by different observers. The control readings are first corrected for index error, temperature and gravity, and then compared with the corresponding readings of the barogram. The differences between the control readings and the corresponding tabulated values



are then found and a correction derived therefrom is applied to all the tabulated values. This correction, known as the "residual correction," is so applied as to run smoothly throughout the whole length of each record—a period of 48 hours—and alterations in the amount of the correction occur, where necessary, in steps not exceeding 0.1 millibar.\*

The scale value of the barograms is found from a comparison of a series of such standard and curve readings. The indications of a curve are converted into numerical values by measuring the ordinates with a tabulating instrument, graduated according to the ascertained scale value.

**Thermometers.**—The air temperature and humidity data at each Observatory are derived from records obtained photographically from two mercurial thermometers. One thermometer is used as a dry bulb and the other as a wet bulb thermometer.

Each thermometer has a large cylindrical bulb four inches long and a very long stem. The latter is bent twice at right angles to enable the bulb to be exposed outside the building in a louvred screen attached to the north wall of the Observatory.† The column of mercury in the vertical portion of the stem inside the building is broken at a convenient point by a small air space which moves up or down the stem with rise or fall of temperature. The record is obtained by passing a reflected beam of light through the air space and photographing its image upon a moving sheet of "bromide" paper in the same manner as described in the case of the barometer. A base line is traced on the paper by a pencil of light passing through a small aperture in the brass frame carrying the recording thermometer. The time-scale is automatically recorded upon the curves, a time-break occurring half an hour before each even hour.

Two large standard thermometers with very open scales graduated in degrees absolute and having bulbs similar to those of the thermograph are mounted in the screen side by side and close to the thermograph bulbs. One of the thermometers is arranged as a dry bulb, the other as a wet bulb. Control readings of these thermometers are made three times a day for comparison with the corresponding readings obtained from the thermograms.

The scale-value of the curves is found by a comparison of the readings of the standard thermometers, corrected for any errors they may have, with the corresponding measurements of the curves. The curves are measured by means of a plate of glass ruled with lines corresponding with the ascertained scale-value of the record, both for temperature and for time. The scale is graduated so as to read degrees vertically and hours horizontally.

Two alternative methods of reading the curves have been adopted.

- (a) At Richmond the scale is set by the base-line and after hourly readings have been obtained for the whole record comparisons are made with the control readings. The residual correction so determined (normally the same for the whole record of 48 hours) is applied to the tabulations.
- (b) At Aberdeen, Eskdalemuir and Cahirciveen, the practice is to adjust the glass scale so that the readings at the control hours on the trace are made to show general agreement with the corresponding eye-readings of the standard thermometers. The temperature equivalent of any part of the curve can then be read off. The base-line photographed on the record serves as a useful check.

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\* At Cahirciveen and Richmond the rule is to apply the same correction for the whole chart.

† At Eskdalemuir the screen stands in the open.



**Rainfall.**—This element is recorded by a Beckley self-registering rain-gauge, in which the rain as it falls is collected in a receiver supported on a float in a vessel of mercury. As the rain passes into the receiver, the float gradually sinks, carrying with it a pen which records its position upon a chart wrapped round a clock-driven cylinder. The displacement of the mercury by the float is arranged so as to give a uniform scale throughout. When five millimetres (two-tenths of an inch) of rain have entered the receiver a siphon comes into action, and, by discharging its contents, causes the float to rise till the pen is brought back to the zero line, from which the record begins again.

The collecting funnel of the Beckley rain-gauge has an area of approximately 100 square inches. Each gauge stands on level ground and its distance from every other object is greater than twice the height of the object. The height of the rim of the Beckley rain-gauge above the surface of the surrounding ground varies from 0.4 m. to 0.6 m. at the different observatories. Details are given at the head of the tables of hourly values. A check gauge with funnel 8 inches in diameter is installed near by.

The records obtained from the Beckley self-registering rain-gauge are, if necessary, subjected to a proportional correction whereby they are brought into agreement with the amount of rainfall as recorded by the check rain-gauge which is read twice daily at, 7h. and 18h.

**Sunshine.**—The record of sunshine is obtained from a Campbell-Stokes recorder in which instrument the sun's rays are focussed through a 4-inch spherical lens of crown glass upon a strip of blue card, which is scorched, or burned right through, according to the intensity of the sun's rays. Three different patterns of card are used at different seasons of the year. The cards are exposed in a metal bowl, and the focussed image of the sun leaves its mark behind it as it travels along the surface of the card with the apparent motion of the sun through the heavens. The intensity of the burn is not measured, but the record is regarded as that of "bright" sunshine whenever the card has been distinctly scorched. When measuring the duration of sunshine which is represented by intermittent burns, an allowance is made for the extension of the trace by the charring of the card.

**Wind - Speed and Direction.**—The hourly values of wind-speed and direction for Eskdalemuir, Richmond and Cahirciveen which appear in this volume are derived from the records of Dines tube anemographs, a description of which will be found in the *Meteorological Observer's Handbook*. In the case of Aberdeen, where building operations have seriously impaired the exposure of the tube anemograph, data from the Robinson cup anemograph, adjusted as explained in the sectional introduction, have again been printed for 1933. Instantaneous velocities for Aberdeen refer, however, to tube anemographs; for the first three months of the year the tube anemograph used was that with impaired exposure, for the rest of the year a tube anemograph at a new site has been utilised. At Eskdalemuir records of tube anemographs have always been used, but at the older observatories the data printed in volumes previous to that of 1926 were obtained from Robinson cup anemographs. At Richmond a new Dines tube anemograph, erected on the dome in the position formerly occupied by the Robinson cup anemograph, but with its vane 3 metres higher than the original height of the cups, has been brought into use from January 1st, 1931. At Cahirciveen (Valentia Observatory) a new Dines tube anemograph, with 1-inch connecting pipes, was brought into use as from January 1st, 1932. The new instrument was erected alongside the old instrument, and a comparison extending over the period May, 1931, to January, 1932, showed that the new instrument recorded higher velocities than the old. In hourly mean values the difference was nearly uniform and equal to .4 m/s or 1 mi/hr.



In gust velocities the increase was approximately 12 per cent. of the velocity recorded by the old instrument. At Eskdalemuir a new Dines tube anemograph with 1 inch connecting pipes was brought into use as from 11th August 1933. The diameter of the connecting pipes of the old instrument was  $\frac{1}{2}$  inch. Particulars of the exposure of the instruments at each Observatory will be found in the sectional introductions.

The relation between the values of wind speed recorded by the cup and tube anemographs at the several observatories was briefly discussed in the General Introduction to the volume for 1926. The following table gives, for the various wind directions, the mean values of wind speed recorded by the tube anemographs, expressed as percentages of the corresponding values recorded by the cup anemographs:—

*Average values of the quantity  $100 \times \frac{\text{Speed by tube anemograph}}{\text{Speed by cup anemograph}}$   
at the three observatories, arranged according to the direction of the wind.*

North = 360°, East = 90°, South = 180°, West = 270°.

Wind Direction in degrees from North.	Aber- deen. (to 1929)	Cahir- civeen. (to 1931)	Richmond.		Wind Direction in degrees from North.	Aber- deen. (to 1929)	Cahir- civeen. (to 1931)	Richmond.	
			1926-30	1931				1926-30	1931
10	131	103	99	114	190	138	137	96	107
20	132	103	100	113	200	132	134	99	107
30	130	104	103	114	210	124	128	99	104
40	117	103	103	110	220	115	115	100	104
50	115	104	104	109	230	108	102	100	104
60	115	105	99	103	240	110	90	100	103
70	119	105	99	102	250	112	88	101	106
80	113	104	97	99	260	114	85	101	107
90	110	102	101	103	270	128	82	101	108
100	126	98	104	106	280	124	81	103	111
110	121	97	102	103	290	110	83	101	111
120	118	98	100	102	300	99	88	96	108
130	118	100	104	105	310	100	92	93	103
140	125	103	102	105	320	108	95	96	107
150	128	107	98	102	330	111	97	99	115
160	137	114	92	99	340	120	98	98	116
170	133	123	92	103	350	138	99	103	119
180	135	134	95	106	360	135	102	104	122

Details in regard to the comparison of the new and old tube anemographs at Richmond will be found in the sectional introduction for the year 1931.

**Minimum Night Temperature on the Grass.**—This is the temperature determined by a minimum thermometer exposed freely over the surface of the grass. The stem of the thermometer is enclosed in an outer glass jacket, but the spirit bulb is freely exposed to the air. The thermometer is supported on two small Y-shaped pieces of wood so that it lies horizontally, with its bulb about one or two inches above the ground, which is covered with short grass. When snow has fallen the thermometer is supported so as to lie just above the surface of the fallen snow, but not touching it.

The thermometer is laid out at 18h. each day, having been kept in an upright position, bulb downwards, inside the Stevenson Screen during the daytime, so that any spirit that may have condensed in the upper part of the stem may be able to run down and join the main spirit column.

**Earth Temperature.**—At each observatory the earth temperature is read daily at 9h at depths of 30 cm. and 122 cm. below the surface. For this purpose use is made of



Symons' earth thermometers, in which the bulb is embedded in paraffin wax for the purpose of introducing sufficient "lag" to ensure that the reading will not change appreciably during the process of drawing up the thermometer in order to take the reading. The thermometers are supported at the correct depth in steel tubes sunk into the ground. At Aberdeen discontinuities have occurred on several occasions in recent years owing to changes of site. (See sectional introduction).

#### NOTES ON THE TABLES.

**General.**—Interpolated values are printed within brackets, ( ). Maximum and minimum values are underlined.

**Standard of Time.**—The observations are referred to *Greenwich Mean Time* except as regards sunshine, for which element *local apparent time* is used.

**Units.**—In accordance with the practice introduced in 1911, as a consequence of certain resolutions of the Gassiot Committee of the Royal Society, the values in the tables are expressed throughout in units based upon the C.G.S. System: tables for conversion to other units are given in the *British Meteorological and Magnetic Year Book (Part IV)* for 1913 and are also to be found in the *Computer's Handbook*.

**Daily Mean Values.**—The daily means of pressure, temperature, and relative humidity are obtained by adding half the sum of the values for the initial and final midnights to the sum of the 23 intermediate hourly values and dividing by 24.

For wind speed the tabulated hourly values are means for periods of 60 minutes between the exact hours 0h and 1h, 1h and 2h, etc.\* The daily mean is therefore obtained by dividing the sum of the 24 hourly values by 24.

In the preparation of the tables of diurnal inequalities for individual months and for the year, it is assumed that the difference of value between the means for the initial and final midnights, which may be termed, so far as the hourly variations are concerned, the non-cyclic variation, is equally distributed over the whole 24-hour period.

A note on the computation of the correction for non-cyclic change will be found at the end of this Introduction.

**Annual Values.**—The mean values or totals for the whole year (given either in separate tables or at the end of the corresponding monthly tables), are computed as the means or sums of 365, in leap year 366, daily values.† The annual values of pressure at sea level are computed from the annual means at station level and the annual means of air temperature; the annual values of vapour pressure are derived from the annual means of air temperature and relative humidity.

**Atmospheric Pressure.**—All pressures recorded in this volume are expressed in *millibars*, one millibar being equal to 1000 dynes per square centimetre. The following are the values of physical constants used in evaluating the data:—

Density of Mercury = 13.5955 grams per cc. at 0°C.

Intensity of Gravity at Sea Level (Lat. 45°) = 980.617 centimetres per second per second.

1 inch = 25.4000 millimetres.

Hence a pressure of 1000 millibars corresponds with a reading of 750.076 millimetres on a mercury barometer at temperature 0°C. in Lat. 45° and is equivalent to 29.5306 inches under standard conditions of temperature (mercury at freezing point, scale at 62° F.) in Lat. 45°.

The true pressure in millibars can only be obtained from the reading of a barometer after the latter has been suitably corrected for (a) index error, (b) temperature, and (c) gravity.

\* See Note, p. 17.

† At Eskdalemuir the annual values for the years 1922 to 1926 were computed as the means or sums of 12 monthly values.



These corrections have been applied to the barometer readings in obtaining the pressure values published in this volume. The corrections for index error (including those for capillarity) are given in the certificates issued by the Kew Observatory or the National Physical Laboratory in respect of the standard barometers at each observatory. The corrections for temperature are equivalent to those published in the *International Meteorological Tables* (Gauthier-Villars, Paris, 1890). The correction for the variation of gravity from its standard value at sea level in latitude  $45^\circ$ , quoted above, is in accordance with the formula adopted in the *International Tables*, viz. :—

$$g_{z,\lambda}/g_{0,45} = (1 - 0.00259 \cos 2\lambda) (1 - 5z/4E)$$

where  $z$  = height of the station above M.S.L.  
 $E$  = earth's radius, both expressed in the same units,  
and  $\lambda$  = latitude of station.

Except at Eskdalemuir, the correction for the variation of gravity with height, contained in the second factor of the above equation, is insignificant.

Unless otherwise stated, all pressure values refer to the level of the observatory, as given in the headings of the tables. The reduction to sea level, wherever made, is effected by tables drawn up for each observatory in accordance with the following scheme :—

If  $p$  is pressure at station level, and  $P$  is pressure at sea level, the correction required to reduce  $p$  to sea level is  $P - p$  where

$$\log_e (P/p) = \bar{g}z (1 - 3\bar{w}/8p)/K\bar{T}.$$

$z$  = height of station in centimetres.

$e$  = base of Napierian logarithms.

$K$  = gas constant for dry air =  $10^9/348.4$  C.G.S. units.\*

$\bar{T}$  = mean absolute temperature of the air column between station level and mean sea level.

$\bar{w}$  = mean value of water vapour pressure in the column.

$\bar{g}$  = mean value of the acceleration of gravity in the air column. Even at Eskdalemuir, the highest station, the effect on the correction of the variation of gravity with height is, in this case, negligible, so that

$$g = 980.617 (1 - 0.00259 \cos 2\lambda).$$

The factor  $(1 - 3\bar{w}/8p)$  in the above formula is practically unity except at Eskdalemuir. Its value for that observatory was discussed in the Introduction to the Eskdalemuir section for the year 1928.

In the same way, the value of  $\bar{T}$  at each observatory differs inappreciably from the value of air temperature at the observatory, except in the case of Eskdalemuir (see Introduction to Eskdalemuir section for details).

Hence at all observatories except Eskdalemuir, no corrections are applied for the effects of water vapour, or of change of air temperature in the column of air between the station and sea level.

The scheme for correcting barometer readings outlined above was introduced for Eskdalemuir at the beginning of 1927. For the other observatories, it has come into effect as from 1st January, 1928. The effects of the introduction of the scheme on the tabulated values are briefly referred to in the several introductions to the individual sections. Only at Eskdalemuir are they at all appreciable.

The tables contain values of pressure at exact hours obtained from the photographic barograms in the manner described on p. 9; also daily, monthly and annual means of hourly values, together with the monthly and annual means of diurnal inequalities. Monthly and annual means of the hourly values after reduction to mean sea level are also given.

\* This value depends on a coefficient of expansion of dry air of  $1/273$  and on the density of dry air at pressure 1013.23 mb. and temperature  $273^\circ\text{A}$ , viz.,  $1293.052 \text{ g/m}^3$ .



There is also a table showing the daily extremes of pressure, *i.e.*, the maximum and minimum values recorded during each day.

**Temperature.**—The scale on which temperatures are recorded is such that the freezing point of water under atmospheric pressure is 273°A precisely. Other temperatures differ by 273·0 from readings on the Centigrade scale.

The scale approximates to the absolute scale defined by Lord Kelvin, on which the temperature of the freezing point is 273·1 to the nearest tenth of a degree.\* Accordingly, to convert temperatures published in this volume to the Kelvin scale, a correction + 0·1 is to be added to each reading.

As an alternative to the application of this correction modified values may be used for the constants which enter certain formulæ. For example :—At temperature  $t$  on the scale adopted in the Year Book, the radiation according to Stefan's Law† is

$$5\cdot709 \times 10^{-5} (t + 0\cdot1)^4 \text{erg}/(\text{cm.}^2 \text{ sec.}) ; \text{ or } 5\cdot717 \times 10^{-5} t^4 \text{erg}/(\text{cm.}^2 \text{ sec.})$$

In using the modified formulæ we are virtually adopting a scale of temperature with the degrees greater than those of the Centigrade scale, in the ratio of 273·1 to 273. This is the practice of the *Computer's Handbook* of the Meteorological Office.

The tables give the values of temperature at exact hours obtained from the photographic thermograms; also daily, monthly and annual means of hourly values, together with the monthly and annual means of diurnal inequalities. There is also a table showing the daily extremes of temperature.

**Humidity.**—When the temperature of the wet bulb is above 273°A, values of relative humidity at exact hours are deduced from the corresponding values of dry and wet bulb temperatures obtained from tabulations of the photographic thermographs, complete saturation being taken as 100. Until the end of the year 1925 the reduction was effected from tables based on Glaisher's hygrometric factors,‡ but from 1st January, 1926, tables have been employed which proceed from Regnault's formula

$$x = f - Ap(t - t'),$$

where  $x$  = vapour pressure under the conditions of observation.

$f$  = saturation vapour pressure at the temperature ( $t'$ ) of the wet bulb.

$p$  = pressure of the air.

$t$  = temperature of the dry bulb in absolute (Centigrade) degrees.

$t'$  = temperature of the wet bulb in the same units.

$A$  = a constant.

The tables used in this volume for determining the hourly values of relative humidity when the wet bulb is above the freezing point are *Jelineks Psychrometer-Tafeln* (6th edition, Leipzig, 1911).§

No allowance for variation of pressure  $p$  is made and the standard value used in Jelinek's tables, *i.e.*, 755 mm. of mercury (1006·57 mb.), is adhered to. Similarly no allowance is made in the adopted value of the constant "A" for the speed of the air flowing past the wet bulb, though it is well known that "A" is not independent of the ventilation. "A" is regarded as fixed and equal to 0·0008. In view of the well-marked diurnal variation of wind-speed, the diurnal variation of humidity, derived in this manner, is subject to slight modification.

\* A. L. Day and R. B. Sosman, *Dictionary of Applied Physics*. Macmillan, London, 1922. Vol. I, p. 840.

† The constant 5·709 is the value which has been adopted by the International Research Council for publication in the "*International Critical Tables*."

‡ Glaisher's Hygrometrical Tables, 7th edition, London, 1885.

§ These tables give values which are in almost exact agreement with those given by *Hygrometric Tables* published by the Meteorological Office in 1924 (M.O. 265) for general use at second and third order stations. The latter tables are not suited to the purposes of this Year Book, because in them temperature is expressed in Fahrenheit degrees, whereas the absolute Centigrade scale of temperature is used at the observatories.



When the wet bulb reading does not exceed  $273^{\circ}\text{A}$ , the above method of reduction is not followed, but values of relative humidity are derived from the record of the hair hygograph. To these values are applied appropriate corrections based on a comparison between the readings of the record of that instrument and the corresponding values of humidity computed from dry and wet bulb readings during neighbouring periods when the wet bulb readings exceeded  $273^{\circ}\text{A}$ .

The mean values of vapour pressure are computed by slide rule from a table\* of saturation vapour pressure over water, and the corresponding mean values of relative humidity and air temperature.

The normal hourly values of relative humidity for the period 1886–1915, published for certain Observatories in "Hourly Values from Autographic Records, 1917," were derived from tables based on Glaisher's factors. The application of the new tables to the normal hourly values of dry and wet-bulb temperature gives results for normal relative humidity which are only slightly different from those which have been published. At Kew Observatory in winter the difference is negligible; in July it does not exceed 1 per cent. at any hour, in October it does not exceed 2 per cent. at any hour. The effect is greatest in April, when the published normal values of average relative humidity are reduced by 3 per cent. at noon and at 16h. and by smaller amounts at other hours.

Of greater importance is the effect on the values of absolute minimum humidity. Under the old system, entries of relative humidity less than 30 per cent. seldom occurred; under the new system, such entries may occur not infrequently.

Tables are printed giving the values of relative humidity at exact hours together with daily, monthly and annual means of hourly values. Monthly and annual means of vapour pressure computed from the corresponding mean values of temperature and relative humidity, together with monthly and annual means of diurnal inequalities of relative humidity, are also given.

**Rainfall.**—Tables are given showing for the 60-minute intervals between exact hours† the amount of precipitation, expressed in millimetres, derived from the record of the Beckley gauge (see p. 11). Totals of amount are given for each day, and for each month; the latter totals referring both to the complete days of the month, and to each of the hours of the day. When zero rainfall is assigned to a particular hour, the entry appears as "...". Corresponding totals of durations of rainfall are also given, the duration being regarded as the number of hours during which rain falls at a rate of not less than 0.1 millimetre per hour. If slight precipitation, due to rain, snow, fog or dew, extends over some hours, and if the amounts collected in some or all of the hours are less than 0.1 mm., the fact is indicated by a succession of entries, each of which is enclosed within brackets, covering the period over which precipitation is known or believed to have occurred. In such cases entries of (0.1) are allocated evenly among the hours concerned in such a way that their sum is equal to the aggregate fall during the period, and the remaining entries are (...), (\*), ( $\equiv$ ) or ( $\Delta$ ) according as the precipitation took the form of rain, snow, fog or dew. Slight precipitation which takes other forms such as hail, sleet, hoar frost, glazed frost and rime is dealt with similarly. When it is impossible to determine the hourly amounts of precipitation, e.g., during snowfall or on occasions when the record has failed, the normal procedure is to consider each case

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\* The saturation vapour pressures used are those employed in the preparation of *Hygrometric Tables*. They are equivalent to those published by Scheel and Heuse in *Annalen der Physik*, 1910.

† For the years 1904 to 1920 it was the practice to tabulate rainfall for the periods of 60 minutes centred at the exact hours; the reversion to the method in use before 1904 occurred on 1st January, 1921.



on its merits, and to assign hourly values derived from estimates made by the observers as soon as possible after the event. Such values are also enclosed in brackets.

Annual totals of hourly amounts and duration and notes on special features of the rainfall of the year are also given.

**Sunshine.**—Tables are given showing for each of the 60-minute intervals between exact hours\* according to *local apparent time*, from sunrise to sunset, the duration of bright sunshine recorded by the Campbell-Stokes instrument. The sums and means of hourly amounts are also given. For each day is shown the total duration of bright sunshine, and also the percentage this represents of the “possible” duration for the day. The “possible” for each day is computed as the period of time beginning and ending at the instants when the centre of the sun is apparently on the horizon, due allowance being made for atmospheric refraction. Even on a clear day the sun, when at an altitude less than  $2\frac{1}{2}^{\circ}$  to  $3^{\circ}$  above the horizon, fails to make a scorch on the card of the Campbell-Stokes recorder.

A distinction is made in the tables between (a) sunshine not possible, and (b) sunshine possible but none recorded. If, in any hour, sunshine is not possible, the symbol “—” is used; if more than 3 minutes of “possible” sunshine falls in the 60-minute interval between exact hours according to local apparent time, and if no sunshine was recorded, the symbol “...” is printed.

The values for the months and for the year of percentage of possible duration of sunshine are obtained by comparing the total recorded sunshine for the period with the total “possible” sunshine for the period.

**Wind.**—Tables are printed giving the hourly values of wind speed and direction, together with the mean speed for each day, each hour, and for the month and year. Values of speed are expressed in metres per second (1 metre per second = 2.2369 miles per hour): those of direction are given in degrees from true north. The values of direction and speed† are averages for periods of sixty minutes, between the exact hours of Greenwich Mean Time. They are obtained by estimation from the records with the aid of a transparent scale, with engraved graduations corresponding with the velocity, direction and time scales of the record.

When the record shows that the vane is sticking and is not responding to the variations of the wind the readings of both direction and velocity are regarded as untrustworthy and are not tabulated, the symbol “...” being entered instead. In such cases the velocity is usually less than 1 m/s and the symbol “...” is regarded as equivalent to 0.5 m/s for the purpose of evaluating the daily mean velocity. In other cases of lost record, estimated values are entered within brackets wherever possible.

The daily values of the speed and time of occurrence of the maximum gust and the monthly distribution of wind are shown in other tables.

**Minimum Night Temperature on the Grass.**—Values are given for each day of the year together with monthly and annual mean values. The interval to which the reading refers is from 18h the previous day to 7h on the day to which it is entered.

**Diary of Cloud, Visibility and Weather.**—In these tables are given particulars of the cloud forms observed daily at 7h, 13h, and 18h, the total cloud amount observed at

\* Before 1st January, 1921, sunshine was tabulated for the periods of 60 minutes centred at exact hours.

† Before 1st May, 1915, it was the practice to take the direction at the exact hour whilst wind speed referred to 60 minute intervals centred at exact hours. Thereafter until 1st January, 1932, both wind speed and direction were tabulated for periods of 60 minutes centred at the exact hours. At a meeting on 17th December, 1931, the Gassiot Committee resolved that hourly values of terrestrial magnetism, potential gradient and wind velocity and direction should be brought into accordance with the practice decided upon for Polar Year stations by the International Commission for the Polar Year 1932-1933, viz., that hourly mean values should refer to periods of 60 minutes between exact hours of standard time. (See also Introduction to *Hourly Values from Autographic Records*, 1913, p. xv.)



7h, 9h, 13h, 15h, 18h, and 21h, the range of visibility at each of these six hours and the kind of precipitation when any was falling at those hours. There is also a column devoted to remarks on the weather of the day.

*Cloud Form.*—The observations of cloud form are made in accordance with the International classification, and the following abbreviations are used in the tables:—

Cirrus	...	...	...	...	...	Ci.
Cirrocumulus	...	...	...	...	...	Cicu.
Cirrostratus	...	...	...	...	...	Cist.
Alto cumulus	...	...	...	...	...	Acu.
Altostratus	...	...	...	...	...	Ast.
Stratocumulus	...	...	...	...	...	Stcu.
Stratus	...	...	...	...	...	St.
Nimbostratus	...	...	...	...	...	Nbst.
Cumulus	...	...	...	...	...	Cu.
Cumulonimbus	...	...	...	...	...	Cunb.
Fracto (prefix as in fractostratus)	...	...	...	...	...	Fr.
Cumuliformis (as in stratus cumuliformis)	...	...	...	...	...	Cuf.
Lenticularis (as in altocumulus lenticularis)	...	...	...	...	...	Lent.
Mammatus (as in cumulus mammatus)	...	...	...	...	...	Mam.
Castellatus (as in altocumulus castellatus)	...	...	...	...	...	Cast.

All the cloud forms noted by the observer at the time of observation are printed where space permits. When the number of forms is too great to allow of this, the predominating forms selected at the time of observation to give the best representation of the cloud canopy are printed. If high or medium cloud can be seen, one of the selected types is normally a high or medium cloud.

*Cloud Amount.*—The figure given for the amount of cloud denotes the proportion of the sky covered by cloud, the numerical scale running from 0, cloudless, to 10, completely overcast. The figure denotes the total cloudiness irrespective of form. In the case of fog through which it is impossible to discern the sun or stars the cloud amount is entered as 10, but if cloud can be seen through the fog, the form and amount of that cloud are entered in the usual way. If the sun or stars are visible through fog and if there is no evidence of cloud above the fog the amount is entered as 0.

*Visibility.*—Observations of the range of horizontal visibility made every day at 7h, 9h, 13h, 15h, 18h, and 21h, are printed in the diaries of cloud and weather.

As described in detail in the *Meteorological Observer's Handbook*, a series of selected objects, A, B, C . . . , as nearly as possible at the standard distances given in the table which follows, is used for this observation. The objects are selected so as to be readily seen and identified from specified observing points in daylight, when the air is clear. A variation up to 10 per cent. from the standard distances is considered admissible. Particulars of the objects in use at each observatory, together with a statement of their actual distances and bearings from the point of observation and notes on local peculiarities which affect the observations, will be found in the Introductions to the sections for the individual observatories.

The method of observing consists in determining which is the most distant of the selected objects that can be identified and entering the corresponding letter. In cases of uncertainty when the observer, though recognising the presence of an object, would be unable to identify its nature from the observations he is able to make *at the time*, the letter corresponding with the next nearer object is entered. If object A, the nearest of the selected objects cannot be identified, an entry X is made. At night the letters are used to denote as nearly as possible corresponding degrees of atmospheric obscurity.



SCHEME FOR OBSERVATIONS OF RANGE OF VISIBILITY AND OF FOG,  
MIST AND HAZE.

Indication Letter of Object.	Standard Distance of Object.	Verbal Description.	BEAUFORT LETTERS.	
			Detailed Scale.*	Contracted Scale
(X)	Metres. —	Dense fog	8 f	} F
A	25		7 f	
B	50		Thick fog	
C	100	5 f		
D	200	Fog	4 f	} f
E	500	Moderate fog	3 f	
F	1,000	Mist, haze or very poor visibility	m or z	m or z.
G	2,000	Poor visibility	} m <sub>o</sub> or z <sub>o</sub>	m <sub>o</sub> or z <sub>o</sub>
H	4,000	Moderate visibility		
I	7,000			
J	10,000	Good visibility		
K	20,000	Very good visibility		
L	30,000			
M	50,000	Excellent visibility		

NOTE.—The grouping of the letters by the horizontal lines indicates the limits of the several figures of the International Telegraph Code for visibility, from 0 to 9, which grouping is also adopted in the tables of frequencies published in the *Monthly Weather Report*.

Small letters are used to indicate interpolations or extrapolations made in cases where it has not been possible to find suitable objects within 10 per cent. of the standard distances. In such cases the observer may use objects at other than the standard distances to guide his judgment. Particulars of such auxiliary objects will be found in the sectional introductions.

At Cahirciveen, visibility is recorded in both landward and seaward directions. The observations of visibility landwards are printed in the main tables. Particulars of occasions when visibility seawards differed from visibility landwards are set out in the Introduction to the Cahirciveen Section.

*Fog, Mist and Haze.*—The table of standard distances of visibility objects also summarizes the descriptions used in connection with the phenomena of fog, mist and haze, and relates them to the scale of visibility. It also contains the Beaufort letters used for these phenomena in the Remarks column of the diary. In this Year Book as in other publications of the Meteorological Office, statistics of fog, mist and haze are based solely on visibility observations. The term *fog* is restricted to occasions when the visibility is less than 1 kilometre (*i.e.*, object F not visible); the terms *mist* and *haze* to occasions when the visibility is greater than 1 kilometre,

\* Not used in this Year Book.



but less than 2 kilometres (*i.e.*, object "F" visible, but "G" not visible). The distinction between mist (m) and haze (z) is determined by the depression of the wet bulb. When the visibility is between the limits specified for mist or haze, haze is recorded when the depression of the wet bulb is more than 1°F; if the depression of the wet bulb does not exceed this limit, the term *mist* is used.

In volumes previous to 1926, occasions of haze, mist and fog were indicated by the International symbols for these phenomena, viz., ∞, ≡° and ≡ respectively, but the relation of these terms to the visibility scale was less rigorous. In order to indicate that a change in procedure has occurred in this matter, the three International symbols for haze, mist and fog are no longer used.

**Precipitation.**—Whenever precipitation is falling at one of the six hours of observation there is printed in the Diary of Cloud and Weather under the heading "Precipitation" the International weather symbol which indicates the kind of precipitation, in accordance with the list below.

**Remarks.**—For the purposes of the column headed "Remarks on the Weather of the Day," it is usual to consider the day as divided into three portions, viz., morning, afternoon and night, denoted by *a*, *p*, *n*, respectively, but it should be noted that no arrangements are made for regular eye observation of weather changes in the period 21h 30m to 6h 30m.

The entries in the remarks column consist very largely of international weather symbols and the letters of the Beaufort scale. These symbols and letters are as follows:—

*Beaufort Notation and International Weather Symbols.*

b	blue sky, whether with clear or hazy atmosphere.	r	● rain.
c	cloudy, <i>i.e.</i> , detached opening clouds.	←	ice crystals in the air.
o	overcast, <i>i.e.</i> , the whole sky covered with one impervious cloud.	s	* snow.
g	gloomy.	rs	* sleet.
u	ugly, threatening.	+	drift snow.
v	visibility, abnormal transparency of atmosphere.	⊞	snow lying. (More than half the surrounding country covered with snow.)
z	haze.*	h	▲ hail.
m	mist, light fog.*	△	soft hail.
f	fog.*	t	T thunder.
fe	wet fog, <i>i.e.</i> , fog which deposits water copiously on exposed surfaces.	l	< lightning.
w	dew.	tlr	⚡ thunderstorm.
x	hoar frost.	☞	gale.
	rime.	q	☉ squalls.
	glazed frost.	⊙	☉ solar corona.
e	water deposited copiously on exposed surfaces, without rain falling.	⊕	⊕ solar halo.
y	dry air. (Relative humidity less than 60 per cent.)	☾	☾ lunar corona.
p	passing showers.	☾	☾ lunar halo.
d	drizzling rain.	☾	☾ rainbow.
		☾	☾ aurora.
		☾	☾ zodiacal light.
		☾	☾ mirage.

The letter *i* preceding a letter or symbol which denotes some form of precipitation indicates that the precipitation is of an "intermittent" or "occasional" character.

The letter *j* preceding a letter or symbol which denotes some form of precipitation indicates that the precipitation is within sight, though not actually falling at the station.

\* To indicate varying intensities of haze, mist and fog the notation shown in the last two columns of the table on p. 19 is used.



The figure 0 written after and above a symbol indicates slight, whilst the figure 2 indicates strong or heavy; thus  $\bullet^0$  slight rain,  $\bullet^2$  heavy rain. The figures 0 and 2 written after and below the letters of the Beaufort notation are also used with a similar significance, thus  $d_0$  stands for slight drizzle.

The letters b, c, o, g and u, are used to describe the general appearance of the sky. The use of the letters g and u is sufficiently clear from the definitions given above. o is used whenever the sky is completely overcast with a uniform layer of thick or heavy cloud; c is used to denote that there is some cloud present, but o is not appropriate; b denotes that there is some blue sky.\*

In order to meet difficulties which occur when there are only small quantities of cloud or blue sky present, c is not used unless the sky is more than a quarter covered, and b unless there is more than a quarter of the sky free from cloud. If there is more than a quarter of the sky covered with cloud and more than a quarter of the sky free from cloud b and c are both recorded.

Up to 1931 the gale symbol  $\text{☙}$  was used in this publication to indicate that the wind as recorded by the anemograph averaged at least 17.2 m/s for one or more "centred" hours. At Richmond (Kew Observatory) the symbol has been used with the word gust in brackets to indicate the occurrence of gusts reaching 17.2 m/s.

The symbol is now used to indicate occasions when the mean velocity reached or exceeded the lower limit corresponding to Beaufort Force 8 at any time in the 24 hours of the civil day. The lower limit of velocity is dependent upon the "effective height" of the anemometer (see *Meteorological Magazine* 67, 1933, p. 278). The allotted values at the several observatories are:—

Aberdeen	Eskdalemuir	Valentia	Kew
17.2	17.2	17.2	18.8 m/s.

*Note on the Computation of the Correction for Non-cyclic change.*

The non-cyclic change is the average increase from one midnight to the next. If, as in the case of barometric pressure, curves are read at each hour G.M.T. and tabulated under the headings 0h, 1h...23h, 24h, and the means for each of the hours in a calendar month are taken out, the mean for 0h, will not in general be the same as the mean for 24h. Let  $x_n$  be the mean value corresponding to hour  $n$ ; then the non-cyclic change is represented by  $x_{24} - x_0$ . Let  $\bar{x}$  be the mean value for the whole 24 hours. In the case under consideration the value of  $\bar{x}$  is

$$\frac{1}{24} [\frac{1}{2} (x_0 + x_{24}) + x_1 + x_2 + \dots + x_{23}]$$

$x_n - \bar{x}$  is the "diurnal inequality" at hour  $n$ . To apply a correction for non-cyclic change we assume that the non-cyclic change arises from a steady rise or fall, entering as a linear term. The correction applicable at hour  $n$  is therefore proportional to the time reckoned from 12h and takes the form:—

$$\frac{12 - n}{24} (x_{24} - x_0)$$

the corrected diurnal inequality having the value

$$x_n - \bar{x} + (12 - n) (x_{24} - x_0) / 24.$$

In the present volume the hourly values refer either to readings at the exact hour or to means for periods of 60 minutes between exact hours *i.e.*, centering at the half hours. In the latter class of tabulations, the first hour of the day runs from 0h to 1h and the  $n^{\text{th}}$  hour from  $(n - 1)$  h to  $n$ h. For the calculation of non-cyclic change we assume that the value of the variable at midnight is represented to a close enough approximation by the mean of the values tabulated for the hours preceding and following midnight, thus

\* The present usage with regard to b, c and o dates from 1st Jan., 1926.



the mean value for the first midnight is  $\frac{1}{2} (x_0 + x_1)$  and for the second midnight  $\frac{1}{2} (x_{24} + x_{25})$ , where  $x_0$  represents the value for the hour preceding the first midnight and  $x_{25}$  represents the value for the hour following the second midnight. The value of the non-cyclic change is therefore  $(x_{24} + x_{25} - x_0 - x_1)/2$ . Remembering that the interval from noon to the middle of a tabular hour is, in this class of tabulation, an odd number of half hours, we get as the expression for the diurnal inequality at the  $n^{\text{th}}$  hour, corrected for non-cyclic change

$$d_n = x_n - \bar{x} + (25 - 2n) (x_{24} + x_{25} - x_0 - x_1)/96.$$

A correction in this form has been applied to the diurnal inequalities of terrestrial magnetism and atmospheric electricity printed in this volume.

It will be seen that the computation of the non-cyclic change (when derived from "all days"), requires a knowledge of the value for the first tabular hour in the following year. The values of wind velocity and terrestrial magnetism for the hour 0-1h on January 1st, 1934, have accordingly been appended to the appropriate tables.



M.O.370  
(Lerwick)

Air Ministry  
METEOROLOGICAL OFFICE

THE  
OBSERVATORIES' YEAR BOOK  
1933

Comprising the meteorological and geophysical results obtained from autographic records and eye observations at the observatories at Lerwick, Aberdeen, Eskdalemuir, Cahirciveen (Valentia Observatory), and Richmond (Kew Observatory), and the results of soundings of the upper atmosphere by means of registering balloons.

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LERWICK

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Published by the authority of the  
METEOROLOGICAL COMMITTEE



LONDON  
HIS MAJESTY'S STATIONERY OFFICE  
1935







## LERWICK OBSERVATORY.

Latitude..	..	..	..	..	..	30° 8' N.
Longitude	..	..	..	..	..	1° 11' W.
G.M.T. of Local Mean Noon	..	..	..	..	..	12h. 5m.
Height of Site above Sea-level	..	..	..	..	..	From 80.5 metres to 90.0 metres

## INTRODUCTION.

## GENERAL REMARKS.

In 1919 the establishment of an observatory in the Shetlands was included in the programme of the Meteorological Office. A wireless station, built in 1913 by the Admiralty and transferred after the war to the Post Office, but used by that Department only in case of emergency, offered suitable accommodation in the way of offices and living quarters. It proved possible to make an arrangement under which the Air Ministry has the use of the station as an observatory.

The Observatory was opened on the 7th June, 1921, when the first instalment of the instrumental equipment arrived. Later on in the same year the construction of a magnetograph house and of huts for absolute magnetic and auroral observations was commenced. The magnetograph house is a heavy concrete structure with walls 2 feet 6 inches (76 cm.) thick, of internal dimensions 16 feet by 10 feet (4.9 m. x 3 m.), and after construction several months had to elapse before the thick concrete walls and roof could be thoroughly dried and the recording instruments placed in position. These instruments, which are described below, consist of magnetographs recording magnetic declination and horizontal and vertical force. More recently subsidiary magnetographs recording the same elements have been installed in one of the adjacent non-magnetic huts; the records obtained therefrom are used to cover lacunæ in the standard traces or for special investigations.

Other instruments installed at the Observatory included barometers, barograph, hygrograph, psychrometers, nephoscope, rain-gauges (ordinary and self-recording), sunshine recorder and Dines tube anemograph and, later, an electrograph; and in 1928 a Krogness auroral camera. But meteorological observations have been restricted, and the time of the somewhat limited staff available has been devoted chiefly to magnetic work, to some work in atmospheric electricity and latterly to auroral photography.

The site and the work in Atmospheric Electricity and Terrestrial Magnetism will now be described.



## SITE.

The Observatory is situated on a ridge of high ground about a mile and a half (2.4 km.) to the south-west of Lerwick and adjoins the main road between Lerwick and Scalloway. The site slopes upward from west-north-west to east-south-east, the average height above M.S.L. being about 280 feet (85 metres). The ground to the east and south-east rises slightly for about  $\frac{1}{4}$  mile (.4 km.) then slopes sharply down to the sea. In other directions there is a downward slope for about  $\frac{1}{4}$  mile extending to the Loch of Trebister on the south-west, Sandy Loch to north-west, and to the Burn of Sound to north-north-west; beyond these and distant about  $\frac{3}{4}$  mile (1.2 km.) from the Observatory are small hills - Munger Hill to the south is about 320 feet (97 metres) above M.S.L., Shurton Hill to west-north-west rises to 576 feet (176 metres), and Stony Hill to the north to about 400 feet (122 metres). In clear weather it is possible to see the Outer Skerries, 25 $\frac{1}{2}$  miles (41 km.) north-east by north, and Sumburgh Head, 20 miles (32 km.) south by west; the horizon in other directions is limited to a few miles.

The average depth of soil in the vicinity is about a foot, and outcrops of sandstone occur in many places. The surrounding country is barren and desolate, the only vegetation being coarse grass, stunted heather, and moss, with occasional patches of bare black peat. The Observatory ground is of a very uneven nature, and, owing to lack of proper drainage, is frequently water-logged. Views of the station are shown and the arrangement of buildings and situation of instruments are set out on a site plan in "The Observatories' Year Book," 1928.

## ATMOSPHERIC ELECTRICITY.

Notes on the Instruments.- The records of potential gradient are obtained from a Benndorf electrograph (No. 108, by L. Castagna, Vienna) which since 1926 has been installed in the north-west corner of the Office Block. The site is divergent from the ideal for two reasons:-

- (1) There is distortion of the equipotential surfaces by adjacent houses, wireless plant, etc.,
- (2) It is a comparatively large distance (236 metres) away from the ground where absolute determinations are made.

Consideration of the variations of mean monthly values of the reduction factor shows that these disadvantages are less serious than might be anticipated.

The collector rod passes through a window in the north wall, and is situated 190 cm. from the corner of the building. The collector is 476 cm. above the ground and projects 123 cm. from the window. The collectors are of polonium deposited on a copper rod, about 4 cms. long by 0.5 cm. diameter; these are recoated periodically by arrangement with the Government Chemist, and a fresh collector is brought into use on the first day of each quarter. The collector is screwed into the smaller end of a tapered German silver tube, 76 cm. long, and of triangular cross section, which, in turn, is attached to a "Duralumin" tube, 89 cm. long and 1.3 cm. in diameter. The latter tube passes through a hole, 3.8 cm. diameter, in one end of a wooden box (dimensions 38 x 25 x 10 cm.), where it is supported horizontally between the ends



of two metal rods embedded in sulphur. A number of small 2-volt electric bulbs are kept burning inside the box in order to improve the insulation of the supports for the collector rod during wet weather, and a similar bulb is placed inside the case of the electrometer. The rod is connected to the base of the acid pot of the Benndorf electrometer by a fine wire. A detailed description of this instrument is to be found in "Phys. Zeit." 7 (1906), p. 98, whilst the general principle is described in Mathias' "Traité d'Electricité Atmosphérique et Tellurique," p. 54, and in Chauveau's "Electricité Atmosphérique," pp. 61-64.

The record consists of a series of dots made once a minute on a long roll of paper as it is unwound from a drum by clockwork, exact hours being indicated by dots near the edge of the sheet. Timing is taken from electric clock No. 1,031, governed by the Observatory standard, Shelton No.35. The needle of the electrometer is earthed at least once daily, and a zero line is obtained by connecting up these earth marks; owing to the constancy of the perpendicular distance between the zero line and the line through the hour marks, further intermediate positions of the zero are easily obtained. The scale value has been about 25 volts per millimetre, which permits a range from + 1600 to - 1600 volts per metre in the open to be recorded.

Combined tests of the insulation of the system and scale value of the record are made daily, the procedure being to remove the collector and to charge the needle, which is connected to a Wulf electrometer. The rate of leak is obtained for a period of 4 minutes with a positive charge and for the same interval with a negative charge. Considering the climatic difficulties the behaviour of the instrument in the matter of insulation has been very satisfactory. The rate of leak has been in general small, the average during 1933 being such that the instrument would lose half its potential in 41 minutes. It has been found that the scale value remains reasonably steady and may, for all practical purposes, be taken as constant across the full width of the sheet. The factor by which the recorded potential must be multiplied for conversion into potential gradient in the open is obtained from absolute measurements above a levelled piece of ground near the old site of the electrograph (see site plan in "The Observatories' Year Book," 1928). An insulated wire, stretched horizontally between two stout wooden posts 121 cm. in height and 9.48 m. apart, carries at its centre a burning fuse exactly 1 metre above the ground. A Wulf electrometer, usually No.5225 (Günther & Tegetmeyer, Brunswick), is connected to one end of the wire and twenty to thirty readings are obtained from the electrometer at half-minute intervals. The reduction factor is deduced from the mean of these values and the corresponding mean potential at the collector as recorded by the Benndorf electrograph. Smoothed monthly means of the factors so obtained are employed in reduction of the records. The calibration of the Wulf electrometers is checked periodically, using a Gambrell potentiometer and standard cells. There was no change in any essential part of the apparatus or in the observational technique throughout the year 1933.



Monthly scale values and exposure factors, together with data relating to rate of leak, are shown in the following table:-

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Mean value of - $\frac{d}{dt} \log_e V$ ...	·017	·017	·017	·017	·015	·017	·015	·015	·014	·017	·019	·018	·017
No. of days used in mean	20	18	19	19	22	22	22	22	20	21	21	21	247
Highest - $\frac{d}{dt} \log_e V$ ...	·021	·021	·023	·022	·019	·023	·021	·019	·022	·025	·028	·022	-
Lowest - $\frac{d}{dt} \log_e V$ ...	·012	·013	·013	·012	·011	·011	·012	·011	·009	·012	·012	·009	-
Scale value (v/mm) ...	25·6	25·6	25·1	24·3	24·3	24·2	24·1	24·4	23·9	24·5	24·6	24·6	24·6
Mean Exposure Factor	1·24	1·32	1·25	1·26	1·24	1·13	1·23	1·28	1·25	1·32	1·30	1·27	1·26
Applied Exposure Factor	1·26	1·28	1·27	1·25	1·22	1·18	1·22	1·26	1·27	1·30	1·30	1·27	1·26
No. of Determinations of Exposure Factor ...	7	5	8	8	10	8	11	9	9	6	9	8	98

Tests of the rate of rise of potential of the Benndorf recorder with a polonium collector were made in September, 1930, and it was found that the potential rose from zero to half the final value in about 4 seconds. Sometimes when there is no wind the rate of rise of potential is very much slower and apparently nearly linear. If the instrument rises through a potential  $V$  and has a capacity  $C$ \* a quantity of electricity  $CV$  has to be given to the air in the neighbourhood of the collector, and in the absence of wind and the presence of fog this may hang about in the form of a heavily charged cloud for a considerable time before being dispersed. Fortunately these conditions are rare at Lerwick except in early summer.

If we assume the leaking and the charging to be exponential, i.e., -

$$\text{If } \frac{dV}{dt} = -K_1 V$$

$$\text{and } \frac{d(V_0 - V)}{dt} = K_c (V_0 - V)$$

where  $K_1$  measures the rate of leak,  
 $K_c$  " " charging,  
 and  $V_0$  is the potential of the air near the collector,

then the potential finally acquired by the instrument is  $V_0 K_c / (K_1 + K_c)$ .

The ratio  $K_1/K_c$  is only about 1/600 so that there is no appreciable error in the readings from this cause.

In the mean for the years 1927-33 the exposure factor shows a maximum of 1·33 in June and a minimum of 1·25 in January with secondary maximum of 1·32 in September and secondary minimum of 1·28 in August. In individual years

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\* The capacity was measured in October, 1930, and found to be approximately 75 cms



however the variations are somewhat irregular. The vegetation in the vicinity of the site for the absolute observations changes very slightly throughout the year and the grass on the site itself is kept short. A larger contribution to the variations of the factor is probably made by a combination of effects due to peculiarities of the electrograph site and wind direction. In this connection the following table shows the mean values of the exposure factor for 1927-33 summarized according to wind direction:-

	Calm	N	NE	E	SE	S	SW	W	NW	1927-33
Mean Factor	1.32	1.31	1.31	1.26	1.26	1.33	1.31	1.30	1.27	1.30

Relatively high values of the factor are on the average associated with winds from north and north-east, south and south-west and with calms. The courtyard is open at the north-east and south-west sides and the electrograph is situated near the open south-west side. The exposure in other directions is obstructed by buildings, and the depression of the factor, resulting from the higher potential of the collector when shielded from the wind, would be in agreement with R.A. Watson's conclusion that potential gradient is inversely dependent upon wind speed. (Geophysical Memoir No. 38).

On 28th June, 4th July, and 12th September, 1928, measurements were made of potential gradient above fairly smooth ground near sea level. The determinations on the two earlier dates were taken at the Point of Trebister,  $2\frac{1}{4}$  km. south-south-east of the Observatory, those on the third near the Sands of Sound, 1 km. to the east. In all, ten series of observations were obtained. The mean electrograph exposure factor computed therefrom works out at 1.36, a value in close agreement with the standard determinations.

#### IDENTIFICATION NUMBERS OF INSTRUMENTS USED IN 1933.

Benndorf electrograph (L. Castagna, Vienna)	..	..	..	..	..	108
Wulf bifilar electrometer (Günther & Tegetmeyer, Brunswick)	..	..				5225
" " " "	"	"	"	"	"	2965

Review of Results.- Days when there was a complete trace have been classified as follows by means of an electric character figure:-

- 0, denotes a day during which, from midnight to midnight, no negative potential was recorded.
- 1, denotes a day with excursions to the negative not amounting in the aggregate to more than three hours.
- 2, denotes a day with negative potential amounting in the aggregate to more than three hours.



- a, denotes that the range of potential gradient in the open did not exceed 1,000 volts in any of 24 hourly periods of the day.
- b, denotes that this range was exceeded in at least one, but in fewer than six, of these periods.
- c, denotes that this range was exceeded in six or more of the hourly periods.

The character figures so assigned are given in Table 4.

In the Observatories Year Book for 1928, for the first time, this table contained also details of the duration of negative potential for each day for which an estimate could reasonably be made. If the record failed when no precipitation fell it was assumed that the potential gradient remained positive; if, however, precipitation fell when part of the record was lacking no estimate was made except when the part of missing record was small enough and the conditions of precipitation sufficiently continuous to permit the interpolation of the gradient conditions from those obtaining before and after the break.

In the year 1933 there were 59.4 hours less negative potential gradient than in 1932, and thirteen more days on which negative gradients occurred. The daily mean duration of negative gradient was thus 1.32 hours, against 1.53 hours for 1932, 1.52 for 1931, 1.55 for 1930, 1.55 for 1929 and 1.63 for 1928. In each year the month-to-month variations of mean duration of negative gradient and of mean electric character figure show a close relationship to the variations in rainfall.

Curves are read by use of a mean value glass scale graduated in millimetres, the tabulated values being 60 minute means between exact hours G.M.T. The ordinates are converted into volts per metre in the open by multiplying by the product of the appropriate scale value and reduction factor. Values are assigned for the hours ending at 3h, 9h, 15h, and 21h, on all days, and for each hour on "a" days.

An indication of the characteristics of indeterminate potentials may be obtained from the tabulations, in which:-

1. Values prefixed by the symbols  $>$ ,  $<$ , indicate that for one or more periods during the hour potential passed beyond the range recorded by the electrograph.
2. z is marked against hours when the potential passed beyond the recorded range in both directions.

The values for the hours ending at 3h, 9h, 15h, and 21h are given in Table 1; estimated values, enclosed within brackets, are given in cases where the record was in some manner defective; a dash is entered against hours for which no value can be given with any degree of assurance. Two sets of mean values are given:- (a) The means of all positive values; hours when the trace passed off the top of the sheet are included in obtaining these means, the upper limit of registration being taken as the value for the period not recorded. (b) The means for all days on which all four hours were completely recorded or could be estimated.



In all months the general (a) mean from the four selected hours exceeds the (b) mean, the difference over the year as a whole amounting to 18 v/m. In six months the means from the Oa days are greater than the (a) means; over the year as a whole the Oa day mean is 2 v/m less than the (a) mean. The annual mean daily values derived in these three ways for the seven years 1927-1933 during which the electrograph has been in the same position are :-

			Oa	(a)	(b)
1927	..	..	213 v/m	179 v/m	160 v/m
1928	..	..	166 v/m	156 v/m	134 v/m
1929	..	..	162 v/m	161 v/m	133 v/m
1930	..	..	181 v/m	175 v/m	158 v/m
1931	..	..	161 v/m	163 v/m	147 v/m
1932	..	..	159 v/m	159 v/m	141 v/m
1933	..	..	168 v/m	170 v/m	152 v/m

It is a defect of the Benndorf recorder that even with such a high scale value as 25 v/mm the width of the sheet is frequently exceeded during oscillatory movements. In 1933 there were 64 days on which the electrometer needle went beyond the limits of registration on the positive side and 101 on the negative side; these occasions were mainly when precipitation was falling on the collector. The greatest number of extreme positive excursions were associated with snow or sleet showers and were almost invariably only momentary.

The following are the occasions of potential gradients (positive and negative) exceeding 1000 v/m persistent over periods of at least one hour, a specified hour defining the 60 minute interval ended at the exact hour G.M.T.:-

Positive. March 20d 8h. Aug. 21d 11h-12h. Aug. 23d 11h-12h. Aug. 27d 22h-24h.

Negative. Jan. 5d 4-6h. Jan. 12d 21h. Jan. 25d 21h. Jan. 26d 0-5h.  
Jan. 31d 18-20h. Mar. 6d 8h, 15d 5h. Mar. 16d 7-10h. April 9d 7h, April 10d 3h, April 14d 19-22h. Dec. 30d 14h.

Occasions when the potential gradient was negative for prolonged periods with perhaps only a few temporary changes to positive were noted as follows:-

- (I) January 25d 19h 35m to 26d 8h 35m. Potential negative for all but about 9 minutes of this period. Mean gradient  $< -1187$  v/m. Moderate rain throughout.
- (II) January 31d 17h 23m to 23h 18m. Potential negative for all but 3 minutes of this period. Mean gradient  $< -1128$  v/m. Moderate rain throughout.
- (III) March 16d 3h 54m to 9h 53m. Potential negative for all but 6 minutes of this period. Mean gradient  $< -1085$  v/m. Moderate or heavy rain throughout.
- (IV) April 14d 18h 53m to 23h 34m. Potential negative for all but one minute of this period. Mean gradient  $< -1043$  v/m. Moderate rain throughout.
- (V) June 16d 2h 18m to 5h 53m. Potential negative for whole period. Mean gradient  $< -529$  v/m. Moderate rain throughout.



Notable spells of high potential were:-

- (I) March 22d 9h. to 22h. Mean gradient 599 v/m.
- (II) May 6d 17h to 7d 2h. Mean gradient 632 v/m. Thick fog.
- (III) July 11d 16h to 24h. Mean gradient 606 v/m. Mist.
- (IV) August 26d 17h to 22h. Mean gradient 814 v/m. Fog.
- (V) August 27d 17h to 28d 1h. Mean gradient  $> 896$  v/m. Fog.

There were 43 days on which there occurred apparent changes of potential gradient from the limit of the sheet on the positive side to the limit on the negative side, at least once within an interval of 60 minutes. If these changes were real and not due to charges given to the collector rod by precipitation, they connote a range exceeding 3200 v/m within an hour. Assuming that in Shetland the charge associated with rain may occasionally attain 10 E.S.U. per cc., it has been found that the gradient recorded may contain a contribution of not less than 50 volts arising from the charge given by the rain. In some of the hours the extreme reversal occurred at least twice within the period.

The diurnal inequalities for 0a days for the months, seasons, and year, are given in Table 2, together with mean values of the potential gradient and particulars of the non-cyclic change and the number of days used; the inequalities and other entries for the seasons and year are the means of the corresponding entries for the appropriate months. Similar data for the 1a and 2a days together are given in Table 3.

The annual mean diurnal variation for 0a days during 1933 has a well marked minimum at about 3h and a conspicuous maximum at 21h; secondary maxima and minima occur at about 8h and 11h respectively. This secondary oscillation however is a small one, the year resembling, in this respect, 1929 and 1932 rather than 1927, 1928, 1930 or 1931, in all of which the secondary oscillation was pronounced. In the separate mean variations for the seasons, the evening maximum occurs at 19h. in winter, 20h in equinoctial months and 21h. in summer; while the minimum occurs at 2h in winter, 3h in summer and 4h in equinoctial months. The secondary minimum is at 11h in all seasons. It is inconspicuous save in summer, when it is almost as deep as the 3h minimum. The inequalities for all 1a and 2a days, i.e. days on which no hour has a range exceeding 1000 v/m but on which negative potential gradients occurred, are naturally more irregular than the 0a day ones. The general form however is approximately the same, except that the secondary oscillation is relatively much greater. The winter months show the largest ranges, both for 0a and for 1a and 2a day inequalities. In previous years the equinoctial ranges have generally been the greatest.



## TERRESTRIAL MAGNETISM.

## Notes on the Instruments.

The standard records of declination and horizontal force are obtained from the Munro magnetographs which were in use at Falmouth until 1912. The instruments had been stored for several years, but were afterwards reconditioned and tested at Kew before being installed at Lerwick in November, 1922.

A new vertical force instrument of the Watson quartz fibre type and supplied by the Cambridge Instrument Company was installed in the standard recording house at the end of November 1929, and became the standard vertical force instrument from 1st January, 1930. A description of this type of instrument is given in "Terrestrial Magnetism", Vol. IX (1904), pp. 62-68.

The declination magnet has a unifilar suspension, and the torsion correction is negligible. The scale value is constant for all positions of the light dot on the sheet; throughout the year it was 1 mm. of ordinate to 1.93 minutes of arc. In the horizontal force instrument the magnet is maintained in a position approximately perpendicular to the magnetic meridian by torsion of the bifilar suspension. Copper damping plates are fitted to each instrument and the recording mechanism is similar to that used at Eskdalemuir. The arrangement of the instruments in the magnetograph house is shown in "The Observatories' Year Book," 1928.

A complete auxiliary magnetograph is maintained, the constituents being a Krogness H magnetograph, and locally constructed declination and vertical force instruments. The last mentioned has a quartz fibre suspension and generally resembles the Watson instrument. It was brought into use, in place of the Munro recorder previously used, in March 1932.

The auxiliary recorders arranged to function at a low sensitivity have proved their usefulness in supplying record during highly disturbed hours.

The chief instrumental difficulties encountered during the year were:-

- (a) A slight irregular drift in the case of the horizontal and vertical force instruments.
- (b) Irregular changes in declination base line values.

Monthly scale values have been assigned to the records by taking overlapping means, except when discontinuities occurred and special measures were required. The determinations in the case of H are made by Broun's method, and deflecting magnet being placed in the "broadside on" position and at a distance of 55.9 cm. from the recording magnets. A larger deflection distance would render the error due to inequality of the distribution coefficients for the H and D magnets less appreciable, but cannot be used owing to the restricted size of the magnetograph house. For standardisation of the vertical force magnetograph, the field is varied by passing known currents ( $\pm 60$ ,  $\pm 120$  milliamps) through Helmholtz Gaugain coils fitted to the instrument. The scale value of H was maintained at approximately  $6 \gamma / \text{mm.}$  and that of V at about  $9 \gamma / \text{mm.}$

The records of declination, horizontal force and vertical force have been tabulated hour by hour. The values are read off by means of graduated glass scales, a value being the mean reading for 60 minutes between exact hours G.M.T.



Base values for the records are obtained from the results of absolute observations, the determinations of horizontal force being taken at least twice weekly, those of dip and declination five or six times in each week. Horizontal force and declination are determined with the unifilar magnetometer on the centre pillar (No. 2) of the absolute hut, the azimuth of the fixed mark being taken as  $8^{\circ} 43' 2''$  east of south. Inclination is measured with the dip circle placed on the East pillar (No. 3), using  $3\frac{1}{2}$  inch needles. In the deflection experiment three distances, 25, 30 and 35 cm., are used for obtaining the distribution coefficients, the horizontal force being computed from the deflection at 25 cm. only.

Mean annual values of the P and Q correction have been derived from observations during the period March 1923 to the end of 1933. An accident caused some change to the magnet in March 1923, and values for earlier months have been discarded.

The values during these years are as follows:-

Year	P.	Q.	$\log_{10}(1 + P/25^2 + Q/25^4)$ .
1923 (March-December)	-2.398	-14.36	$\bar{1}.99831$
1924 ... ..	-1.236	-464.6	$\bar{1}.99862$
1925 ... ..	-1.165	-875.9	$\bar{1}.99821$
1926 ... ..	+1.225	-1711.2	$\bar{1}.99895$
1927 ... ..	+2.229	-2183.8	$\bar{1}.99912$
1928 ... ..	+0.223	-1395.6	$\bar{1}.99860$
1929 ... ..	-0.539	-968.5	$\bar{1}.99855$
1930 ... ..	-1.210	-837.1	$\bar{1}.99823$
1931 ... ..	-1.041	-895.3	$\bar{1}.99828$
1932 ... ..	+1.367	-1849.9	$\bar{1}.99889$
1933 ... ..	-0.121	-1081.9	$\bar{1}.99871$

The mean value of  $\log_{10}(1 + P/25^2 + Q/25^4)$  employed in the reduction of all observations for 1933 was the mean of the values derived up to the end of 1932, namely,  $\bar{1}.99858$ . If the 1933 value is added, the mean for the total available period becomes  $\bar{1}.99859$ . The adoption of this latter value would raise all the hourly values, monthly means, etc., as given in the tables by  $0.2\gamma$  in the case of H and  $0.5\gamma$  in the case of V.

In October 1932 a Schuster-Smith portable magnetometer (No. L45434, by the Cambridge Instrument Co.) was installed on the West (No. 1) pillar of the absolute observation hut. The principle of this instrument is explained in the Dictionary of Applied Physics, Vol. 11, pp. 528-532.

The potentiometer, variable resistances, galvanometer, and a milliammeter used for rough current adjustments are all enclosed in a single box approximately 32 cm. by 30 cm. by 15 cm. The permanent magnets of the galvanometer and milliammeter are arranged so that their common external field is as small as possible; but it is still appreciable. For this reason the potentiometer is set up at the extreme Eastern end of the hut, about 240 cm. from the Dip circle, 380 cm. from the unifilar magnetometer and 520 cm. from the coils of the Schuster-Smith magnetometer. The field exerted by the permanent magnets at the dip circle is less than  $0.5\gamma$ .

Four observations are taken weekly. Each observation occupies less than ten minutes, and casual errors are considerably smaller than with the unifilar magnetometer. Base values for the horizontal force magnetograph as de-



duced from observations with this instrument, differ from those obtained with the unifilar magnetometer. It is not yet known to which instrument the error should be ascribed, but at present the unifilar is retained as standard. The base value curve obtained from the results of the Schuster-Smith magnetometer is, nevertheless, of great value for purposes of comparison with that obtained from the standard unifilar instrument.

As stated in the general remarks, the walls of the magnetograph chamber are of concrete, 2 feet 6 inches in thickness. The diurnal variation of temperature within the chamber is, for most days of the year, negligibly small and no corrections for this diurnal variation have been applied to the diurnal inequalities or other data published in this volume. From the magnetograph house temperatures for each day given in the Tables, however, it will be noted that the day-to-day change of temperature is sometimes considerable. The average change day-to-day in degrees absolute over each of the twelve months of 1933 and for the year as a whole was as follows:-

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
0.32	0.38	0.41	0.39	0.25	0.32	0.21	0.24	0.31	0.48	0.33	0.31	0.33

There were 6 occasions on which the change reached or exceeded  $1^{\circ}\text{A}$ . These rapid fluctuations of temperature obviously add considerably to the problem of satisfactorily determining base line values in the cases of the horizontal and vertical force magnetographs. The temperature coefficients are known with fair accuracy, being taken to be  $6.1\gamma$  per  $1^{\circ}\text{A}$ ., in the case of the horizontal force magnetograph and  $-5\gamma$  per  $1^{\circ}\text{A}$ . in the case of the vertical force magnetograph.

As mentioned above, no attempt has been made to correct the diurnal inequalities for the very small and rather uncertain diurnal variation of temperature to which the chamber may be subject.

The results of the absolute determinations of D, I and H are summarized in the subjoined table, and the values of m, the moment of collimator magnet 3951A are also given. Considerations of space make it necessary to limit the observations printed to about two per week, but, as indicated above, absolute observations of some of the elements are made more frequently. For each set of absolute observations are shown the deduced base line values of H, D and V, and, in brackets, the adopted base line values. Thus, the entry 195 (200) under H signifies: deduced base line value 14,195, adopted base line value 14,200. The adopted values were obtained as described in the foregoing, and therefore the base line values corresponding to dates between those given in the table may be obtained by interpolation.



## ABSOLUTE DETERMINATIONS OF D, I AND H, AND BASE LINE VALUES OF H, D AND V.

Lerwick

1933.

		Declination.			Inclination			Horizontal Force.			Base line values (deduced and adopted)			
Date.	Mean Time.	D.			Mean Time.	I.			Mean Time.	H.	m.	H.	D.	V.
	h. m.	°	'	"	h. m.	°	'	"	h. m.	γ		14,000 γ +	°	
Jan. 3	11 42	13	41	30	12 11	72	45.2		12 24	14493	1048.8	478 (477)	12 58.7 (57.8)	46,000 γ +
6	11 56		45	31	12 31		46.0		11 15	462	8.5	474 (480)	56.9 (58.0)	607 (546)
10	11 50		39	39	12 18		45.4		14 42	491	8.9	484 (484)	58.0 (58.1)	565 (547)
13	10 25		41	27	14 34		44.8		11 00	498	8.3	346 (346)	58.7 (58.3)	569 (549)
18	11 53		39	40	11 09		46.6		12 24	475	8.9	342 (351)	57.4 (58.4)	602 (550)
21	11 18		41	34	10 30		44.9		11 48	485	8.6	347 (353)	58.8 (58.4)	638 (551)
24	11 35		43	24	13 01		46.0		12 06	465	8.7	360 (356)	59.2 (58.5)	591 (552)
27	11 28		39	39	13 01		45.9		12 09	471	8.7	356 (358)	58.8 (58.5)	567 (553)
30	09 54		37	58	11 14		45.5		10 25	473	8.7	365 (360)	58.4 (58.5)	578 (554)
														636 (555)
Feb. 3	09 55	13	38	50	11 47	72	45.6		10 34	14498	1047.5	380 (364)	12 58.1 (58.5)	585 (556)
7	11 22		42	8	13 05		45.0		12 00	491	8.9	364 (366)	57.9 (58.5)	604 (558)
10	12 19		41	2	11 55		45.6		12 44	493	8.3	379 (368)	58.2 (58.5)	599 (560)
14	11 59		43	15	11 32		45.2		12 31	480	7.9	365 (370)	59.3 (58.5)	596 (568)
17	11 57		40	45	11 37		45.5		12 29	481	8.3	372 (372)	58.3 (58.5)	593 (576)
21	12 09		44	11	11 40		45.6		12 34	478	8.5	370 (374)	58.6 (58.5)	572 (587)
24	14 21		46	17	15 36		45.5		14 50	486	8.7	372 (376)	58.4 (58.5)	610 (594)
28	11 23		40	55	12 35		46.2		15 18	479	8.1	369 (379)	59.8 (58.5)	644 (603)
Mar. 3	10 25	13	38	43	12 01	72	45.5		11 01	14483	1048.1	375 381	12 58.8 (58.6)	629 (606)
7	09 47		36	53	09 27		44.9		10 34	479	8.1	389 384	58.5 (58.6)	- (607)
10	11 53		41	55	11 29		45.3		12 31	491	7.6	408 387	57.7 (58.6)	596 607
14	12 09		41	35	11 41		45.7		12 37	461	8.3	390 390	58.7 (58.6)	602 605
17	12 12		43	29	11 47		45.4		12 38	483	8.2	403 392	59.1 (58.6)	595 604
21	11 15		42	55	12 23		46.2		11 43	454	7.1	398 395	57.9 (58.7)	545 605
24	09 57		39	9	09 26		45.6		10 27	461	8.0	409 397	58.8 (58.7)	575 607
28	12 09		40	27	11 43		45.7		12 36	472	7.7	415 401	58.6 (58.7)	584 610
31	11 57		43	17	11 41		46.6		12 29	471	8.0	415 403	58.5 (58.7)	608 612
April 4	11 57	13	40	21	12 37	72	45.8		12 32	14467	1048.5	411 (406)	12 58.7 (58.7)	595 (602)
8	11 49		41	42	11 29		46.1		12 24	461	8.6	411 (409)	59.1 (58.6)	(604)
11	10 22		37	9	11 31		45.3		10 51	457	8.5	413 (412)	59.5 (58.6)	590 (609)
14	10 33		37	13	11 50		45.5		11 07	463	8.8	416 (414)	59.2 (58.6)	577 (606)
18	10 28		36	29	11 33		45.2		10 55	456	8.3	416 (418)	58.1 (58.5)	592 (593)
21	10 25		34	32	11 25		46.0		10 52	450	8.9	415 (420)	58.3 (58.5)	557 (590)
25	10 57		39	22	11 53		46.3		11 23	454	8.0	420 (424)	58.7 (58.5)	630 (595)
28	10 19		35	31	11 28		45.2		10 44	455	8.2	423 (426)	58.9 (58.5)	579 (599)
May 2	10 29	13	33	33	11 46	72	45.6		10 59	14468	1048.5	433 (429)	58.4 (58.5)	585 (596)
5	10 41		36	12	11 43		45.4		11 07	449	8.2	427 (432)	58.6 (58.5)	598 (594)
10	10 53		38	29	13 31		44.9		11 25	464	8.3	431 (436)	58.9 (58.5)	628 (592)
13	10 45		39	14	08 28		44.7		11 18	462	8.7	437 (438)	58.3 (58.5)	599 (593)
16	08 33		31	57	10 42		46.1		08 59	459	8.4	439 (441)	58.4 (58.5)	615 (595)
19	10 47		36	3	11 49		45.5		11 13	451	8.6	434 (444)	58.8 (58.5)	633 (600)
25	09 09		34	29	08 49		45.8		11 09	469	8.3	450 (447)	58.2 (58.5)	610 (609)
26	08 47		31	2	08 32		45.3		10 46	459	8.4	447 (451)	58.2 (58.5)	624 (609)
30	08 21		31	35	10 49		45.7		08 50	435	8.9	450 (456)	58.6 (58.5)	598 (604)
June 2	10 30	13	36	15	-	72	-		11 03	14449	1048.7	451 (460)	12 58.8 (58.6)	- (606)
6	08 51		30	25	08 31		45.0		10 36	467	8.1	464 (464)	58.4 (58.6)	609 (615)
10	08 49		30	33	08 31		45.5		10 47	457	8.5	475 (470)	58.9 (58.6)	619 (619)
13	10 23		33	42	11 31		45.5		10 51	452	8.6	470 (474)	59.5 (58.6)	614 (613)
16	08 25		26	59	11 07		45.6		08 53	467	8.2	484 (480)	58.0 (58.6)	607 (615)
20	08 21		29	49	11 33		45.5		08 49	464	8.5	486 486	58.0 (58.6)	668 (620)
23	08 31		28	57	10 53		45.0		08 58	451	8.1	485 492	58.3 (58.6)	617 (628)
27	08 19		29	52	10 53		45.6		08 46	453	8.6	495 500	58.6 (58.6)	605 (635)
30	08 28		27	11	10 23		45.2		08 59	455	8.5	505 506	58.4 (58.6)	616 (627)



## LERWICK OBSERVATORY.

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## ABSOLUTE DETERMINATIONS- (Continued).

	Declination			Inclination			Horizontal Force.			Base line values (deduced and adopted)						
Date	Mean Time	D.			Mean Time.	I.			Mean Time	H.	m.	H.	D.	V.		
	h. m.	°	'	"	h. m.	°	'	"	h. m.	Y		14,000 Y+	°	'	"	46,000 Y+
July 4	10 46	13	32	54	09 01	72	45.0		11 23	14466	1048.6	505 (516)	12	58.0	(58.6)	674 (637)
7	10 29		34	5	11 35		45.4		11 01	457	8.5	549 (546)		59.0	(58.6)	630 (642)
11	08 21		28	27	10 20		46.1		08 52	453	8.7	550 (555)		59.1	(58.6)	635 (646)
14	08 37		28	9	10 59		45.8		08 59	468	8.7	272 (272)		58.4	(58.6)	656 (652)
18	08 25		27	52	10 47		45.1		08 52	465	8.8	287 (288)		57.8	(58.7)	659 (656)
21	08 16		27	22	10 47		45.9		08 42	463	8.3	301 (299)		58.0	(58.7)	637 (658)
25	08 19		28	50	13 59		44.8		08 43	456	8.4	314 (316)		58.4	(58.8)	687 (655)
28	08 38		28	57	11 23		45.3		09 03	449	8.9	327 (328)		58.8	(58.9)	613 (654)
Aug. 1	08 16	13	26	57	11 31	72	46.0		08 46	14469	1048.0	353 (344)	12	58.6	(59.0)	659 (662)
4	08 45		29	36	08 25		45.0		11 02	456	8.6	364 (360)		58.7	(59.1)	655 (665)
8	10 37		35	3	11 36		46.0		11 04	435	8.13	384 (380)		60.1	(59.5)	624 (654)
11	08 43		26	12	08 26		45.3		11 17	433	9.0	389 (395)		59.9	(59.8)	655 (654)
15	11 57		41	3	08 40		45.9		11 31	433	8.1	407 (419)		60.7	(60.0)	615 (661)
18	10 35		33	41	11 37		45.5		11 00	459	8.5	431 (436)		59.7	(60.0)	705 (668)
22	10 27		35	12	11 27		45.6		10 49	453	8.2	460 (461)		60.5	(60.0)	669 (665)
25	11 49		37	17	08 23		46.0		11 27	436	8.1	486 (484)		60.4	(60.0)	631 (663)
30	13 35		34	46	11 23		44.8		10 37	466	8.4	477 (471)		57.5	(59.6)	675 (670)
Sept. 2	08 08	13	28	42	07 53	72	46.7		10 35	14464	1048.1	501 (499)	12	59.6	(59.1)	746 (676)
5	09 27		31	55	09 50		45.8		11 33	453	8.4	510 (513)		58.9	(58.8)	648 (676)
7	09 09		33	44	13 27		44.7		08 41	450	8.1	521 (519)		-		712 (673)
11	09 47		33	11	09 15		46.2		11 08	434	8.4	309 (307)		60.0	(59.6)	605 (658)
14	10 49		35	13	13 53		45.9		11 17	439	8.2	315 (313)		59.5	(59.5)	688 (648)
16	09 27		32	40	09 09		46.1		10 33	430	8.5	313 (317)		60.3	(59.4)	627 (646)
19	09 27		30	27	09 09		46.2		10 56	457	8.2	323 (322)		59.0	(59.2)	683 (649)
22	10 39		36	47	11 45		46.4		11 06	433	8.3	324 (328)		59.5	(59.1)	652 (656)
26	07 43		28	25	13 48		45.8		08 05	459	8.2	345 (335)		-		682 (663)
29	09 29		29	5	09 13		46.0		10 47	454	8.6	341 (339)		58.8	(0.3)	679 (669)
Oct. 3	10 29	13	29	30	13 27	72	45.8		11 02	14451	1048.2	344 (343)	13	0.4	(0.4)	707 (672)
6	09 08		31	52	08 51		46.9		10 44	445	7.9	347 (348)		0.0	(0.4)	662 (673)
10	10 41		33	59	10 18		47.6		12 23	462	8.5	360 (354)		0.8	(0.4)	596 (674)
13	10 51		34	51	10 29		46.7		12 31	455	8.5	361 (359)		0.9	(0.4)	673 (675)
17	10 57		32	7	10 36		46.4		12 03	457	8.6	365 (365)		0.9	(0.4)	697 (677)
20	10 55		32	52	10 39		46.0		11 57	456	8.6	371 (370)		1.2	(0.4)	690 (679)
24	10 38		31	21	10 21		45.8		12 02	463	8.4	374 (376)		0.5	(0.4)	685 (684)
27	12 12		33	4	11 43		46.0		12 39	468	8.3	383 (380)		0.7	(0.4)	707 (690)
31	11 31		33	53	12 39		45.1		11 59	474	8.5	383 (385)		0.7	(0.4)	766 (696)
Nov. 3	10 08	13	30	36	09 48	72	46.1		11 30	14480	1048.3	391 (390)	12	59.5	(0.4)	740 (693)
7	10 56		31	55	12 21		46.4		11 44	440	8.1	391 (391)	13	0.5	(0.4)	683 (693)
10	12 13		31	41	11 46		46.8		12 44	448	8.4	391 (391)		0.0	(0.4)	693 (696)
14	11 39		30	48	12 43		46.1		12 06	465	8.2	387 (391)		0.3	(0.4)	764 (703)
17	11 25		31	28	12 39		45.6		11 56	477	8.5	391 (391)		0.6	(0.4)	754 (708)
21	12 15		32	39	11 41		46.0		12 41	467	8.1	391 (391)		1.2	(0.4)	753 (714)
24	11 51		31	30	12 49		45.0		12 20	469	8.3	394 (392)		0.6	(0.4)	704 (715)
28	11 01		34	51	10 35		46.2		12 01	465	8.1	402 (395)		0.3	(0.4)	716 (716)
Dec. 1	10 47	13	30	53	10 25	72	45.1		12 10	14462	1048.2	396 (397)	13	0.0	(0.4)	706 (715)
5	10 49		32	17	10 31		46.6		12 27	453	8.3	404 (401)	12	59.9	(0.4)	711 (709)
8	10 57		29	54	10 39		45.9		12 01	464	8.3	405 (404)	13	0.6	(0.4)	716 (700)
12	10 33		29	33	10 15		45.8		11 58	469	8.2	408 (408)		0.2	(0.4)	711 (696)
15	10 57		29	49	10 39		45.4		12 04	469	8.1	408 (411)	12	59.9	(0.4)	739 (702)
19	10 47		29	41	10 19		45.3		11 43	462	8.2	414 (414)		59.8	(0.4)	722 (705)
22	12 15		30	51	11 46		45.4		12 43	472	8.1	420 (417)		-		711 (705)
26	11 35		30	36	12 35		45.1		12 02	471	8.2	423 (421)		-		709 (704)
28	11 38		29	43	12 39		45.5		12 02	471	8.3	425 (423)		-		723 (703)



## AURORA.

From about September to April a watch for aurora is maintained, normally until about 23h G.M.T. each evening, and observations - as a rule at intervals of 15 to 20 minutes - are made of the northern horizon and of general meteorological conditions. The records form what is called the auroral log, a brief summary of which is given in Table 67. When any auroral display is observed, a second observer is called and detailed observations are maintained until the display subsides. These detailed observations have consisted in noting and making descriptions of the phenomena seen during the display, and have been supplemented whenever possible by photographs taken with the Krogness camera. The descriptive notes are entered in a second log reserved for records of actual auroral displays. Extracts from this latter log may be obtained by anyone requiring the detailed information.

During the period of the International Polar Year, August 1932 to August 1933 an observer at Urafirth, situated approximately 26 miles NNW of the Observatory, has been supplied with a second Krogness camera. On suitable occasions communication between the two stations has been established by telephone and simultaneous photographs of aurora have been taken with the two cameras.

A general auroral table for Scotland (Table 68) is also included. This table has been compiled from the records of all stations at which climatological observations or weather logs are maintained. The observers at these stations, whilst noting occasions of aurora which they may happen to observe, do not in general maintain a special watch.

## Notes on the Tables.

The hourly values of  $H$ ,  $D$  and  $V$ , obtained as described above, appear in three of the four monthly tables. The variations in  $D$ , being expressed in minutes, may be readily converted to units of force ( $\gamma$ ) of the component perpendicular to the magnetic meridian by multiplying by a factor which for 1932 is approximately 4.22. The mean value for the day is computed as the mean of the twenty-four hourly values.

The letters "Q" and "D", prefixed to dates, denote the five quiet and the five disturbed days as selected at De Bilt.

In the fourth table for each month are given:-

- (a) The values and times of the daily maximum and minimum and the values of the absolute daily range for each of the elements  $H$ ,  $D$  and  $V$ .
- (b) The value of  $HR_H + VR_V$  for each day where  $R_H$  and  $R_V$  denote the absolute ranges in force for a calendar day of the horizontal and vertical components.
- (c) The daily magnetic character figures, assigned according to the international scheme wherein "0", "1", "2", respectively, denote quiet, moderately disturbed, and highly disturbed conditions.
- (d) The daily values of temperature in the magnetic chamber.



Mean diurnal inequalities of H, D and V on all days and on international quiet and disturbed days are given, for the months, seasons and year, in Tables 53 to 61.

In calculating diurnal inequalities the non-cyclic change has been eliminated on the assumption that its time rate is linear. The values of the range of the mean diurnal inequalities of the several elements in the three categories of days are brought together in Table 62, and the values of the non-cyclic change are given in Table 64. The "Average Departures," or mean values of the inequality taken irrespectively of sign, throughout the 24 hours, are given in Table 63.

The mean values of  $HR_H + VR_V$  are summarized in Table 65.

In Table 66 appear for the months and year the mean values of N, W, V, D, I, H and Total Force T. The means of N, W, I and T are derived from the corresponding mean values of H, D and V, which are the means of hourly values on all days in the month or year.

Finally, in Tables 67 and 68 are given summaries of auroral observations obtained as already described.

#### Review of Results.

Mean and Extreme Values of the Magnetic Elements, 1933. - The mean values of the magnetic elements for the years 1932 and 1933 are given in Table 1. The values of H, D and V has been computed from the hourly values derived from the autographic records of all days, standardized by means of the absolute observations; those of N, W, I and T have been deduced from the values of H, D and V.

TABLE 1.

Year	H.	D. (West)	I.	N.	W.	V.	T.
	γ	° ' "	° ' "	γ	γ	γ	γ
1932 ...	14495	13 46.1	72 43.5	14078	3450	46608	48809
1933 ...	14477	13 34.0	72 44.6	14073	3396	46605	48802

The decrease in westerly declination from 1932 to 1933 ( $12'.1$ ) was less than in the previous year ( $13'.6$ ). The rates for the eight earlier years were  $13'.8$  for 1923-24,  $13'.0$  for 1924-25,  $14'.9$  for 1925-26,  $12'.9$  for 1926-27,  $12'.8$  for 1927-28,  $13'.7$  for 1928-29,  $12'.4$  for 1929-30 and  $11'.6$  for 1930-31.

Mean values derived from (a) international quiet days and (b) international disturbed days are as follows:- (a) H, 14480γ; D,  $13^{\circ}34'.1$ ; V, 46608γ; (b) H, 14473γ; D,  $13^{\circ}33'.7$ ; V, 46603γ.



The extreme values of H, D and V recorded during 1933 are given in Table II.

TABLE II

Element.	Maximum.		Minimum		Absolute Annual Range.
	Value.	Date, 1933.	Value.	Date, 1933.	
Horizontal Force	15324 $\gamma$	d. h. m. May 1 16 15	13513 $\gamma$	d. h. m. May 1 21 33	1811 $\gamma$
Declination	15° 23'·6	May 1 16 32	12° 33'·3	Sept. 13 19 45	2° 50'·3
Vertical Force	47012 $\gamma$	May 1 21 25	46332 $\gamma$	June 13 3 36	680 $\gamma$

The range of 2° 50'·3 in declination is equivalent to a range of 717  $\gamma$  in the component of force perpendicular to the magnetic meridian. In the year 1932 larger ranges were recorded in D and V.

**Magnetic character of the year.**— The following table shows the mean sunspot numbers for recent years, together with the mean absolute daily range of declination, as a rough measure of magnetic activity:—

Year.	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
Mean Sunspot No.	5·8	16·7	44·3	63·9	69·0	76·8	64·2	38·9	20·9	11·2	5·5
Mean absolute daily range of D.	14·9	15·4	18·1	25·0	20·0	21·4	24·3	28·5	19·2	21·3	19·6

During these eleven years the sunspot numbers show a fairly regular rise and fall, with maximum in 1928; but the D ranges show maxima in 1926 and 1930, the latter the larger, although the sunspot number was comparatively small.

In the next table the magnetic conditions for individual months of the year 1933 are set out, together with the provisional sunspot numbers.

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Provisional sunspot number ...	11·3	20·4	10·0	2·9	3·7	5·0	2·8	0·2	5·1	3·4	0·7	0·3
Mean absolute daily range of D ...	17·2	21·1	19·8	23·2	24·0	17·9	15·9	20·6	22·0	18·5	18·4	16·1
Mean $\frac{HRH + VRV}{10,000}$	464	585	635	709	861	536	456	526	659	554	412	358



The values of mean absolute daily range for the months and seasons of the year 1933 are given in Table IV, the ranges of declination in angle having, for convenience of comparison, been converted to units of force of the component perpendicular to the magnetic meridian. If comparison be made with the corresponding table in the Eskdalemuir Section it will be seen that in 1933 the ratios of the annual mean ranges of H, D and V at Lerwick to those at Eskdalemuir are 1.5, 1.2 and 2.7. The ratios of the mean daily ranges for the six years 1926-31 of Lerwick H to Eskdalemuir N, Lerwick D to Eskdalemuir W, and Lerwick V to Eskdalemuir V, are 1.4, 1.1 and 1.9; the greatest variation from year to year appears in the case of the vertical component; scarcely any variation appears in the ratio of the W or D component and a slight variation in the case of the H or N component.

TABLE III.

Month.	Magnetic Character Figures.			Mean Character Figures.		Mean Value of $\frac{HR_H + VR_V}{10,000}$		
	"0" days.	"1" days.	"2" days.	Lerwick.	International.	All days.	Q days.	D days.
1933.								
January	12	18	1	.65	.65	464	86	987
February	14	9	5	.68	.65	585	89	1769
March	8	17	6	.94	.71	635	136	1714
April	4	22	4	1.00	.76	709	262	1371
May	11	17	3	.74	.62	861	189	2025
June	16	12	2	.53	.55	536	186	1402
July	18	11	2	.48	.54	456	218	1020
August	17	11	3	.55	.60	526	218	1422
September	9	17	4	.83	.77	659	260	1809
October	14	13	4	.68	.65	554	129	1229
November	14	13	3	.63	.63	412	130	1039
December	20	9	2	.42	.53	358	87	1172
Year, 1933	157	169	39	.59	.64	563	166	1413
Year, 1932	97	230	39	.84	.71	644	182	1602
Year, 1931	121	212	32	.75	.66	589	196	1394
Year, 1930	64	235	66	1.01	.83	1063	250	2515
Year, 1929	113	214	38	.80	.67			
Year, 1928	126	211	29	.74	.63			
Year, 1927	137	206	22	.68	.63			
Year, 1926	208	134	23	.50	.65			
Year, 1925	207	130	28	.51	.56			
Year, 1924	229	114	23	.44	.55			



TABLE IV.- ABSOLUTE DAILY RANGE. MEAN MONTHLY VALUES.

Month.	Mean Absolute Daily Range 1933.			Mean Daily Range expressed as Percentage of Yearly Mean. 1933.		
	H.	D.	V.	H.	D.	V.
	Y	Y	Y	%	%	%
January ..	67	72	79	74	88	86
February ..	84	89	99	92	109	106
March ..	114	83	101	125	101	109
April ..	109	98	118	120	120	127
May ..	175	102	130	192	125	140
June ..	94	75	86	103	91	93
July ..	82	67	73	90	82	78
August ..	98	87	83	108	106	89
September ..	94	93	112	103	113	121
October ..	76	78	95	84	95	102
November ..	49	77	73	54	94	78
December ..	47	68	62	52	83	67
Winter ..	62	77	78	68	94	84
Equinox ..	98	88	107	108	107	115
Summer ..	112	83	93	123	101	100
Year ..	91	82	93	-	-	-

The frequency distribution of absolute daily ranges recorded in 1933 is shown in Table V. A comparison with the corresponding figures for Eskdalemuir (Table V. on page 180) indicates that ranges in excess of 200Y are again much more frequent at Lerwick than at Eskdalemuir, even in the case of D ranges, of which the frequency distributions at the two places usually show less divergence. Apart from this it is notable that the ranges of maximum frequency at Lerwick fall in the intervals 50-59Y for H and D, and 20-29Y for V, that is, at much the same points as at Eskdalemuir, though V has many more ranges in excess of 200Y than have H and D.

TABLE V.- FREQUENCY DISTRIBUTION OF ABSOLUTE DAILY RANGE.

Range	Number of Cases, 1933.			Percentage Distribution.		
	H.	D.	V.	H.	D.	V.
0- 9 ..	0	0	1	0.0	0.0	0.3
10- 19 ..	15	3	37	4.1	0.8	10.1
20- 29 ..	37	16	57	10.1	4.4	15.6
30- 39 ..	35	32	38	9.6	8.8	10.4
40- 49 ..	27	49	29	7.4	13.4	7.9
50- 59 ..	55	49	24	15.1	13.4	6.6
60- 69 ..	43	46	18	11.8	12.6	4.9
70- 79 ..	36	24	16	9.9	6.6	4.4
80- 89 ..	19	28	11	5.2	7.7	3.0
90- 99 ..	16	21	13	4.4	5.8	3.6
100- 109 ..	10	17	7	2.7	4.7	1.9
110- 119 ..	10	14	17	2.7	3.8	4.7
120- 129 ..	6	7	8	1.6	1.9	2.2
130- 139 ..	6	16	7	1.6	4.4	1.9
140- 149 ..	4	10	9	1.1	2.7	2.5
150- 159 ..	3	5	4	0.8	1.4	1.1
160- 169 ..	5	7	11	1.4	1.9	3.0
170- 179 ..	2	7	6	0.5	1.9	1.6
180- 189 ..	1	3	2	0.3	0.8	0.5
190- 199 ..	4	1	4	1.1	0.3	1.1
200+ ..	31	10	46	8.5	2.7	12.6
Days omitted ..	0	0	0	-	-	-



TABLE VI.- PRINCIPAL MAGNETIC DISTURBANCES RECORDED AT LERWICK, 1933.

Where the beginning of a disturbance has been marked by a "sudden commencement", the serial number is followed by an asterisk (\*), and the time entered in the second column is that of the sudden commencement, estimated to the nearest minute. In other cases, the exact hour nearest the time at which disturbance may be regarded as having begun is entered in the second column. To the tabulated values of maximum and minimum, the following have to be added:- H, 14,000γ; D, 13°; V, 46,000γ.

No.	From	To	Horizontal Force.					Declination.					Vertical Force.				
			Max.	Time.	Min.	Time.	Range	Max.	Time.	Min.	Time.	Range.	Max.	Time.	Min.	Time.	Range.
	d. h. m.	d. h.	γ	d. h. m.	γ	d. h. m.	γ		d. h. m.		d. h. m.		γ	d. h. m.	γ	d. h. m.	γ
1	Jan. 19 4	Jan. 20 10	589	19 15 55	427	20 4 49	162	51.1	20 4 50	21.9	19 15 57	29.2	803	19 15 54	498	20 5 18	305
2	Jan. 22 3	Jan. 30 24	682	22 19 8	319	24 0 58	363	60.6	27 21 20	16.9	22 19 9	43.7	816	22 19 6	478	24 1 41	338
3	Feb. 18 14	Feb. 28 4	773	21 16 6	255	20 1 34	548	57.8	19 14 45	-1.1	23 19 36	58.9	914	21 16 7	397	19 23 40	517
4	Mar. 18 2	Mar. 25 24	577	24 17 25	93	18 23 18	484	57.8	20 1 43	-11.0	19 21 15	68.8	737	19 18 46	392	18 23 20	345
5	Mar. 27 5	Mar. 30 6	542	27 16 57	428	29 10 42	114	53.7	27 13 58	27.3	28 17 33	26.4	707	27 17 26	545	29 22 53	162
6	Apr. 2 8	Apr. 9 24	524	7 17 48	407	4 1 41	117	49.1	4 2 20	14.8	7 20 25	34.3	704	7 16 21	502	4 2 43	202
7	Apr. 15 12	Apr. 26 24	613	15 20 37	194	15 21 29	419	52.9	17 12 56	6.0	16 19 24	46.9	772	15 20 30	427	19 23 15	345
8*	Apr. 30 16 28	May 7 16	1324	1 16 15	-487	1 21 33	1811	143.6	1 16 32	7.0	4 19 14	136.6	1012	1 21 25	335	1 16 13	677
9	May 13 4	May 19 22	567	19 18 58	363	18 4 54	204	46.6	14 16 14	17.8	18 0 59	28.8	687	14 19 24	479	18 5 21	208
10	May 27 12	May 28 4	557	27 18 7	413	28 1 36	144	43.5	27 22 5	17.6	28 2 55	25.7	649	27 19 4	454	28 1 42	195
11*	May 29 6 25	June 1 22	575	30 17 14	356	30 1 56	219	52.4	1 3 13	14.3	29 20 42	38.1	697	30 17 34	422	30 2 57	275
12	June 8 4	June 9 22	544	8 18 33	378	9 0 11	166	45.5	8 11 40	24.3	8 4 54	21.2	642	9 16 54	477	9 1 35	165
13	June 12 20	June 16 4	571	13 15 32	287	14 0 16	284	48.6	13 22 36	7.9	13 23 14	40.7	692	13 16 9	332	13 3 36	360
14	June 19 8	June 22 4	543	20 16 37	427	20 2 29	116	46.3	20 15 2	12.9	20 2 22	33.4	636	20 15 54	476	20 1 35	160
15	June 27 6	July 3 4	578	28 16 14	436	27 9 56	142	50.1	27 14 40	23.7	29 0 15	26.4	684	28 16 57	501	28 0 58	183
16	July 23 10	July 24 17	569	24 16 1	296	24 3 36	273	44.3	23 13 55	8.6	23 22 19	35.7	704	24 15 39	407	24 3 40	297
17	July 27 22	July 27 24	484	27 23 55	327	27 22 39	157	44.2	27 22 37	24.9	27 22 47	19.3	594	27 22 0	396	27 22 55	198
18	Aug. 5 4	Aug. 6 21	889	5 18 20	317	6 2 46	572	106.9	5 18 25	12.1	5 18 24	94.8	761	5 18 26	473	6 3 0	288
19	Aug. 13 8	Aug. 14 24	549	13 14 40	387	13 22 47	162	44.5	13 11 53	4.5	13 19 36	40.0	664	13 19 28	378	13 22 53	286
20	Aug. 17 8	Aug. 25 9	620	21 16 25	385	18 23 59	235	45.4	18 17 5	8.7	18 19 56	36.7	712	21 16 25	440	18 23 59	272
21	Sept. 9 4	Sept. 11 2	502	9 3 28	238	9 6 42	264	64.3	9 5 16	21.6	9 0 6	42.7	715	9 14 41	355	9 5 48	360
22	Sept. 13 12	Sept. 18 12	643	13 16 6	199	15 4 6	444	49.3	13 17 34	-26.7	13 19 45	76.0	790	13 16 8	379	13 20 27	411
23	Oct. 3 23	Oct. 11 4	542	7 17 27	262	5 1 5	280	42.5	7 7 33	1.6	7 17 32	40.9	748	7 17 26	380	5 1 5	368
24	Oct. 11 22	Oct. 12 14	490	12 4 55	258	12 0 35	232	44.0	12 6 7	6.4	11 23 45	37.6	623	12 12 50	367	12 1 26	256
25	Oct. 13 9	Oct. 14 24	514	13 23 53	408	14 0 37	106	45.2	13 14 16	1.9	14 18 4	43.3	735	13 14 54	447	14 0 16	288
26	Nov. 5 17	Nov. 12 4	517	9 20 33	388	7 0 43	129	48.1	6 15 57	-5.4	7 20 31	53.5	765	6 17 45	459	8 1 35	306
27	Dec. 3 10	Dec. 6 4	490	5 5 40	398	4 11 55	92	46.3	4 7 5	4.6	3 19 32	41.7	718	5 17 33	549	6 0 54	169
28	Dec. 9 13	Dec. 10 24	583	9 18 34	281	9 21 39	302	43.4	10 22 22	-5.4	9 22 16	48.8	840	9 16 28	448	9 22 28	392



"Diurnal Inequalities."- The mean diurnal inequalities for all days, international quiet and disturbed days, for the months, seasons and the year, are given in Tables 53-61, and the corresponding inequality ranges in Table 62. The inequalities of H, D and V for international quiet and disturbed days are shown graphically in Plate I, whilst in Plate II are given vector diagrams illustrating the diurnal variation of magnetic force in the horizontal, the prime vertical and the meridian planes respectively.

All days. The ranges of the annual mean inequalities of H and D like those of 1932 are smaller than in any of the six previous years; that of V is less than in 1926 and 1930-32 but greater than in 1927-29.

Quiet days. The H and D ranges for the year are equal to or smaller than any since 1923. That of V is greater than in 1927-29 and 1932, but less than in 1926, 1930 and 1931.

In V, 1927, 1928 and 1929 had the smallest Q-day ranges, in the seasons as well as the years, 1930 considerably the largest; but in H and D the relation between the years is not so clear, 1927, 1928, and 1929 tending to have the largest ranges, 1931-33 the smallest, with the disturbed years 1926 and 1930 intermediate.

Disturbed days. The range of the annual inequality of H is less than in any of the previous years since 1924. The most outstanding month was May which had a range not reached since the three disturbed months of April, May and June 1930.

In D four of the last 10 years had slightly smaller ranges.

In V the range is less than in any year since 1928.

The disturbed day ranges in all three elements are, as usual, greatest in the Equinox season.

A comparison of the records of Eskdalemuir and Lerwick shows that in general the declination inequalities at the two places for all, quiet and disturbed days are very similar in general appearance, although minor irregularities on the one set of values are not always reproduced on the other, or, if so, only with diminished amplitude. Differences are more obvious on the horizontal force curves even on quiet days; and become conspicuous in the disturbed day inequalities in H in some months. In the case of vertical force these differences are even more marked. The table below shows the ratios of the ranges of the inequalities in the various months.

Ratio of the Range of the Inequality at Lerwick to that at Eskdalemuir. (1933)

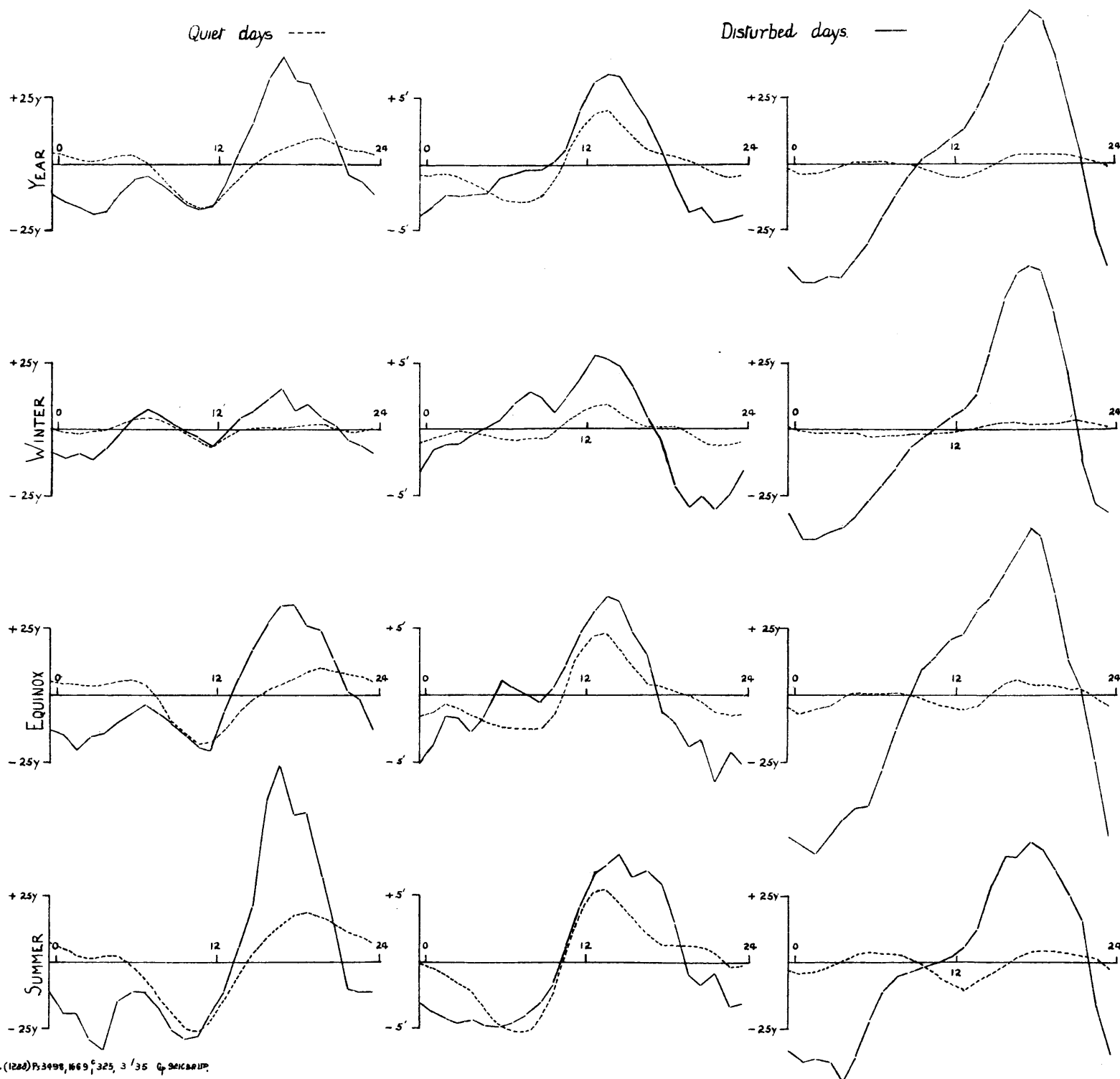
Type of Day.	Element.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
q	D	1.08	.95	.99	.99	.98	1.09	1.07	1.11	1.01	.82	1.09	1.07
d	D	1.22	1.23	1.19	1.13	1.52	1.14	1.13	1.05	1.07	1.13	1.18	1.15
q	H	.83	.75	1.05	1.03	1.11	1.30	1.13	1.06	.98	.97	.95	.88
d	H	1.04	1.75	1.65	1.08	2.74	1.41	1.12	1.74	1.73	.79	1.04	1.07
q	V	1.31	1.29	.77	1.33	.81	.81	.83	.86	1.20	.84	1.24	1.31
d	V	2.36	2.29	2.18	2.95	.97	2.27	2.24	1.84	1.86	2.38	2.34	2.87



LERWICK 1933

### Vertical Force

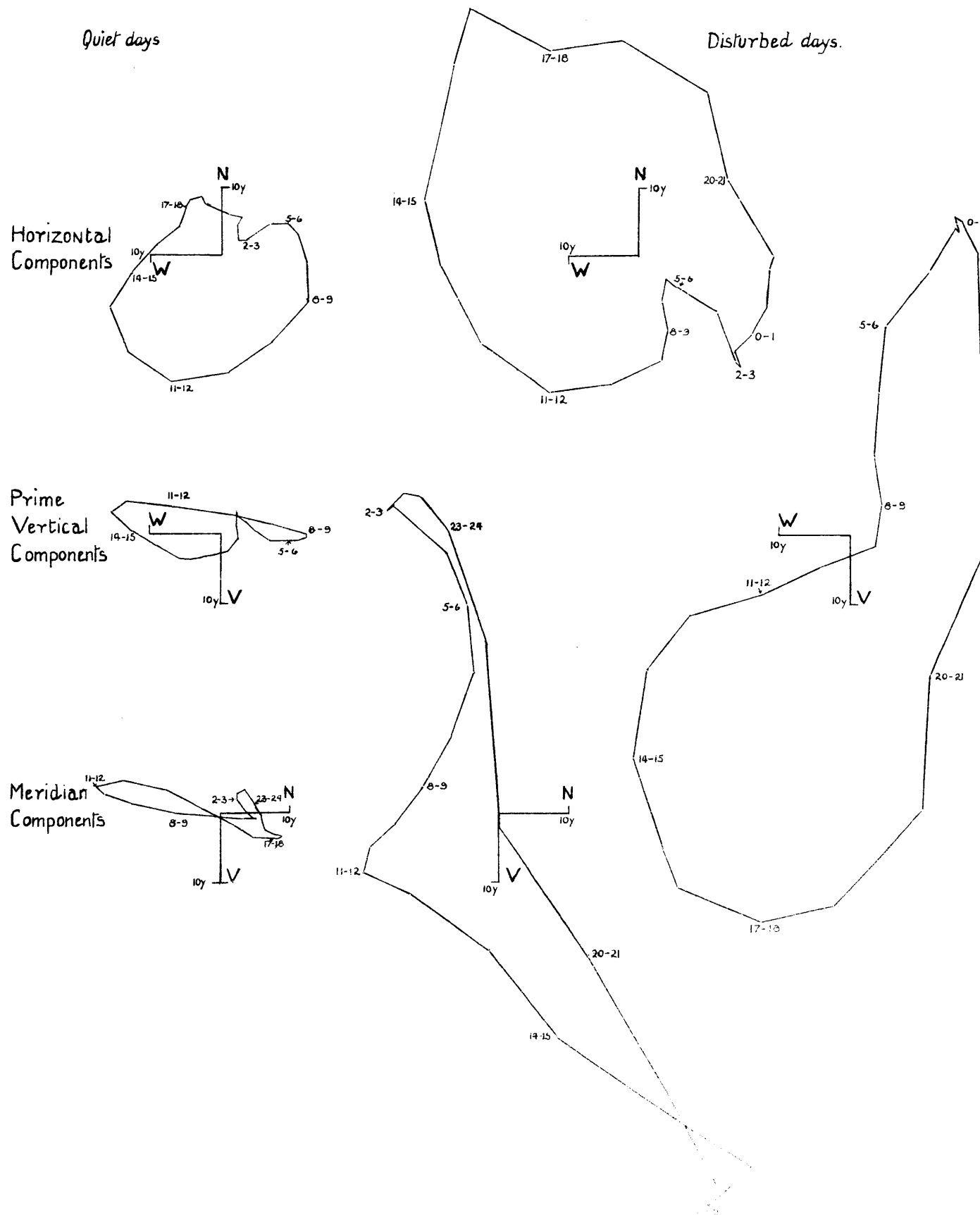
Disturbed days. —





# VECTOR DIAGRAMS ILLUSTRATING DIURNAL VARIATION OF MAGNETIC FORCE

LERWICK 1933





"Magnetic Disturbances." - Particulars of the principal magnetic disturbances recorded at Lerwick during the year are given in Table VI. In the Eskdalemuir Section will be found a similar list which deals with the same disturbances as recorded at that Observatory. Within the limits of accuracy of measurement and registration, "sudden commencements" appear to occur simultaneously at the two Observatories.

#### Remarks on the Autographic Records, 1933.

##### JANUARY.- (Average Character Figure 0.61).

Disturbances were neither frequent nor very large. There was a hump in H 75 $\gamma$  high at about 1d 20h accompanied by a 27' bay in D and a fall of about 65 $\gamma$  in V. At 6d 0h 34m a small movement of the "sudden commencement" type occurred, marking the beginning of only slight disturbance. Again, on 15d there were some slow waves in all elements between the somewhat unusual times of 5h and 9h. The ranges in this period were:- H, 92 $\gamma$ ; D, 19'; V, 78 $\gamma$ . Otherwise the first half of the month was quiet.

H and V had peaks respectively 110 $\gamma$  and 140 $\gamma$  high at about 19d 16h; followed, after a long quiet interval, by bays between 20d 4h and 20d 6h. The V bay was 90 $\gamma$ , the H bay 70 $\gamma$  deep. A D bay 27' deep accompanied the peak, and a small D hump the bay in the other records.

On 22d - the only "2" day in the month - disturbance was confined to the evening. In H there were several peaks, the largest and sharpest, at 19h 8m. This feature also appeared in V and (inverted) in D. On all records the return greatly exceeded the outward swing, the movements being:- in H, +190 $\gamma$ , -290 $\gamma$ ; in V, +115 $\gamma$ , -250 $\gamma$ ; in D, -17', +42'. There was scarcely a sign of the deep bay which, in H and V, usually follows such an evening; but on the following night (ca 24d 1h) there were good bays in both - 180 $\gamma$  deep in H, 160 $\gamma$  in V. Records continued to be somewhat lively until the end of the month. In particular, there was at 27d 21h - 21h 40m a fall of 150 $\gamma$  in V; and at the same time a 35' peak occurred in D, and an H bay 130 $\gamma$  deep.

Aurora was seen from one or more places in Scotland on the evenings of January 1, 8, 15, 19, 22, 23 and 27-30. Apart from a short period of moderate activity, 22h 15m to 22h 21m on the 1st, as seen from Lerwick all were very weak displays.

##### FEBRUARY.- (Average Character Figure 0.64).

There was a period of not very violent disturbance from the 19th to 26th: otherwise, a particularly quiet month.

There were a number of periods of moderate disturbance during the afternoon and evening of the 19th, including a D bay 31' deep with a minimum at 18h 43m. H. showed two well-defined night bays respectively 210 $\gamma$  and 250 $\gamma$  deep with minima at 23h 25m and 20d 1h 34m. V fell 230 $\gamma$  between 22h 20m and 23h 25m, remained very low but steady until 1h 30m, and then recovered rapidly. Two fairly large D bays were recorded in this period, but their minima, at 0h 6m and 1h 1m, did not coincide with those of H: indeed a small D hump was associated with the first H bay.



The rest of the 20th was fairly quiet; and the H and V bays of the night of 20-21st, though well-defined, were not large. H and V show fine, sharp peaks, 250γ and 190γ high, with the maxima at about 21d 16h 6m, and at the same time there was a bay 41' deep in D. A second H peak (of 80γ) at 22h 9m was accompanied by a deep D bay and by a fall of 130γ in V. V remained low until 22d 7h, reaching a minimum of 46434γ at 0h 56m. H was also somewhat low during this period, although there were no very considerable bays.

Smaller outbreaks of disturbance were common until the 26th. A bay in D 39' deep occurred at 22d 18h 20m: and there were bays in H and V at about 23d 0h, respectively 150γ and 130γ deep. On the afternoon and evening of 23d there were several small humps in H. The one at 19h 33m, 80γ high, was accompanied by a sharp peak in V 60γ high and by a 40' bay in D. Fairly deep night bays in V and H were recorded at 26d 2h: and another in V but not, curiously enough, in H, at 26d 21h 53m. There was also a 29' bay in D at 26h 20h 45m.

Aurora, in all cases feeble, was seen from one or more places in Scotland on the evenings of February 1, 14, and 19-25.

#### MARCH.- (Average Character Figure 0.90).

Really quiet days were somewhat rare. On the other hand, there was only one period of really disturbed conditions (18th to 25th).

Bays in V, respectively 120γ and 130γ deep were recorded on the 11th (0-4h) and the 18th (2-8h). Each of these was accompanied by a "wave" in the D record, with a range of 18' on the 11th and of 24' on the 18th.

The main disturbance of the month began at 18d 22h 18m with a peak 80γ high in H. This was followed by a swift fall of 410γ to a minimum at 23h 18m, but the recovery was also rapid and after 19d 2h the curve was quiet. D and V both show fairly deep bays commencing with rapid falls at about 22h 25m, each of which was divided into two by a peak at 23h 40m (26' high in D, 100γ in V).

This disturbance continued until the 25th. In no case was there very large H movement by day, but there were many quite deep night bays:- at 19d 20h 58m, 370γ deep: at 20d 1h 34m, 240γ deep: at 21d 23h 59m, 210γ deep: at 22d 2h 50m, 180γ deep: and at 24d 2h 59m, 160γ deep. V readings were as usual very low for long periods during each night. On the night of 19th to 20th there were separate bays, respectively 160γ and 190γ deep, corresponding with the two H bays; but on the night of 21-22nd a single bay 200γ deep covered the period occupied by both H bays. D showed a bay 42' deep at 19d 18h 57m accompanying a hump of 90γ in H and a sharp fall in V, and a second one 46' deep at 21h 15m - not quite coincident with the main H bay. As often happens, the second H bay on this night was accompanied by a hump in D 33' high. The liveliest part of the D record was from 23d 15h 30m to 21h 30m; when the trace showed continual and fairly rapid movement, although the range was only 31'.

Aurora was seen from one or more places in Scotland on the evenings of March 17-25, 28 and 29. As seen from Lerwick only the display of the 19th was at all active. On this night, from about 20h 40m to 20h 50m the whole Northern half of the sky was covered with rays converging from the horizon



on a point almost overhead. Across the rays lay many bands, often with ray structure and at times brilliantly coloured in green and pink, which constantly altered their form. After 20h 47m the variations in the pattern became slower, but the whole began to pulsate rapidly. The display quickly decayed after about 21h 15m and by 21h 40m only a faint glow remained.

APRIL.- (Average Magnetic Character Figure 1.00).

Quiet days were few but on the other hand there were no really large disturbances.

There was a short period of fairly vigorous movement on the 15th between 20h and midnight. The first H movement was a sharp rise of  $68\gamma$  at 20h 27m., followed by a bay  $419\gamma$  deep. The movements immediately preceding and following the minimum were very rapid, the fall of  $200\gamma$  and rise of  $310\gamma$  occupying together only 15 minutes. V movements were similar, though the range,  $231\gamma$ , was only about half that of H; while changes in D were roughly the reverse of those in H, with a range of  $32'$ .

This disturbance continued to affect the records until April 26th, chiefly in the form of night bays of moderate depth in H and V. There were also some fairly large changes in D, of which the most conspicuous were a bay  $30'$  deep at 18d 19h 24m and a curious double wave with a range of  $25'$  between 22h and 24h on the 21st.

At 30d 16h 28m H showed a beautiful "sudden commencement" (movements  $-24\gamma, +91\gamma$ ) which however, though visible, was represented by only very small movements on the other records. Disturbance on this evening was not particularly great; H and V showed humps at about 20h 50m, followed by bays with minima a little before midnight, while the main feature in D was the bay accompanying the H and V humps. The ranges for the evening were all moderate -  $229\gamma$  in H,  $212\gamma$  in V,  $35.7'$  in D.

Aurora was seen from one or more places in Scotland on the evenings of April 2, 12, 13, 16-18, 21, 23 and 30. All were very weak displays.

MAY.- (Average Character Figure 0.74).

A somewhat quiet month after the first two days.

The storm of 1d-2d was the greatest for several years, but the main changes were comparatively simple in form. H remained almost quiet until just before 1d 14h; then there was a single huge peak with a maximum at 16h 15m, followed by two bays at 21h 33m and 2d 0h 40m. These latter were separated by a swing of about  $700\gamma$  towards normal values, and the total range of H on this day was  $1811\gamma$ . V rose steadily, about  $240\gamma$ , between 12h 40m and 15h 20m, and then fell  $500\gamma$  very suddenly; rose again, irregularly, some  $680\gamma$  before 21h 25m, when it again fell sharply, about  $630\gamma$ . Once more V began to climb, but at 0h 26m, after rising  $420\gamma$ , it fell sharply for the third time ( $460\gamma$ ). After this it rose rapidly and was quite quiet after 2d 3h.

In D there was a period of high mean values and very large and swift swings between 1d 15h 20m and 18h 0m. Eight swings exceeded one degree, and the largest was  $90'$ . The two night bays in H were accompanied by D peaks respectively  $70'$  and  $60'$  high.



By 2d 3h all records were quiet, and there was little in the rest of the month that calls for comment. D showed a bay 30' deep at 4d 19h 14m, accompanied by a 90γ hump in V; and there were fairly deep night bays in both H and V at about 6d 2h 25m and 7d 0h 50m. A further mild disturbance was recorded on May 14 and 15. From 17d 22h to 18d 8h values of H and V were somewhat low, but there were no large or sudden movements. A small "sudden commencement" at 29d 6h 25m ushered in a further period of slight disturbance. H and V showed bays of fair depth (150γ in H, 170γ in V) centred about 30d 2h, accompanied by two peaks in D respectively 21' and 25' high.

Aurora was seen from some places in the north and west of Scotland on the evenings of May 1 and 2, the former a brilliant display.

#### JUNE.- (Average Character Figure 0.53).

A quiet month, without any large disturbance.

There were bays in H and V respectively 125γ and 170γ deep at 1d 3h-4h, accompanied by a hump in D 20' high. A very quiet week followed, but on the early morning of the 9th there were again bays of moderate depth in H and V.

The largest disturbance of the month began on the 13th. Values of H were a little high during the afternoon and early evening, but the main feature was a double bay with minima at 22h 49m and 14d 0h 16m. The second, and deeper bay was 200γ in depth. V movements were generally similar to those in H and the second bay, 250γ deep, was again the larger. There were also some movements in D, with a range for the evening of 40.7', but they seemed to bear no simple relation to the changes in the other elements. Further bays, 125γ deep in H, 170γ in V, accompanied by a D wave with a range of 28.6', occurred at 15d 2h.

The month contained two more periods of small disturbance (19th-20th and 25th to 29th) but nothing of interest was recorded on either occasion.

#### JULY.- (Average Character Figure 0.48).

A quiet month: the 24th and 27th were the only "2" days, and both were only mild cases.

The first appreciable disturbance of the month began at about noon on the 23rd. During most of the afternoon and evening H and V values were a little high, but there was a bay in H 100γ deep with a minimum at 14h 48m. The D record was little affected until 22h, when there was a fall of about 26'. The usual night bays in H and V followed, with minima at about 24d 3h 30m. On the afternoon of the 24th there was an H hump 75γ high with a maximum at 16h 1m, accompanied (or rather slightly preceded) by a 100γ hump in V and a D bay 16' deep.

A series of quite quiet records was broken by a period of moderate disturbance between 27d 22h and 27d 24h. This appeared as a single V-shaped bay in both H and V (154γ deep in H and 190γ in V) while in D there were only a few irregular swings, on both sides of the normal, with a total range of only 19'.



## AUGUST.- (Average Character Figure 0.55).

This again was a quiet month. It contained three "2" days, of which only the 5th showed any vigorous disturbance.

The chief feature on the 5th was a fine H peak, 420γ high at 18h 20m. Between 5d 18h and 19h V and D showed numerous rapid swings, the final result of which was a fall in both elements - 90γ in V, 50' in D. The largest swings in both occurred at about 18h 25m. The one in V, which occupied only about one minute, amounted to 271γ; the one in D to 70'. All three elements showed comparatively small bays at approximately 6d 3h.

The next period of disturbance came late on the 13th. The H record was the least affected of the three, for its largest feature was a night bay 90γ deep at 22h 47m. The corresponding V bay was 200γ in depth, and at the same time there was a 20' bay in D. A larger D bay (33' deep) was centred at 19h 36m, roughly corresponding with the maxima of H and V.

A third period of disturbance began on the afternoon of the 18th. None of the movements were very remarkable. A small peak, 100γ high, occurred in H at 17h 1m, and at midnight there was a bay 70γ deep. Although the V range was 267γ all its movements were quite slow. In D there were several bays during the evening, but the greatest, at 19h 56m, was only 25' deep.

On the 21st, at 16h 25m, there was a hump in H 86γ high, accompanied by a somewhat smaller one in V and a Day bay 20' deep. A second D bay, also about 20' deep, followed at 19h 53m. The records of the 23rd and 24th also show small disturbances, but, after that, the remainder of the month was quiet.

Aurora was seen from Baltasound on the evening of August 20.

## SEPTEMBER.- (Average Character Figure 0.83).

There were no violent disturbances, but activity generally was greater than in recent months.

The first disturbance, which occurred on the 9th, was of an unusual type. In V there was a bay 240γ deep lasting from a little after 4h till 9h while H in the same period showed two bays, both about 260γ deep, separated by a great peak with a maximum at 5h 36m. In D there was a hump 42' high with a maximum at 5h 16m. After 10h the movements on this day were small, but there were bays of moderate depth in H and V with minima a little after 10d 2h.

The next outbreak began on the afternoon of the 13th. H and V began to rise at 14h, but at 18h both fell sharply back - H, 124γ, V, 90γ. A further fall in V, of 320γ began at 19h 20m; thereafter V remained low until 14d 3h though this long bay was divided by a low hump centred at 22h. H showed a bay of short duration, 105γ deep, at 20h 31m but the record generally was a type commoner in V - high afternoon values and a long low period at night, but no well-defined peaks or bays. D showed only one large departure from the normal - a bay 58' deep at 19h 45m.



Two D bays 23' and 27' deep at 19h 41m and 22h 0m, and a small H bay 120γ deep, at 22h 19m were the main features of the 14th. A much larger H bay was the one at 15d 4h 6m, 270γ deep, which was accompanied by a V bay of 177γ and a small D hump. The remainder of the month was tolerably quiet. There was an H bay 100γ deep at 19d 23h 16m, and V bays of moderate depth were recorded on the nights of 17-18th, 19-20th and 28-29th. D records during the second half of the month were rather livelier than those of H and V, but the movements were not large; the most striking feature was a small wave, forming two bays and an intervening hump with a range of 24.5', at 16d 20h 42m to 22h 18m.

Aurora was seen from one or more places in Scotland on the evenings of September 9-11, 13, 16-21, and 24-26. The displays of the 13th and 25th as seen from Lerwick were at times active and brilliant, though in no way unusual.

OCTOBER.- (Average Character Figure 0.68).

There were no very large disturbances but moderate ones were frequent during the first half of the month.

The first four days were quiet. Then at 5d 1h 5m, there occurred bays in H and V respectively 200γ and 150γ deep. A fairly quiet day followed, but at 5d 21h 16m there was a peak in H 60γ high, accompanied by shallow bays in V and D.

Small bays appeared on all records in the early morning of both the 6th and 7th while at 7d 17h 27m the H and V records showed peaks, respectively 85γ and 130γ high, accompanied by a 32' day in D. The records of the 8th, 9th and 10th all showed a certain liveliness, the main feature being a bay, 100γ deep in H and 130γ in V, at about 10d 1h 30m.

A much larger bay occurred at 12d 0h-2h. This was 200 γ deep in H and 215γ in V, and was accompanied by a D hump 31' high. On the 13th, V was the most strikingly disturbed element showing a well-defined peak at 14h 54m and a bay with a minimum at 14d 0h 16m. The other elements showed a few irregular movements at about these same hours. The main feature of the 14th were two bays in D, respectively 29' and 26' deep with minima at 18h 4m and 20h 19m. The first of these was accompanied by a shallow H bay, the second by an irregular wave in H having a range of 83γ.

The second half of the month was much quieter. The only features which call for mention were two small H peaks at 18d 20h 20m and 26d 21h 24m, respectively 55γ and 57γ high, each of which was accompanied by a small but sharply defined D bay.

Aurora was seen from one or more places in Scotland on the evenings of October, 1, 10-13, 15, 17, 20, 23-25 and 29. They were all weak or moderate displays. The most active as seen from Lerwick was that of the 24th - when, curiously enough, there was very little magnetic activity.

NOVEMBER.- (Average Character Figure 0.63).

This again was a month of small disturbances, of which the great majority were in the first fortnight.



The beginning of the month was quiet, but disturbance gradually grew greater during the first week. The main features of this period were two bays in D, at 3d 18h 42m and 4d 20h 45m, respectively 28' and 31' in depth. Throughout the 6th 7th and 8th, the H record was lively, but showed no large changes. In the late evening of each day there was a small hump, that of the 7th, 70γ high, being the largest; while a small night bay (80γ deep) appeared at 7d 0h 43m, and a still smaller one at 8d 1h 29m. In V the disturbed day pattern was well shown and the ranges were large, but all changes were slow. Disturbance in D also was of the usual type; the largest bays were the ones at 7d 16h 33m and 7d 20h 31m, respectively 29' and 33' deep.

After the 9th, this disturbance gradually decreased in intensity and from the 12th onwards the month was remarkably quiet. At 21d 15h 34m a D bay, 20' deep, appeared, and on the 27th there was a double peak in H, 95γ high, with maxima at 20h 26m and 20h 43m. V showed a 90γ hump with a maximum at 20h 26m, followed by two bays, each some 50γ deep, at 20h 40m and 21h 43m; while in D there were two bays, each about 30' deep, at 20h 40m and 21h 16m.

Aurora mostly feeble, was seen from one or more places in Scotland on the evenings of November 8-12, 17 and 22.

DECEMBER.- (Average Character Figure 0.42).

Disturbance was frequent during the first ten days, but the rest of the month was quiet.

Most of the records during the period 2nd-7th showed some activity, but the movements were generally small. In D, however, there were bays at 3d 19h 32m, 5d 15h 4m, 5d 17h 32m and 7d 19h 24m, all between 20' and 30' deep.

The 9th produced the greatest disturbance of the month. H was somewhat below normal during the early afternoon, but rose sharply just after 16h. The main features of this record were two peaks at 16h 30m and 18h 34m with maxima of 14562γ and 14583γ; and a single night bay with a minimum of 14281γ at 21h 39m. V was steady until 14h 30m, and then rose swiftly to a maximum of 46840γ at 16h 28m. Thereafter V showed a remarkably steady fall which continued (except for a 50γ hump at 21h 15m) until the minimum, 46448γ, was reached at 22h 28m. D changes were more irregular, but this element, also, decreased gradually from 16h onwards, and reached its minimum (12° 54.6') at 22h 16m. All elements returned to normal soon after midnight, but disturbance reappeared between 10d 15h and 10d 24h. In H and V the movements, though smaller, resembled those of the previous day; but the largest feature in D was a hump, 25' high, at 22h 22m.

At 18d 19h 16m and 18d 22h 24m, two bays appeared in D, the former 20', the latter 25' deep; and at 28d 23h 23m and 29d 2h 35m there were humps in H respectively 50γ and 45γ high, accompanied by shallow bays in V and D.

Aurora was seen from one or more places in Scotland on the evenings of December 4, 7, 9-11, 15, 16 and 18. The displays of 9th and 10th were seen fairly widely from the north and west of the country.



POTENTIAL GRADIENT (reduced to level surface): VOLTS PER METRE.  
Mean values for periods of sixty minutes, ending at exact hours, Greenwich Mean Time.

## 1. LERWICK.

1933.

Day	January. Factor 1.26				February. Factor 1.28				March. Factor 1.27			
	2 - 3 h.	8 - 9 h.	14 - 15 h.	20 - 21 h.	2 - 3 h.	8 - 9 h.	14 - 15 h.	20 - 21 h.	2 - 3 h.	8 - 9 h.	14 - 15 h.	20 - 21 h.
1	v/m. -452	v/m. 107	v/m. 84	v/m. 126	v/m. 66	v/m. 95	v/m. Z±	v/m. > 951	v/m. 93	v/m. 163	v/m. 255	v/m. 297
2	97	81	97	136	Z±	321	141	Z±	214	182	201	889
3	97	184	94	178	49	118	Z±	141	61	41	144	118
4	145	171	252	359	-1000	82	-194	148	134	-13	121	-131
5	129	0	145	191	79	36	115	154	26	57	-102	322
6	200	<-81	478	149	95	131	112	<-968	191	<-431	399	434
7	74	90	100	129	295	210	187	148	265	341	249	-239
8	123	233	136	(142)	318	144	374	148	118	163	214	<-638
9	(97)	(97)	107	149	79	85	115	102	226	195	93	239
10	65	29	139	16	62	92	134	102	329	309	392	775
11	65	81	139	142	79	98	151	108	450	542	609	376
12	58	113	161	<-1017	128	125	194	Z±	322	348	593	367
13	100	233	145	-65	Z±	<-82	230	131	195	265	287	140
14	90	200	229	149	108	85	141	167	77	163	147	217
15	-275	142	168	181	102	118	180	194	128	128	128	278
16	84	258	81	-178	98	52	98	262	-32	<-1435	159	86
17	61	155	Z -	> 226	69	72	148	180	118	93	-501	163
18	> 323	129	203	Z±	108	79	<-46	Z±	112	144	159	274
19	> 42	> 543	197	-23	Z±	377	118	134	159	163	191	182
20	> 937	113	110	161	59	92	226	213	112	195	> 447	89
21	68	187	252	304	348	239	85	Z±	93	354	153	159
22	-158	158	191	236	331	Z±	<-20	374	201	545	587	603
23	161	203	220	391	> 869	190	249	> 426	345	357	367	230
24	223	333	233	278	79	92	> 436	131	195	239	309	252
25	174	200	155	<-1227	66	154	187	184	207	239	338	408
26	<-1612	-65	187	245	141	171	148	75	319	303	308	268
27	116	362	203	74	194	171	151	151	140	121	51	214
28	61	81	126	-81	82	-82	167	102	281	166	128	163
29	19	165	78	171	---	---	---	---	77	169	236	159
30	87	-74	<-371	> 539	---	---	---	---	226	134	93	> 415
31	Z±	> 517	149	<-937	---	---	---	---	Z±	> 287	134	144
(a)	146	184	168	203	163	137	178	205	187	228	258	266
(b)	44	162	153	144	122	100	168	152	191	224	218	237
Mean	(a) 175 (b) 126				(a) 171 (b) 135				(a) 235 (b) 217			
Day	April Factor 1.25				May Factor 1.22				June Factor 1.18			
	2 - 3 h.	8 - 9 h.	14 - 15 h.	20 - 21 h.	2 - 3 h.	8 - 9 h.	14 - 15 h.	20 - 21 h.	2 - 3 h.	8 - 9 h.	14 - 15 h.	20 - 21 h.
1	v/m. Z±	v/m. 76	v/m. 109	v/m. 255	v/m. 92	v/m. 86	v/m. 71	v/m. 104	v/m. 117	v/m. 71	v/m. 117	v/m. 140
2	67	-179	-137	155	65	110	118	118	120	263	163	229
3	46	143	140	131	53	181	157	160	Z±	326	240	415
4	97	137	149	271	92	104	89	110	272	243	212	275
5	94	128	170	228	95	86	210	127	160	317	315	317
6	119	82	149	134	482	491	400	660	163	240	277	352
7	<-146	185	237	444	545	302	148	157	432	380	272	289
8	271	207	365	395	98	127	172	124	143	86	149	149
9	593	140	164	170	124	101	-9	104	106	109	100	163
10	<-1110	119	204	213	86	127	112	148	100	97	94	149
11	-638	192	109	167	92	148	53	107	109	209	146	186
12	<-350	Z±	243	179	110	56	124	148	74	186	229	649
13	116	112	143	143	107	118	151	<-548	418	317	123	109
14	119	137	119	<-1408	148	166	110	121	197	220	203	632
15	52	143	185	161	133	-30	92	< 0	400	323	203	486
16	85	134	91	119	112	145	148	172	-246	129	160	-80
17	85	119	131	152	133	77	50	71	129	160	189	192
18	91	> 377	<-222	106	86	121	148	-27	220	146	140	189
19	116	106	119	140	<-932	406	429	459	215	154	152	134
20	73	128	109	167	403	281	542	568	109	143	140	166
21	55	109	-261	103	343	408	311	539	166	252	263	117
22	179	88	134	164	225	337	195	290	192	312	292	186
23	82	143	140	195	222	86	104	663	-186	160	140	200
24	116	116	143	109	249	204	228	201	177	163	143	400
25	70	161	219	85	252	281	175	249	255	160	154	132
26	274	593	407	514	118	118	95	104	92	57	140	63
27	243	243	313	(365)	74	107	89	89	106	89	143	186
28	(243)	(334)	268	40	59	74	80	133	149	112	149	146
29	198	210	192	58	133	157	184	189	103	92	132	123
30	43	164	106	128	148	160	47	133	94	114	129	149
31	---	---	---	---	104	133	77	118	---	---	---	---
(a)	141	172	180	189	166	177	164	213	178	188	177	239
(b)	112	156	148	179	169	171	151	203	151	183	176	222
Mean	(a) 171 (b) 149				(a) 180 (b) 173				(a) 195 (b) 183			

Note:- The Potential Gradient is reckoned as positive if the potential increases upwards. For indeterminate potential gradient the notation Z is used.  
(a) Mean of all positive readings. (b) Mean from all complete days using both positive and negative readings.



1. LERWICK.

1933.

Day	July Factor 1.22				August Factor 1.26				September Factor 1.27				
	2 - 3 h.	8 - 9 h.	14 - 15 h.	20 - 21 h.	2 - 3 h.	8 - 9 h.	14 - 15 h.	20 - 21 h.	2 - 3 h.	8 - 9 h.	14 - 15 h.	20 - 21 h.	
	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	
1	173	92	271	450	95	98	111	138	94	106	82	158	
2	191	167	143	161	132	126	55	298	30	52	27	207	
3	226	271	191	319	200	378	107	120	395	435	85	88	
4	194	298	170	370	117	111	120	298	79	201	112	213	
5	244	167	414	438	98	184	236	129	125	274	295	240	
6	66	122	221	447	> 184	95	83	120	198	170	76	-36	
7	131	632	432	298	95	101	83	212	119	158	137	195	
8	253	173	286	396	95	83	89	153	131	140	119	137	
9	575	429	507	393	111	153	< -230	> 706	106	116	119	134	
10	450	161	444	316	144	111	80	111	85	122	185	283	
11	161	146	343	545	92	111	77	129	155	109	94	216	
12	134	116	131	128	86	104	117	166	179	73	116	94	
13	83	131	280	152	187	153	187	104	73	27	109	-21	
14	203	173	221	149	107	77	129	298	91	109	94	43	
15	164	143	33	131	138	212	461	264	-532	0	112	179	
16	75	113	89	149	80	77	80	147	97	94	179	407	
17	95	125	72	122	74	147	117	255	392	496	389	657	
18	131	104	107	98	92	52	49	95	246	225	119	246	
19	247	536	194	435	< -18	58	92	184	347	271	88	46	
20	131	137	-30	438	80	123	101	384	64	97	158	192	
21	229	361	530	292	157	> 952	92	141	85	143	182	210	
22	182	194	119	119	101	510	126	190	112	149	152	198	
23	122	167	131	209	< -200	-614	120	123	79	112	-213	158	
24	122	104	89	137	98	203	138	193	125	289	155	261	
25	89	125	92	116	153	246	378	(307)	103	137	155	225	
26	116	143	72	325	353	353	350	847	112	243	185	158	
27	98	107	60	89	537	583	< -507	706	(61)	(91)	222	213	
28	72	77	119	134	418	362	144	215	146	234	310	116	
29	113	122	89	119	157	221	239	399	103	246	192	188	
30	104	125	95	110	132	359	129	169	112	152	137	146	
31	83	92	116	134	89	46	92	126	---	---	---	---	
(a)	170	189	202	249	152	213	144	249	139	169	151	200	
(b)	170	189	195	249	137	182	152	230	117	169	139	185	
Mean	(a) 203 (b) 201				(a) 189 (b) 175				(a) 165 (b) 153				
Day	October Factor 1.30				November Factor 1.30				December Factor 1.27				
	2 - 3 h.	8 - 9 h.	14 - 15 h.	20 - 21 h.	2 - 3 h.	8 - 9 h.	14 - 15 h.	20 - 21 h.	2 - 3 h.	8 - 9 h.	14 - 15 h.	20 - 21 h.	
	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	
1	93	112	182	230	-38	122	170	362	119	162	153	140	
2	159	131	102	255	-32	> 288	125	134	93	156	156	150	
3	96	121	134	112	70	109	128	115	87	66	122	47	
4	77	140	159	118	93	61	77	147	87	119	109	147	
5	102	118	217	26	102	77	138	93	84	100	197	56	
6	83	32	67	131	115	163	122	96	103	140	125	140	
7	61	105	137	364	122	118	102	96	84	125	156	25	
8	89	96	64	-73	96	80	96	141	78	62	109	125	
9	112	239	-29	-364	64	105	-83	160	59	97	87	94	
10	112	150	156	134	118	93	144	118	34	62	131	125	
11	41	115	112	131	58	115	-464	-141	75	81	125	162	
12	102	99	112	77	70	< -736	134	99	94	150	78	168	
13	67	80	166	156	400	118	192	-458	128	125	100	-6	
14	121	124	144	105	160	86	176	-48	100	100	109	122	
15	77	99	153	6	70	122	182	125	78	97	125	87	
16	< -287	121	112	-99	96	80	166	0	69	94	90	103	
17	73	96	118	128	96	144	176	368	90	59	59	78	
18	70	108	300	169	112	90	170	80	78	34	(94)	90	
19	112	112	169	207	61	86	179	112	28	100	125	69	
20	131	172	175	144	77	-42	16	64	81	103	125	144	
21	112	163	191	236	109	93	90	109	66	115	175	168	
22	38	89	163	182	-64	102	150	93	81	56	66	90	
23	86	-150	115	118	54	93	118	125	84	90	94	94	
24	57	102	121	182	74	99	186	317	119	59	47	106	
25	105	83	< -159	217	61	99	102	115	234	178	172	209	
26	96	89	118	-96	99	96	147	131	140	12	122	187	
27	83	86	-89	-188	125	115	160	170	41	103	128	109	
28	32	105	89	-255	131	61	150	10	140	112	150	134	
29	86	105	140	156	144	128	144	115	69	106	115	75	
30	93	128	115	108	109	144	189	138	-6	47	343	278	
31	-213	96	124	80	---	---	---	---	137	268	190	181	
(a)	88	114	141	151	107	110	140	135	92	103	128	123	
(b)	78	106	128	89	97	99	112	98	89	103	128	119	
Mean	(a) 123 (b) 100				(a) 123 (b) 101				(a) 111 (b) 110				
					Annual Means.				(a)	144	165	169	202
									(b)	123	154	156	176
									(a) 170 (b) 152				

The Potential Gradient is reckoned as positive if the potential increases upwards. For indeterminate potential gradient the notation Z is used.  
(a) Mean of all positive readings. (b) Mean from all complete days using both positive and negative readings.



## POTENTIAL GRADIENT (reduced to level surface): DIURNAL INEQUALITIES (in volts per metre).

The departures from the mean of the day are adjusted for non-cyclic change.†  
\*Qa DAYS ONLY.

## 2. LERWICK.

1933.

Month and Season	Hour 0-1	G.M.T. 1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	† Non-cyclic Change	No. of Days Used	Mean Values
Jan.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.		
Feb.	-54	-62	-59	-52	-44	-34	+14	+25	+23	+29	-9	-13	-5	-16	+6	+29	+27	+62	+76	+67	+36	0	-21	-26	+44	6	206
Mar.	-18	-35	-47	-48	-50	-60	-56	-35	-29	-27	-21	+15	+21	+30	+35	+22	+26	+71	+99	+79	+50	0	-15	-9	-7	1	146
	-44	-32	-39	-47	-23	-22	-13	-9	0	+27	+20	+24	+40	+37	+45	+60	+43	+40	+16	+3	-6	-28	-39	-54	+1	12	282
Apr.	-32	-32	-34	-33	-27	-14	-6	-17	-24	-30	-28	+3	+15	+14	+20	+19	+12	+13	+20	+71	+53	+38	+13	-14	-34	3	131
May	-13	-22	-10	+7	-9	+34	+5	-17	-13	-20	-20	-33	-19	+1	-19	-20	-7	-5	+4	+22	+54	+53	+41	+8	-34	14	171
June	+5	-16	-18	-4	+5	-3	-3	-7	-17	-21	-29	-12	+2	-21	-19	-6	-2	-3	-1	+19	+53	+34	+46	+17	-43	18	196
July	0	-31	-73	-51	-39	-15	+7	+3	-28	-39	-47	-39	-16	-26	+10	+28	+49	+41	+46	+31	+57	+62	+47	+21	-27	18	214
Aug.	-18	0	-17	-31	-30	-19	-7	+4	+27	+29	-3	-8	-15	-23	-6	+36	+30	+13	-1	-1	+15	+6	+9	+5	+9	8	141
Sept.	-26	-22	-34	-38	-38	-27	+7	+19	+13	-6	-14	-15	-6	+4	+5	-3	+3	+22	+39	+49	+55	+31	-2	-15	+21	16	170
Oct.	-34	-45	-42	-39	-44	-46	-38	-20	-8	-8	-12	-4	+10	+21	+45	+39	+38	+46	+53	+44	+39	+18	-1	-13	+13	8	137
Nov.	-2	-18	-23	-21	-24	-14	-23	-19	-12	-5	-13	-6	+5	+11	+15	+12	+13	+21	+22	+27	+25	+21	+15	-6	+4	9	115
Dec.	-16	-25	+5	+3	+2	+4	-5	+5	+1	-9	-8	-1	0	-6	+1	+9	+9	+15	+18	+21	+18	-7	-20	-15	+9	7	111
Year	-21	-28	-33	-29	-27	-18	-10	-6	-6	-7	-15	-7	+3	+2	+11	+19	+20	+28	+33	+36	+37	+19	+6	-8	-4	120	168
Winter	-23	-35	-31	-29	-29	-26	-17	-6	-4	-3	-13	-1	+5	+5	+14	+18	+19	+42	+54	+49	+32	+3	-10	-14	+13	23	145
Eqnx.	-34	-33	-37	-39	-33	-27	-13	-7	-5	-4	-9	+2	+15	+19	+29	+29	+24	+30	+32	+42	+35	+15	-7	-24	0	39	180
Summer	-7	-17	-29	-20	-18	-1	+1	-4	-8	-13	-25	-23	-12	-17	-9	+9	+17	+11	+12	+18	+45	+39	+36	+13	-24	58	181

\*1a AND 2a DAYS ONLY.

## 3. LERWICK.

1933.

Month and Season	Hour 0-1	G.M.T. 1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	† Non-cyclic Change	No. of Days Used	Mean Values
Jan.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.		
Feb.	+32	+1	-303	-515	-128	+51	+34	+3	+35	+10	-226	-122	-106	+18	+70	+83	+109	+87	+113	+140	+127	+192	+199	+106	-47	1	127
Mar.	-8	+31	+1	-9	-30	-18	-6	-4	-27	-24	+4	-5	+9	+14	+36	+25	+2	-11	-18	-1	+11	+19	+9	-1	-5	6	106
	-20	-28	-33	-37	-48	-51	-21	+30	+33	-36	-63	-23	+2	+2	+17	+31	+44	+53	+32	+59	+77	+19	-20	-19	-12	5	145
Apl.	-32	-28	-65	-68	-55	-22	-11	+9	+33	+18	-22	-21	+2	+19	+19	+25	+36	+45	+40	+53	+29	+27	-3	-27	+9	8	166
May	-34	-12	-5	-27	-11	-1	+26	+15	+6	-30	-17	-25	-53	-23	-37	-8	+8	+15	+30	+56	+32	+53	+39	+3	+12	11	189
June	+9	-10	+15	+21	+18	+15	-33	+2	+25	+29	-14	-9	-10	-14	+6	-4	+8	-2	+11	+26	-11	-18	-8	-21	+75	7	150
July	-17	-91	+1	-29	-21	+30	+37	+33	+60	+42	+10	-57	-55	-46	-55	-16	-5	+33	+53	+19	+58	+21	+2	-9	+49	5	164
Aug.	-16	-61	-49	-51	-37	-15	+5	-8	-2	-7	+4	-46	-51	-54	-36	-29	-26	+2	+40	+85	+103	+107	+135	+8	-86	9	160
Sept.	+41	+24	+43	+18	-84	-29	-54	-18	+58	+32	-45	-21	-26	-23	-7	-31	-38	-11	+31	+42	+15	+41	+17	+28	-53	4	131
Oct.	-21	-17	-16	-23	-32	-44	-36	-31	-24	-25	-20	0	+7	+22	+25	+24	+21	0	+46	+50	+40	+28	+23	+3	-6	12	107
Nov.	-43	-19	-31	-14	-15	-15	-37	-20	-5	-25	-19	-24	-5	+4	+17	+38	+57	+12	+37	+47	+71	+15	-1	-25	-3	8	116
Dec.	-12	-36	-20	-22	-23	-20	-23	-8	-2	+3	-9	+3	+10	+27	+22	+22	+28	+46	+21	+17	+12	-8	-19	-6	+3	17	103
Year	-10	-21	-39	-63	-39	-12	-10	0	+15	-1	-35	-29	-23	-5	+6	+13	+20	+22	+36	+49	+47	+41	+31	+3	-5	93	139
Winter	-8	-6	-88	-140	-49	-1	-8	-7	-2	-9	-63	-37	-23	+16	+36	+42	+49	+33	+38	+51	+55	+55	+47	+19	-13	32	113
Eqnx.	-8	-12	-18	-27	-55	-37	-31	-3	+25	-3	-37	-16	-4	+5	+13	+12	+16	+22	+37	+51	+40	+29	+4	-4	-15	29	137
Summer	-15	-43	-9	-21	-13	0	+9	+11	+22	+9	-4	-34	-42	-34	-31	-14	-4	+12	+33	+47	+45	+41	+42	-5	+13	32	166

† See page 21

\* Note for explanation of Qa, 1a, and 2a Days, see page 55.



## ELECTRICAL CHARACTER OF EACH DAY, AND APPROXIMATE DURATION OF NEGATIVE POTENTIAL GRADIENT.

## 4. LERWICK.

1933.

Day.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	Char- acter. pot. grad.	Char- acter. pot. grad.	Char- acter. pot. grad.	Char- acter. pot. grad.	Char- acter. pot. grad.	Char- acter. pot. grad.	Char- acter. pot. grad.	Char- acter. pot. grad.	Char- acter. pot. grad.	Char- acter. pot. grad.	Char- acter. pot. grad.	Char- acter. pot. grad.
1	2b 4.1	1c 1.4	1a 0.1	1b 0.3	0a ---	0a ---	0a ---	0a ---	0a ---	1a 0.3	2a 3.7	0a ---
2	1b 2.9	2c 3.6	0a ---	2c 10.1	0a ---	1a 0.1	1a 0.1	1a 0.1	1b 3.1	1a 0.8	2b 5.1	1a 0.7
3	1b 1.8	1b 1.3	1a 1.0	1a 1.1	1a 0.6	1b 0.8	0a ---	0a ---	1a 1.4	1a 1.3	1b 2.3	1a 1.2
4	0a ---	2b 4.6	2b 5.7	0a ---	0a ---	0a ---	0a ---	0a ---	0a ---	0a ---	0a ---	0a ---
5	2c 5.3	1a 1.4	2b 7.0	1a 0.6	1b 3.0	1b 0.1	0a ---	0a ---	0a ---	0a ---	0a ---	1a 0.1
6	1c 1.5	2b 4.9	2c 8.3	0a ---	1a 0.3	0a ---	0a ---	1b 1.4	1b 2.3	1a 0.1	0a ---	0a ---
7	2b 4.9	1b 1.6	1b 1.0	1b 1.8	0a ---	0a ---	0a ---	1a 0.1	0a ---	0a ---	(1a) (0.3)	1b 1.0
8	(1b) (0.1)	2b 5.1	1b 1.3	1b 0.7	0a ---	0a ---	0a ---	1a 0.3	0a ---	0a ---	0a ---	0a ---
9	(1b) (0.3)	1a 0.6	1a 0.2	2b 3.7	1a 2.1	0a ---	1b 1.4	1c 1.3	0a ---	2b 5.3	1a 1.7	1a 0.5
10	1b 2.8	1b 0.2	1b 0.5	1b 2.7	0a ---	1a 0.2	1b 2.6	1b 1.0	0a ---	1a 1.2	1a 0.2	1a 1.7
11	0a ---	1a 0.1	0a ---	1b 1.9	1a 1.0	0a ---	0a ---	0a ---	0a ---	1b 0.9	2b 5.4	1a 0.1
12	2b 4.8	1c 1.6	0a ---	2c 3.2	1a 1.2	0a ---	0a ---	0a ---	1a 0.2	1a 0.6	2c 6.7	1b 1.0
13	1b 1.1	1c 2.8	1b 1.1	1b 0.5	1b 2.8	0a ---	0a ---	0a ---	1a 2.3	1a 1.8	2b 4.7	1b 2.5
14	1b 2.1	1b 0.8	1b 1.0	2b 5.6	1b 2.3	0a ---	1b 1.5	1a 0.3	2b 4.6	1a 0.2	1b 1.9	1a 0.4
15	2b 4.1	0a ---	1b 2.7	1a 0.3	1b 1.0	0a ---	1b 2.6	1b 0.7	2b 6.9	2b 3.7	2b 4.1	1a 1.2
16	2b 6.9	2c 4.0	2c 7.5	1b 1.0	1a 0.2	2c 9.0	1a 0.1	1b 1.3	0a ---	1b 3.0	1b 2.6	1a 0.1
17	2c 3.2	1b 1.0	2c 4.0	1b 0.1	1a 2.9	1a 0.6	1a 0.3	1a 0.1	0a ---	1a 0.4	1a 0.1	0a ---
18	1c 2.9	1c 1.9	1a 0.1	1c 1.1	1b 2.7	1a 0.4	0a ---	1a 1.5	1a 0.1	0a ---	1a 1.1	(1a) (0.1)
19	2c 3.9	1b 1.2	0a ---	1a 0.2	2b 4.4	0a ---	1a 1.4	1b 2.1	1b 0.8	0a ---	1a 1.3	1a 2.2
20	1b 1.2	2b 5.1	1c 1.4	1b 2.5	0a ---	0a ---	1b 1.6	1b 1.3	1a 0.3	0a ---	1b 2.3	1a 0.1
21	0a ---	1b 0.5	1a 1.0	2b 3.3	1a 0.1	0a ---	0a ---	1c 1.2	0a ---	0a ---	0a ---	1a 0.1
22	2a 3.7	1c 2.4	0a ---	1b 1.4	0a ---	1a 0.1	0a ---	1c 0.7	0a ---	2a 4.2	1b 2.2	0a ---
23	0a ---	1c 1.8	0a ---	1a 0.2	0a ---	2b 3.1	0a ---	2c 6.0	1b 1.5	1a 2.3	0a ---	1a 0.2
24	0a ---	1c 2.2	0a ---	0a ---	1a 0.1	0a ---	1b 0.6	0a ---	1b 1.6	0a ---	0a ---	1a 0.6
25	2b 5.0	2c 3.3	0a ---	1a 0.1	0a ---	0a ---	1b 0.5	(0a) ---	0a ---	2b 4.2	0a ---	0a ---
26	2b 8.3	1a 1.7	0a ---	1a 0.1	0a ---	1a 0.1	1a 0.1	(0a) ---	0a ---	2b 3.8	0a ---	1a 1.7
27	0a ---	1a 0.1	0a ---	1b 1.5	0a ---	0a ---	0a ---	1b 1.5	0a ---	2b 5.5	1a 1.4	2b 4.1
28	2b 4.1	1a 1.6	0a ---	1b 2.5	0a ---	0a ---	1b 0.7	1a 0.3	0a ---	1c 2.7	1b 2.9	1b 2.1
29	2b 3.6	0a ---	0a ---	1b 0.5	1a 0.1	0a ---	0a ---	1a 0.5	0a ---	2b 5.1	1a 0.6	1a 0.1
30	2c 7.0	1b 1.6	1a 0.9	1a 0.9	1a 0.6	1a 0.1	0a ---	1a 0.1	0a ---	1a 0.5	0a ---	2c 7.3
31	2c 8.7	0a ---	1c 1.0	0a ---	0a ---	0a ---	0a ---	1b 1.2	0a ---	2b 4.3	0a ---	1a 0.5
Total	40 94.2	34 56.7	24 44.6	32 47.8	18 25.4	13 14.6	13 13.3	22 23.0	14 25.0	32 56.1	26 50.0	26 29.6
No. of days used.	31 31	28 28	31 31	30 30	31 31	30 30	31 31	31 31	30 30	31 31	30 30	31 31
Mean	1.29 3.0	1.21 2.0	0.77 1.4	1.07 1.6	0.58 0.8	0.43 0.5	0.42 0.4	0.71 0.7	0.47 0.8	1.03 1.8	0.87 1.7	0.84 1.0

Annual Values :- Character Frequency 126 184 55  
Mean Character Figure 0.081 (365 days)  
Duration of negative pot. grad. Total 480.2 hrs.  
No. of days 365  
Mean 1.32

Explanatory Note:- The electrical character of the day is indicated by the figures 0, 1, or 2, according to the character of the trace of the electrograph as regards negative potential gradient. The explanation of these symbols is as follows:-

0. denotes a day during which from midnight to midnight no negative potential was recorded.

1. denotes a day with excursions to the negative not amounting in the aggregate to more than three hours.

2. denotes negative potential extending in the aggregate over three hours or more.

a. denotes that within the 24 periods of 60 minutes for which an estimate of the mean potential gradient has to be made in the process of tabulation, there was in no case a range of potential gradient in the open exceeding 1000 volts.

b. denotes that a range of potential gradient in the open exceeding 1,000 volts was reached in at least one but in fewer than six of the 24 hourly periods referred to above.

c. denotes that a range of 1,000 volts or more occurred in at least six of the 24 hourly periods.



**TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT.**  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

5. LERWICK. (H.)

14,000 γ (·14 C.G.S.unit) +

JANUARY, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1 D	486	482	483	479	480	495	497	498	499	496	490	490	496	500	495	495	491	491	495	495	493	471	488	486	490
2	482	459	474	483	488	492	491	491	480	482	482	483	486	496	497	495	492	490	475	469	484	493	490	481	486
3	479	478	488	487	486	488	491	492	491	491	491	490	493	489	497	494	493	492	492	488	487	490	489	487	489
4 Q	492	489	488	489	490	492	492	490	488	486	486	485	488	494	492	491	493	488	491	493	493	493	493	491	490
5 Q	489	488	489	489	490	492	494	493	492	491	488	485	490	492	490	490	490	490	490	490	490	490	489	489	490
6	489	490	489	491	490	504	517	497	492	481	455	468	472	474	479	484	478	479	481	488	485	481	479	473	484
7	471	473	479	475	492	495	488	487	484	481	481	482	484	484	484	489	480	466	477	485	489	488	487	484	483
8	485	488	487	484	487	495	501	496	488	486	485	480	474	476	485	489	491	488	481	484	484	485	493	496	487
9	489	488	488	490	491	493	495	497	493	491	489	490	488	488	490	491	481	484	484	484	480	483	491	486	489
10 Q	486	487	488	490	490	494	495	494	491	486	481	480	480	482	489	494	492	491	485	487	489	488	486	487	488
11 Q	489	489	489	490	493	496	497	495	494	490	484	482	486	489	489	488	489	490	490	490	489	488	489	490	490
12	489	491	494	494	496	497	499	500	500	499	490	488	489	494	494	492	494	496	496	496	494	490	492	489	494
13	489	489	490	492	495	497	497	499	501	500	499	497	498	497	498	497	497	499	497	497	493	495	496	492	493
14	491	488	491	492	493	497	497	499	498	496	492	491	492	495	497	498	499	498	497	499	505	485	480	474	493
15	484	490	491	488	487	469	510	475	452	461	481	479	479	481	481	480	481	481	480	476	480	486	477	476	480
16	477	478	473	480	488	496	486	482	469	466	473	475	470	480	487	478	482	487	487	487	487	489	489	489	481
17	487	486	486	490	490	492	495	497	487	466	483	488	486	487	490	489	490	488	487	490	489	491	488	490	488
18	488	488	487	488	490	494	496	496	492	487	480	484	484	489	491	491	493	495	492	493	491	489	493	493	490
19 D	494	493	493	492	500	498	496	497	494	496	493	493	499	497	488	506	482	476	480	473	477	480	475	475	489
20	473	477	488	491	454	490	501	501	492	485	480	485	488	490	489	490	489	490	493	491	490	488	488	495	487
21 Q	489	489	490	493	494	497	498	497	493	491	490	492	492	493	494	495	495	496	499	499	496	488	490	490	493
22 D	489	490	490	489	488	489	492	495	491	488	485	480	483	487	500	497	491	492	536	476	481	486	454	472	488
23	465	484	478	481	482	479	488	491	487	486	479	474	476	478	467	486	488	483	485	483	467	488	495	431	479
24	396	411	450	474	483	484	485	482	478	479	479	471	462	478	484	487	490	476	483	481	479	483	477	476	472
25	467	461	467	479	480	485	490	489	476	481	484	479	480	484	474	480	479	485	481	484	486	478	455	465	478
26	468	471	466	463	478	486	490	491	482	468	472	477	480	485	481	475	479	484	496	494	487	475	473	474	479
27 D	452	485	479	479	465	479	491	491	481	472	459	471	474	483	489	481	489	470	464	472	456	452	482	440	473
28 D	479	464	457	472	477	482	483	482	474	467	466	463	472	464	481	476	475	480	480	473	480	475	464	475	473
29	467	465	479	478	481	479	481	483	482	475	465	466	465	462	480	476	478	476	483	483	492	481	479	478	476
30	479	468	463	457	479	480	488	484	480	474	468	470	474	481	481	470	478	487	485	484	483	493	467	471	477
31	468	463	475	476	481	485	488	483	481	485	478	477	480	478	482	492	487	482	485	484	485	499	481	478	481
Mean	478	479	482	484	486	490	494	492	486	483	481	481	483	485	488	488	487	486	488	486	486	485	483	480	485

**MAGNETIC DECLINATION (WEST).**

Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

6. LERWICK. (D.)

13° +

JANUARY, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5 <sub>0</sub>	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day																									
1 D	34.9	34.1	37.8	41.0	40.3	39.3	38.1	39.1	39.3	39.5	40.8	40.3	41.8	44.1	43.7	44.5	42.0	40.3	39.7	29.5	26.9	33.3	37.4	39.5	38.6
2	40.5	40.8	37.4	35.6	38.9	38.5	39.2	38.9	40.1	39.7	41.6	40.6	41.8	40.1	40.1	40.1	40.6	41.0	39.5	35.6	38.7	37.9	34.9	36.8	39.1
3	37.9	40.3	37.4	37.8	38.5	39.3	38.7	38.9	39.3	39.7	39.7	40.3	43.5	42.4	40.6	40.1	40.1	39.9	39.7	39.5	38.7	38.7	36.8	36.2	39.3
4 Q	37.6	35.8	38.3	37.9	38.7	38.7	38.7	38.7	38.5	38.9	39.2	39.9	41.5	42.5	40.9	40.0	40.4	39.2	39.2	39.2	39.0	38.8	38.4	39.2	39.1
5 Q	39.6	39.8	39.2	39.0	39.2	39.0	38.4	38.6	38.8	39.4	39.8	41.1	41.9	41.7	40.6	40.0	39.8	39.8	39.6	39.4	39.2	39.0	38.8	38.6	39.6
6	38.4	37.9	38.2	36.9	35.9	38.6	37.7	39.4	41.1	40.4	44.6	47.3	46.9	48.1	42.3	44.5	41.2	39.9	38.0	35.1	36.8	38.9	37.6	33.3	40.0
7	33.7	38.7	40.7	42.2	39.3	36.4	37.2	38.0	38.5	38.9	40.3	41.4	41.8	41.4	39.9	40.3	40.5	40.8	42.8	42.6	40.1	39.9	39.1	38.0	39.7
8	37.4	38.5	39.7	39.9	39.7	39.5	39.9	39.3	39.7	40.1	41.4	42.6	43.2	42.0	41.0	39.9	39.1	39.5	39.5	39.3	38.4	37.9	37.5	37.9	39.7
9	39.2	39.4	40.2	39.6	39.2	39.4	39.2	39.4	38.8	39.2	40.0	41.1	41.5	41.1	40.9	41.9	42.7	41.5	40.6	39.8	37.9	37.5	36.3	37.7	39.8
10 Q	38.8	39.4	40.2	39.8	39.8	39.2	38.8	38.4	38.2	38.1	38.2	39.4	40.6	40.4	40.2	40.0	40.0	40.0	40.0	39.6	39.0	37.9	37.3	38.1	39.2
11 Q	39.2	38.6	39.0	39.4	39.0	38.7	38.9	38.9	38.7	39.3	40.7	40.9	42.4	43.4	42.4	41.6	40.5	40.1	39.9	39.3	38.9	38.5	37.8	38.2	39.8
12	38.6	39.7	40.1	39.5	39.9	39.5	39.3	38.9	38.5	38.3	38.3	39.5	40.9	41.6	40.9	40.3	40.3	40.3	39.9	39.7	39.7	38.7	38.2	36.8	39.5
13	36.6	37.0	39.1	39.5	39.1	38.9	39.5	39.5	39.5	39.9	41.2	41.2	42.0	41.4	40.5	40.3	40.1	40.1	41.0	40.3	39.8	38.1	37.7	39.0	39.6
14	38.6	39.4	40.6	39.0	39.0	39.4	39.2	38.8	38.4	38.8	39.6	41.0	41.9	41.3	41.0	40.6	40.8	41.0	41.0	41.0	33.8	30.3	25.3	32.3	38.4
15	34.6	39.4	41.1	41.5	38.4	45.6	45.8	48.9	44.0	47.7	43.7	43.8	42.7	42.3	42.5	40.6	39.8	39.4	38.3	36.3	36.5	35.7	31.9	38.3	40.8
16	38.1	39.4	42.9	39.0	38.8	40.0	40.2	39.8	40.8	40.8	40.6	42.6	42.2	41.6	41.4	39.9	40.1	39.9	39.7	38.5	38.7	38.7	38.9	38.5	40.0
17	38.4	39.3	39.3	39.3	40.5	40.1	39.5	39.3	39.5	39.7	41.4	42.0	42.4	41.6	39.9	39.7	40.3	40.7	40.7	40.1	39.5	38.9	38.2	37.0	39.9
18	38.4	38.7	38.9	39.5	39.9	40.7	39.7	39.3	38.9	38.9	38.7	39.7	41.6	42.0	41.2	40.9	40.5	40.3	39.7	37.8	37.8	37.4	38.2	38.0	39.4
19 D	39.1	38.9	39.5	40.1	41.1	39.5	41.8	40.8	38.7	40.1	41.2	42.0	44.7	43.9	45.1	43.2	38.5	42.4	40.3	34.7	35.8	38.2	35.3	28.7	39.7
20	34.5	40.3	42.2	38.7	44.1	45.3	47.6	47.4	42.2	41.2	42.2	42.0	43.4	43.6	41.8	40.5	39.9	39.5	39.5	59.1	38.7	38.4	37.8	37.6	41.1
21 Q	38.7	39.7	39.3	39.5	39.3	39.3	39.1	38.5	38.4	38.9	40.1	41.2	41.4	42.0	41.1	40.9	40.3	40.1	39.9	39.3	39.3	37.2	38.2	39.3	39.6
22 D	39.5	39.5	39.5	39.5	38.4	38.9	39.9	38.0	37.6	38.0	38.9	40.5	42.8	42.0	42.6	46.3	48.6	43.0	32.8	35.1	31.2	29.8	28.8	32.3	38.5
23	36.1	34.4	38.5	40.2	39.0	40.8	39.8	38.3	38.9	39.0	42.1	42.1	43.3	45.6	44.2	43.1	44.8	42.9	41.7	32.5	37.1	35.7	29.4	23.6	38.9
24	35.7	44.8	37.7	37.9	36.3	37.7	37.7	37.9	38.6	40.2	42.5	43.9	44.4	44.8	42.3	41.5	43.9	43.9	41.3	39.8	38.1	38.1	35.9	34.0	40.0
25	32.5	39.6	38.5	37.1	39.4	38.5	38.3	38.5	38.3	38.3	41.7	44.0	45.0	44.6	44.2	45.4	43.5	42.1	40.0	39.0	34.2	37.3	35.6	27.8	39.3
26	33.4	36.3	37.7	30.3	34.2	34.6	36.7	37.3	36.7	36.7	39.6	40.8	44.8	45.4	47.3	44.2	44.6	43.7	38.1	36.1	28.6	32.7	35.4	33.0	37.8
27 D	29.4	35.2	36.3	36.5	36.1	40.4	38.1	37.9	38.5	39.0	40.0	41.0	43.1	43.3	44.0	41.2	41.7	25.3	33.2	32.5	28.2	40.0	31.3	36.9	37.0
28 D	38.1	33.0	39.4	40.6	36.5	37.5	38.6	38.6	39.2	39.0	40.8	41.7	43.9	38.1	41.2	39.2	35.7	42.3	31.3	39.0	39.6	31.3	29.6	31.5	37.7
29	32.7	35.4	36.7	39.0	38.3	39.6	38.6	38.5	38.5	38.5	39.2	41.2	43.9	43.7	44.8	44.2	39.0	40.0	39.6	36.5	34.8	36.1	35.7	40.0	38.9
30	38.5	40.2	35.0	35.4	35.4	36.7	37.3	38.3	38.6	38.1	39.0	41.0	43.3	43.1	42.3	41.7	39.2	39.4	40.0	39.4	37.7	32.1	34.4	34.6	38.4
31	37.7	39.0	36.7	36.5	38.3	38.1	38.1	37.9	37.5	38.5	38.3	41.5	44.0	44.8	42.1	41.9	41.3	37.7	38.8	39.2	38.8	34.0	35.7	35.9	38.8
Mean	37.0	38.5	38.9	38.6	38.7	39.3	39.4	39.4	39.1	39.4	40.5	41.5	42.9	42.7	42.0	41.6	41.0	40.2	39.2	37.9	36.8	36.7	35.6	35.8	39.3



**TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT.**  
Mean values for periods of sixty minutes ending at the Hours of Greenwich Mean Time.

7. LERWICK. (V.)

46,000  $\gamma$  (.46 C.G.S. unit) +

JANUARY, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1 D	606	616	625	624	613	617	629	630	629	627	629	628	626	629	634	642	649	665	665	678	646	649	644	643	635
2	640	607	571	613	626	630	632	632	634	632	634	632	632	633	633	633	634	636	647	657	641	628	630	631	630
3	629	618	607	618	623	626	628	629	628	626	628	627	626	628	629	629	629	631	632	634	635	632	632	632	627
4 Q	631	628	626	628	628	627	629	630	632	633	632	632	631	633	634	633	630	634	632	633	633	633	633	633	631
5 Q	631	631	630	629	629	628	627	629	628	628	629	628	628	629	630	631	629	629	630	632	633	634	635	635	630
6	632	627	623	614	616	607	598	614	623	630	642	642	648	659	691	663	654	660	645	643	639	639	635	623	636
7	612	617	619	617	608	622	628	630	633	636	636	636	637	638	638	638	645	671	664	654	646	639	637	635	635
8	631	627	626	627	626	626	623	626	629	630	630	632	637	639	637	636	634	635	637	635	634	634	627	621	631
9	626	628	627	627	627	627	626	626	627	628	627	627	627	629	633	635	639	637	637	637	640	636	626	627	630
10 Q	630	631	631	629	628	627	627	627	627	629	630	627	630	637	637	637	635	634	633	634	632	630	631	631	631
11 Q	628	626	628	628	628	627	626	627	626	627	628	631	632	633	637	638	637	636	635	634	634	634	632	630	631
12	630	629	629	631	631	631	630	629	628	629	630	630	629	631	632	634	632	630	629	628	628	629	628	628	630
13	628	628	628	629	629	628	626	624	622	624	624	628	625	627	629	631	631	630	631	634	635	633	635	630	629
14	629	629	623	627	628	628	627	625	623	621	621	620	621	623	626	627	627	628	629	629	629	644	648	659	629
15	645	637	634	634	628	618	571	597	615	608	620	628	629	632	638	638	639	638	643	645	637	604	583	611	624
16	619	617	609	610	621	621	627	632	637	635	630	635	637	635	637	642	642	639	639	638	636	631	630	630	630
17	630	629	628	628	629	630	630	630	632	642	635	630	630	632	633	634	634	637	638	636	635	634	634	629	632
18	628	627	627	627	628	627	628	630	630	630	632	630	629	628	628	630	630	631	633	633	632	633	627	621	629
19 D	621	621	621	621	612	615	620	623	626	625	624	622	623	628	639	696	740	689	665	668	657	644	630	626	640
20	609	600	605	613	582	519	566	586	610	618	623	625	627	629	631	631	631	633	632	633	633	632	631	623	613
21 Q	622	624	624	623	622	622	623	624	625	627	628	629	629	628	627	625	624	623	624	625	628	634	631	628	626
22 D	625	624	623	621	614	611	609	613	617	622	628	629	628	630	628	644	668	729	743	635	636	606	616	623	634
23	584	581	623	630	628	620	611	617	625	623	628	634	637	640	643	638	639	642	647	651	652	642	607	587	625
24	530	490	540	598	625	628	624	625	625	627	630	633	638	638	635	635	636	647	641	644	649	645	646	640	620
25	636	618	597	618	630	631	628	625	628	631	632	632	632	637	652	665	657	654	652	642	639	637	639	615	634
26	628	629	589	568	592	600	612	614	619	626	624	623	626	629	640	653	656	658	652	642	628	622	624	631	624
27 D	631	585	594	606	609	601	605	614	620	624	627	627	626	629	636	642	648	679	673	663	649	548	585	606	622
28 D	586	601	587	579	604	617	621	624	624	624	632	630	632	647	642	646	658	649	656	648	620	629	641	587	624
29	580	599	604	621	622	627	629	632	628	627	629	627	630	639	639	655	679	668	660	642	619	607	621	617	629
30	618	608	578	576	583	615	619	625	627	627	630	628	626	626	634	641	648	640	639	637	641	632	632	633	623
31	622	602	612	625	630	631	632	634	635	632	632	630	629	634	638	640	643	650	644	642	638	620	616	617	630
Mean	619	614	613	617	619	619	620	623	626	627	629	630	630	633	637	641	644	647	646	641	637	629	628	625	629

**DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS:**  
**MAGNETIC CHARACTER FIGURES: TEMPERATURE IN MAGNET HOUSE**

8. LERWICK.

JANUARY, 1933.

Day.	Terrestrial Magnetic Elements.															HR <sub>H</sub> +VR <sub>V</sub> 10,000 $\gamma$ §	Magnetic Character of Day. (0 - 2)	Temperature in Magnet House. 200 +									
	Horizontal Force.						Declination.						Vertical Force.														
	Maximum 14,000 $\gamma$ +			Minimum 14,000 $\gamma$ +			Range	Maximum 13° +			Minimum 13° +			Range	Maximum 46,000 $\gamma$ +				Minimum 46,000 $\gamma$ +			Range					
	h.	m.	$\gamma$	$\gamma$	h.	m.	$\gamma$	h.	m.	$\gamma$	h.	m.	$\gamma$	$\gamma$	h.	m.	$\gamma$	h.	m.	$\gamma$	$\gamma$	h.	m.	$\gamma$			
1	20	6	549	465	21	51	84	15	58	46.2	12.3	20	2	33.9	19	44	693	599	0	16	94	560	1		78.4		
2	21	6	511	442	2	0	69	21	10	43.5	32.9	22	25	10.6	19	14	663	560	2	16	103	580	1		78.5		
3	14	24	499	472	1	33	27	12	28	44.3	34.7	22	41	9.6	20	35	636	603	2	25	33	193	0		79.0		
4 Q	13	43	497	483	10	14	14	13	46	42.9	33.9	1	7	9.0	15	0	636	626	3	9	10	67	0		79.0		
5 Q	6	40	496	481	10	55	15	12	20	42.1	37.7	6	18	4.4	20	55	635	626	6	46	2	64	0		78.8		
6	6	0	534	447	10	35	87	14	13	49.8	30.8	23	32	19.0	14	32	715	589	5	58	126	713	1		78.3		
7	4	59	498	459	0	50	39	18	0	45.7	31.0	0	25	14.7	17	45	682	604	4	16	78	420	1		78.0		
8	22	54	512	469	12	21	43	12	40	43.9	36.0	0	25	7.9	13	45	641	614	23	0	27	188	0		78.0		
9	7	35	499	476	16	30	23	16	20	44.2	35.3	22	21	8.9	20	38	643	623	22	25	20	126	0		78.0		
10	15	49	496	479	11	56	17	12	57	40.9	36.7	22	0	4.2	14	7	638	627	5	33	11	76	0		77.9		
11 Q	6	27	499	479	11	28	20	13	14	43.7	37.2	22	21	6.5	15	20	639	625	1	28	14	94	0		77.8		
12	7	58	501	485	23	39	16	13	25	41.8	35.8	23	37	6.0	15	45	636	625	22	44	11	74	0		77.4		
13	8	57	504	484	0	14	20	12	10	42.8	34.7	0	56	8.1	19	50	639	620	9	0	19	118	0		76.9		
14	20	18	522	466	23	37	56	19	50	42.5	23.2	22	14	19.3	23	17	667	619	11	50	48	305	1		76.9		
15	6	33	524	432	8	44	92	5	55	57.4	25.7	22	20	31.7	0	37	648	552	6	25	96	580	1		77.4		
16	5	27	500	461	9	3	39	2	25	46.4	37.1	0	54	9.3	16	5	644	599	2	48	45	267	1		77.2		
17	7	16	499	458	9	26	41	11	49	43.0	35.5	23	21	7.5	9	47	648	626	3	40	22	162	0		76.7		
18	22	38	498	476	10	27	22	13	34	42.4	32.9	20	0	9.5	19	27	636	619	23	14	17	111	0		76.4		
19 D	15	55	589	464	17	6	125	15	13	50.1	21.9	15	57	28.2	15	54	803	608	4	45	195	1090	1		76.0		
20	5	53	516	427	4	49	89	4	50	51.1	32.6	0	0	18.5	17	8	634	498	5	18	136	763	1		75.9		
21 Q	19	45	500	485	21	25	15	13	25	42.6	36.2	21	26	6.4	21	39	636	613	0	0	23	129	0		75.7		
22 D	19	8	522	387	19	28	295	19	15	58.6	16.9	19	9	41.7	19	6	616	567	19	14	249	1588	2		76.0		
23	22	13	517	412	23	50	105	13	34	46.8	19.9	23	6	26.9	18	58	668	550	24	0	118	702	1		76.4		
24	16	36	496	319	0	58	177	1	40	56.4	27.6	0	5	28.8	20	6	652	478	1	41	174	1068	1		76.7		
25	20	43	507	436	22	29	71	15	29	46.6	22.4	23	26	24.2	15	17	669	592	2	8	77	462	1		76.5		
26	19	35	515	437	2	43	78	14	33	48.7	23.0	20	7	25.7	17	45	665	555	3	8	110	626	1		76.5		
27 D	21	3	517	382	21	25	135	21	20	50.6	20.1	20	4	40.5	17	25	685	495	21	37	190	1081	1		77.2		
28 D	20	5	505	442	2	23	63	20	30	45.8	23.8	23	9	22.0	18	5	670	567	23	44	113	618	1		77.8		
29	18	46	512	452	13	7	60	14	47	46.9	27.3	18	43	19.6	16	17	688	568	0	0	120	646	1		78.0		
30	21	24	513	435	3	18	78	12	55	45.2	28.8	3	0	16.4	16	9	653	557	4	0	96	560	1		77.8		
31	21	20	511	451	1	8	60	13	35	45.6	32.5	21	40	13.1	17	16	655	596	1	36	59	362	1		77.4		
Mean	--	--	517	450	--	--	67	--	--	46.7	29.6	--	--	17.2	--	--	666	587	--	--	79	464		0.65		77.4	
No. of Days Used	--	--	31	31	--	--	31	--	--	31	31	--	--	31	--	--	31	31	--	--	31	31		31		31	



**TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT.**  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

9. LERWICK. (H.)

14,000  $\gamma$  ( $\cdot 14$  C.G.S. unit) +

FEBRUARY, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$
1	480	480	481	483	484	484	485	484	483	480	474	468	471	478	485	485	487	487	487	487	487	487	492	484	483
2	484	485	483	483	492	500	495	489	487	484	482	480	475	475	484	478	476	477	488	486	484	493	485	486	485
3	486	487	487	488	488	490	490	487	486	489	484	479	477	475	479	485	489	493	493	492	492	490	486	486	487
4	494	489	487	488	489	489	490	489	488	482	483	484	486	486	482	484	486	486	497	493	489	490	484	488	488
5	486	488	477	484	495	498	493	493	495	496	494	491	488	486	487	489	491	495	496	495	493	492	491	490	491
6 Q	488	490	488	491	489	494	495	491	485	482	480	479	481	483	487	487	489	490	491	491	490	493	494	495	488
7	496	494	496	496	492	499	500	507	504	497	487	494	493	487	489	492	494	489	490	494	491	494	490	488	494
8	487	487	488	488	486	489	489	491	482	477	478	481	482	483	484	485	487	487	488	487	481	482	481	478	485
9	482	479	472	478	488	489	491	485	482	481	481	481	482	479	483	485	481	485	487	485	477	475	477	479	482
10	483	480	474	480	487	486	486	486	485	482	482	482	482	483	485	482	486	489	490	491	489	487	485	485	484
11 Q	484	485	485	486	487	487	487	488	491	491	490	488	488	491	494	491	495	497	493	493	493	492	492	491	490
12	492	493	492	494	496	494	492	490	489	488	486	490	490	491	489	483	482	484	486	486	486	486	487	488	489
13 Q	489	489	490	488	488	487	487	486	483	479	480	479	483	487	485	487	490	492	490	491	491	490	489	490	487
14	492	496	493	492	496	495	492	490	492	493	488	485	485	479	489	492	492	492	492	487	469	484	493	493	489
15	493	492	498	493	495	488	497	498	490	483	481	481	473	481	485	479	471	469	484	490	492	503	493	492	488
16 Q	488	488	489	490	490	490	493	492	488	481	476	476	482	486	486	488	489	490	490	490	488	489	488	488	487
17 Q	488	488	488	489	490	493	494	492	489	483	479	478	482	488	489	491	493	495	497	498	497	495	494	494	490
18	495	496	496	496	496	496	496	496	495	491	487	484	488	492	494	496	498	496	494	490	494	491	493	493	493
19 D	489	486	492	488	492	495	507	505	496	499	499	468	465	473	500	484	483	478	495	470	466	477	462	387	481
20	388	303	431	481	476	479	483	481	481	461	465	485	473	476	492	488	478	482	478	478	482	483	484	480	466
21 D	480	472	420	455	461	480	486	487	483	478	473	471	475	496	511	535	542	476	480	495	480	482	496	439	481
22 D	462	420	422	412	421	431	463	478	474	475	474	471	480	479	486	483	490	492	498	487	477	483	486	430	466
23 D	447	486	444	455	490	492	493	460	468	473	473	475	483	493	490	509	535	498	490	505	489	478	449	481	481
24 D	461	469	463	461	476	480	482	474	471	481	476	456	472	486	481	501	512	495	475	474	484	501	495	464	479
25	464	479	459	444	466	484	492	486	475	469	445	456	469	480	490	496	492	494	489	486	488	468	483	460	475
26	466	423	387	462	475	481	470	482	482	481	473	460	474	483	489	487	486	487	487	491	493	495	471	478	473
27	478	476	460	467	484	485	484	484	488	482	471	462	473	477	487	487	486	488	488	488	488	499	483	483	481
28	479	473	479	481	487	487	488	485	481	475	474	471	472	477	485	489	491	491	490	491	491	492	490	471	483
Mean	479	474	472	478	484	487	489	488	485	483	479	477	479	483	488	490	492	488	489	488	486	488	485	477	484

**MAGNETIC DECLINATION (WEST)**  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

10. LERWICK. (D.)

13° +

FEBRUARY, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$
1	37.5	38.3	38.3	38.5	38.6	38.8	38.8	38.8	38.6	39.0	40.0	40.6	42.5	42.7	42.1	41.0	40.6	40.2	39.2	39.2	39.0	38.5	36.1	35.9	39.3
2	38.5	38.3	38.5	38.8	38.9	32.9	34.6	36.3	39.2	40.8	41.5	41.5	42.9	41.9	42.5	42.3	41.3	44.2	40.4	39.2	38.3	38.3	37.5	38.5	39.1
3	39.6	40.2	40.0	38.6	39.0	39.0	38.8	38.6	38.5	39.0	40.2	41.7	42.9	43.3	43.5	41.5	41.3	40.8	40.2	39.6	39.4	38.8	37.1	29.8	39.6
4	36.1	38.6	38.8	38.6	38.5	38.8	38.8	38.6	39.0	40.6	42.5	42.7	43.7	43.1	41.7	41.0	41.2	41.3	36.5	36.3	38.8	37.9	35.9	37.3	39.4
5	36.5	39.8	42.1	38.1	35.0	37.7	38.8	39.6	39.0	38.6	39.4	40.0	40.6	40.8	40.6	40.2	40.0	40.4	40.2	39.8	39.0	38.6	38.6	38.6	39.3
6 Q	38.6	38.5	41.2	38.1	37.7	36.3	37.1	37.5	37.7	38.3	39.8	41.2	41.9	41.5	40.6	39.4	39.2	39.2	39.0	38.8	38.1	37.9	38.5	38.8	39.0
7	39.2	39.6	39.6	39.4	39.6	38.1	37.9	38.5	38.5	40.8	41.2	43.7	43.9	43.5	42.1	41.3	41.3	41.2	39.2	39.0	38.6	38.8	39.0	38.5	40.1
8	38.6	39.0	38.6	38.6	39.0	38.8	38.3	38.1	38.1	39.6	41.5	42.1	43.1	42.1	41.3	40.4	39.8	39.2	39.2	38.8	35.9	32.3	35.6	35.2	38.9
9	37.5	37.3	40.4	40.2	35.9	36.9	35.9	36.9	37.1	37.7	38.3	39.8	42.7	42.9	43.7	44.4	43.1	41.2	41.0	41.5	40.2	36.9	38.1	37.7	39.5
10	37.9	37.3	35.9	37.3	35.9	36.7	37.7	37.9	38.5	38.6	40.2	40.8	41.2	40.6	40.8	40.2	40.0	40.0	40.2	39.4	39.2	36.5	38.3	37.9	38.7
11 Q	38.1	38.1	38.5	38.6	38.5	38.1	38.3	38.5	39.0	39.6	40.4	41.0	41.2	41.5	41.3	40.4	40.2	40.4	40.8	40.2	38.3	38.5	38.5	38.3	39.4
12	39.2	38.8	38.6	38.6	38.3	38.1	38.1	38.1	39.0	40.0	40.8	41.0	40.6	39.8	38.5	38.1	37.9	38.1	38.8	39.0	39.0	39.0	38.6	38.6	38.9
13 Q	39.0	38.8	38.8	38.5	38.3	38.3	38.1	37.7	38.3	37.7	36.9	36.5	36.5	36.9	37.1	36.9	36.7	37.7	39.2	39.4	39.8	40.6	40.0	39.0	38.2
14	39.2	37.9	37.9	39.8	38.8	39.0	38.8	39.8	41.0	40.8	41.9	43.1	43.1	43.3	41.5	39.8	39.4	39.0	38.5	32.7	24.9	36.3	37.9	37.9	38.8
15	36.7	40.0	38.3	37.3	38.3	40.2	37.9	38.5	40.0	40.2	41.0	43.9	44.0	43.9	42.1	40.4	34.0	39.2	37.9	38.8	37.3	32.9	34.6	36.5	38.9
16 Q	38.3	39.0	38.6	38.3	37.9	38.3	38.3	38.3	38.6	38.8	40.2	40.4	41.3	41.5	40.4	39.6	38.6	38.3	38.5	38.3	37.9	37.7	38.3	38.1	38.9
17 Q	38.1	38.1	38.1	38.1	38.3	38.3	38.1	37.9	37.3	37.3	38.5	40.2	41.3	41.7	41.2	40.2	39.0	38.6	38.5	38.5	38.5	38.6	38.5	38.3	38.8
18	38.5	38.5	38.3	38.6	38.3	38.1	37.9	37.5	37.3	37.3	36.5	40.4	41.5	41.7	41.5	41.0	40.4	40.8	40.4	40.2	37.7	37.7	35.9	35.7	38.8
19 D	35.9	33.2	30.7	32.3	36.3	36.5	37.3	38.8	39.4	39.4	42.7	45.0	49.1	50.0	52.3	43.7	44.4	38.8	22.6	16.3	31.3	32.7	36.3	35.7	37.5
20	17.0	16.4	30.5	34.0	36.5	37.7	37.9	37.1	37.9	39.4	42.1	42.7	45.0	44.2	43.7	42.5	42.3	40.6	39.8	36.3	38.8	37.3	35.7	34.0	37.1



11. LERWICK. (V.)

46,000  $\gamma$  ( $\cdot 46$  C.G.S. unit) +

FEBRUARY, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$
1	623	624	624	624	626	627	629	630	630	628	629	629	626	624	626	629	631	633	634	634	634	635	626	620	628
2	615	609	620	620	610	606	612	615	616	618	618	624	629	634	635	641	658	662	652	655	650	634	632	631	629
3	629	627	624	626	627	628	629	630	630	629	631	632	634	636	636	635	634	631	631	632	631	633	633	628	631
4	608	618	623	624	624	625	625	626	626	622	620	621	623	629	629	632	634	633	633	632	635	635	628	628	627
5	623	618	601	587	598	606	615	618	618	618	620	621	622	623	626	626	626	624	624	625	626	628	626	628	619
6 Q	627	623	620	619	621	619	620	622	625	625	623	624	627	628	628	628	628	627	626	626	628	627	625	624	625
7	623	623	622	620	620	611	609	603	605	609	614	618	618	621	623	623	624	626	624	622	622	620	621	622	618
8	622	621	621	620	620	618	618	618	620	621	619	618	621	625	628	625	623	621	620	620	626	623	616	612	621
9	611	613	611	591	588	588	592	602	608	611	612	617	621	625	626	631	631	631	631	636	645	646	638	631	618
10	622	622	626	622	618	622	622	622	622	623	624	629	634	636	637	640	639	636	635	633	633	634	635	633	629
11 Q	633	634	634	634	634	633	632	629	625	625	627	629	628	626	628	630	632	633	633	631	629	628	627	626	630
12	625	626	628	627	627	626	625	624	621	620	619	621	625	627	631	635	635	635	632	629	627	627	625	625	627
13 Q	625	626	627	629	630	630	629	628	628	629	630	631	630	631	632	634	635	634	633	631	630	629	629	628	630
14	627	624	626	629	629	630	630	630	626	623	628	629	634	641	640	642	644	642	641	652	639	630	629	630	633
15	627	626	621	630	632	630	626	630	633	633	632	629	633	635	637	648	671	674	663	651	643	628	627	624	627
16 Q	626	628	630	633	635	636	636	637	637	637	635	635	633	633	635	635	635	636	636	636	637	636	633	632	634
17 Q	632	631	631	631	631	633	635	637	638	638	637	634	633	633	634	635	636	637	637	637	638	637	636	636	635
18	634	632	632	631	631	632	632	632	634	636	633	630	626	624	624	623	627	629	634	642	629	630	632	627	631
19 D	632	629	616	621	625	625	622	622	625	624	619	631	630	637	663	703	678	668	670	634	644	641	619	458	631
20	426	432	512	575	616	626	628	631	630	635	633	631	642	646	642	659	652	649	664	675	652	645	637	581	613
21 D	588	600	555	497	487	515	583	608	617	626	630	638	645	663	711	750	764	686	679	656	656	640	529	554	619
22 D	483	488	517	522	537	572	575	606	629	641	647	649	651	661	664	674	651	652	670	662	648	623	596	539	607
23 D	529	605	590	569	596	615	616	624	621	625	631	632	332	641	670	713	726	722	683	669	617	607	592	598	630
24 D	576	591	600	609	607	618	614	618	608	607	618	637	646	658	672	710	705	693	708	680	646	598	538	566	630
25	573	576	599	582	584	607	614	620	629	634	646	644	633	638	639	653	655	642	649	646	639	593	526	564	616
26	594	543	522	536	577	599	612	612	620	624	627	633	629	632	647	650	645	642	639	635	632	557	559	587	606
27	597	610	605	586	598	615	622	627	625	624	626	629	627	628	633	636	640	641	642	635	634	622	594	588	620
28	589	609	619	625	626	629	628	627	629	630	630	630	627	623	626	629	632	632	631	630	629	627	627	635	626
Mean	601	604	606	604	608	615	619	622	624	626	627	629	631	634	640	649	650	645	645	641	636	625	612	605	625

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS:  
MAGNETIC CHARACTER FIGURES: TEMPERATURE IN MAGNET HOUSE.

12. LERWICK.

FEBRUARY, 1933.

Day.	Terrestrial Magnetic Elements.															$\frac{H_R+V_R}{10,000\gamma}$	Magnetic Character of Day. (0-2)	Temperature in Magnet House. 200 +						
	Horizontal Force.						Declination.						Vertical Force.											
	Maximum 14,000 $\gamma$ +			Minimum 14,000 $\gamma$ +			Range	Maximum 13° +			Minimum 13° +			Range	Maximum 46,000 $\gamma$ +				Minimum 46,000 $\gamma$ +			Range		
	h.	m.	$\gamma$	$\gamma$	h.	m.	$\gamma$	h.	m.	$\gamma$	h.	m.	$\gamma$	h.	m.	$\gamma$	$\gamma$	h.	m.	$\gamma$				
1	22	26	501	463	11	25	38	13	13	42.9	34.0	23	4	8.9	21	48	636	615	24	0	21	153	0	77.0
2	21	45	509	464	13	4	45	17	34	46.4	31.9	5	35	14.5	17	40	666	600	5	4	66	373	1	76.7
3	24	0	503	472	13	31	31	14	6	44.6	21.9	23	16	22.7	14	0	637	611	24	0	26	166	0	76.3
4	18	56	515	478	14	55	37	12	47	44.0	31.5	18	47	12.5	22	30	638	603	0	12	35	217	0	76.0
5	1	57	500	466	2	33	34	2	36	44.8	33.8	4	9	11.0	21	2	628	583	3	23	45	259	1	76.0
6 Q	6	56	496	479	2	6	17	2	5	43.7	35.6	5	27	8.1	20	53	631	613	3	0	18	109	0	75.9
7	7	15	511	479	13	15	32	11	48	46.2	36.9	5	55	9.3	17	0	628	602	7	20	26	167	0	75.8
8	7	18	493	470	23	13	23	12	22	43.9	29.6	21	11	14.3	14	32	630	606	23	48	24	145	0	76.6
9	5	56	494	463	2	54	31	16	0	45.0	34.8	4	29	10.2	21	25	650	585	5	36	65	348	0	77.5
10	19	48	491	470	2	50	21	12	33	42.1	31.1	21	50	11.0	15	40	642	617	4	12	25	147	0	77.6
11 Q	17	44	499	481	0	16	18	13	18	41.9	36.9	20	49	5.0	0	19	636	624	22	45	12	82	0	76.4
12	4	30	497	482	16	4	15	11	15	42.1	37.3	5	5	4.8	15	40	636	617	10	32	19	111	0	76.3
13 Q	21	45	495	478	11	42	17	21	55	41.3	36.9	13	2	5.4	16	42	636	624	0	30	12	81	0	76.7
14	18	35	508	455	20	26	53	11	13	44.2	19.0	20	27	25.2	19	19	661	621	9	0	40	263	1	76.3
15	21	22	514	456	16	7	58	13	15	45.4	29.2	16	22	16.2	17	28	681	616	2	34	65	387	1	75.5
16 Q	6	48	495	473	11	16	22	12	22	41.9	36.9	21	35	5.0	9	30	638	624	0	0	14	97	0	75.4
17 Q	19	52	499	477	11	56	22	13	18	41.9	36.9	9	17	5.0	9	28	639	630	3	0	2	74	0	75.0
18	20	45	506	479	20	26	27	14	40	42.9	33.2	20	34	9.7	19	50	643	613	20	45	30	179	0	74.6
19 D	14	52	527	264	23	25	263	14	45	57.8	7.6	18	43	50.2	15	12	726	397	23	40	329	1914	2	74.5
20	15	8	507	225	1	34	282	11	55	46.6	0.2	1	1	46.4	19	10	685	411	1	9	274	1686	2	74.3
21 D	16	6	773	392	2	45	381	14	24	52.0	8.7	16	18	43.3	16	7	914	459	4	37	455	2672	2	74.4
22 D	22	25	520	363	3	4	157	0	44	54.3	0.4	18	20	53.2	15	17	684	434	0	56	250	1393	2	74.3
23 D	16	46	592	359	0	13	233	0	0	52.5	-1.1	19	36	53.6	15	53	764	484	0	5	280	1643	2	73.9
24 D	22	5	558	432	11	46	126	8	37	50.8	10.3	21	27	40.5	15	56	743	520	22	17	223	1222	1	73.6
25	22	10	520	430	10	35	90	22	25	49.8	17.4	18	40	32.4	16	13	660	511	22	17	149	825	1	73.5
26	20	47	522	336	1	56	186	13	20	45.4	7.6	20	45	37.8	14	55	654	507	2	0	147	955	1	73.6
27	21	59	513	453	2	57	80	12	5	43.7	30.2	23	32	13.5	18	14	645	580	3	44	65	390	1	74.0
28	22	14	498	463	23	26	35	13	53	42.3	21.3	22	44	21.0	23	18	641	584	0	16	57	317	1	74.5
Mean	--	--	520	436	--	--	84	--	--	45.7	24.6	--	--	21.1	--	--	667	568	--	--	99	585	0.68	75.4
No. of Days Used	--	--	28	28	--	--	28	--	--	28	28	--	--	28	--	--	28	28	--	--	28	28	28	28



**TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT.**  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

13. LERWICK. (H.)

14,000 γ (·14 C.G.S. unit) +

MARCH, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1	484	475	484	480	484	487	487	485	483	480	474	468	476	476	481	484	487	488	494	489	485	488	489	496	483
2	495	484	483	488	491	495	493	489	483	479	474	471	475	477	480	491	492	495	493	488	483	486	483	482	486
3	484	482	486	487	488	495	494	490	490	492	492	484	481	477	484	497	497	481	491	493	488	492	488	487	488
4	487	482	482	477	488	494	498	499	498	488	477	477	476	478	480	485	490	494	494	484	484	487	488	486	486
5 Q	487	486	486	487	489	491	491	487	485	484	477	473	476	482	488	493	492	491	492	491	492	490	490	490	487
6 Q	489	488	487	488	490	492	494	494	489	483	477	476	482	484	485	484	488	489	490	491	492	490	489	488	487
7 Q	488	488	489	489	490	490	489	489	486	482	475	473	480	485	484	487	488	487	489	492	492	493	501	491	487
8	490	490	489	494	497	497	495	491	485	478	473	473	475	479	489	490	489	487	489	495	489	487	480	479	487
9 Q	481	482	483	482	486	488	487	485	477	471	469	469	471	478	482	485	487	487	489	490	488	490	486	487	483
10	483	491	481	480	475	486	491	489	485	480	475	471	470	480	485	486	487	491	494	492	488	475	486	487	484
11	481	465	463	473	482	491	486	485	478	474	461	464	458	463	476	481	480	46	485	487	487	487	489	489	478
12	487	486	485	483	481	482	483	486	475	466	460	460	469	469	477	485	488	486	486	491	488	487	486	493	480
13	488	484	485	488	484	493	488	487	482	479	472	472	471	476	492	502	471	473	485	483	485	489	488	485	483
14	487	484	484	483	484	467	488	480	470	466	460	463	461	482	485	485	476	484	479	480	483	484	483	481	478
15	482	481	481	482	483	481	482	484	480	476	468	463	456	461	478	482	483	483	484	485	485	485	485	483	479
16 Q	486	483	485	484	485	486	486	486	481	474	466	463	469	476	482	489	486	485	482	486	488	488	489	487	482
17	488	489	488	488	488	490	490	489	484	475	468	466	472	479	475	482	496	492	487	490	497	496	492	495	486
18 D	495	492	485	484	488	508	491	479	475	472	466	454	464	474	502	488	483	505	479	488	494	496	494	276	476
19 D	397	432	468	470	475	483	486	487	477	464	460	455	471	478	476	507	497	488	527	506	411	391	484	488	470
20 D	475	332	406	421	443	459	463	476	475	458	434	456	474	482	481	499	498	493	483	496	489	483	455	475	463
21	471	462	461	448	445	473	482	476	466	426	406	431	452	474	472	486	483	479	487	492	495	494	489	400	465
22	367	394	359	442	477	490	477	474	470	453	467	446	470	480	482	488	510	500	523	488	491	496	492	466	468
23 D	475	449	480	491	462	427	491	488	476	471	457	461	459	475	487	520	514	514	501	485	461	462	475	459	476
24 D	433	461	436	399	475	467	434	470	466	457	447	456	451	474	498	522	526	530	499	478	478	482	477	477	471
25	424	446	414	424	451	476	465	452	447	452	451	452	462	469	481	488	491	485	489	489	483	482	482	482	484
26	476	470	477	477	480	482	482	476	455	441	452	460	464	469	474	489	482	490	483	491	493	494	497	491	477
27	490	489	487	488	490	492	484	484	471	461	464	472	470	491	463	479	511	488	489	487	480	479	482	478	482
28	481	475	465	447	465	477	477	470	466	461	454	456	460	479	468	467	485	491	484	483	488	483	483	485	473
29	468	475	482	478	471	479	480	477	458	445	432	438	453	475	490	492	490	479	480	486	487	489	489	486	474
30	478	479	467	466	473	476	473	467	451	458	455	453	456	469	485	485	482	484	485	485	482	486	487	479	474
31	483	477	473	474	476	481	483	479	474	465	449	446	459	472	486	484	486	490	484	491	491	492	493	497	479
Mean	473	469	470	472	479	483	484	482	476	468	462	462	467	476	482	490	491	490	490	489	484	484	486	476	479

**MAGNETIC DECLINATION (WEST).**

Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

14. LERWICK (D.)

13° +

MARCH, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
1	34.0	33.6	32.9	33.4	35.9	36.9	37.1	36.5	35.9	36.3	38.1	39.6	42.9	43.5	44.2	42.5	42.1	41.2	40.0	37.3	33.0	35.9	36.3	35.9	37.7
2	33.8	36.3	39.2	36.7	36.7	36.7	36.9	36.5	36.9	37.3	38.6	41.0	43.1	43.7	43.1	41.5	40.2	39.6	38.6	36.1	35.0	32.5	34.0	34.8	37.9
3	36.5	37.5	36.9	36.5	36.1	36.0	36.6	36.4	36.0	36.4	38.9	40.5	42.6	45.1	44.3	45.5	45.1	43.0	41.8	39.3	33.7	35.8	36.8	37.6	39.0
4	38.2	40.5	38.0	37.2	37.0	37.0	36.6	36.8	36.2	36.6	38.0	40.5	40.9	41.3	40.5	40.1	38.7	38.6	39.1	38.2	37.6	36.8	36.0	36.6	38.2
5 Q	36.8	36.6	36.8	36.8	36.2	36.6	36.8	36.6	36.0	36.4	38.2	39.9	42.2	42.8	42.4	41.1	39.1	38.2	38.0	37.0	38.0	36.4	36.6	37.2	38.0
6 Q	37.2	37.6	36.8	37.8	36.8	37.0	37.0	37.0	36.4	37.8	39.3	41.6	43.8	44.0	42.6	39.9	39.1	39.5	39.7	39.1	38.2	37.2	37.2	37.6	38.8
7 Q	37.4	37.6	37.6	37.4	37.0	36.8	36.8	36.2	35.5	36.6	38.4	40.9	42.4	43.2	41.6	40.3	38.7	39.1	38.7	38.9	38.6	38.2	36.2	37.4	38.4
8	38.9	39.3	37.8	37.0	36.8	36.6	36.0	34.9	33.9	34.7	37.6	40.5	43.0	42.4	42.4	41.3	38.9	39.3	38.9	38.7	38.6	38.7	34.5	35.8	38.2
9 Q	35.1	37.4	36.0	36.2	36.0	36.6	35.8	35.5	35.1	35.3	38.0	40.3	41.6	41.8	41.1	39.5	38.2	37.8	37.8	37.6	37.4	37.8	37.0	36.6	37.6
10	34.9	34.7	34.3	34.5	38.4	37.8	36.4	35.8	35.7	35.8	37.4	40.7	43.8	45.3	44.3	42.0	40.1	39.1	38.2	38.9	36.0	32.2	34.5	36.4	37.8
11	33.7	39.5	28.9	32.0	34.1	34.5	35.1	35.5	35.7	36.6	37.2	41.3	44.5	44.5	43.4	42.0	40.3	38.9	37.6	37.0	36.0	36.6	38.4	38.2	37.6
12	37.8	37.6	36.8	36.6	37.0	37.4	36.6	36.0	35.3	36.0	38.2	40.7	42.6	43.8	43.4	40.9	39.5	38.9	38.7	38.7	38.4	37.6	38.0	37.8	38.5
13	36.2	37.2	36.8	37.2	38.7	35.5	36.2	38.0	37.6	38.2	39.1	43.0	43.8	43.6	43.4	42.6	40.7	38.4	37.0	37.4	37.4	37.6	37.6	36.6	38.7
14	37.4	36.4	37.2	37.8	37.8	41.6	41.4	38.6	36.8	37.0	37.6	40.7	41.1	42.2	42.2	40.9	38.4	37.0	35.8	37.0	37.4	37.0	37.0	36.8	38.5
15	37.0	36.8	37.0	37.0	36.8	37.8	37.0	35.8	34.9	35.3	37.6	40.5	43.6	43.2	41.4	40.7	38.7	37.8	37.2	37.4	37.0	36.0	35.5	36.0	37.8
16 Q	38.2	38.0	36.8	36.6	36.8	36.6	36.0	35.8	34.7	35.7	37.0	39.3	41.3	42.2	41.6	40.7	39.1	38.4	37.2	38.0	37.8	37.4	36.4	37.2	37.9
17	37.4	37.0	36.0	36.4	36.6	36.4	36.0	35.5	34.9	35.8	38.0	41.8	43.6	46.1	45.9	41.8	39.9	39.6	38.5	38.7	35.0	33.6	35.0	35.0	38.1
18 D	36.1	35.9	40.4	35.6	36.7	41.7	32.3	32.9	32.7	34.2	38.8	41.7	43.7	44.8	47.3	48.3	41.9	39.2	37.5	38.1	38.1	37.3	28.8	22.6	37.8
19 D	16.1	38.3	32.5	35.8	34.4	34.0	34.2	35.8	35.8	37.1	38.8	41.9	43.7	45.8	44.4	43.1	45.4	40.4	32.5	24.6	30.5	8.5	27.3	31.3	34.7
20 D	33.4	40.2	41.2	24.8	31.1	35.6	39.0	36.7	36.3	37.3	39.4	39.6	42.5	42.5	41.7	41.7	34.4	26.1	32.3	30.7	32.7	32.7	40.0	35.6	36.1
21	40.2	42.9	34.2	32.9	34.6	35.0	36.5	36.3	36.1	38.1	38.8	43.7	43.3	43.9	41.9	38.8	38.3	34.0	37.9	38.5	37.1	32.9	28.2	31.3	37.3
22	31.1	15.1	23.2	36.7	28.8	34.0	35.9	37.9	37.9	38.1	39.2	43.1	42.1	44.4	41.5	41.5	32.9	35.6	30.7	33.1	36.7	35.9	34.0	36.1	35.2
23 D	39.6	43.7	39.4	35.2	30.7	41.9	38.7	37.9	36.3	36.5	38.1	41.2	41.7	40.4	44.4	40.0	35.0	33.8	34.8	38.1	35.0	24.2	24.9	32.3	36.8
24 D	30.2	34.8	29.0	30.4	33.4	36.1	43.3	40.8	40.4	38.5	38.8	41.9	42.9	43.1	43.7	34.8	41.9	32.1	30.5	34.0	38.3	28.2	37.1	35.4	36.7
25	36.7	33.1	35.8	42.1	38.3	36.5	41.2	43.9	39.8	36.9	38.1	39.2	41.5	40.4	40.8	39.8	36.3	36.9	35.4	32.3	34.3	36.7	35.8	35.0	37.8
26	35.9	35.8	35.8	35.0	35.0	34.8	34.4	35.0	35.9	39.8	38.5	41.5	43.1	43.3	42.5	42.1	41.0	40.0	39.2	39.4	38.7	38.1	37.1	36.7	38.3
27	35.9	36.5	36.7	36.1	36.7	36.3	37.3	38.7	35.0	37.5	38.1	41.9	46.2	47.9	50.8	45.4	45.8	42.1	34.2	29.2	32.3	36.1	36.9	36.7	38.8
28	38.3	35.6	35.6	41.9	35.6	35.4	35.2	34.4	33.4	34.8	36.9	39.0	41.2	45.2	44.4	40.6	39.8	30.7	35.0	34.0	31.1	33.8	36.7	38.1	36.9
29	34.8	37.9	35.4	34.6	36.5	36.3	35.9	35.0	34.8	37.5	38.8	43.9	46.0	47.7	44.8	44.6	40.2	39.4	37.3	35.6	37.1	35.0	35.6	34.6	38.3
30	36.5	35.4	37.9	38.3	36.1	34.8	35.0	34.4	35.0	38.9	39.6	42.3	43.9	45.8	43.3	41.0	39.2	37.5	37.3	37.3	36.1	36.3	36.3	41.2	38.2
31	37.1	38.3	32.9	31.3	34.2	35.2	34.4	34.0	33.8	35.2	37.3	41.7	43.5	43.9	44.4	44.4	41.9	40.0	32.7	36.7	37.9	37.1	35.6	38.3	37.6
Mean	35.6	36.7	35.7	35.7	35.7	36.6	36.7	36.5	35.8	36.6	38.3	41.1	43.0	43.8	43.3	41.6	39.7	37.8	36.8	36.3	36.2	34.5	35.2	35.8	37.7



**TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT**  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

15. LERWICK. (V.)

46,000  $\gamma$  ( $\cdot 46$  C.G.S. unit) +

MARCH, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1	622	620	611	620	626	627	629	631	631	630	629	628	624	626	628	634	642	641	640	646	648	640	637	620	630
2	600	617	620	619	624	626	628	629	629	628	628	626	620	619	621	628	631	634	637	643	647	645	633	620	627
3	625	628	630	631	628	626	629	631	631	630	628	628	627	627	624	633	651	654	647	645	657	642	641	636	635
4	627	627	612	618	616	621	626	629	630	632	634	630	630	630	632	634	635	639	643	650	650	643	640	638	632
5 Q	635	635	634	632	632	631	631	631	632	633	632	631	631	631	630	632	635	635	635	636	635	635	634	633	633
6 Q	631	631	630	629	630	630	629	629	631	630	627	626	626	630	638	644	639	635	633	634	634	635	633	632	632
7 Q	633	631	631	631	630	629	629	629	628	627	625	623	621	624	631	634	633	632	632	633	632	632	624	627	629
8	621	621	623	626	626	627	628	629	629	630	628	625	629	631	633	640	638	636	632	632	638	641	641	631	631
9 Q	620	626	628	630	627	626	627	630	631	631	630	630	629	631	633	635	633	631	629	629	631	630	631	632	630
10	632	623	626	626	623	613	621	623	626	626	625	621	620	621	623	630	630	628	629	627	631	645	632	627	626
11	596	522	522	576	606	611	619	620	621	621	624	621	627	630	634	636	640	637	633	632	629	627	624	624	614
12	628	629	630	630	630	627	624	623	626	625	624	623	625	629	631	635	640	640	640	637	637	638	635	624	630
13	623	630	628	624	621	615	620	618	617	617	615	611	617	622	629	646	665	659	646	641	636	629	627	624	628
14	624	625	627	626	614	600	593	605	619	621	620	621	628	624	627	634	639	642	642	638	632	628	624	624	624
15	624	625	627	629	629	627	625	625	624	621	621	622	627	628	629	632	633	632	632	631	630	629	628	625	627
16 Q	618	618	621	625	627	626	628	627	626	625	622	618	616	617	620	628	633	633	634	630	629	628	627	626	625
17	625	623	625	626	627	628	628	629	628	628	626	619	621	625	632	633	635	638	640	638	634	629	625	618	628
18 D	621	621	601	538	625	496	543	588	609	620	624	625	625	628	633	657	648	648	667	651	638	633	567	451	603
19 D	482	529	563	589	585	617	630	633	637	637	635	635	630	634	632	631	665	685	698	635	597	537	587	605	613
20 D	604	491	477	510	559	582	590	612	629	637	648	651	647	655	648	645	674	702	702	637	628	635	572	562	612
21	598	555	554	529	531	554	600	626	639	658	677	658	643	640	654	656	667	674	652	640	639	639	610	569	619
22	466	437	459	518	556	574	582	601	618	630	636	652	664	659	664	659	662	660	639	648	606	579	596	611	592
23 D	598	563	582	597	599	563	566	587	604	614	624	629	641	649	651	684	701	672	657	630	573	540	553	562	610
24 D	544	535	562	539	564	559	570	584	612	624	637	641	637	632	647	671	689	693	683	675	645	632	560	539	611
25	507	521	533	548	556	584	608	610	621	634	642	645	644	654	655	655	656	647	646	640	635	626	611	613	612
26	617	622	623	628	631	631	631	631	634	636	624	624	626	626	631	633	641	641	641	633	631	630	630	631	630
27	627	628	628	629	627	623	621	614	618	623	622	622	638	655	655	643	641	641	641	633	627	627	627	621	621
28	604	615	618	597	587	615	624	627	626	624	624	620	620	624	639	643	645	655	648	643	624	618	606	552	621
29	574	591	609	617	623	619	622	621	624	625	628	621	613	617	638	653	667	650	642	637	631	625	582	578	621
30	608	616	618	606	611	616	618	622	623	620	616	611	612	618	641	655	646	638	635	633	635	629	620	599	623
31	591	591	570	588	611	617	622	623	626	628	629	624	618	617	624	640	639	642	650	641	637	636	627	598	620
Mean	601	595	597	601	606	608	614	620	625	628	629	628	628	631	636	642	649	650	647	640	633	626	616	605	623

**DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS:**  
**MAGNETIC CHARACTER FIGURES: TEMPERATURE IN MAGNET HOUSE**

16. LERWICK.

MARCH, 1933.

Day.	Terrestrial Magnetic Elements.															HR <sub>H</sub> +VR <sub>V</sub> 10,000 γ <sup>2</sup>	Magnetic Character of Day. (0-2)	Temperature in Magnet House. 200 +						
	Horizontal Force.						Declination.						Vertical Force.											
	Maximum 14,000 γ +			Minimum 14,000 γ +			Range	Maximum 13° +			Minimum 13° +			Range	Maximum 46,000 γ +			Minimum 46,000 γ +			Range			
	h.	m.	γ	h.	m.	γ		h.	m.	γ	h.	m.	γ		h.	m.	γ	h.	m.	γ				
1	23	32	516	464	11	53	52	14	45	44.8	27.6	20	10	17.2	20	7	653	605	2	29	48	299	1	75.1
2	0	14	505	468	11	25	37	12	52	44.8	29.2	21	32	15.6	21	5	650	593	0	25	57	320	1	75.7
3	15	10	510	469	14	5	41	15	6	46.5	29.5	20	16	17.0	20	10	663	620	15	13	43	259	1	76.0
4	6	40	501	472	11	53	29	1	50	44.3	34.7	22	55	9.6	19	30	652	611	2	15	41	233	1	75.9
5 Q	15	44	498	473	11	17	25	13	10	43.0	35.5	21	12	7.5	19	46	639	629	12	12	10	83	0	75.9
6 Q	14	7	499	473	11	13	26	14	7	44.9	35.7	8	35	9.2	15	26	647	624	1	57	23	145	0	76.0
7 Q	22	35	511	470	11	20	41	13	34	44.1	33.3	22	56	10.8	15	21	635	619	22	36	16	134	0	76.5
8	5	10	498	464	13	0	34	12	40	44.1	33.3	8	15	10.8	22	10	646	616	1	0	30	189	0	77.0
9 Q	21	46	495	467	11	18	28	13	30	42.4	33.7	0	36	8.7	15	35	636	613	0	22	23	148	0	77.4
10	1	25	499	466	12	10	33	13	38	45.5	29.9	21	12	15.6	21	26	652	611	5	15	41	239	1	78.0
11	0	56	509	439	1	54	70	13	5	46.3	25.8	2	50	20.5	16	12	641	497	1	50	144	772	1	78.5
12	16	6	501	452	11	24	49	13	36	44.5	34.3	8	13	10.2	17	2	643	616	23	44	27	197	0	78.7
13	14	55	514	458	11	48	56	14	56	45.7	34.5	5	43	11.2	16	23	669	610	11	26	59	356	1	78.8
14	15	21	498	452	12	24	46	5	56	45.9	34.5	18	32	11.4	17	57	646	589	6	16	57	333	1	79.0
15	22	5	491	451	11	36	40	13	8	44.7	33.1	22	6	11.6	16	43	635	619	10	46	16	133	0	79.1
16 Q	0	10	499	460	11	23	39	13	37	42.8	34.1	8	14	8.7	18	36	637	613	0	23	24	169	0	79.0
17	20	51	512	460	11	44	52	13	30	47.8	30.2	20	50	17.6	18	40	642	617	23	18	25	192	1	78.6
18 D	22	25	556	33	23	18	463	16	6	50.2	12.2	23	18	38.0	18	36	681	392	23	20	289	2018	2	78.1
19 D	19	5	574	112	20	58	462	18	40	47.1	-11.0	21	15	58.1	18	46	737	445	0	6	292	2031	2	77.7
20 D	19	7	550	207	1	34	343	1	43	57.8	5.3	19	4	52.6	19	4	730	423	1	54	307	1928	2	77.1
21	22	13	512	246	23	59	266	0	52	47.5	24.2	22	35	23.3	17	5	685	498	24	0	187	1257	2	76.5
22	18	5	538	254	0	0	284	13	25	46.6	6.4	1	23	40.2	14	16	671	423	1	13	248	1568	2	76.1
23 D	17	1	577	385	20	38	192	20	23	49.3	18.0	21	25	31.3	16	44	722	515	20	36	207	1243	1	76.7
24 D	17	25	577	322	2	59	255	6	35	50.2	17.0	17	23	33.2	17	15	729	519	24	0	210	1349	2	77.5
25	15	54	514	395	2	26	119	3	50	45.4	28.4	1	58	18.0	16	20	659	497	0	43	162	928	1	78.0
26	17	40	501	431	9	4	70	13	25	43.3	32.9	6	56	10.4	18	0	645	613	0	34	32	250	1	78.4
27	16	57	542	480	14	25	92	13	58	53.7	27.6	19	44	26.1	17	26	707	613	7	49	94	571	1	78.9
28	17	37	508	435	3	35	73	13	42	45.6	27.3	17	33	19.3	17	24	661	547	23	16	114	637	1	79.3
29	22	55	513	428	10	42	85	13	40	48.7	29.8	22	43	18.9	16	16	676	545	22	53	131	733	1	80.0
30	14	41	498	445	11	56	53	13	32	46.2	33.6	22	8	12.6	15	27	657	578	23	54	79	445	1	80.1
31	23	25	505	434	10	50	71	14	46	45.8	27.8	18	40	18.0	18	25	655	566	2	24	89	518	1	79.8
Mean	--	--	517	403	--	--	114	--	--	46.5	26.7	--	--	19.8	--	--	665	564	--	--	101	635	0.94	77.7
No. of Days Used	--	--	31	31	--	--	31	--	--	31	31	--	--	31	--	--	31	31	--	--	31	31	31	31



TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT.  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

17. LERWICK. (H.)

14,000 γ (·14 C.G.S. unit) +

APRIL, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1	488	483	470	451	460	481	487	482	475	473	467	458	470	475	489	492	491	487	488	484	496	488	485	490	480
2	481	480	481	480	486	485	484	481	480	472	468	468	471	475	477	480	489	491	499	487	477	467	466	465	479
3	480	475	477	476	471	478	490	491	472	450	441	449	459	471	478	491	491	493	495	496	492	492	494	489	479
4	483	434	469	477	471	485	489	479	476	470	463	461	462	466	471	482	492	499	496	495	492	495	494	489	479
5	482	477	471	475	484	486	490	486	479	471	460	454	457	468	473	472	478	491	495	498	494	491	488	484	479
6	474	438	480	486	488	487	475	466	464	464	463	458	462	460	467	480	491	500	502	503	492	485	483	489	477
7	491	487	485	483	475	488	491	490	479	469	459	451	450	458	495	489	496	505	496	506	482	474	486	488	483
8	485	482	481	482	485	486	488	473	465	461	454	451	461	469	480	490	492	503	504	490	494	493	496	502	482
9	481	475	483	489	488	490	487	477	454	437	448	454	458	475	473	471	490	488	490	490	490	492	493	494	478
10	487	485	485	485	484	480	477	472	463	465	455	455	460	470	465	486	490	492	494	492	490	489	489	488	479
11 Q	486	483	484	485	484	483	481	477	463	460	457	458	462	467	469	476	483	487	488	490	489	489	490	489	478
12 Q	484	484	485	484	487	484	483	480	472	461	457	456	459	468	478	485	488	488	489	491	492	493	492	490	480
13 Q	490	489	489	488	488	488	488	484	475	459	454	454	462	474	481	485	490	497	495	492	494	495	494	494	483
14	493	493	492	491	491	492	492	489	482	474	465	457	464	477	474	500	500	499	505	498	488	491	484	491	487
15 D	488	488	487	483	480	466	487	488	482	475	468	471	471	474	490	492	495	520	522	534	537	387	405	443	481
16 D	481	486	481	476	458	467	481	476	464	453	448	454	464	475	472	488	499	501	503	500	476	486	491	506	479
17 D	448	470	439	453	463	473	461	465	466	456	439	427	469	494	496	514	511	507	489	489	498	494	487	476	474
18	430	371	471	466	457	444	475	465	467	460	457	462	462	473	478	493	516	522	514	504	487	433	410	391	463
19 D	432	428	399	441	487	488	481	457	462	462	446	446	465	502	498	514	513	505	524	519	499	476	453	436	472
20	491	486	486	491	484	434	444	469	460	449	442	452	479	492	501	532	528	508	509	508	484	490	486	479	483
21	458	476	472	481	469	472	474	465	466	456	450	451	458	470	485	486	507	522	508	513	487	485	484	467	478
22	470	482	482	481	460	458	470	445	418	423	440	453	464	488	486	507	503	515	507	505	519	475	494	482	476
23	475	487	482	476	479	470	424	467	471	460	453	461	472	487	482	491	498	506	504	503	515	477	468	457	478
24	459	480	483	485	484	479	476	475	465	458	460	469	476	491	504	509	511	512	503	498	495	492	477	483	484
25	476	485	487	487	484	481	481	471	462	454	452	459	469	477	505	500	501	520	513	507	498	492	495	490	485
26	489	473	484	489	489	489	484	472	464	461	459	469	478	476	469	500	519	510	508	511	496	489	489	491	486
27	490	488	486	483	486	486	484	480	473	463	461	459	466	473	482	486	497	498	497	504	509	495	493	479	484
28 Q	461	470	465	486	486	485	480	471	464	458	458	458	462	470	474	489	494	503	502	499	497	488	484	488	479
29 Q	495	491	486	484	485	484	482	475	466	461	463	464	467	466	480	487	496	502	504	498	498	494	495	487	484
30 D	488	486	484	485	486	484	483	480	472	463	455	458	464	472	485	496	520	517	522	540	562	515	511	450	491
Mean	477	474	477	479	479	478	479	475	467	460	455	457	465	475	482	492	499	503	502	501	497	483	482	478	480

MAGNETIC DECLINATION (WEST).  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

18. LERWICK (D.)

13° +

APRIL, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day																									
1	37·3	35·0	36·1	40·0	36·7	33·6	35·0	34·6	35·2	37·1	40·2	41·9	44·2	45·0	45·4	43·3	40·4	37·9	35·6	33·8	38·5	36·3	36·3	30·7	37·9
2	34·8	35·6	34·4	33·8	34·6	33·1	33·1	32·3	32·9	34·6	36·5	38·5	42·5	43·9	43·5	40·4	37·7	36·5	36·5	31·7	28·2	26·7	28·2	32·7	35·1
3	35·9	36·7	33·1	32·7	34·2	36·3	34·6	34·2	33·4	36·3	39·2	41·7	41·9	45·2	45·6	43·9	41·7	40·6	39·0	36·1	34·8	36·3	35·6	34·4	37·6
4	34·4	40·2	41·5	25·1	33·4	33·6	32·7	32·5	32·5	33·8	35·4	38·5	41·7	43·1	42·5	41·4	40·6	40·2	38·5	37·7	37·5	37·7	37·1	36·7	37·0
5	35·2	36·1	32·5	32·9	31·9	33·8	33·1	32·5	32·9	34·6	36·8	39·7	42·0	44·1	43·8	43·0	40·3	37·6	36·6	36·0	32·8	33·5	33·9	31·8	36·1
6	30·3	33·0	34·7	33·5	34·3	33·1	35·8	36·4	36·0	35·3	37·2	40·7	42·8	44·3	42·6	42·2	40·9	38·7	37·6	36·8	30·8	24·5	31·8	36·2	36·2
7	36·8	37·8	35·7	34·1	33·7	35·5	33·1	32·8	33·0	33·5	38·2	40·3	44·0	44·3	46·1	44·9	33·9	39·7	38·6	34·7	19·6	30·6	37·4	38·0	36·5
8	37·0	38·2	38·6	36·0	36·0	35·3	34·5	36·0	34·5	35·5	38·0	39·9	41·8	43·0	42·6	43·2	40·9	35·3	30·6	35·8	37·2	34·5	35·7	36·2	37·3
9	34·5	32·6	34·7	34·7	35·7	35·1	34·5	35·8	36·6	36·0	37·2	41·3	43·2	43·8	43·2	39·7	38·2	37·8	36·4	34·9	36·6	36·4	36·0	35·8	37·1
10	36·6	36·0	35·1	34·5	34·1	34·3	34·5	33·9	36·0	35·3	36·4	40·1	43·0	43·4	42·2	36·2	37·4	37·0	31·8	34·1	36·6	37·0	37·0	36·8	36·6
11 Q	37·0	36·4	36·0	35·3	34·9	34·1	33·1	32·6	33·7	36·0	36·8	40·1	43·0	43·8	41·8	40·5	38·6	37·4	36·6	36·8	35·8	35·8	34·1	35·7	36·9
12 Q	36·0	36·0	35·3	35·6	36·0	34·3	33·1	32·6	33·0	34·7	36·0	38·2	40·3	41·1	40·1	38·7	37·8	37·0	36·8	36·8	36·8	36·8	36·4	36·4	36·5
13 Q	36·4	35·7	35·3	35·1	34·7	34·3	33·7	32·6	32·0	33·1	34·9	37·0	39·7	41·4	40·3	39·3	38·4	38·0	37·4	37·4	37·4	37·2	36·6	36·4	36·4
14	36·2	36·2	36·0	35·5	35·1	34·5	33·1	32·6	32·2	33·7	36·4	40·5	44·7	46·5	44·0	42·8	42·4	41·4	40·1	38·4	34·1	35·8	32·8	28·7	37·2
15 D	32·0	32·4	32·2	31·8	32·0	35·3	34·9	34·3	33·5	34·1	37·0	39·9	43·0	43·8	45·3	43·4	43·3	42·2	40·1	39·7	31·2	26·8	21·0	23·1	35·4
16 D	29·6	32·5	30·5	31·3	32·3	38·1	33·4	32·5	33·4	34·6	37·7	39·6	42·1	44·8	41·3	39·2	41·2	40·8	35·0	15·3	27·6	35·7	34·4	24·6	34·5
17 D	22·2	26·5	24·4	37·1	31·7	34·4	36·3	37·5	34·0	35·2	36·1	38·6	44·0	36·8	35·8	37·7	40·0	39·0	38·5	37·7	34·2	25·1	26·5	28·2	35·3
18	28·6	36·7	34·8	31·5	32·1	36·1	36·7	40·0	36·1	36·1	37·1	40·8	43·9	45·4	44·4	41·5	36·9	37·3	29·8	30·7	32·9	30·5	25·1	29·2	35·6
19 D	26·9	32·7	36·5	35·7	33·0	32·1	33·2	38·3	36·7	37·9	39·2	40·4	41·0	39·2	43·7	38·1	40·2	39·0	37·3	34·8	30·2	35·9	42·5	33·5	36·6
20	32·7	33·8	35·0	33·6	33·0	39·0	39·4	34·2	34·6	35·7	39·6	39·8	41·5	43·7	38·8	40·0	40·0	38·1	37·5	32·1	35·0	32·7	34·6	37·5	36·7
21	40·4	37·1	34·0	34·0	33·4	33·2	32·7	33·2	33·4	34·6	36·3	40·2	41·7	42·7	42·3	40·8	39·6	39·0	32·7	25·9	30·2	35·2	34·4	29·8	35·7
22	28·4	29·4	31·9	33·2	32·3	34·8	34·2	32·7	34·0	39·6	40·4	42·5	43·7	42·1	41·0	37·5	39·8	31·7	37·5	36·9	37·7	35·9	29·6	28·8	35·7
23	30·3	33·4	32·7	34·0	32·3	32·5	39·0	36·5	34·0	34·8	36·3	40·8	44·4	45·6	42·9	41·9	39·4	35·7	36·5	32·3	24·6	30·2	30·7	27·6	35·3
24	38·3	33·6	34·0	32·7	34·4	34·2	34·0	33·2	33·4	34·6	37·7	40·8	42·5	42·9	42·1	37·1	37·9	39·6	36·9	34·4	36·1	35·7	38·5	30·0	36·4
25	33·0	33·4	34·0	31·9	33·0	34·2	33·6	34·0	36·1	36·1	38·8	41·2	44·8	44·0	43·5	41·7	39·2	34·6	36·3	35·0	34·0	35·0	34·4	35·4	36·5
26	42·9	33·8	30·3	31·1	32·1	31·7	30·7	32·5	35·0	35·6	37·3	41·3	44·8	46·0	41·5	41·3	40·6	38·1	35·7	25·9	26·9	31·3	32·3	33·8	35·5
27	34·6	34·8	34·0	32·7	30·3	31·7	32·3	32·6	33·2	34·6	36·1	39·4	41·7	42·3	41·2	39·8	38·5	37·5	34·6	34·4	36·3	26·1	24·4	28·6	34·7
28 Q	28·0	32·1	37·9	31·7	31·7	31·3	31·1	31·5	32·5	34·0	35·7	38·1	41·2	43·5	41·5	39·6	38·3	38·1	37·1	36·3	35·6	34·2	36·1	33·4	35·4
29 Q	32·3	33·8	32·9	32·1	31·5	31·9	32·7	32·9	33·0	34·4	37·1	40·4	43·3	42·5	40·4	39·4	38·5	37·9	37·1	34·8	35·6	35·6	35·4	36·3	35·9
30 D	34·0	34·2	34·0	32·7	32·3	32·5	31·7	31·9	32·7	34·6	36·7	38·6	40·4	40·6	40·4	41·3	43·1	38·5	41·7	42·3	37·5	18·0	28·4	26·5	35·2
Mean	33·8	34·5	34·3	33·5	33·4	34·1	34·0	34·0	34·0	35·2	37·3	40·0	42·6	43·6	42·7	41·0	39·5	38·1	36·5	34·3	33·4	32·9	33·2	32·4	36·2



**TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT.**  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

19. LERWICK. (V.)

46,000  $\gamma$  ( $\cdot 46$  C.G.S. unit) +

APRIL, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$
1	594	608	617	583	563	576	595	610	618	621	622	624	621	622	626	634	637	646	651	649	626	628	624	609	617
2	605	615	623	623	620	623	626	627	628	630	623	622	622	626	629	631	635	638	634	644	649	640	623	601	627
3	582	577	600	608	602	592	599	610	617	622	619	624	649	619	619	624	636	645	649	655	652	642	627	620	620
4	599	549	514	544	588	599	609	617	619	620	620	618	618	613	612	617	623	629	637	640	642	633	628	626	609
5	623	615	604	605	605	614	617	621	624	625	622	616	610	610	616	623	630	641	643	641	637	630	618	606	621
6	570	549	560	603	616	615	612	614	612	615	616	620	623	621	622	623	621	621	621	624	636	632	615	613	611
7	609	613	613	617	617	612	616	617	618	621	619	620	621	622	628	654	687	652	649	644	649	617	615	616	627
8	621	621	610	617	619	621	619	619	617	617	617	619	619	624	631	638	642	647	647	635	626	623	619	595	623
9	590	597	613	618	621	619	620	621	623	626	627	628	624	630	637	641	639	630	625	623	620	618	616	612	622
10	613	619	622	622	620	616	612	611	611	610	614	615	621	623	631	640	632	625	628	621	614	613	612	614	619
11 Q	615	612	619	619	619	617	615	612	606	600	601	601	600	606	613	614	616	620	621	617	614	614	611	610	612
12 Q	611	613	613	616	612	612	611	610	610	609	605	608	610	610	612	616	620	620	620	617	614	613	613	614	613
13 Q	614	617	620	622	624	624	623	622	620	621	620	619	616	615	621	624	625	626	630	628	626	622	622	622	622
14	622	623	624	627	628	628	628	627	622	619	615	613	613	620	621	626	639	651	656	664	662	644	631	621	630
15 D	617	613	608	608	605	600	588	603	611	609	607	607	609	615	617	622	625	630	667	724	731	651	575	564	621
16 D	597	600	583	595	602	592	599	614	621	621	618	614	616	618	639	637	625	635	641	644	633	624	608	547	613
17 D	470	517	533	534	527	545	572	587	606	613	623	636	653	688	639	649	667	674	648	628	613	611	567	550	598
18	540	462	495	551	567	575	581	590	598	610	613	612	617	626	639	645	649	635	641	636	623	571	502	489	586
19 D	469	469	485	510	569	599	607	611	613	613	613	625	640	667	642	645	642	640	625	603	604	594	513	464	585
20	552	593	601	605	605	585	559	576	595	607	615	616	615	622	645	655	678	662	647	641	579	582	598	596	610
21	566	566	576	593	596	592	598	605	607	609	618	623	613	610	609	613	608	622	647	637	626	612	479	495	597
22	536	537	580	595	592	588	578	596	603	607	601	609	613	624	639	640	632	633	618	616	570	517	559	559	593
23	563	581	594	590	584	587	577	577	591	597	601	602	603	621	648	640	630	631	626	633	607	583	562	539	599
24	517	562	582	594	602	606	612	611	614	618	610	606	606	608	617	636	643	637	638	633	624	613	560	537	603
25	556	580	604	610	614	613	611	611	609	610	610	608	605	610	618	627	638	645	640	637	630	625	611	600	613
26	561	551	574	599	610	612	613	612	607	604	602	598	601	614	615	610	619	640	645	643	621	613	611	609	608
27	609	611	610	609	606	611	613	613	613	610	607	603	598	601	608	616	623	627	626	623	613	607	591	573	609
28 Q	552	570	564	584	610	614	614	614	608	605	604	600	600	601	605	608	614	615	621	624	623	622	605	577	602
29 Q	568	587	604	606	611	610	612	612	614	611	606	603	601	603	606	609	611	613	616	623	619	615	606	599	607
30 D	592	600	605	608	612	612	611	608	605	609	607	604	601	602	603	604	599	624	622	615	663	646	607	540	608
Mean	578	581	588	597	602	604	605	609	612	614	613	614	615	620	624	629	633	635	636	635	628	615	594	581	611

**DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS:**  
**MAGNETIC CHARACTER FIGURES: TEMPERATURE IN MAGNET HOUSE.**

20. LERWICK.

APRIL, 1933.

Day.	Terrestrial Magnetic Elements.															HR <sub>H</sub> +VR <sub>V</sub> 10,000 $\gamma^2$	Magnetic Character of Day. (0-2)	Temperature In Magnet House. 200 +							
	Horizontal Force.						Declination.			Vertical Force.															
	Maximum 14,000 $\gamma$ +			Minimum 14,000 $\gamma$ +			Range	Maximum 13° +		Minimum 13° +		Range	Maximum 46,000 $\gamma$ +		Minimum 46,000 $\gamma$ +				Range						
	h.	m.	$\gamma$	$\gamma$	h.	m.	$\gamma$	h.	m.	$\gamma$	h.	m.	$\gamma$	$\gamma$	h.	m.	$\gamma$			°A					
1	15	11	510	443	3	25	67	14	19	46.4	25.7	23	25	20.7	18	20	653	561	4	41	92	526	1	79.4	
2	18	6	503	451	23	4	52	13	45	44.4	23.8	21	24	20.6	20	15	653	577	24	0	76	429	1	78.9	
3	22	39	509	432	10	40	77	14	8	46.8	31.7	3	23	15.1	12	25	666	572	1	16	94	550	1	78.9	
4	17	54	504	407	1	41	97	2	20	49.1	21.7	3	37	27.4	20	10	646	502	2	43	144	812	1	79.0	
5	19	33	506	447	12	7	59	13	33	44.9	30.6	23	45	14.3	20	0	646	592	24	0	54	338	1	78.9	
6	19	50	508	420	1	35	88	13	41	45.5	18.9	21	8	26.6	21	6	643	539	1	58	104	613	1	79.0	
7	17	48	524	438	12	56	86	15	25	48.2	14.8	20	25	33.4	16	21	704	607	5	55	97	577	1	78.8	
8	18	10	523	443	10	59	80	15	34	44.7	21.8	18	0	22.9	17	56	664	586	23	57	78	479	1	79.0	
9	16	11	500	424	9	55	76	13	52	45.1	31.2	1	22	13.9	15	30	643	586	0	0	57	376	1	79.6	
10	15	36	505	444	10	33	61	13	33	44.7	29.7	18	30	15.0	15	23	643	607	9	10	36	256	1	80.1	
11 Q	19	16	496	453	10	42	42	13	10	44.7	31.6	7	53	13.1	17	33	624	598	11	40	26	182	0	80.4	
12 Q	19	10	494	453	11	41	41	13	24	41.3	32.2	7	23	9.1	17	35	622	604	10	50	18	143	0	80.6	
13 Q	17	44	504	449	10	54	55	13	34	42.0	31.0	7	58	11.0	18	17	631	613	13	5	18	164	0	80.0	
14	15	39	519	453	11	10	66	13	33	47.4	27.7	23	3	19.7	19	40	671	611	11	35	60	376	1	79.0	
15 D	20	37	613	194	21	29	419	14	39	46.9	14.2	20	46	32.7	20	30	772	541	23	5	231	1684	2	78.1	
16 D	19	34	540	439	10	11	101	14	4	46.9	6.0	19	24	40.9	19	17	661	497	24	0	164	910	1	78.7	
17 D	13	15	542	394	2	54	148	12	56	52.9	15.1	0	20	37.8	13	5	714	456	0	45	258	1417	1	78.3	
18	16	44	536	296	1	16	240	13	55	46.9	19.9	22	18	27.0	16	20	656	446	1	39	210	1327	2	77.7	
19 D	18	51	571	388	23	6	213	22	53	47.7	23.4	0	30	24.3	13	9	688	427	23	15	261	1525	2	77.4	
20	15	45	551	405	5	56	146	13	54	44.4	19.3	19	25	25.1	17	0	683	515	0	0	168	995	1	77.4	
21	17	8	541	406	23	38	135	22	29	45.8	20.5	19	2	25.3	18	38	657	430	22	39	227	1254	1	77.6	
22	20	21	541	402	8	43	139	20	59	48.3	22.8	17	12	25.5	15	5	649	501	21	34	148	892	1	78.0	
23	20	12	539	395	6	22	144	13	15	47.5	11.8	20	4	35.7	14	33	653	520	24	0	133	829	1	78.2	
24	15	43	519	441	0	16	78	22	12	43.7	27.4	23	34	16.3	16	6	647	505	0	28	142	775	1	78.4	
25	17	37	529	448	10	8	81	12	46	45.8	28.8	0	0	17.0	17	0	652	547	0	0	105	606	1	78.5	
26	19	46	527	457	10	32	70	0	25	48.1	17.0	19	42	31.1	19	36	655	539	0	57	116	642	1	78.9	
27	20	8	513	455	11	7	58	13	13	42.9	14.7	21	48	28.2	19	0	630	551	24	0	79	452	1	79.2	
28 Q	17	59	510	448	0	30	62	13	56	43.9	26.9	0	40	17.0	19	47	626	547	0	34	79	458	1	79.5	
29 Q	18	34	510	456	9	44	54	13	15	43.9	30.2	0	4	13.7	19	20	624	563	0	4	61	362	0	79.7	
30 D	20	51	636	407	22	53	229	16	51	46.2	10.5	21	18	35.7	20	51	730	518	23	42	212	1320	2	80.3	
Mean	--	--	527	419	--	--	109	--	--	45.9	22.7	--	--	23.2	--	--	660	542	--	--	118	709		1.00	78.9
No. of Days Used	--	--	30	30	--	--	30	--	--	30	30	--	--	30	--	--	30	30	--	--	30	30		30	30



TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

21. LERWICK (H.)

14,000γ (·46 C.G.S.unit) +

MAY, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1 D	474	477	479	479	476	471	482	479	471	475	476	491	515	485	636	1066	1077	763	668	416	218	-139	97	83	484
2	485	312	450	470	478	472	466	461	462	458	463	466	466	472	476	481	482	483	489	488	484	479	480	466	428
3	459	436	451	473	475	469	463	462	463	461	463	466	460	469	473	478	496	501	492	496	491	491	492	489	473
4	489	480	472	462	472	483	480	478	476	469	464	466	469	472	489	488	509	509	524	518	489	486	484	485	484
5	486	486	484	484	474	464	466	482	470	457	453	461	475	467	488	493	506	509	503	508	498	486	484	476	482
6	491	448	411	465	462	461	475	477	464	451	448	454	474	488	499	455	496	501	503	498	494	492	494	483	476
7	430	474	490	494	487	478	467	462	459	455	452	456	466	467	474	493	495	497	496	493	493	494	492	489	477
8	485	485	482	483	482	483	483	476	465	459	455	465	476	482	489	499	500	501	509	504	499	499	496	493	485
9 Q	491	490	488	486	486	484	476	467	462	456	456	461	472	477	484	490	495	500	501	500	497	496	496	495	484
10 Q	493	484	481	486	490	486	481	468	449	451	461	470	478	480	481	485	487	493	501	503	501	497	495	493	483
11	492	487	488	482	484	489	486	480	470	460	454	458	472	483	482	492	502	508	506	502	496	495	494	493	486
12 Q	491	490	491	493	492	490	482	475	467	462	458	463	470	476	485	492	499	504	508	507	511	508	501	500	488
13	499	497	495	492	477	481	496	490	474	470	464	464	456	476	493	504	514	522	517	509	510	500	494	494	491
14	486	486	494	494	493	486	479	471	462	466	476	481	477	483	500	515	515	526	546	538	513	526	472	468	490
15	485	488	485	487	452	470	470	469	459	459	451	456	459	466	475	488	507	523	517	511	502	498	483	477	480
16	468	473	487	488	485	486	480	472	463	456	456	460	464	476	477	486	500	518	529	521	507	491	478	479	483
17	476	470	490	488	486	483	475	469	467	466	468	468	471	477	491	504	512	537	535	528	509	491	455	421	485
18 D	450	464	453	428	401	421	445	436	457	446	436	449	450	468	487	490	500	514	520	516	504	499	497	494	468
19	490	482	473	476	477	476	476	475	464	454	460	463	473	475	484	502	511	511	528	520	509	491	486	486	485
20	487	486	486	477	471	470	473	471	465	459	461	467	478	487	486	496	501	504	503	502	501	499	499	489	484
21	488	488	491	489	484	478	461	464	466	455	455	460	470	476	483	490	496	501	511	506	496	492	491	495	483
22	491	493	488	491	491	485	475	467	459	451	450	457	465	484	484	508	511	509	509	508	498	496	500	491	486
23	492	491	489	486	484	476	469	461	458	456	461	466	468	476	482	489	492	507	515	511	503	507	495	488	484
24 Q	486	486	486	487	486	479	471	463	457	453	457	462	471	479	499	498	509	515	515	509	509	504	498	499	487
25	499	497	498	494	491	486	479	471	460	455	449	453	452	466	479	488	498	512	520	523	520	512	506	503	488
26 Q	501	496	494	494	493	491	486	479	472	464	464	466	475	484	489	490	493	500	502	503	503	502	501	499	489
27	498	496	497	497	495	491	484	478	483	468	465	471	479	486	496	513	518	546	534	516	512	512	486	480	495
28	476	446	475	486	487	484	481	472	463	460	460	466	476	487	492	498	507	513	515	511	504	501	501	500	486
29 D	499	499	499	499	499	495	490	488	484	477	473	474	486	505	521	539	538	534	539	534	504	481	498	502	502
30 D	467	427	406	440	459	485	487	471	447	439	450	466	483	499	505	507	551	544	534	518	511	508	506	507	484
31 D	503	497	499	485	456	460	477	473	473	467	461	463	484	525	481	491	509	525	522	515	509	511	491	477	490
Mean	462	475	479	481	478	478	476	471	465	459	459	464	472	480	492	514	523	520	520	507	493	474	479	474	483

## MAGNETIC DECLINATION (WEST).

Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

22. LERWICK. (D.)

13° +

MAY, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day																									
1 D	29.8	33.6	33.0	31.3	30.5	29.4	27.8	30.0	31.7	34.2	38.3	42.1	48.1	50.0	47.5	44.8	81.5	82.5	52.3	51.0	44.2	52.9	19.2	34.6	41.7
2	45.8	31.3	31.1	28.4	30.5	30.7	31.5	33.8	35.7	35.9	33.6	35.7	37.1	37.9	37.5	36.3	38.1	36.7	36.1	35.9	35.7	33.6	27.6	29.2	34.4
3	32.5	34.4	33.2	30.7	30.0	30.2	30.7	30.5	31.3	32.9	35.4	36.5	36.9	38.1	38.5	39.6	37.9	38.3	31.1	33.2	36.3	36.7	35.7	32.5	34.3
4	30.2	33.0	34.0	40.0	38.6	34.4	33.0	32.7	35.7	35.6	36.1	37.1	38.3	39.2	39.6	41.0	41.3	37.5	37.7	23.0	34.6	36.1	35.9	35.7	35.8
5	37.3	35.7	34.0	34.0	32.3	34.0	38.3	32.9	32.5	34.0	36.5	38.3	40.4	43.1	42.9	41.0	40.0	38.8	37.5	36.3	27.4	32.5	37.7	38.3	36.5
6	34.8	40.2	42.9	36.7	33.4	30.7	30.0	30.0	30.5	35.0	38.1	37.9	40.0	39.8	37.9	39.8	38.1	36.5	35.9	33.4	32.3	35.2	36.3	39.6	36.0
7	46.2	35.9	33.0	31.7	31.3	29.4	29.8	31.3	33.4	35.7	37.3	39.0	40.4	40.6	38.3	36.3	35.6	34.8	34.6	34.4	35.0	35.0	35.2	35.6	35.4
8	35.4	36.3	34.8	33.8	32.5	30.9	30.2	29.6	31.5	34.0	36.1	37.9	39.6	40.0	39.4	38.1	37.9	35.6	35.6	35.7	36.5	36.7	36.1	35.6	35.4
9 Q	35.2	35.0	34.6	34.0	32.9	32.3	31.5	30.9	31.5	32.3	34.8	37.7	39.4	40.2	39.8	38.3	36.7	35.9	35.9	36.1	36.3	36.1	35.9	35.6	35.4
10 Q	35.0	34.4	32.9	33.4	33.2	31.5	30.5	30.3	33.0	35.6	37.5	39.2	40.4	40.6	39.6	38.3	37.5	36.7	35.7	35.4	35.6	35.4	35.4	35.4	35.5
11	35.4	38.3	35.0	33.8	34.2	32.3	31.3	31.3	33.0	36.3	40.0	42.1	44.2	43.9	42.1	40.8	38.3	37.3	34.6	35.4	35.6	35.6	35.6	35.6	36.7
12 Q	35.4	35.4	35.2	34.2	32.7	31.1	30.7	30.7	31.5	33.2	35.9	39.6	41.9	41.7	40.4	38.3	36.3	35.9	36.1	36.3	36.5	36.1	32.7	34.0	35.6
13	34.6	34.6	33.0	32.5	34.6	38.3	34.0	31.9	32.5	34.6	38.3	42.1	44.0	42.3	41.9	40.8	39.8	37.9	35.9	36.5	33.8	29.8	34.6	35.0	36.4
14	30.5	28.2	32.9	33.4	32.1	30.7	30.9	30.2	31.9	35.6	38.1	41.5	44.4	45.8	45.6	45.2	44.4	43.1	40.8	38.3	32.9	24.4	23.8	24.9	35.4
15	30.9	32.1	32.7	34.2	35.2	33.6	29.2	29.2	31.9	35.7	38.3	39.6	39.6	40.0	39.2	38.6	38.5	38.6	36.7	35.9	35.6	35.2	35.4	29.6	35.2
16	26.7	33.2	33.8	32.5	32.1	31.7	31.3	31.9	32.5	33.8	37.1	38.5	39.2	37.9	37.7	37.3	37.1	37.5	36.1	31.9	34.4	35.0	31.3	32.1	34.3
17	31.5	35.4	34.4	31.9	31.3	30.9	31.1	32.1	33.0	33.4	36.3	38.3	39.2	40.6	40.8	40.8	40.6	40.0	37.3	35.7	35.7	32.7	26.5	30.3	35.0
18 D	22.8	24.6	25.1	30.5	34.4	27.4	33.6	36.1	35.4	32.9	37.9	40.4	42.7	40.8	40.2	38.5	37.1	37.3	33.6	32.1	34.4	34.0	34.6	35.2	34.2
19	35.6	35.7	35.4	33.2	31.5	30.5	29.0	30.0	30.2	32.5	35.2	37.1	39.6	40.2	38.5	38.3	38.3	38.5	34.4	36.7	28.2	28.8	34.4	35.0	34.5
20	34.6	34.8	33.8	31.5	32.1	29.4	29.6	30.5	32.5	33.8	35.6	37.5	39.8	40.2	39.6	40.0	39.8	38.1	37.1	36.9	36.5	33.4	32.3	33.4	35.1
21	34.0	33.6	33.8	32.7	30.7	30.5	31.3	32.3	34.4	35.7	37.7	39.8	40.6	40.4	38.8	36.9	35.6	35.9	35.7	35.4	36.7	36.5	36.1	36.5	35.5
22	38.1	37.3	34.6	32.1	31.1	29.4	31.1	32.1	34.0	35.7	38.3	41.9	43.5	42.7	40.0	39.0	38.6	37.3	36.7	37.1	37.1	37.1	35.4	35.0	36.5
23	36.3	35.0	33.8	33.2	31.5	30.5	29.6	30.5	32.3	36.7	40.6	42.3	42.9	42.3	40.2	38.6	36.3	35.2	35.9	35.7	35.7	35.2	32.9	32.3	35.6
24 Q	32.7	31.9	32.7	31.9	30.2	29.2	29.0	28.8	30.9	34.0	37.3	40.6	42.3	42.3	41.5	39.6	38.5	37.9	37.3	37.1	36.7	36.1	35.0	34.8	35.3
25	34.6	38.1	31.9	30.9	30.2	29.2	29.2	29.0	30.0	31.9	35.2	39.4	41.5	41.9	41.5	39.4	38.3	37.1	36.9	35.9	36.7	36.1	34.8	34.6	35.2
26 Q	34.2	33.8	33.8	32.7	30.7	29.2	29.2	29.2	30.5	33.0	35.9	38.5	39.2	39.4	39.0	37.9	36.3	35.7	35.7	35.7	35.4	35.2	35.0	34.8	34.6
27	35.0	34.6	33.8	32.9	31.5	30.2	30.5	30.9	31.5	32.7	35.2	38.6	41.0	41.7	41.5	41.9	41.2	39.0	36.7	34.2	37.1	37.3	33.8	32.5	35.6
28	34.2	33.0	21.1	23.4	25.5	25.3	26.7	28.0	30.7	32.9	34.8	37.9	39.4	39.6	38.6	38.3	38.5	38.1	37.1	36.5	35.7	35.6	35.4	35.0	33.4
29 D	34.6	34.4	33.8	33.2	31.3	30.3	29.6	29.4	29.0	30.5	35.2	38.6	41.5	42.1	42.1	42.7	42.7	39.8	41.2	39.2	27.8	29.0	33.8	34.6	35.3
30 D	30.9	35.0	36.5	33.2	32.5	29.4	27.8	30.2	32.3	35.7	38.8	40.8	45.4	47.9	48.3	47.7	48.7	43.7	41.5	38.8	37.7	37.1	36.9	35.0	38.0
31 D	31.5	35.0	31.9	34.2	40.8	38.3	31.1	31.9	31.3	32.1	34.2	37.3	39.0	39.6	41.3	40.6	40.6	40.2	39.0	35.0	37.1	36.1	34.6	33.8	36.1
Mean	34.1	34.3	33.3	32.6	32.3	31.0	30.6	30.9	32.2	34.1	36.8	39.2	41.0	41.4	40.6	39.8	40.3	39.3	37.1	35.9	35.2	35.0	33.5	34.1	35.6



MAY, 1933.

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS:  
MAGNETIC CHARACTER FIGURES: TEMPERATURE IN MAGNET HOUSE

MAY, 1933.

§ For explanation see page 38. Q denotes an International quiet Day, while D denotes a disturbed day used for the computation of Tables 56-61



TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

25. LERWICK. (H.)

14,000γ (·46 C.G.S.unit) +

JUNE, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1 D	497	498	460	410	485	486	479	487	469	472	472	467	471	482	493	527	547	529	520	521	502	491	490	489	489
2	492	485	491	491	487	486	485	485	479	463	459	467	479	487	497	503	504	503	519	510	509	503	498	495	491
3	498	496	492	492	490	489	480	464	462	470	468	481	483	492	497	501	504	500	500	504	503	499	493	491	490
4	489	489	492	492	490	488	484	479	473	472	470	473	482	487	493	494	501	500	501	506	504	501	495	493	489
5 Q	488	482	486	488	489	485	478	473	470	465	464	468	478	492	493	494	494	496	498	500	496	495	496	492	486
6 Q	491	490	487	486	483	484	479	472	469	467	467	470	478	485	491	497	499	500	500	498	498	497	493	493	486
7	492	494	495	493	491	486	474	471	467	463	465	470	486	497	500	504	513	510	506	500	500	501	502	500	491
8	486	476	482	489	483	482	477	474	468	464	469	464	476	498	510	505	503	505	533	516	504	482	463	461	485
9	407	417	464	454	439	463	463	462	456	455	453	447	445	463	468	489	498	492	505	501	490	486	480	479	466
10	477	471	476	478	476	474	468	467	462	459	456	456	457	467	481	513	513	506	508	506	495	489	485	482	480
11	481	481	480	481	485	480	473	466	460	456	459	462	470	474	488	493	499	503	503	503	503	497	487	486	482
12	482	479	482	481	478	483	481	474	465	459	458	464	468	479	492	499	507	509	515	511	508	500	486	476	485
13 D	483	463	424	399	445	476	480	466	460	460	453	453	457	480	488	544	536	524	526	511	507	449	362	398	468
14 D	382	466	461	488	479	472	472	444	442	451	462	461	471	482	478	477	497	503	511	512	510	507	497	497	478
15	478	430	443	475	482	480	473	472	471	460	451	456	464	475	481	495	500	511	520	516	510	510	500	497	481
16 Q	491	488	489	491	487	481	476	471	470	461	455	459	466	469	478	485	495	503	505	508	502	499	494	490	484
17	487	480	484	486	488	479	473	478	474	468	462	469	475	478	481	490	506	510	505	504	503	496	496	489	486
18 Q	487	488	486	486	485	482	480	474	471	470	472	473	479	488	498	501	503	509	511	505	499	499	501	497	489
19	492	489	491	491	482	481	484	480	474	465	460	471	475	499	511	516	528	532	534	533	511	499	491	492	499
20 D	476	483	462	483	483	463	464	483	472	446	454	464	483	507	500	512	533	519	518	514	512	507	518	508	490
21	505	496	496	493	491	483	474	467	473	471	464	467	461	481	490	503	506	510	509	510	507	507	508	507	491
22	493	500	500	493	493	483	479	473	464	459	454	458	473	491	505	506	512	506	508	505	502	498	496	494	489
23	495	494	494	494	493	491	483	471	461	457	461	470	482	494	504	506	512	508	508	505	504	506	498	491	491
24 Q	491	494	494	498	502	498	490	480	470	464	464	470	485	496	503	508	513	519	521	510	504	500	496	495	494
25	495	496	496	495	494	494	487	477	468	462	464	469	477	487	504	527	523	511	543	518	497	503	511	479	495
26	481	482	486	499	493	478	476	478	470	469	462	463	469	479	491	507	517	504	496	497	499	500	498	498	486
27	496	493	493	493	493	491	485	479	464	446	443	457	468	491	487	489	509	507	509	504	500	501	499	503	487
28 D	503	492	490	488	486	484	476	475	474	467	468	470	484	512	513	536	566	531	533	522	510	513	501	489	492
29	467	482	489	500	496	483	477	473	463	455	462	472	470	479	495	494	523	528	519	517	505	496	492	492	488
30	491	492	491	476	483	491	485	475	464	456	459	464	473	481	491	508	505	512	511	508	503	500	498	501	488
Mean	482	482	481	482	484	483	478	472	466	461	460	465	473	486	493	504	512	510	513	509	503	498	491	488	487

MAGNETIC DECLINATION (WEST)  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

26. LERWICK. (D.)

13° +

JUNE, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day																									
1 D	32.4	33.3	37.8	38.6	30.1	39.5	32.4	31.2	29.5	31.0	33.9	37.0	39.5	40.3	40.1	40.1	36.4	36.6	37.6	33.9	35.5	35.7	35.3	36.0	35.6
2	35.3	37.2	35.8	32.4	32.6	31.2	30.3	29.3	30.4	33.9	36.4	36.6	38.4	40.9	39.1	37.8	37.0	35.5	35.8	37.0	36.2	36.0	37.0	35.3	35.3
3	35.3	34.9	33.3	30.6	31.2	30.6	30.6	33.3	35.1	34.7	36.8	38.2	40.9	41.3	39.7	38.0	37.2	37.2	36.6	36.0	35.8	35.8	35.3	35.3	35.6
4	34.9	36.8	35.1	33.0	32.2	31.4	30.4	29.9	31.4	33.5	37.2	39.5	39.7	39.7	39.1	37.8	36.6	35.8	35.1	36.0	36.4	35.3	35.7	35.3	35.3
5 Q	38.0	37.2	34.1	32.4	29.7	27.7	27.9	28.5	30.8	33.3	35.3	38.9	40.3	39.9	39.3	38.2	36.6	36.2	36.2	35.7	35.1	34.7	34.3	34.5	34.8
6 Q	34.9	34.9	34.9	33.7	33.1	30.3	29.1	30.6	30.3	31.4	33.7	35.7	37.4	38.2	37.8	37.8	37.2	36.4	35.7	35.8	36.0	36.2	35.3	34.5	34.6
7	34.5	34.1	33.3	33.1	30.3	29.5	30.4	31.6	32.8	34.9	37.2	39.3	40.9	41.3	40.5	39.3	37.2	36.6	36.6	36.8	36.8	36.8	36.0	34.9	35.6
8	33.0	29.5	27.5	27.7	25.6	28.5	31.2	30.8	32.4	35.8	39.7	44.7	43.4	43.0	43.0	41.4	40.3	38.9	40.3	38.0	36.4	32.8	31.4	28.9	35.2
9	31.4	31.2	30.8	30.4	31.0	31.2	28.7	33.3	31.6	34.9	37.2	39.3	42.4	41.8	41.6	39.9	39.5	38.2	37.0	36.4	35.3	34.7	34.7	34.3	35.3
10	35.8	33.3	33.1	31.4	30.1	29.3	29.3	29.5	29.9	29.7	32.0	34.1	37.8	39.5	40.9	41.1	38.4	36.8	37.0	36.3	33.9	34.1	33.5	33.3	34.1
11	32.8	33.0	33.1	31.2	29.3	27.9	29.1	30.3	31.2	31.8	33.5	36.2	36.4	36.4	37.2	37.8	37.6	37.0	36.4	35.8	34.5	34.3	33.3	33.5	33.7
12	33.7	34.9	32.2	30.4	31.8	29.5	29.1	29.3	31.0	32.4	33.1	35.3	37.4	38.9	38.4	37.6	38.2	37.4	38.4	38.2	37.0	35.1	31.2	27.2	34.1
13 D	29.7	22.5	29.5	26.8	23.9	26.4	27.4	25.4	32.0	30.8	33.5	37.4	41.6	43.8	44.5	38.9	40.1	40.1	34.9	37.8	37.4	36.6	31.8	18.7	33.1
14 D	17.5	22.7	25.6	28.7	28.3	28.9	29.3	31.0	29.3	32.4	34.3	35.3	37.0	39.1	38.6	37.0	37.2	37.6	35.3	34.5	35.3	35.3	32.4	32.8	32.3
15	30.6	32.6	22.9	31.4	29.5	28.9	28.1	29.1	30.1	31.2	33.9	36.4	37.0	38.6	38.9	38.9	37.8	36.0	36.4	36.2	36.2	34.3	35.3	33.7	33.5
16 Q	32.8	32.6	32.2	32.0	30.8	29.7	28.3	27.5	28.1	31.2	34.3	37.6	40.1	40.7	39.9	38.7	36.4	35.3	34.7	34.9	33.7	33.3	33.3	34.7	33.9
17	33.9	33.3	33.3	32.2	30.4	28.7	28.9	30.6	30.8	33.3	35.5	38.2	39.5	39.1	38.9	38.2	37.2	36.8	35.8	35.7	35.1	34.1	33.3	33.3	34.4
18 Q	33.3	32.8	33.3	32.6	31.2	29.7	28.5	27.7	27.7	30.4	34.3	36.8	38.6	38.0	37.2	36.4	35.1	34.9	35.1	34.7	34.5	34.9	33.7	32.8	33.5
19	30.6	30.8	31.8	30.8	29.9	29.5	27.7	27.5	30.8	33.9	37.2	40.1	41.4	42.2	42.0	42.0	42.2	41.6	39.5	39.7	36.4	32.0	26.0	29.3	34.8
20 D	29.3	25.2	15.4	19.6	21.0	31.2	33.7	32.5	30.6	34.5	38.2	42.0	44.7	45.1	45.3	43.6	43.8	42.2	41.1	39.9	37.8	36.0	34.9	34.9	35.1
21	33.0	31.4	31.0	30.4	29.5	29.7	31.2	34.1	33.5	33.3	33.9	35.8	39.3	40.7	41.3	40.3	39.3	38.9	37.6	35.8	35.5	34.5	33.0	34.7	34.9
22	38.2	33.3	29.5	28.7	29.1	28.5	27.5	27.9	29.7	30.8	33.3	36.0	38.4	39.9	39.3	38.6	37.6	36.4	36.6	35.7	35.7	34.9	34.3	33.7	33.9
23	33.5	33.5	32.8	31.2	30.4	29.7	29.5	28.9	28.5	30.3	33.3	35.8	37.6	38.6	39.1	39.3	37.8	36.6	36.6	36.0	34.9	35.5	32.0	31.0	33.9
24 Q	32.4	30.8	30.3	30.6	29.3	29.3	30.4	30.3	30.3	31.2	34.1	38.2	39.7	38.7	39.1	39.1	37.6	37.4	37.4	37.2	36.4	35.3	34.3	33.5	34.3
25	33.7	33.7	32.6	30.8	29.3	28.9	29.5	28.5	29.1	30.8	32.6	36.4	40.5	43.6	43.2	42.2	40.1	37.6	36.8	34.3	31.4	35.3	27.2	30.6	34.1
26	32.0	30.8	26.8	28.1	26.4	27.2	28.9	29.5	29.9	32.8	34.7	36.4	38.7	41.1	41.8	40.3	38.0	36.2	34.3	34.3	35.1	35.5	34.9	35.1	33.7
27	33.9	33.1	32.2	30.4	29.3	28.5	28.1	29.3	30.1	31.6	35.3	36.8	40.3	43.6	47.8	46.1	42.0	38.7	36.6	35.1	34.9	35.1	34.7	36.0	35.4
28 D	34.9	27.0	27.0	27.0	29.7	28.7	27.5	28.1	29.9	32.2	33.5	35.3	37.0	40.5	43.4	41.8	41.1	38.6	39.7	37.4	34.5	33.3	36.0	32.8	34.0
29	27.7	33.9	32.2	29.3	26.2	27.5	28.9	28.5	30.6	30.8	32.8	33.9	37.6	38.2	39.7	37.8	35.7	38.4	36.2	35.7	35.3	34.5	34.1	32.8	33.3
30	32.0	32.6	34.5	35.1	34.5	30.4	27.2	26.6	27.4	30.4	33.0	35.8	38.4	39.7	39.9	39.1	37.6	36.4	35.1	35.3	35.5	35.1	34.1	35.3	34.2
Mean	32.7	32.1	31.2	30.7	29.5	29.6	29.3	29.7	30.5	32.3	34.8	37.3	39.4	40.4	40.6	39.5	38.3	37.4	36.7	36.2	35.5	35.0	33.6	33.0	34.4



27. LERWICK (V.)

46,000  $\gamma$  (.46 C.G.S. unit) +

JUNE, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$
1 D	588	603	578	460	502	538	580	586	600	609	613	616	617	618	628	636	662	667	651	639	613	617	617	614	601
2	609	607	601	609	612	611	615	616	615	615	615	620	622	620	619	620	621	621	620	619	615	617	617	614	601
3	599	590	594	598	603	601	603	612	612	612	611	610	612	610	615	613	613	617	617	615	614	612	613	614	609
4	612	609	601	609	609	610	609	608	610	608	607	604	603	607	609	610	610	611	614	611	610	610	608	606	609
5 Q	599	591	596	602	607	607	608	603	602	601	599	597	596	600	606	604	602	600	600	602	605	605	606	605	602
6 Q	603	603	603	603	602	600	603	603	604	601	599	599	597	596	601	605	606	604	602	601	599	600	602	602	602
7	602	603	604	603	602	602	599	594	592	592	593	593	597	605	613	609	608	607	606	604	598	599	598	596	601
8	592	591	595	601	601	601	597	598	596	588	583	582	584	594	600	606	607	608	600	628	624	610	575	538	596
9	520	496	551	576	563	573	592	589	591	590	595	597	604	610	617	618	633	637	632	624	616	612	606	603	593
10	594	591	603	607	611	615	615	611	605	597	600	600	601	602	602	604	622	628	621	615	609	606	602	602	607
11	603	605	606	609	610	611	612	612	611	609	606	602	601	602	603	611	611	611	613	613	611	606	603	600	608
12	600	595	600	604	607	604	606	607	607	602	598	599	602	601	597	600	609	611	611	612	611	609	599	572	603
13 D	543	517	451	354	440	546	582	602	601	598	599	598	593	591	607	669	672	686	638	625	609	548	454	420	563
14 D	391	486	523	571	594	598	601	607	610	606	598	607	609	600	601	606	608	605	610	613	610	608	592	564	584
15	567	517	463	497	536	569	585	588	593	599	601	599	598	596	599	601	603	608	609	612	613	606	583	585	580
16 Q	595	600	600	601	602	601	600	602	603	604	600	590	587	589	587	590	592	599	602	603	605	603	601	599	598
17	598	598	597	597	597	598	593	588	589	588	584	580	583	592	599	600	603	602	602	601	602	608	606	604	596
18 Q	605	605	603	602	601	600	599	595	595	595	592	593	593	597	600	602	603	606	609	610	609	605	601	589	600
19	575	587	598	603	601	591	588	593	594	590	585	582	588	592	604	613	622	626	632	626	623	607	601	593	601
20 D	569	498	491	501	507	524	533	530	553	576	580	577	582	596	615	631	623	610	597	595	597	596	590	596	569
21	595	598	605	607	609	605	602	599	598	599	601	604	608	607	611	608	607	602	599	597	594	593	591	591	601
22	566	578	587	596	601	600	599	596	595	591	588	584	586	587	592	597	601	605	601	600	598	597	597	598	593
23	598	601	602	604	604	603	602	602	599	596	595	588	587	590	597	599	599	602	601	599	599	599	599	594	98
24 Q	592	588	594	595	592	592	593	594	596	591	592	589	579	585	595	598	601	603	606	606	603	600	598	598	595
25	600	601	603	603	601	600	599	597	594	592	584	578	580	583	584	589	603	616	614	640	640	612	596	579	599
26	570	547	552	579	593	600	597	595	594	595	599	591	591	592	595	602	610	617	620	616	608	603	601	599	594
27	599	602	603	604	605	604	604	601	599	599	599	591	593	593	611	611	610	608	606	605	605	602	601	595	602
28 D	549	522	560	583	588	590	598	598	599	597	594	592	589	598	616	646	672	669	639	641	635	621	605	561	603
29	533	556	570	572	589	602	607	607	610	598	595	599	603	605	609	617	620	612	613	614	613	612	606	594	598
30	589	592	594	588	585	582	588	591	597	594	589	590	591	595	596	595	604	611	619	611	607	602	599	590	596
Mean	578	576	578	578	586	593	596	597	599	598	596	595	596	598	604	610	615	616	613	613	610	604	595	587	597

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS:  
MAGNETIC CHARACTER FIGURES: TEMPERATURE IN MAGNET HOUSE

28. LERWICK.

JUNE, 1933.

Day.	Terrestrial Magnetic Elements																		HR <sub>H</sub> +VR <sub>V</sub> 10,000 $\gamma^2$	Magnetic Character of Day. (0-2)	Temperature in Magnet House. 200 +			
	Horizontal Force.						Declination.						Vertical Force.											
	Maximum 14,000 $\gamma$ +			Minimum 14,000 $\gamma$ +			Range	Maximum 13° +			Minimum 13° +			Range	Maximum 46,000 $\gamma$ +			Minimum 46,000 $\gamma$ +			Range			
	h.	m.	$\gamma$	h.	m.	$\gamma$	h.	m.	$\gamma$	h.	m.	$\gamma$	h.	m.	$\gamma$	h.	m.	$\gamma$	h.	m.	$\gamma$			
1 D	16	13	569	373	3	14	196	3	13	52.4	25.6	4	0	26.8	17	2	665	429	3	45	236	1384	1	81.4
2	18	31	527	451	10	46	76	13	45	41.6	28.5	7	30	13.1	12	4	627	598	2	21	29	245	0	81.7
3	16	59	513	455	7	59	58	13	29	42.0	29.5	5	17	12.5	17	35	620	588	1	10	32	233	0	82.0
4	20	0	510	467	10	23	43	12	5	40.5	29.5	7	53	11.0	0	49	615	597	2	20	18	146	0	82.7
5 Q	13	29	509	461	10	48	48	0	33	41.1	26.8	7	24	14.3	4	45	609	589	1	50	20	163	0	83.2
6 Q	18	17	501	465	10	8	36	13	10	38.7	28.5	6	31	10.2	7	0	607	592	13	18	15	122	0	83.8
7	16	10	518	460	9	44	58	13	29	42.0	28.1	6	0	13.9	14	44	614	591	9	34	23	191	0	84.6
8	18	33	544	405	24	0	139	11	40	45.5	24.3	4	54	21.2	20	0	638	527	24	0	111	719	1	85.1
9	16	16	508	378	0	11	130	13	6	43.2	25.6	6	33	17.6	16	54	642	477	1	35	165	958	1	85.5
10	16	26	525	450	10	45	75	15	25	41.6	28.3	7	3	13.3	17	42	630	586	0	50	44	314	0	85.4
11	18	40	508	452	9	13	56	16	6	38.2	27.4	5	32	10.8	19	10	615	598	14	12	17	160	0	84.8
12	18	0	519	455	10	14	64	13	50	39.1	25.6	23	12	13.5	19	30	615	564	23	36	51	331	1	84.4
13 D	5	32	571	309	22	49	262	22	36	48.6	7.9	23	14	40.7	16	9	592	332	3	36	360	2058	2	84.5
14 D	17	50	522	287	0	16	235	13	45	40.9	8.8	0	34	32.1	19	9	618	340	0	17	278	1636	2	84.5
15	18	25	525	358	2	5	167	1	52	42.8	14.2	2	21	28.6	20	50	615	425	2	44	190	1127	1	84.5
16 Q	18	0	510	449	10	29	61	13	28	41.1	27.0	7	0	14.1	9	0	607	585	12	20	22	191	0	84.7
17	17	28	516	460	10	57	56	12	33	40.1	27.5	6	26	12.6	21	40	611	578	11	50	33	235	0	84.8
18 Q	18	15	515	466	9	27	49	12	30	38.9	27.4	6	51	11.5	19	8	612	578	24	0	34	229	0	84.6
19	19	55	540	446	11	23	94	16	8	43.4	24.1	22	24	19.3	18	25	634	572	0	22	62	425	1	84.5
20 D	16	37	543	427	2	29	116	15	2	46.3	12.9	2	22	33.4	15	54	636	476	1	35	160	914	1	84.5
21	18	56	516	454	12	31	62	14	8	42.2	28.9	5	18	13.3	14	34	617	577	24	0	40	276	0	85.1
22	18	13	520	450	10	46	70	0	10	41.1	26.8	7	51	14.3	17	45	608	561	0	37	47	320	0	85.9
23	16	42	518	456	9	43	62	15	0	39.9	27.9	8	14	12.0	3	53	605	584	11	55	21	188	0	86.2
24 Q	18	35	524	462	10	32	62	12	37	40.1	28.9	5	5	11.2	19	28	606	577	12	57	29	225	0	86.3
25	18	23	555	444	10	7	111	13	45	44.0	23.1	22	36	20.9	20	0	653	571	24	0	82	543	1	86.6
26	16	4	523	445	10	18	78	14	10	42.4	23.9	4	13	18.5	18	41	621	538	2	0	83	500	1	86.8
27	14	11	524	436	9	56	88	14	40	50.1	27.4	5	52	22.7	14	45	624	589	13	42	35	291	1	86.6
28 D	16	14	578	463	11	55	115	15	16	46.5	25.2	6	20	21.3	16	57	684	501	0	58	183	1020	1	86.2
29	17	38	535	441	9	13	94	14	7	40.7	23.7	0	15	17.0	16	33	625	524	0	20	101	607	1	85.7
30	16	51	520	452	9	23	68	14	55	40.5	25.8	7	26	14.7	18	18	622	573	24	0	49	327	0	85.4
Mean	--	--	527	433	--	--	94	--	--	42.5	24.6	--	--	17.9	--	--	626	541	--	--	86	536	0.53	84.7
	--	--	30	30	--	--	30	--	--	30	30	--	--	30	--	--	30	30	--	--	30	30	30	30



JULY, 1933.

## 29. LERWICK. (H.)

14,000γ (-14 C.G.S. unit) +

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1	496	494	493	490	490	487	485	482	481	473	465	466	465	482	492	501	508	524	532	528	520	505	499	483	493
2	489	500	497	498	494	486	472	474	473	463	463	469	475	473	479	494	498	505	511	509	507	505	504	499	489
3	498	486	496	499	503	496	490	486	477	475	475	477	483	488	492	495	500	513	509	507	501	500	497	499	492
4	497	498	496	494	496	488	484	484	479	479	480	476	476	487	487	488	504	486	516	519	512	501	498	492	486
5	492	482	485	497	491	490	484	476	475	476	472	470	469	480	488	483	484	493	496	496	500	498	496	495	480
6	492	492	488	482	476	478	484	477	457	448	444	449	466	476	477	482	484	491	499	502	501	496	492	490	483
7	487	485	486	486	485	484	480	474	464	456	452	456	468	474	480	494	506	503	505	501	499	490	489	495	492
8	488	486	488	491	488	482	476	466	457	446	442	452	470	482	498	513	523	519	517	512	524	535	539	524	486
9 D	494	470	487	494	496	492	483	467	451	436	459	486	458	475	494	490	509	514	518	522	501	497	490	489	487
10	489	487	486	482	463	474	476	474	461	452	459	454	469	476	479	494	512	525	532	540	512	498	495	491	483
11	480	447	469	495	490	488	481	475	465	449	449	450	462	495	517	502	502	506	503	497	497	495	494	494	485
12	495	485	467	466	484	485	475	469	463	463	463	463	463	481	488	498	509	523	509	511	506	497	490	490	483
13 Q	488	483	485	486	485	478	471	468	466	459	455	461	470	477	489	505	506	501	493	496	497	492	491	486	478
14 Q	487	481	481	480	474	473	473	469	468	463	459	453	451	461	473	482	489	496	506	504	494	491	486	483	481
15 Q	484	484	481	484	483	481	474	467	462	460	454	452	461	471	481	493	501	502	504	502	498	492	490	489	486
16	485	487	485	484	485	481	478	476	470	458	456	459	468	479	483	490	502	517	519	517	508	491	494	491	486
17 D	498	496	489	493	496	494	482	481	482	482	475	477	480	475	467	486	505	508	510	513	513	506	492	490	487
18	489	486	478	497	487	487	488	472	469	458	461	472	473	476	497	494	513	502	511	512	508	492	490	490	486
19	488	487	484	487	485	484	479	472	471	468	460	455	469	492	502	506	514	510	502	495	494	494	490	484	480
20	471	481	490	482	482	486	486	480	468	452	461	462	465	470	477	482	484	490	497	495	492	495	490	490	480
21 Q	483	480	479	476	487	485	479	468	463	456	451	457	464	470	480	496	497	501	493	491	493	494	494	492	488
22	491	490	492	490	488	489	487	484	479	467	463	464	478	484	485	494	497	507	508	503	502	492	491	492	492
23 D	492	494	488	487	486	483	477	472	465	464	460	464	479	502	475	533	535	530	517	522	519	504	491	467	470
24 D	465	474	436	346	453	485	479	431	426	456	460	458	446	475	506	517	517	497	495	493	493	492	491	490	483
25	480	478	479	480	481	477	472	464	460	458	453	469	462	474	490	490	488	490	488	487	488	489	484	483	477
26	480	477	474	472	472	472	471	472	470	461	448	447	456	468	482	500	494	497	490	489	496	494	490	486	471
27 D	466	470	478	483	488	487	477	473	462	445	440	459	457	454	473	478	479	494	501	501	495	480	487	487	478
28	482	483	481	480	479	478	476	470	457	446	448	451	456	465	481	486	489	495	500	504	497	488	487	487	480
29	480	483	480	487	484	481	479	476	468	461	456	453	453	462	479	486	493	500	500	497	496	492	482	488	479
30 Q	483	477	479	479	478	474	469	469	464	458	448	445	464	478	486	495	497	499	495	499	497	490	485	485	478
31	485	481	480	479	479	475	469	464	460	457	459	460	466	470	482	477	483	487	498	501	491	489	489	491	484
Mean	486	483	483	481	484	483	478	472	466	459	452	461	466	477	486	494	501	503	506	506	502	496	491	490	484

## MAGNETIC DECLINATION (WEST).

Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

JULY, 1933.

## 30. LERWICK. (D.)

13° +

50. LERWICK. (D.)										150+															
Mean G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day																									
1	34.7	34.5	32.6	30.3	29.3	28.3	28.1	29.1	30.8	31.4	32.6	34.3	38.0	39.3	39.3	38.6	36.6	36.4	36.4	36.2	34.5	34.3	36.2	40.3	34.3
2	32.0	30.6	31.2	30.3	28.7	26.2	27.2	28.5	29.7	31.6	34.1	36.2	38.7	39.9	39.5	38.2	35.3	34.1	34.7	35.1	35.3	35.7	34.5	34.7	33.3
3	36.2	33.9	28.5	27.9	27.5	27.4	27.4	27.5	28.3	29.7	32.4	34.7	36.4	37.6	38.4	38.6	37.8	37.4	36.6	35.7	34.9	34.3	34.3	34.9	34.6
4	33.7	33.9	34.1	34.9	30.6	29.3	29.5	29.7	29.9	31.0	33.1	35.8	37.6	38.7	39.9	39.9	38.9	38.7	37.6	36.4	31.8	34.7	34.5	34.5	33.6
5	32.8	34.3	35.3	28.7	27.7	28.1	27.0	27.7	29.9	31.4	33.3	35.8	37.8	38.7	38.7	38.6	36.4	36.0	35.1	34.9	34.7	34.5	34.5	34.5	
6	34.1	32.4	30.3	29.3	27.0	28.1	28.3	28.7	30.6	32.8	37.4	39.7	40.5	40.3	38.7	38.0	36.6	35.5	33.7	33.9	34.9	34.7	34.5	34.1	33.9
7	33.5	33.3	32.6	32.2	31.4	28.9	27.9	27.5	27.4	29.7	34.3	38.4	39.7	39.3	38.2	38.2	37.8	35.8	34.9	34.7	34.1	33.5	33.9	34.3	33.8
8	34.5	32.2	32.0	30.4	29.3	28.9	28.3	28.5	29.5	32.0	34.5	36.6	39.9	42.4	43.2	41.8	39.9	36.2	35.7	35.3	36.6	38.0	37.4	29.3	34.7
9 D	32.0	28.7	26.0	26.4	26.8	28.8	28.9	33.7	37.2	36.6	37.2	38.4	43.2	41.4	39.3	36.6	35.3	36.0	33.3	32.6	36.0	36.0	35.7	34.9	34.0
10	33.3	32.4	30.8	30.1	31.8	30.3	27.5	28.1	28.7	32.4	35.3	38.7	39.7	39.9	39.5	37.4	37.8	38.2	38.0	28.9	33.0	38.6	32.6	32.0	34.0
11	32.0	36.0	32.4	28.5	26.8	27.9	28.1	29.1	28.7	30.4	32.8	37.6	39.5	42.2	44.5	41.3	40.3	38.6	37.0	36.0	34.9	34.1	33.9	34.1	34.4
12	30.6	30.8	32.0	34.5	30.4	27.2	26.8	27.7	28.7	31.0	33.7	36.4	38.0	38.7	38.6	36.8	35.8	36.8	34.9	32.8	34.5	34.3	34.5	35.3	33.4
13 Q	34.3	32.2	30.4	30.1	29.1	28.5	28.5	28.5	29.3	30.3	32.4	33.7	34.5	36.4	38.0	38.4	36.2	35.7	35.8	36.0	36.0	35.1	34.5	34.3	33.3
14 Q	34.5	31.0	28.3	27.9	28.1	28.3	28.7	29.3	28.5	30.1	32.6	35.5	36.6	37.4	37.4	36.8	36.6	36.4	36.6	34.7	35.3	35.1	33.5	34.1	33.1
15 Q	32.6	32.2	31.4	31.2	30.3	28.9	28.5	27.5	27.7	29.5	33.7	36.4	37.8	38.4	37.0	35.5	35.1	36.2	36.8	36.2	35.7	34.9	33.0	31.6	33.3
16	32.4	31.2	30.6	30.1	29.7	28.7	27.2	28.1	29.3	32.2	35.8	37.2	39.5	39.5	40.3	40.1	38.9	38.4	36.4	35.3	34.1	33.5	33.3	33.5	34.0
17 D	34.5	32.2	30.4	28.9	28.7	27.5	26.8	30.3	30.8	32.8	36.4	38.2	39.9	43.8	45.7	40.7	38.9	37.6	36.4	36.4	33.9	35.1	30.4	31.8	33.8
18	33.0	35.7	30.1	28.8	26.3	29.4	30.4	31.5	30.7	32.7	34.0	36.9	38.7	38.5	37.9	37.9	37.3	36.5	36.0	32.9	32.7	32.7	32.1	32.5	33.8
19	33.2	32.9	33.2	33.8	30.7	30.4	30.4	30.9	30.4	30.0	32.7	35.8	38.3	38.8	38.1	36.1	36.1	36.3	35.8	35.2	34.6	32.5	32.1	32.5	34.7
20	34.6	36.1	32.5	33.8	33.8	31.3	30.2	29.0	30.9	36.2	34.8	38.7	42.3	42.9	41.2	37.7	34.6	32.9	32.7	33.2	33.8	33.2	33.1	34.0	33.3
21 Q	34.6	34.6	34.2	32.7	28.0	26.5	26.1	27.6	28.4	30.7	33.4	36.3	38.1	38.3	37.9	36.9	35.9	34.2	33.8	33.6	34.0	34.0	34.6	34.2	33.3
22 Q	33.6	34.2	37.5	30.5	29.2	28.6	30.2	31.5	31.9	32.1	34.4	37.9	40.2	41.0	41.4	39.0	35.1	35.2	35.0	35.0	34.2	33.8	33.2	33.2	32.9
23 D	33.4	34.0	29.6	28.2	27.5	27.1	27.1	27.1	28.0	28.8	32.3	34.9	39.5	40.3	42.4	39.9	39.7	39.3	38.6	37.4	35.1	35.7	33.4	31.7	33.9
24 D	26.2	26.6	28.1	33.3	29.7	26.7	27.7	35.7	29.3	34.5	36.6	40.1	41.1	39.5	40.5	36.2	32.4	36.0	36.4	36.4	35.5	33.5	33.0	31.8	33.2
25	32.0	32.6	32.2	31.4	30.8	29.7	29.5	28.7	28.9	30.8	33.0	36.2	39.1	40.5	38.8	37.2	35.1	33.5	34.1	34.1	33.2	33.3	31.4	31.6	
26	33.3	32.6	31.6	30.3	29.1	27.7	27.0	27.2	28.1	29.5	32.8	35.3	36.2	38.9	40.7	39.5	37.8	34.9	36.2	35.5	35.1	34.3	33.5	31.2	33.3
27 D	31.8	29.1	28.7	28.3	27.9	26.4	26.0	24.7	25.8	29.9	35.1	37.0	40.3	40.7	39.3	38.6	36.6	35.3	34.5	32.8	28.7	28.7	33.3	31.8	32.8
28	30.1	30.6	31.2	30.6	30.6	28.9	27.2	27.2	28.7	29.7	32.4	34.9	37.8	39.7	39.9	38.6	36.4	34.9	32.6	32.3	33.8	33.4	33.4	31.7	33.6
29	31.7	32.7	32.5	31.9	28.6	27.1	27.5	27.8	28.8	31.5	33.6	36.1	39.0	40.4	39.4	38.3	36.7	35.6	35.0	34.4	34.6	34.4	34.2	34.4	33.2
30 Q	33.6	33.4	31.9	30.9	29.2	28.2	28.4	28.2	29.8	31.7	35.0	37.5	37.7	36.5	35.2	35.6	34.4	33.6	34.0	34.8	35.6	35.2	32.3	33.4	
31	32.9	31.9	31.7	30.7	29.8	28.2	27.7	29.0	30.6	33.1	35.0	35.0	36.3	37.1	36.9	36.3	35.2	35.4	33.4	32.1	34.8	35.4	35.0	34.0	33.2
Mean	32.9	32.5	31.4	30.5	29.2	28.3	28.1	28.9	29.8	31.5	34.1	36.7	38.8	39.6	39.5	38.1	36.7	36.0	35.4	34.5	34.4	34.5	33.4	33.3	33.7



TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT.  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

69

31. LERWICK. (V.)

46,000 $\gamma$  (.46 C.G.S.unit) +

JULY, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$
1	579	584	588	593	596	597	593	593	592	592	592	586	586	582	581	587	595	598	604	610	610	610	596	587	592
2	530	582	583	590	594	595	597	594	595	595	588	586	584	586	591	595	600	601	600	602	601	601	598	598	590
3	591	550	564	579	583	586	587	590	590	588	592	589	587	586	586	593	594	594	599	601	602	600	587	595	588
4	596	596	596	588	585	590	591	590	590	591	591	591	591	588	596	598	598	602	601	605	609	604	598	601	595
5	599	599	576	575	586	588	587	590	592	591	592	588	590	593	599	607	604	598	596	597	595	598	598	598	593
6	594	590	592	596	598	596	591	589	589	588	587	580	581	590	596	601	607	607	606	603	601	601	599	601	595
7	602	602	602	602	602	600	596	593	594	596	594	590	581	579	583	590	596	606	609	604	600	599	595	588	596
8	580	586	597	600	601	599	597	597	592	591	591	581	574	579	586	592	598	605	604	603	592	582	577	573	591
9 D	546	524	555	579	593	596	596	590	585	586	580	585	611	610	602	602	606	611	619	620	614	601	593	587	591
10	587	589	595	596	588	581	585	588	588	586	582	580	579	584	589	589	593	600	604	610	605	576	539	555	586
11	565	536	525	565	582	590	597	598	596	594	594	588	585	579	585	611	615	604	600	599	596	592	588	583	586
12	569	577	579	561	569	581	589	597	596	592	589	587	581	578	582	579	584	590	604	605	600	597	592	587	586
13 Q	579	582	587	589	593	598	597	597	594	589	585	580	577	582	583	582	596	605	606	599	595	594	593	588	590
14 Q	575	571	579	585	589	588	589	590	592	591	589	587	584	583	581	584	589	589	592	595	598	596	595	591	588
15 Q	583	588	591	595	596	597	597	593	589	590	590	584	583	586	586	590	593	595	594	595	596	597	596	595	592
16	596	595	595	596	597	597	595	595	596	585	592	588	587	585	589	588	591	597	604	606	609	609	602	601	596
17 D	593	581	585	590	590	591	591	590	591	591	589	589	593	597	613	615	606	606	605	603	603	605	588	596	596
18	569	538	527	551	565	576	581	593	595	599	591	586	591	597	596	607	601	613	613	617	616	615	608	606	590
19	605	603	600	597	597	578	600	600	599	603	603	599	593	590	594	603	609	611	606	606	603	604	595	591	600
20	585	571	586	594	584	579	578	584	589	592	584	582	580	589	599	609	616	615	609	606	599	597	597	595	592
21 Q	595	590	587	586	591	598	598	599	598	595	593	590	590	590	592	599	607	610	609	605	598	595	594	593	596
22	591	589	573	564	580	582	580	577	579	583	583	581	580	590	598	601	605	603	599	593	592	591	590	590	587
23 D	589	577	574	584	592	591	592	593	590	584	580	585	584	594	627	633	659	671	658	644	609	586	551	515	598
24 D	509	548	533	444	478	550	575	580	577	576	579	587	589	597	611	669	643	613	604	597	594	594	580	576	575
25	574	580	589	594	596	599	601	600	599	594	595	594	604	604	603	606	608	615	614	608	604	597	594	586	574
26	588	591	596	600	603	602	604	602	598	598	598	590	581	586	585	598	616	623	614	606	603	598	593	561	597
27 D	523	544	568	577	566	567	582	591	595	595	587	582	586	592	590	595	603	603	603	607	612	602	528	464	578
28	556	579	586	590	592	591	595	602	602	600	592	589	581	579	583	586	591	595	597	599	595	594	592	587	590
29	590	586	587	585	594	595	595	595	595	595	592	592	595	603	592	603	610	612	609	606	604	603	596	594	597
30 Q	591	592	592	596	600	602	599	598	597	594	592	588	583	591	593	595	598	599	603	602	604	603	597	597	596
31	597	597	596	597	598	597	598	597	595	592	585	582	584	588	594	596	598	598	602	609	605	602	599	597	596
Mean	578	577	580	582	586	590	592	593	593	592	589	587	586	589	593	600	604	606	606	605	602	598	589	582	592

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS:  
MAGNETIC CHARACTER FIGURES: TEMPERATURE IN MAGNET HOUSE.

32. LERWICK.

JULY, 1933.

Day.	Terrestrial Magnetic Elements.															HR <sub>H</sub> +VR <sub>V</sub> 10,000 γ <sup>2</sup> \$	Magnetic Character of Day. (0-2)	Temperature in Magnet House. 200 +						
	Horizontal Force.						Declination.			Vertical Force.														
	Maximum 14,000 γ +			Minimum 14,000 γ +			Range	Maximum 13° +			Minimum 13° +			Range	Maximum 46,000 γ +				Minimum 46,000 γ +			Range		
	h.	m.	γ	h.	m.	γ	h.	m.	γ	h.	m.	γ	h.	m.	γ	h.	m.	γ	h.	m.	γ			°A
1	18	14	537	459	11	16	78	23	38	46.7	27.5	6	38	19.2	20	48	615	524	24	0	91	537	1	85.4
2	18	16	520	458	10	17	62	13	57	40.3	25.0	5	53	15.3	17	14	603	521	0	13	82	472	1	85.3
3	17	34	521	472	9	55	49	15	36	38.9	26.2	6	53	12.7	18	40	604	538	1	38	66	379	0	85.5
4	19	27	524	471	11	50	53	14	40	40.9	28.7	5	36	12.2	20	24	611	581	4	15	30	217	0	85.5
5	20	30	502	461	11	50	41	15	44	39.3	26.4	6	56	12.9	15	25	612	572	2	30	40	245	0	85.6
6	19	40	507	436	10	30	71	12	41	41.1	26.4	4	20	14.7	16	58	611	577	11	56	34	261	0	85.7
7	16	46	511	447	10	23	64	12	30	40.1	26.6	8	36	13.5	17	43	612	579	13	37	33	247	0	86.0
8	20	45	544	435	10	22	109	14	40	43.6	25.6	23	42	18.0	18	9	611	565	23	20	46	372	1	86.4
9 D	19	8	540	422	9	46	118	12	49	45.5	24.1	1	44	21.4	18	50	628	515	1	30	113	698	1	86.8
10	19	46	557	441	11	5	116	21	28	44.1	24.1	19	28	20.0	19	30	618	536	22	27	82	550	1	86.9
11	14	22	535	423	1	52	112	14	54	47.6	25.2	8	7	22.4	16	10	621	508	2	0	113	689	1	86.9
12	17	28	527	443	2	56	84	13	36	39.1	26.0	5	39	13.1	18	47	608	555	3	28	53	369	1	86.9
13 Q	15	58	514	451	10	16	63	15	13	39.1	27.9	6	0	11.2	18	4	609	575	11	55	34	249	0	87.0
14 Q	18	36	508	447	12	17	61	14	25	37.8	27.4	2	47	10.4	20	25	600	566	1	4	34	246	0	87.0
15 Q	18	53	508	449	11	16	59	13	35	38.6	27.0	7	43	11.6	6	30	598	579	0	0	12	175	0	86.9
16	17	46	525	451	11	25	74	14	57	40.9	26.0	6	43	14.9	21	13	614	583	14	15	31	251	0	86.7
17 D	20	12	526	447	13	6	79	14	7	48.2	26.6	5	18	21.6	15	4	624	575	1	13	49	343	1	86.5
18	16	34	524	452	9	25	72	1	35	44.7	24.4	4	4	20.3	19	18	621	506	1	53	115	640	1	86.3
19	16	11	517	450	11	15	67	13	14	39.2	29.4	8	57	9.8	17	45	612	587	13	47	25	214	0	85.9
20	19	15	499	447	9	16	52	13	5	43.1	28.6	7	14	14.5	16	28	618	567	1	38	51	313	0	86.4
21 Q	16	58	504	446	10	45	58	12	40	38.5	25.1	5	50	13.4	17	57	613	584	3	20	29	219	0	86.7
22	17	24	510	457	11	26	53	2	24	42.3	28.0	5	8	14.3	16	20	606	558	2	54	48	301	0	87.1
23 D	15	36	558	442	23	12	116	13	55	44.3	8.6	22	19	35.7	17	46	675	501	24	0	174	979	1	87.4
24 D	16	1	569	296	3	36	273	12	5	43.4	21.8	15	53	21.6	15	39	704	407	3	40	227	1780	2	87.4
25	15	13	503	446	10	42	57	13	29	41.5	27.4	7	51	14.1	13	0	619	471	0	40	48	307	0	87.3
26	17	25	514	444	10	32	70	14	18	41.3	25.6	6	57	15.7	17	10	625	510	24	0	115	637	1	87.0
27 D	19	33	506	327	22	39	179	22	37	44.2	23.9	7	33	20.3	20	(2)	619	396	22	55	223	1299	2	86.7
28	18	55	509	441	9	23	68	14	0	40.5	26.2	7	41	14.3	8	25	604	519	0	0	85	495	0	86.7
29	17	14	506	446	12	0	60	13	26	40.8	26.3	5	37	14.5	17	35	615	581	3	35	34	245	0	86.5
30 Q	19	56	502	440	11	5	62	12	27	38.3	27.7	6	44	10.6	21	10	605	581	12	30	24	202	0	86.3
31	19	4	505	455	9	26	50	13	3	37.5	27.3	6	19	10.2	19	19	611	581	11	35	30	213	0	85.9
Mean	--	--	520	439	--	--	82	--	--	41.7	25.7	--	--	15.9	--	--	618	545	--	--	73	456	0.48	86.5
No. of Days Used	--	--	31	31	--	--	31	--	--	31	31	--	--	31	--	--	31	31	--	--	31	31		31



TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

33. LERWICK. (H.)

14,000 γ (·14 C.G.S. unit) +

AUGUST, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1 Q	489	488	484	484	480	478	477	474	464	455	452	451	458	471	488	504	508	508	501	498	494	489	486	488	482
2	485	483	485	485	487	481	475	472	466	459	462	457	470	487	494	490	490	500	501	495	495	494	486	483	483
3	487	484	484	481	481	477	469	465	462	458	458	463	475	482	487	487	487	488	491	491	487	488	483	480	479
4	479	479	481	480	478	477	474	470	464	463	455	454	464	484	492	495	495	498	496	493	491	496	489	492	481
5 D	486	482	482	484	487	480	490	478	467	473	477	478	476	503	559	588	572	549	646	487	502	505	465	446	503
6 D	456	446	378	378	447	429	423	438	431	422	421	429	441	478	479	461	488	488	507	488	477	474	472	472	451
7	469	461	443	441	460	459	458	454	439	433	432	440	458	475	480	489	480	485	481	476	474	477	482	471	463
8	466	456	472	476	475	472	467	459	446	427	426	438	457	473	480	483	487	482	480	484	483	485	480	483	468
9 Q	478	472	472	475	477	470	459	450	442	436	438	442	454	473	472	475	487	492	487	487	488	483	482	484	470
10 Q	480	477	473	474	479	478	473	464	453	444	442	445	456	463	471	475	481	484	486	489	486	483	483	482	472
11 Q	481	481	477	479	479	473	469	468	462	451	441	441	452	461	472	480	486	491	492	489	483	482	484	478	473
12	475	473	474	474	475	473	467	461	455	450	445	446	453	460	468	481	491	491	504	500	497	493	486	483	474
13 D	485	478	475	477	476	475	471	466	456	450	440	441	455	477	476	497	492	491	511	520	492	480	438	473	475
14	480	473	453	457	470	472	451	434	436	444	445	448	453	465	465	469	484	484	484	483	482	478	473	469	465
15	471	472	473	473	469	461	465	460	443	440	447	448	455	468	489	498	506	507	505	507	500	496	495	493	477
16	492	485	486	485	489	487	486	476	466	463	457	456	464	473	485	486	490	493	487	496	497	491	501	486	482
17	484	483	472	481	492	481	476	453	455	471	477	470	475	479	457	465	488	508	502	499	487	487	486	491	480
18 D	497	484	478	481	479	475	453	472	472	463	460	467	470	473	495	513	507	550	546	521	495	477	479	438	485
19	441	455	439	472	473	479	455	455	474	469	460	459	461	473	479	500	504	507	501	501	492	489	489	492	476
20	491	484	483	481	482	491	480	480	477	470	458	461	470	476	489	498	511	525	530	506	502	491	504	475	488
21 D	484	474	466	479	475	476	462	467	462	437	432	451	456	480	503	518	560	512	488	495	496	483	482	482	480
22	478	478	480	481	479	475	469	456	454	454	453	457	459	464	469	473	479	484	489	495	492	492	491	490	475
23	490	491	492	488	487	485	487	479	454	439	452	459	459	493	470	474	509	505	497	507	493	486	482	480	482
24	482	486	483	483	480	479	475	467	421	433	453	445	455	467	491	475	472	498	515	491	467	477	471	440	471
25	465	449	467	474	466	460	463	437	447	447	444	443	454	464	470	477	488	486	485	495	494	498	490	490	469
26	494	480	477	471	487	485	471	468	458	461	461	469	462	475	481	488	497	494	502	495	484	488	492	487	480
27	465	468	468	467	467	469	463	460	451	437	444	452	462	472	474	478	481	483	489	488	484	482	489	485	470
28	483	481	480	480	480	479	474	468	464	455	450	454	458	472	484	493	491	490	496	490	488	480	474	473	477
29	485	481	478	476	476	474	462	455	458	459	458	458	463	464	473	478	479	480	482	483	483	484	483	484	473
30	485	481	480	479	476	471	468	462	457	454	459	465	472	477	481	478	483	486	486	490	492	488	487	486	477
31 Q	478	478	479	477	476	475	475	469	463	457	460	465	471	481	483	478	480	485	494	498	494	488	479	479	478
Mean	479	476	471	473	477	474	468	462	455	451	450	453	461	474	482	489	495	497	502	495	489	487	483	479	476

## MAGNETIC DECLINATION (WEST).

Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

34. LERWICK. (D.)

13° +

AUGUST, 1933.

Hour Q. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day																									
1 Q	33.1	32.5	32.4	32.0	30.3	28.3	26.6	26.4	27.8	30.5	33.5	36.1	38.4	39.5	37.6	36.6	35.1	33.9	33.9	34.9	35.1	34.9	34.1	33.4	33.2
2	32.4	31.4	31.2	31.4	29.1	27.0	27.0	27.9	29.9	31.8	34.1	37.0	39.5	39.7	37.8	37.2	35.5	34.1	33.5	34.3	34.1	31.0	32.3	33.1	33.0
3	32.9	32.1	31.9	28.0	27.5	25.5	26.9	27.3	29.2	31.7	34.0	36.9	38.7	38.7	37.5	36.2	35.0	33.8	33.3	33.1	33.5	33.1	32.3	31.9	32.5
4	31.5	32.1	30.9	30.8	30.4	29.2	29.0	29.2	29.8	31.7	34.0	35.7	36.8	37.8	37.4	36.1	35.3	35.5	35.3	35.5	34.9	35.7	34.3	32.0	33.4
5 D	29.1	29.7	29.1	28.5	27.2	27.6	29.9	31.0	31.0	33.4	35.1	41.1	45.1	48.4	56.7	57.3	58.3	52.5	47.1	22.6	30.1	34.7	34.7	32.7	37.2
6 D	30.2	28.6	23.0	26.9	27.7	26.1	27.7	27.5	29.6	30.8	33.7	36.0	36.5	37.3	39.4	37.5	34.8	33.3	28.4	31.5	33.3	34.0	34.2	33.7	31.7
7	33.3	34.0	35.6	31.3	29.4	28.2	28.5	29.9	30.9	32.0	33.9	35.7	35.9	36.1	35.9	34.7	33.6	31.6	32.4	32.4	32.2	31.8	29.5	25.8	32.3
8	30.3	30.5	31.1	25.8	24.9	25.6	26.0	27.2	28.5	30.1	34.0	37.5	39.5	39.5	37.1	35.4	33.1	32.5	32.1	32.5	32.9	33.7	29.6	26.5	31.5
9 Q	28.3	28.8	28.6	28.4	27.7	26.9	27.1	26.9	27.8	30.1	34.3	38.2	40.1	41.3	39.6	36.5	34.5	33.2	33.0	33.2	33.4	32.6	32.6	34.7	32.4
10 Q	30.9	30.9	32.2	31.7	29.2	28.1	27.5	27.9	28.8	31.5	34.4	36.9	40.4	42.2	40.0	37.3	35.6	33.5	32.1	32.5	32.9	32.5	32.3	32.1	33.1
11 Q	31.9	31.7	30.2	30.0	29.6	28.0	27.8	26.4	25.9	27.8	31.1	34.3	36.7	37.2	36.3	34.7	33.8	33.0	32.4	32.6	33.0	33.2	31.8	30.7	31.7
12	30.7	30.7	30.1	29.5	28.4	27.2	26.8	27.2	29.1	31.8	34.2	35.9	37.6	38.0	36.7	35.5	34.2	32.6	34.1	34.6	35.0	34.6	33.3	31.6	32.5
13 D	30.8	27.7	28.7	28.5	27.5	25.8	24.8	24.8	26.9	31.7	35.6	40.2	42.4	42.4	41.8	41.4	36.8	32.9	34.6	18.4	21.9	26.1	23.3	21.1	30.7
14	29.6	30.0	29.8	33.5	28.3	27.9	28.8	30.6	29.8	32.3	35.0	38.1	40.0	40.0	37.9	36.7	36.3	34.0	34.4	34.7	35.1	29.3	30.1	32.4	33.1
15	32.8	33.6	36.1	30.9	28.9	30.5	29.1	28.2	30.5	32.8	35.7	38.8	40.9	39.6	35.9	34.2	33.0	32.2	25.9	31.8	34.2	34.7	33.6	32.6	33.2
16	33.8	32.0	31.8	30.9	30.1	28.6	28.2	28.9	30.3	31.7	34.4	35.9	37.1	38.2	36.5	34.0	32.8	31.8	30.9	32.8	32.6	32.4	31.3	31.1	32.4
17	32.2	30.9	34.9	34.0	28.6	28.2	31.7	34.9	35.3	35.9	34.9	36.1	38.8	38.8	36.5	34.7	33.8	33.8	29.9	29.9	28.9	32.2	32.4	32.0	33.3
18 D	29.9	28.9	30.3	30.1	29.9	30.1	38.2	35.7	32.8	33.4	34.4	36.1	37.2	37.6	36.7	38.0	38.6	36.9	33.2	24.5	22.6	21.2	28.2	30.9	32.3
19	28.8	21.2	29.9	33.2	35.1	34.2	35.7	39.8	36.3	35.5	34.9	37.2	36.5	37.8	38.4	36.3	36.3	35.3	34.5	33.6	29.5	28.0	30.3	30.3	33.7
20	32.0	32.0	33.2	30.7	31.5	30.1	29.7	29.5	30.3	32.0	34.0	36.7	38.4	39.0	36.1	36.3	36.3	37.6	34.2	27.4	33.0	27.6	24.7	27.8	32.4
21 D	31.1	31.8	35.3	31.7	28.8	29.7	30.1	30.3	33.2	35.1	35.9	40.0	39.8	36.7	41.3	41.3	29.9	33.6	33.0	26.4	25.3	31.8	32.0	33.6	33.2
22	35.5	34.0	32.2	30.3	29.3	28.2	29.9	30.9	34.0	34.7	35.3	35.9	36.1	34.7	33.2	32.2	32.4	33.0	33.6	33.2	32.6	31.8	31.5	32.6	
23	31.3	31.3	31.5	31.3	29.9	29.5	29.3	31.5	31.3	35.1	36.1	38.0	39.6	40.5	42.5	37.1	36.9	34.2	28.2	28.6	32.6	28.9	26.2	30.1	33.0
24	31.3	31.8	34.0	32.8	29.3	28.4	27.8	28.6	33.4	38.8	39.4	41.1	41.1	40.3	39.8	37.2	33.2	29.5	30.3	24.3	24.7	30.3	29.7	27.2	32.7
25	31.7	35.9	32.0	28.4	32.0	33.2	31.5	32.2	31.5	33.2	35.5	37.1	37.8	36.7	34.7	32.8	31.7	31.3	30.3	31.7	33.2	33.8	32.8	33.0	33.1
26	33.8	35.5	28.6	22.0	25.3	23.5	25.3	28.0	30.5	32.0	35.7	38.6	39.8	38.0	36.9	34.7	34.2	33.2	33.0	31.7	29.6	31.9	31.0	31.9	31.9
27	31.2	33.5	30.4	29.8	30.6	29.6	30.2	28.3	29.4	31.0	32.5	34.8	36.8	37.1	35.4	33.7	32.9	32.7	32.5	31.6	32.5	31.6	30.0	31.4	32.1
28	31.6	31.7	31.9	30.8	30.0	29.4	29.0	29.1	29.9	32.2	35.5	37.6	39.6	39.9	38.4	37.2	35.9	34.7	34.5	34.3	34.2	32.0	31.5	30.3	33.4
29	31.8	29.4	29.8	29.2	28.8	28.5	28.3	29.8	31.2	32.9	35.8	37.9	39.5	38.5	36.6	35.0	33.7	33.1	33.5	33.5	32.9	32.4	32.2	32.0	32.8
30	31.6	31.6	31.4	30.9	30.3	28.7	26.8	27.8	28.0	30.5	33.2	34.9	36.8	37.2	35.5	33.8	32.9	33.5	33.9	34.0	33.5	32.9	32.5	30.4	32.2
31 Q	29.6	30.0	29.8	29.2	29.2	29.0	28.6	28.6	29.6	31.3	34.0	36.4	37.1	35.7	33.0	32.0	31.8	32.4	33.2	33.0	31.6	29.7	28.3	30.9	31.4
Mean	31.5	31.2	31.2	30.1	29.2	28.4	28.8	29.4	30.3	32.4	34.6	37.2	38.7	38.9	38.1	36.6	35.1	34.0	32.9	31.1	31.7	31.7	31.1	30.9	32.7



TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT.  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

35. LERWICK. (V.)

46,000  $\gamma$  ( $\cdot 46$  C.G.S. unit) +

AUGUST, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1 Q	598	598	599	598	600	600	598	598	600	597	594	591	588	589	587	589	594	598	600	601	601	602	602	601	597
2	600	601	599	597	594	598	598	598	598	598	592	592	587	582	583	590	593	594	596	594	591	581	584	587	593
3	588	590	584	585	585	584	584	584	583	578	572	568	570	574	579	585	588	586	585	584	584	584	586	586	583
4	586	586	587	588	588	586	585	586	587	585	586	584	577	579	591	593	595	599	599	597	596	594	595	587	589
5 D	586	595	597	597	596	593	581	578	577	569	574	573	582	618	684	726	716	712	688	617	623	637	614	587	617
6 D	597	597	537	515	559	576	591	598	599	602	602	608	606	610	611	605	605	621	619	607	600	590	588	586	593
7	586	577	568	568	586	595	596	594	594	595	591	590	592	595	598	602	605	501	597	593	589	588	581	569	590
8	570	568	567	578	590	592	592	593	587	581	575	575	575	578	585	588	600	601	597	590	588	586	570	584	589
9 Q	560	568	578	585	591	595	595	595	591	588	587	587	582	584	588	593	599	608	611	604	597	594	591	573	589
10 Q	575	585	589	587	594	596	599	599	599	596	587	579	579	582	587	586	586	591	595	595	594	593	591	589	590
11 Q	588	585	585	589	596	599	600	596	593	593	588	583	580	583	587	590	594	598	599	600	600	597	589	584	591
12	588	589	590	592	595	597	599	599	597	590	580	582	580	582	585	585	587	588	586	592	593	593	596	592	590
13 D	576	578	585	588	590	591	589	587	586	577	573	580	579	587	593	605	621	622	631	638	604	581	490	451	583
14	548	573	567	555	573	587	593	588	584	585	585	586	586	596	623	636	630	632	615	605	597	589	574	582	591
15	587	586	572	577	581	582	582	587	588	587	586	587	584	588	595	596	598	607	614	603	592	591	589	591	590
16	583	585	581	587	586	590	590	593	593	589	587	586	585	587	589	592	596	599	602	598	594	595	585	584	590
17	586	587	587	562	566	572	572	570	577	583	587	586	587	602	620	607	604	607	629	628	620	604	597	590	593
18 D	577	579	592	597	598	593	582	558	566	572	576	581	587	592	596	610	634	656	659	603	537	548	560	522	586
19	470	493	523	533	543	554	565	561	555	566	578	590	601	609	602	602	602	601	605	607	614	606	599	591	574
20	579	584	586	586	594	591	596	598	590	590	592	588	590	598	604	613	610	629	630	642	615	577	550	551	595
21 D	563	575	570	564	578	587	591	596	589	595	600	607	624	633	621	636	675	655	636	632	601	591	588	585	604
22	574	586	592	600	606	606	605	600	593	585	584	587	595	599	601	602	602	599	598	596	595	594	594	594	595
23	595	596	598	599	600	597	592	591	595	590	577	575	578	587	618	621	617	633	638	610	598	590	586	588	599
24	591	587	580	574	586	596	598	597	604	582	575	586	581	583	602	614	633	646	648	633	615	602	573	547	597
25	528	549	557	572	573	573	584	601	596	592	593	593	594	597	600	600	603	605	610	604	598	596	596	591	588
26	575	538	548	570	577	583	590	590	590	592	590	587	587	590	590	590	590	595	597	599	597	593	565	585	585
27	584	582	585	587	588	589	593	595	594	591	579	578	577	576	579	587	588	591	593	598	597	592	583	585	587
28	583	584	583	585	586	587	589	591	588	587	579	576	576	577	580	584	588	590	588	589	591	594	595	590	586
29	576	573	583	586	587	587	590	589	582	580	581	583	582	582	586	586	588	589	588	590	591	591	591	591	585
30	586	582	577	580	584	588	590	590	587	587	580	578	582	582	584	588	591	592	591	590	590	593	593	593	587
31 Q	598	597	594	594	594	593	593	594	595	594	592	593	591	588	594	597	595	591	589	592	597	599	600	599	594
Mean	577	579	579	580	586	589	590	590	589	587	585	585	586	591	598	603	607	611	611	604	597	592	585	578	591

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS:  
MAGNETIC CHARACTER FIGURES: TEMPERATURE IN MAGNET HOUSE.

36. LERWICK.

AUGUST, 1933.

Day.	Terrestrial Magnetic Force.																		HR <sub>H</sub> +VR <sub>V</sub> 10,000 $\gamma^2$	Magnetic Character of Day. (0-2)	Temperature in Magnet House. 200 +			
	Horizontal Force.						Declination.						Vertical Force.											
	Maximum 14,000 $\gamma$ +			Minimum 14,000 $\gamma$ +			Range	Maximum 13° +			Minimum 13° +			Range	Maximum 46,000 $\gamma$ +			Minimum 46,000 $\gamma$ +				Range		
	h.	m.	$\gamma$	h.	m.	$\gamma$	h.	m.	$\gamma$	h.	m.	$\gamma$	h.	m.	$\gamma$	h.	m.	$\gamma$						
1 Q	16	51	511	450	11	55	61	13	21	39.9	26.0	6	37	13.9	22	0	603	587	15	30	16	163	0	86.1
2	17	24	504	451	11	30	53	13	13	40.3	26.4	6	5	13.9	1	0	601	575	21	43	26	198	0	86.2
3	19	16	494	458	10	26	36	13	29	38.9	24.6	5	16	14.3	1	35	592	567	11	20	25	169	0	86.5
4	18	26	504	451	11	14	53	13	50	38.0	28.4	7	16	9.6	18	57	601	575	12	40	26	198	0	86.8
5 D	18	20	889	426	23	24	463	18	25	106.9	12.1	18	54	94.8	18	26	761	490	18	25	271	1934	2	86.7
6 D	18	36	525	317	2	46	208	14	35	40.4	14.7	2	53	25.7	18	5	634	473	13	0	161	1052	1	86.9
7	17	39	496	429	10	12	67	2	28	37.3	24.1	23	38	13.2	16	18	607	558	2	51	49	325	0	86.9
8	15	59	491	421	10	3	70	12	32	40.2	23.5	3	54	16.7	16	50	604	561	24	0	43	301	0	86.7
9 Q	16	57	497	432	9	55	65	13	42	41.5	26.3	5	27	15.2	18	17	613	559	0	25	54	346	0	86.1
10 Q	19	36	491	438	11	25	53	13	15	42.5	27.1	6	44	15.4	7	18	600	567	0	0	33	231	0	85.8
11 Q	18	32	495	436	11	10	59	12	52	37.4	25.3	8	14	12.1	6	5	602	578	12	52	24	198	0	85.4
12	18	22	511	441	10	16	70	13	5	38.2	26.4	6	5	11.8	6	50	600	579	10	33	21	199	0	85.1
13 D	19	40	549	387	22	47	162	11	53	44.5	4.5	19	36	40.0	19	28	664	378	22	53	286	1568	2	85.0
14	17	4	494	424	7	53	70	13	13	40.6	20.7	21	52	19.9	15	13	642	505	0	0	137	739	1	85.3
15	18	52	528	434	8	50	94	12	55	41.5	18.9	18	47	22.6	18	40	618	568	2	40	50	369	1	85.8
16	22	18	516	453	10	46	63	13	32	38.8	27.0	6	0	11.8	18	23	605	575	0	47	30	231	0	86.1
17	17	35	520	436	7	26	84	12	57	39.8	26.6	19	57	13.2	18	40	634	558	3	40	76	476	1	86.2
18 D	17	1	603	385	23	59	218	17	5	45.4	8.7	19	56	36.7	18	20	707	440	23	59	267	1560	2	86.1
19	16	43	514	385	0	0	129	7	30	42.5	18.7	1	0	23.8	20	44	618	442	0	0	176	984	1	86.0
20	17	56	545	454	10	58	91	13	11	40.5	14.9	22	5	25.6	19	13	655	536	23	6	119	687	1	85.6
21 D	16	25	620	424	9	58	196	14	57	43.4	13.1	19	53	30.3	16	25	712	559	0	30	153	997	1	85.5
22	19	17	503	451	10	5	52	12	56	36.5	27.0	5	52	9.5	6	2	609	569	0	35	40	261	0	85.3
23	19	5	533	426	9	2	107	14	31	44.6	13.5	18	58	31.1	18	38	646	571	11	24	75	504	1	85.2
24	18	36	524	400	8	54	124	12	46	42.1	16.8	20	8	25.3	19	0	661	539	24	0	122	749	1	85.1
25	19	27	502	428	7	43	74	1	37	40.5	26.8	0	20	13.7	18	32	612	515	0	24	97	559	1	85.1
26	16	44	512	447	12	48	65	12	15	40.5	19.5	5	11	21.0	20	6	600	532	1	22	68	411	1	85.2
27	22	14	503	429	9	49	74	13	10	37.7	27.7	7	46	10.0	19	38	600	575	22	18	25	224	0	85.9
28	18	50	497	446	10	42	51	12	43	40.1	28.8	6	11	11.3	22	6	599	575	11	30	24	186	0	86.3
29	0	17	488	453	7	31	35	12	37	40.2	27.1	6	16	13.1	6	30	594	566	1	0	28	181	0	86.5
30	20	16	493	451	9	23	42	13	10	38.0	26.6	6	53	11.4	24	0	596	575	11	18	21	159	0	86.3
31 Q	19	50	499	456	9	22	43	12	7	37.7	26.6	22	15	11.1	21	24	606	587	18	30	19	151	0	86.1
Mean	--	--	527	430	--	--	98	--	--	42.5	21.9	--	--	20.6	--	--	626	543	--	--	83	526	0.55	85.9
No. of Days Used	--	--	31	31	--	--	31	--	--	31	31	--	--	31	--	--	31	31	--	--	31	31	31	31



TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT.  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

37. LERWICK. (H.)

14,000  $\gamma$  ( $\cdot 14$  C.G.S. unit) +

SEPTEMBER, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1	485	488	478	480	481	480	478	468	462	456	455	458	468	473	474	484	487	485	491	498	494	499	489	487	479
2	483	490	475	480	483	479	478	470	455	457	462	469	467	479	483	485	486	485	490	495	496	492	497	487	480
3 Q	477	482	481	480	478	475	471	463	459	454	451	458	473	479	478	480	474	481	487	493	488	485	484	487	476
4	489	487	481	479	477	474	478	470	461	455	453	459	468	472	478	481	483	489	493	489	497	485	485	484	478
5 Q	484	484	484	480	482	480	471	461	451	447	449	455	464	476	479	479	479	486	491	494	496	490	487	487	477
6 Q	489	487	484	483	481	482	479	461	452	448	447	457	471	479	479	475	478	484	493	501	491	493	482	486	478
7	485	482	476	469	477	476	469	454	449	451	456	459	467	481	487	483	484	481	487	490	487	483	485	481	475
8	482	480	464	473	475	479	473	463	446	442	447	452	463	476	482	476	483	483	486	489	491	489	488	489	474
9 D	489	492	488	496	453	418	329	276	310	390	445	425	446	453	465	459	463	472	466	459	447	438	442	406	434
10 D	442	397	322	385	406	395	445	453	438	421	425	429	449	451	446	459	463	467	473	470	472	462	461	459	437
11	451	452	457	455	459	454	452	438	426	429	431	432	441	441	450	455	469	457	463	466	465	466	470	467	452
12	465	454	416	418	424	452	461	454	441	434	427	434	440	458	461	466	464	465	464	467	466	465	462	462	451
13 D	458	459	459	460	460	462	461	457	449	443	437	444	465	472	512	592	606	573	477	486	410	437	417	406	471
14 D	390	407	452	463	467	465	460	457	444	445	438	438	459	464	471	466	496	490	485	480	453	426	379	436	452
15 D	425	453	454	380	306	377	462	468	460	450	445	437	446	454	474	474	484	491	484	473	477	473	464	463	449
16	461	467	450	462	465	467	465	462	456	438	433	447	456	460	470	464	480	479	476	478	479	466	456	473	463
17	470	457	450	474	472	475	472	458	463	458	458	462	475	474	475	472	477	471	483	483	467	471	477	477	470
18	475	469	446	446	454	460	461	459	446	442	439	453	466	481	482	472	465	465	468	471	477	475	472	472	463
19	470	470	462	459	466	472	474	464	459	455	454	456	461	475	489	485	466	471	472	474	473	461	472	451	467
20	472	467	467	473	442	462	471	467	456	450	446	448	458	466	465	475	473	468	471	474	470	473	470	474	465
21	464	471	459	451	475	485	481	472	464	453	443	448	456	455	465	472	474	474	478	478	482	488	476	473	468
22	469	457	460	477	475	473	470	466	457	449	442	439	450	466	474	468	467	470	472	474	476	478	483	476	466
23 Q	466	462	473	472	476	471	467	453	445	445	442	442	451	462	463	466	464	471	475	481	482	480	482	474	465
24 Q	466	470	470	470	474	476	471	461	449	440	439	437	444	462	466	466	463	472	479	480	479	479	480	480	466
25	482	470	471	469	468	468	467	461	449	440	440	443	451	457	469	469	472	474	461	476	481	473	468	471	465
26	473	473	472	470	468	467	468	461	456	455	456	457	462	461	469	474	479	484	481	481	477	478	469	467	469
27	472	470	475	479	479	473	469	463	458	452	447	447	453	460	466	474	474	480	485	478	470	476	481	468	469
28	467	454	467	468	476	476	470	468	458	450	448	448	455	462	464	471	478	486	489	482	480	475	466	464	468
29	469	463	467	474	472	477	482	479	472	459	453	454	455	459	465	475	476	483	464	473	474	478	479	478	470
30	476	474	472	472	473	473	471	470	468	465	461	461	462	466	468	466	470	479	478	475	475	470	474	475	471
Mean	468	466	461	463	461	464	464	456	449	446	446	448	458	466	472	476	479	481	479	480	476	473	470	469	465

MAGNETIC DECLINATION (WEST).  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

38. LERWICK. (D.)

13° +

SEPTEMBER, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day																									
1	30.7	29.7	28.2	26.0	27.8	28.5	29.1	29.3	30.7	33.6	36.6	37.7	39.1	39.1	36.7	35.2	33.3	31.7	32.5	33.3	31.0	29.0	32.3	31.6	32.2
2	31.4	31.6	30.7	30.5	27.2	28.3	27.4	28.0	29.3	31.7	34.6	37.9	39.1	39.4	36.5	34.6	33.1	32.9	33.6	34.0	33.6	32.1	24.2	25.3	32.0
3 Q	30.9	31.1	30.7	31.0	30.1	29.5	28.5	28.3	28.5	30.8	34.5	37.4	38.8	37.8	35.1	33.5	32.2	32.6	33.1	33.6	32.9	32.7	31.9	32.1	32.4
4	30.9	32.9	30.9	30.0	29.0	30.2	30.2	30.2	31.9	34.2	35.6	36.7	38.5	38.3	36.1	34.4	33.8	33.3	32.7	29.0	29.0	31.3	31.1	31.3	32.6
5 Q	31.1	30.9	30.6	30.0	29.2	28.4	28.3	28.7	29.9	32.2	35.1	37.6	38.4	37.2	34.5	33.3	33.5	33.7	33.9	33.7	33.7	32.6	32.2	31.6	32.5
6 Q	31.4	31.2	31.0	29.9	29.3	27.7	27.4	28.3	29.9	32.2	34.7	36.6	38.2	37.6	36.4	34.9	34.3	33.7	33.9	34.5	33.2	27.0	31.8	31.7	32.4
7	29.9	30.2	28.1	27.9	28.9	28.0	27.8	29.6	32.3	34.3	37.6	39.9	40.5	40.7	38.1	35.1	33.6	33.7	33.7	34.2	34.1	32.6	32.7	31.5	33.1
8	30.4	28.4	30.2	29.3	25.7	26.1	27.4	29.1	30.8	35.5	37.3	39.2	40.0	39.9	38.7	36.5	35.0	34.5	33.2	33.8	34.3	31.8	31.8	27.1	32.7
9 D	23.8	27.2	28.3	27.1	31.7	55.0	47.7	37.9	32.8	34.0	34.0	36.7	40.3	41.3	38.6	37.6	34.9	31.3	28.2	30.1	29.3	34.7	29.3	24.7	34.0
10 D	30.9	29.3	34.3	30.9	28.6	33.3	28.8	29.0	29.8	31.2	32.7	33.7	33.9	35.6	34.8	32.9	31.7	26.9	27.7	30.2	30.8	31.4	31.2	35.4	31.5
11	30.4	32.9	30.4	30.8	30.6	30.4	31.9	31.7	33.8	32.8	33.4	34.1	35.7	35.1	35.5	34.5	32.0	30.7	29.7	30.7	30.7	31.1	32.0	33.6	32.3
12	31.3	27.8	30.9	35.9	31.1	28.5	28.4	30.3	31.3	33.2	35.7	35.5	35.9	35.5	35.5	33.4	31.1	30.9	31.3	31.4	31.1	30.2	30.6	29.6	31.9
13 D	30.0	30.6	30.8	30.2	30.2	29.4	29.0	28.6	30.0	32.1	33.3	37.9	40.6	45.2	43.9	35.2	36.7	40.8	32.5	7.8	23.2	24.6	24.0	26.7	31.4
14 D	29.8	30.0	27.7	29.0	28.3	28.3	29.6	30.6	31.0	31.5	34.6	35.8	35.1	38.0	35.9	34.9	32.6	24.9	24.9	23.9	31.8	23.3	21.4	31.4	30.2
15 D	36.3	28.9	31.1	27.8	39.9	40.3	34.5	30.1	31.1	32.0	34.5	37.4	40.1	40.5	38.0	35.5	32.2	23.7	28.5	30.1	31.8	26.4	30.7	27.6	32.9
16	31.1	30.7	27.8	28.9	27.8	28.0	29.1	30.7	30.9	32.0	35.1	36.8	37.6	36.8	35.5	34.5	24.3	30.2	32.9	32.7	29.8	23.2	29.0	28.8	31.0
17	28.4	32.3	34.4	28.8	26.7	27.1	28.2	28.1	29.6	31.7	34.8	35.8	37.7	36.5	35.0	32.7	32.5	32.5	32.7	31.3	21.5	29.8	31.3	31.3	31.3
18	32.1	25.5	11.8	15.7	25.9	27.7	27.5	28.6	30.4	32.9	34.4	36.9	37.1	37.1	35.6	33.1	31.3	30.4	30.4	30.4	29.6	31.0	31.3	31.5	29.9
19	31.7	30.9	31.2	30.7	30.3	29.5	29.7	31.2	31.2	31.4	34.5	37.0	36.8	36.3	35.5	36.8	32.8	34.7	32.6	32.6	29.1	27.8	25.3	35.9	32.3
20	25.1	23.1	29.1	28.5	31.8	33.0	29.3	28.9	28.9	30.7	33.6	36.4	38.2	38.8	35.9	32.8	31.6	27.2	30.1	30.9	30.1	30.3	30.5	31.0	31.1
21	37.2	30.9	29.3	33.8	28.4	28.2	29.0	29.4	31.1	32.3	34.6	36.2	37.3	36.7	33.8	32.1	30.9	30.8	31.1	31.1	31.5	25.7	26.5	29.2	31.5
22	29.4	36.2	31.5	28.4	28.8	29.2	28.8	28.8	30.4	32.3	36.2	38.9	40.4	38.1	35.8	33.3	31.7	31.3	31.1	31.5	31.3	30.4	31.7	28.0	32.2
23 Q	27.1	30.8	28.6	28.4	28.4	28.8	29.8	30.0	30.4	31.3	33.9	36.2	37.0	37.6	36.4	34.3	32.6	33.2	32.4	32.6	32.4	31.6	29.7	28.5	31.7
24 Q	33.0	36.4	33.2	29.7	29.4	28.6	29.7	30.5	30.1	31.7	33.9	36.9	37.3	38.2	37.0	35.7	33.8	32.9	32.3	31.4	31.0	31.6	31.5	31.7	32.8
25	31.4	31.2	31.7	28.2	29.5	29.7	29.6	29.2	29.7	31.6	35.6	37.5	39.3	39.2	38.3	37.5	36.2	33.8	30.4	32.0	31.8	30.8	24.0	26.9	32.3
26	28.0	28.5	28.8	28.5	28.7	28.4	28.4	29.0	29.9	30.9	33.1	34.5	35.6	35.6	35.0	33.4	32.7	32.5	31.7	31.9	32.1	27.5	22.9	24.9	30.5
27	26.8	27.8	27.7	27.8	28.2	28.6	29.2	30.5	30.3	31.0	32.7	34.4	34.8	35.1	34.8	34.4	33.6	32.9	33.1	31.5	28.6	32.3	29.5	27.7	31.0
28	30.0	30.6	25.0	28.2	27.9	29.0	29.7	29.0	28.7	29.5	32.4	33.9	34.3	34.3	33.3	32.8	32.2	32.4	32.6	31.8	28.5	26.0	35.5	30.8	30.8
29	23.3	26.0	29.1	28.9	27.7	30.5	28.3	28.3	28.7	30.3	32.4	34.1	35.1	35.1	35.2	35.2	34.1	32.7	31.4	29.4	32.1	31.6	30.4	31.2	30.9
30	30.4	30.0	29.6	29.2	29.4	29.2	29.1	28.5	28.7	29.4	31.6	33.3	34.5	35.0	34.5	33.3	30.4	30.4	29.1	22.5	23.8	27.5	29.6	30.4	30.0
Mean	30.1	30.1	29.4	29.0	29.2	30.2	29.7	29.7	30.4	32.0	34.4	36.4	37.6	37.7	36.2	34.4	32.7	31.8	31.4	30.5	30.4	29.6	29.5	30.0	31.8



TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT.  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

73

39. LERWICK. (V.)

46,000  $\gamma$  (.46 C.G.S. unit) +

SEPTEMBER, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1	595	592	586	587	589	590	591	592	589	589	591	592	590	598	603	605	607	609	600	596	598	588	588	593	594
2	598	588	594	587	592	594	594	594	596	591	592	592	595	597	600	601	601	599	597	594	594	599	591	585	594
3 Q	599	600	602	601	602	603	603	600	596	597	596	591	586	591	600	604	606	600	597	595	598	599	598	597	598
4	591	590	590	595	597	596	588	590	593	596	595	592	590	595	599	605	607	608	611	613	597	599	599	599	597
5 Q	599	601	599	599	599	600	602	602	599	593	590	589	588	589	593	595	594	593	593	593	592	595	595	593	595
6 Q	592	594	595	596	597	595	592	593	588	584	582	580	581	581	585	589	592	592	591	592	597	593	592	586	590
7	586	590	592	596	593	596	596	595	589	582	582	582	582	583	593	607	612	611	607	603	604	601	580	571	593
8	585	581	583	578	584	583	583	581	584	584	581	581	581	586	594	601	602	607	613	607	595	587	579	578	587
9 D	581	587	595	589	566	404	410	460	520	596	607	597	615	657	699	664	670	663	664	651	617	553	554	530	585
10 D	491	512	441	454	512	528	572	583	593	603	607	612	612	609	613	613	618	629	618	611	594	589	580	554	573
11	563	574	583	588	586	589	586	593	596	589	593	591	599	601	603	605	614	619	611	603	596	593	588	545	592
12	545	554	546	510	526	549	575	579	593	598	599	604	610	611	604	598	604	605	603	602	597	596	589	586	583
13 D	589	590	589	591	592	595	596	596	598	597	595	595	593	601	632	735	760	764	708	623	453	531	542	469	606
14 D	437	487	543	585	589	594	598	598	601	609	613	623	622	606	615	617	639	660	640	613	551	546	482	496	582
15 D	511	521	551	518	416	472	503	550	570	582	602	607	622	660	645	626	640	650	645	640	610	589	553	555	577
16	564	551	550	573	583	584	584	589	590	597	603	596	592	595	602	611	623	613	604	600	594	538	538	552	584
17	573	574	540	545	565	568	569	578	579	578	570	568	569	576	580	586	584	579	576	582	602	586	575	577	574
18	575	511	464	492	530	553	567	570	575	578	580	578	582	579	575	577	578	578	577	573	573	573	572	572	562
19	573	575	577	572	571	572	572	572	572	570	571	571	571	572	579	597	615	609	613	600	589	554	554	500	576
20	494	517	551	560	551	542	558	564	570	570	571	570	574	580	583	590	600	609	596	587	586	580	576	566	569
21	553	534	556	555	554	564	568	575	576	577	577	578	581	584	590	592	591	586	585	584	581	567	562	565	572
22	565	546	524	551	569	577	581	582	583	581	578	577	577	583	593	605	605	595	589	586	584	579	556	553	576
23 Q	558	564	559	570	574	579	579	585	589	588	583	581	581	582	589	599	607	606	599	593	590	588	573	568	583
24 Q	571	544	553	566	580	583	587	589	589	588	583	582	582	583	591	603	606	598	595	593	592	591	590	587	584
25	572	565	566	572	582	587	590	591	592	589	583	583	584	586	587	598	618	651	664	636	633	628	621	592	599
26	591	592	594	595	596	596	595	596	597	593	586	586	587	588	589	592	592	593	596	597	600	599	568	577	591
27	583	584	580	586	585	586	587	589	591	593	589	588	587	584	584	588	593	593	595	603	607	595	576	582	589
28	575	539	547	563	570	576	581	586	590	593	593	592	595	597	596	593	592	590	590	597	603	592	561	506	580
29	550	573	579	580	581	581	580	582	584	588	590	589	591	591	590	589	590	592	610	606	600	599	600	600	588
30	600	599	598	596	592	591	592	592	591	591	592	593	592	595	600	601	605	601	602	605	596	594	596	600	596
Mean	565	564	564	568	571	571	576	582	586	589	589	589	590	595	600	606	612	613	610	603	591	584	574	564	586

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS:  
MAGNETIC CHARACTER FIGURES: TEMPERATURE IN MAGNET HOUSE.

40. LERWICK.

SEPTEMBER, 1933.

Day.	Terrestrial Magnetic Elements.															HR <sub>H</sub> +VR <sub>V</sub> 10,000 <sup>γ</sup>	Magnetic Character of Day. (0-2)	Temperature in Magnet House. 200 +						
	Horizontal Force.						Declination.			Vertical Force.														
	Maximum 14,000 γ +			Minimum 14,000 γ +			Range	Maximum 13° +		Minimum 13° +		Range	Maximum 46,000 γ +		Minimum 46,000 γ +				Range					
	h.	m.	γ	γ	h.	m.	γ	h.	m.	γ	h.	m.	γ	h.	m.	γ								
1	21	10	515	450	10	16	65	13	0	40.6	24.5	3	52	16.1	16	47	611	580	21	20	31	238	0	85.7
2	22	42	520	451	8	31	69	13	31	40.0	14.9	22	39	25.1	21	57	608	569	23	0	39	282	1	85.5
3 Q	19	0	501	448	10	33	53	12	42	39.3	27.8	7	58	11.5	15	52	610	585	12	20	25	194	0	85.1
4	20	26	508	450	10	15	58	13	27	39.2	25.7	19	36	13.5	19	23	618	584	2	12	34	242	0	85.2
5 Q	20	46	498	445	10	5	53	12	12	38.8	27.8	5	35	11.0	7	14	603	586	12	10	17	156	0	85.1
6 Q	21	26	505	444	10	15	61	12	40	38.8	24.5	21	41	14.3	22	0	600	577	12	4	23	195	0	85.4
7	22	20	495	447	8	20	48	12	55	42.3	26.8	3	5	15.5	15	56	619	567	22	35	52	312	0	85.7
8	20	5	506	432	8	30	74	13	23	40.9	22.6	24	0	18.3	18	24	617	553	1	10	64	405	1	85.5
9 D	3	28	502	238	6	42	264	5	16	64.3	21.6	0	6	42.7	14	41	715	355	5	48	360	2061	2	85.4
10 D	17	18	489	267	2	26	202	2	57	44.2	22.7	17	5	21.5	17	3	635	423	2	29	212	1281	1	85.3
11	23	30	479	420	8	25	59	12	38	38.2	27.4	18	55	10.8	17	17	622	539	23	40	83	473	0	85.2
12	19	55	477	377	2	54	100	3	8	40.3	25.3	1	56	15.0	12	56	615	498	3	27	117	690	1	85.1
13 D	16	6	643	320	20	31	323	17	34	49.3	-26.7	19	45	76.0	16	8	790	379	20	27	411	2383	2	85.1
14 D	19	44	527	329	22	19	198	20	15	44.2	5.0	22	0	39.2	16	51	669	400	0	38	269	1541	2	84.4
15 D	17	37	509	199	4	6	310	4	25	47.8	17.9	21	44	29.9	13	40	668	383	4	38	285	1777	2	83.5
16	16	41	504	423	9	56	81	21	26	38.3	13.8	21	44	24.5	16	25	632	511	21	30	121	681	1	83.5
17	19	30	496	439	1	54	57	12	22	38.7	17.1	20	44	21.6	20	42	606	527	2	40	79	451	1	84.1
18	14	5	486	427	10	37	59	12	10	39.4	8.2	2	27	31.2	12	40	588	453	2	55	135	715	1	84.5
19	14	32	507	387	23	16	120	23	23	39.2	20.8	21	0	18.4	16	8	622	477	23	56	145	850	1	85.0
20	0	0	488	430	4	37	58	13	41	40.3	19.9	0	31	20.4	17	22	613	478	0	0	135	713	1	84.8
21	21	27	497	434	10	50	63	0	38	42.4	20.7	21	36	21.7	15	25	594	525	1	10	69	413	1	84.9
22	22	6	504	436	11	23	68	1	45	41.9	25.9	23	45	16.0	15	56	607	520	2	17	87	504	1	85.0
23 Q	22	52	488	435	11	1	53	12	56	38.0	26.0	23	9	12.0	16	24	609	552	22	54	57	343	0	84.8
24 Q	24	0	488	435	11	20	53	1	6	40.9	26.0	5	42	12.9	16	18	609	537	1	38	72	413	1	84.6
25	0	4	489	438	9	53	51	13	4	40.1	22.3	22	35	17.8	18	16	677	562	1	36	115	610	1	84.3
26	22	7	499	451	9	54	48	12	51	37.5	20.2	22	27	17.3	21	30	614	558	22	15	56	331	1	84.3
27	18	40	491	443	11	0	48	13	31	36.1	20.0	20	2	16.1	20	7	617	571	22	19	46	284	0	84.0
28	20	58	501	440	11	28	61	22	49	44.9	15.4	20	56	29.5	20	41	609	493	23	9	116	629	1	84.4
29	17	43	493	450	10	23	43	13	7	35.7	17.7	0	4	18.0	18	50	617	531	0	0	86	463	1	84.4
30	19	45	486	453	12	8	33	13	25	35.6	14.4	19	40	21.2	16	33	610	589	8	50	21	146	1	84.6
Mean	--	--	516	422	--	--	94	--	--	41.2	19.3	--	--	22.0	--	--	627	515	--	--	112	659	0.83	84.8
No. of Days Used	--	--	30	30	--	--	30	--	--	30	30	--	--	30	--	--	30	30	--	--	30	30	30	30



TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT.  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

41. LERWICK. (H.)

14,000γ (-14 C.G.S.unit) +

OCTOBER, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1 Q	476	476	475	473	474	473	470	466	459	454	451	451	458	466	473	475	477	478	481	480	482	488	487	485	472
2	478	482	477	479	482	482	483	474	465	457	449	449	455	460	465	467	474	476	480	478	481	482	480	480	472
3	478	478	478	479	480	480	479	474	467	460	453	450	456	466	474	479	482	483	486	486	485	487	483	490	476
4	482	477	480	479	473	477	484	486	472	458	451	447	448	459	474	480	483	472	474	476	477	481	469	450	471
5 D	411	379	463	470	482	471	481	468	461	455	445	410	446	465	473	469	472	469	472	469	470	486	459	461	459
6	460	459	440	453	477	478	476	472	454	430	440	444	440	461	472	469	466	467	470	468	462	468	467	466	461
7 D	466	459	467	465	465	460	450	450	457	437	421	418	461	469	475	463	481	494	453	461	463	479	454	435	458
8	453	457	456	443	465	476	469	450	441	419	424	435	445	458	458	468	465	466	468	468	474	475	475	473	458
9 D	470	458	447	418	452	476	475	464	445	437	446	443	455	457	470	473	467	470	472	495	468	470	462	450	460
10	431	387	449	456	467	471	459	446	434	431	416	438	458	465	467	472	470	468	471	476	461	471	459	451	453
11	459	461	455	461	465	470	469	459	461	454	442	448	456	466	462	466	470	472	474	463	466	464	450	426	460
12	314	359	460	463	481	449	457	464	465	453	451	447	452	458	469	472	473	473	474	474	475	471	471	471	454
13 D	470	471	470	471	471	473	473	472	468	458	449	448	454	469	486	463	470	477	480	476	477	476	476	485	470
14 D	438	438	459	462	468	476	468	467	461	458	443	441	453	464	473	467	474	452	472	449	461	461	464	468	460
15	461	455	454	455	468	470	469	467	464	462	460	462	464	464	470	467	458	461	469	485	470	470	470	465	465
16 Q	470	463	464	466	467	471	472	464	460	457	454	450	452	466	470	470	466	467	474	477	475	471	471	470	466
17	474	468	468	471	474	476	473	468	462	458	455	456	458	462	465	467	463	469	471	472	473	472	484	470	468
18	472	461	464	469	473	477	437	437	448	454	464	457	457	468	462	459	469	467	469	468	478	460	458	462	462
19	451	458	465	464	467	468	468	463	459	458	458	458	459	462	464	465	463	467	472	471	472	470	472	476	465
20	469	468	469	470	472	475	468	464	461	457	452	456	462	470	473	472	465	473	474	472	471	470	470	470	468
21 Q	462	470	470	469	471	473	475	475	469	462	455	455	458	459	469	474	477	479	473	472	475	476	475	474	469
22	473	474	472	470	471	472	475	474	461	462	460	457	455	461	468	469	472	473	473	474	473	472	468	474	469
23	469	468	467	468	471	476	475	472	465	459	454	457	462	467	469	471	474	475	477	477	475	483	478	475	470
24	469	469	470	471	471	471	470	474	472	466	460	463	465	468	467	474	464	475	480	480	483	481	479	481	473
25	465	460	461	477	472	465	467	466	454	449	466	467	471	473	473	470	456	471	474	478	473	473	480	466	468
26	475	467	464	469	473	476	469	462	469	464	462	462	463	463	471	462	471	473	476	478	479	501	471	472	471
27	474	473	474	467	485	483	476	474	467	466	463	462	465	469	471	475	474	475	477	477	478	476	478	476	473
28 Q	476	473	471	471	475	480	480	476	473	472	467	465	466	469	470	476	476	477	479	481	482	478	479	480	475
29 Q	477	478	477	475	477	480	483	481	475	467	460	460	463	466	470	473	474	477	478	478	478	479	484	480	475
30	478	474	473	474	476	478	480	481	475	467	462	463	467	473	478	476	467	471	475	477	480	481	479	480	474
31	477	477	477	479	480	480	480	479	474	469	469	471	482	485	486	488	487	488	488	486	487	486	482	481	481
Mean	461	458	466	466	472	474	471	467	462	455	452	451	458	465	471	471	471	473	474	475	474	476	472	469	467

## MAGNETIC DECLINATION (WEST).

Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

42. LERWICK. (D.)

13° +

OCTOBER, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day																									
1 Q	30.3	30.3	29.9	30.1	30.3	29.2	28.2	27.4	27.6	28.8	30.5	32.4	34.6	34.6	33.6	32.4	31.9	32.1	32.1	32.2	32.1	31.5	30.1	29.7	30.9
2	30.7	30.5	30.9	30.5	29.7	28.2	28.6	28.0	29.2	30.5	32.2	34.6	36.1	36.5	34.9	33.4	32.4	32.4	32.2	32.1	31.5	30.9	28.4	28.0	31.3
3	28.6	29.3	29.7	29.7	29.5	29.5	29.3	28.6	27.6	28.2	29.5	32.1	34.4	35.5	34.8	34.0	33.0	32.4	32.4	32.1	31.5	31.1	30.1	29.5	30.9
4	28.6	30.3	30.1	29.9	29.7	32.4	30.3	28.2	26.6	26.8	29.5	33.2	35.3	36.3	37.1	36.7	34.9	32.2	32.2	29.7	29.5	29.2	32.8	27.0	31.2
5 D	26.5	21.2	22.8	27.4	28.0	28.2	29.9	29.5	30.1	31.5	34.4	37.5	38.2	39.8	38.2	35.9	33.0	32.1	29.0	28.0	29.3	20.7	23.9	25.7	30.0
6	32.2	28.8	29.9	31.9	26.8	28.8	28.6	29.5	30.1	32.6	33.2	36.7	37.1	36.7	36.7	34.4	31.5	29.2	28.8	29.3	30.4	30.7	30.4	30.2	31.4
7 D	30.9	31.0	30.1	23.5	28.7	31.9	35.3	38.9	36.6	35.9	35.3	34.0	34.0	36.3	36.1	34.2	31.7	11.2	29.0	30.7	21.1	19.1	24.1	25.9	30.2
8	36.7	31.3	28.2	32.4	34.9	29.9	30.1	28.4	30.5	30.5	32.8	33.8	35.1	34.4	32.6	31.5	31.1	23.2	29.5	27.8	29.0	30.7	29.5	28.2	30.9
9 D	29.3	29.5	32.8	34.9	38.2	30.5	30.5	29.9	30.9	32.4	32.8	36.7	38.2	35.7	34.4	32.8	32.2	29.2	25.5	17.8	26.3	30.3	31.9	24.1	31.1
10	19.9	31.9	29.3	28.6	31.7	30.5	34.0	36.5	36.5	32.8	33.4	35.3	37.1	37.5	34.2	33.0	23.8	26.3	22.8	25.9	28.8	26.6	30.1	34.8	30.9
11	32.8	31.1	35.5	31.9	29.7	30.9	31.5	32.1	32.2	32.2	32.6	34.2	35.1	35.1	34.0	31.9	30.5	30.1	30.1	26.3	26.6	29.3	26.3	12.0	30.6
12	26.6	32.8	19.3	23.6	28.2	35.9	41.9	34.9	30.5	29.5	32.4	36.7	37.5	36.3	34.0	32.1	30.7	30.7	30.3	29.9	29.9	30.3	30.3	29.7	31.4
13 D	30.1	30.1	30.1	29.9	29.5	29.5	29.0	28.4	27.8	28.8	31.1	36.3	36.5	40.0	41.1	32.8	35.3	34.2	33.0	31.9	30.7	30.1	30.3	24.3	31.7
14 D	24.5	32.2	30.5	26.8	28.2	28.6	29.5	30.3	29.2	30.1	32.4	31.9	36.9	34.6	32.8	32.2	30.1	22.2	13.3	25.1	18.0	27.6	30.3	29.7	28.6
15	30.1	30.3	31.9	33.0	30.1	28.8	29.2	29.3	29.5	30.3	31.9	34.2	35.3	34.0	34.0	30.7	29.9	29.9	30.7	25.9	28.8	29.0	29.2	29.7	30.7
16 Q	30.1	29.0	30.1	29.5	29.2	28.8	29.2	30.1	30.9	31.5	32.6	33.2	32.1	33.0	32.8	31.5	31.3	31.7	31.1	30.7	30.1	29.5	28.4	29.9	0.7
17	30.3	29.5	29.9	29.5	29.5	28.8	29.0	28.6	28.0	29.0	30.7	32.4	33.4	33.4	32.8	32.4	30.3	30.1	29.9	30.3	29.5	26.5	26.3	22.6	29.7
18	16.8	18.3	24.1	23.9	25.7	28.6	32.2	32.1	33.0	32.1	32.6	35.5	36.1	36.5	36.1	30.1	29.7	30.9	30.7	30.5	22.4	24.1	25.3	28.2	29.0
19	32.8	30.3	29.5	29.5	29.2	28.8	28.6	28.4	28.0	28.2	29.5	31.5	32.8	33.2	32.6	31.9	30.7	30.5	30.9	30.3	29.9	29.7	28.2	28.0	30.1
20	27.0	29.3	29.5	29.5	29.7	29.2	29.3	29.3	28.2	29.0	31.9	33.6	34.4	34.9	34.4	33.4	32.6	32.8	33.4	32.1	30.1	28.0	26.6	27.2	30.6
21 Q	27.2	28.0	29.0	29.5	29.0	28.8	29.2	28.4	28.0	29.0	31.3	34.2	35.1	34.8	34.2	33.4	31.9	32.4	32.2	31.3	30.9	30.1	30.1	29.9	30.7
22	29.7	29.5	29.2	29.3	29.5	29.0	29.0	28.8	30.1	30.9	31.9	34.0	34.4	35.3	34.0	32.1	31.5	31.1	30.5	30.3	29.7	29.5	28.6	28.4	30.7
23	28.0	29.5	29.2	29.3	29.2	29.3	29.2	29.0	28.8	29.3	30.5	32.2	34.0	33.6	33.0	32.6	32.4	32.2	31.9	31.5	30.9	24.5	28.4	29.3	30.3
24	28.6	29.5	29.7	29.7	29.5	29.3	29.5	29.2	29.0	29.3	30.7	33.2	34.8	34.6	39.6	41.5	40.0	35.3	33.2	32.2	30.3	29.7	28.0	25.1	31.7
25	20.9	22.4	28.6	27.8	28.6	30.1	30.5	29.7	30.3	28.4	32.1	32.4	34.0	34.8	34.8	36.3	33.2	32.2	32.4	26.5	29.7	29.7	27.8	28.0	30.1
26	31.1	28.6	27.6	27.2	28.2	28.0	30.3	31.3	28.2	28.6	31.5	33.8	34.0	33.4	34.2	27.6	30.5	31.9	31.3	30.9	30.1	19.5	26.6	29.2	29.7
27	29.7	29.7	32.1	28.0	30.3	29.9	30.5	29.7	28.2	28.4	30.1	32.2	33.2	33.8	32.8	31.9	31.7	31.1	31.1	30.3	29.9	29.2	28.4	29.0	30.5
28 Q	29.7	28.2	26.6	27.8	29.0	28.8	29.5	30.3	29.9	29.2	32.1	33.8	33.2	33.0	31.7	31.3	31.1	30.5	30.1	30.1	28.8	29.5	29.0	29.0	30.1
29 Q	30.1	29.9	29.3	30.5	29.9	28.8	29.0	28.6	28.4	28.6	30.5	31.7	32.4	32.1	31.7	30.9	30.5	30.3	29.9	29.2	29.3	29.5	29.3	29.3	30.0
30	30.3	30.1	29.0	28.8	28.2	28.0	29.5	29.3	29.2	30.1	31.9	34.0	34.6	35.5	35.5	34.8	32.1	31.7	20.9	30.5	29.9	29.2	28.8	29.0	30.9
31	29.2	29.5	29.5	29.5	29.3	29.5	29.3	29.2	29.0	29.2	31.3	33.0	35.5	34.6	34.6	34.6	33.0	32.4	31.7	30.7	29.7	29.3	29.2	29.2	30.9
Mean	28.7	29.1	29.2	29.1	29.6	29.6	30.3	30.1	29.7	30.1	31.8	33.9	35.0	35.2	34.6	33.0	31.8	30.1	30.1	29.4	28.9	28.2	28.6	27.7	30.6



43. LERWICK. (V.)

46,000  $\gamma$  (.46 C.G.S. unit) +

OCTOBER, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day- 1 Q	602	603	600	601	599	599	600	599	596	592	592	592	593	592	593	598	598	597	596	597	598	598	600	601	597
2	603	602	603	599	594	595	594	597	598	599	599	598	599	602	608	609	608	607	606	606	604	594	593	596	601
3	602	603	604	604	604	603	602	601	600	598	597	594	590	589	593	599	601	599	597	596	597	594	597	584	598
4	589	593	590	592	593	586	583	584	589	592	592	590	592	592	595	605	619	631	620	620	609	602	559	527	593
5 D	503	433	517	528	518	552	566	574	583	586	593	620	605	605	602	604	607	612	618	617	607	557	567	574	573
6	558	547	551	515	538	566	581	587	594	604	600	598	608	604	603	605	609	613	615	612	613	609	607	607	589
7 D	608	580	519	539	557	568	582	588	586	599	604	617	602	595	602	609	632	692	659	630	613	584	548	535	594
8	520	540	564	573	568	580	592	605	608	617	622	612	605	605	611	615	619	625	612	613	599	568	570	579	593
9 D	589	582	567	534	528	559	584	594	602	604	597	599	601	602	603	606	611	614	626	576	583	590	540	493	583
10	494	465	476	532	566	576	585	586	591	601	613	600	595	599	601	608	633	649	644	605	568	577	572	552	579
11	549	564	557	565	577	586	588	596	594	599	604	598	592	593	600	604	601	603	604	611	605	602	586	515	587
12	425	406	520	565	568	558	540	565	583	593	598	605	616	611	607	612	612	607	606	605	605	605	606	606	576
13 D	606	605	604	603	602	602	602	604	603	603	605	604	611	620	668	683	619	603	603	602	602	602	597	521	607
14 D	488	505	511	552	577	580	588	593	597	600	607	616	613	617	614	605	606	623	617	607	562	572	578	575	583
15	582	588	587	585	585	593	593	594	595	594	593	594	599	601	608	618	625	617	603	589	583	590	593	596	596
16 Q	589	595	596	597	597	594	593	594	594	595	596	601	607	605	607	609	612	607	603	599	600	601	602	602	600
17	593	597	599	598	597	595	595	597	596	597	597	597	598	598	604	609	608	608	607	608	609	598	591	587	595
18	519	540	559	564	569	566	578	571	586	599	608	612	625	654	653	664	637	614	608	608	591	576	594	587	595
19	577	565	588	596	597	598	598	598	598	598	600	600	598	600	604	608	609	605	599	599	598	598	596	577	596
20	581	592	599	599	599	597	596	595	593	595	596	596	594	595	601	609	615	610	607	609	610	610	610	607	601
21 Q	607	601	601	602	601	600	597	596	597	597	596	596	597	599	600	601	604	606	609	606	601	598	598	598	600
22	598	598	600	601	599	597	594	593	598	593	594	597	597	596	597	599	601	601	600	599	599	598	599	594	598
23	589	591	595	599	599	599	600	600	602	601	600	596	595	596	599	600	600	600	600	602	603	596	592	586	597
24	592	596	600	601	602	603	604	603	602	603	602	597	595	594	598	616	631	624	616	620	632	617	614	602	607
25	570	586	585	587	589	604	606	614	616	617	608	606	605	606	607	624	635	632	623	620	618	617	600	590	606
26	598	592	600	602	605	605	606	602	606	607	607	607	607	609	610	627	618	608	608	608	609	592	594	601	605
27	603	598	570	564	556	563	576	587	600	601	601	599	601	602	602	602	602	602	602	602	602	604	603	602	593
28 Q	593	588	590	593	594	593	593	594	594	594	596	599	601	601	602	602	601	599	599	601	602	603	602	602	597
29 Q	602	596	596	596	597	597	597	597	601	604	604	604	603	603	605	605	603	600	599	599	599	599	599	599	600
30	600	600	602	601	599	598	598	599	604	605	603	599	598	603	606	608	618	617	612	609	607	606	607	607	604
31	607	607	606	605	602	600	599	600	601	600	601	603	605	605	606	606	605	604	603	605	606	607	609	610	604
Mean	572	570	576	580	583	587	591	594	597	600	601	601	602	603	607	612	613	614	610	606	601	596	589	579	595

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS:  
MAGNETIC CHARACTER FIGURES: TEMPERATURE IN MAGNET HOUSE.

44. LERWICK

OCTOBER, 1933.

Day.	Terrestrial Magnetic Elements.															HR <sub>H</sub> +VR <sub>V</sub> 10,000 $\gamma$ §	Magnetic Character of Day. (0-2)	Temperature in Magnet House. 200 +						
	Horizontal Force.						Declination.						Vertical Force.											
	Maximum 14,000 $\gamma$ +			Minimum 14,000 $\gamma$ +			Range	Maximum 13° +			Minimum 13° +			Range	Maximum 46,000 $\gamma$ +				Minimum 46,000 $\gamma$ +			Range		
	h.	m.	$\gamma$	h.	m.	$\gamma$	h.	m.	$\gamma$	h.	m.	$\gamma$	h.	m.	$\gamma$	h.	m.	$\gamma$	h.	m.	$\gamma$			°A
1 Q	21	55	493	448	10	31	45	13	9	35-1	27-2	8	20	7-9	23	59	604	591	10	0	13	126	0	83-8
2	21	4	491	439	10	40	52	13	50	37-1	26-6	7	42	10-5	16	0	611	590	21	40	21	173	0	83-5
3	23	20	506	450	11	29	56	13	31	36-1	27-0	23	43	9-1	2	10	605	574	23	35	31	225	0	82-6
4	16	17	493	436	24	0	57	14	36	37-8	24-9	8	37	12-9	17	22	638	516	23	13	122	652	1	82-1
5 D	21	16	521	262	1	5	259	11	50	41-1	17-2	21	41	23-9	19	0	634	380	1	5	254	1560	2	82-6
6	5	10	494	411	3	0	83	12	5	39-0	25-3	4	36	13-7	17	50	618	502	3	34	116	661	1	82-8
7 D	17	27	542	398	10	59	144	7	33	42-5	1-6	17	32	40-9	17	26	748	510	2	29	238	1318	2	83-0
8	21	10	495	400	9	44	95	4	4	39-6	16-2	17	13	23-4	17	25	633	512	0	22	121	702	1	82-7
9 D	19	14	518	407	3	34	111	4	27	41-7	7-5	19	7	34-2	18	34	649	483	23	10	166	935	1	82-4
10	19	37	509	356	1	21	153	12	50	39-0	14-3	19	34	24-7	18	12	657	455	1	57	202	1163	1	82-6
11	18	10	480	371	23	54	109	2	15	40-2	6-4	23	45	33-8	19	31	615	486	24	0	129	759	1	82-8
12	4	55	490	258	0	35	232	6	7	44-0	10-2	0	0	33-8	12	50	623	387	1	26	256	1529	2	82-5
13 D	23	53	514	437	23	39	77	14	16	45-2	14-7	23	42	30-5	14	54	735	483	24	0	252	1286	2	81-4
14 D	20	23	503	408	0	37	95	13	17	40-2	1-9	18	4	38-3	17	54	642	447	0	16	195	1047	1	81-3
15	19	27	498	448	16	54	50	11	53	36-5	21-8	19	24	14-7	16	55	636	577	0	0	59	348	1	81-6
16 Q	19	40	478	439	11	59	39	11	5	34-2	27-0	22	11	7-2	16	44	614	588	0	35	26	178	0	81-8
17	22	16	497	451	10	49	46	12	30	33-8	18-7	23	10	15-1	16	54	612	521	24	0	91	491	1	81-5
18	20	20	514	414	6	48	100	13	23	41-1	9-7	20	12	31-4	13	54	689	513	0	40	176	965	1	81-0
19	23	2	491	446	0	40	45	0	45	38-4	23-8	22	57	14-6	16	14	610	554	1	10	56	326	0	81-1
20	21	57	478	451	10	37	27	13	48	35-1	25-1	22	20	10-0	16	34	616	571	0	0	45	249	0	81-7
21 Q	16	57	484	452	11	46	32	11	15	35-7	26-8	0	10	8-9	18	30	611	594	10	7	17	125	0	82-1
22	23	45	483	451	8	56	32	13	24	35-9	27-0	24	0	8-9	3	54	603	584	23	57	19	135	0	82-4
23	21	29	505	453	10	43	52	12	6	34-8	19-3	21	27	15-5	20	55	605	576	23	40	29	210	0	82-5
24	14	33	503	448	16	18	55	15	3	43-6	23-6	23	44	20-0	16	13	635	582	0	0	53	327	1	82-4
25	22	15	509	437	8	50	72	15	27	37-8	15-3	0	29	22-5	16	52	644	551	0	25	93	537	1	81-6
26	21	24	532	446	7	4	86	12	10	35-9	9-9	21	15	26-0	15	44	639	584	21	26	55	381	1	80-3
27	5	8	490	458	11	47	32	2	23	35-1	25-9	3	10	9-2	21	55	607	556	4	50	51	284	0	79-4
28 Q	6	14	484	458	12	10	26	11	40	34-6	26-1	2	5	8-5	21	8	605	586	1	28	19	127	0	78-6
29 Q	22	20	486	457	11	0	29	12	40	33-0	28-0	8	53	5-0	11	0	606	596	5	20	10	89	0	78-9
30	20	58	485	460	16	28	25	13	24	36-1	27-6	5	24	8-5	16	45	624	597	6	58	27	162	0	79-2
31	13	55	496	467	9	30	29	12	42	37-1	28-4	9	0	8-7	23	43	611	598	6	40	13	103	0	78-9
Mean	--	--	499	423	--	--	76	--	--	38-0	19-5	--	--	18-5	--	--	632	536	--	--	95	554	0-68	81-7
No. of Days Used	--	--	31	31	--	--	31	--	--	31	31	--	--	31	--	--	31	31	--	--	31	31	31	31



**TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT.**  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

45. LERWICK. (H.)

14,000γ (·14 C.G.S.unit) +

NOVEMBER, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1	481	481	481	481	482	485	483	476	473	470	468	472	472	465	474	478	477	478	478	475	483	476	477	478	477
2	480	479	477	478	480	481	484	482	473	470	459	467	474	477	477	479	482	468	466	479	467	471	477	479	475
3	478	478	479	479	481	478	482	478	477	471	469	478	479	476	478	473	478	485	467	467	472	474	462	468	475
4	475	475	476	476	476	479	482	483	475	464	459	465	468	457	457	456	467	466	467	463	461	461	465	477	470
5	475	474	477	477	481	478	480	476	472	468	462	465	462	464	471	472	476	479	478	468	452	453	467	469	471
6 D	466	467	462	479	480	498	485	476	474	468	468	465	472	464	472	480	473	466	449	461	461	481	455	462	470
7 D	414	447	459	462	473	475	474	474	463	451	446	434	451	457	466	459	462	457	465	458	474	459	459	468	459
8 D	457	424	461	473	466	450	458	430	434	434	444	457	463	469	443	475	463	470	465	470	466	467	440	447	456
9	454	470	470	466	466	475	476	472	470	459	458	453	455	465	467	466	480	473	475	474	487	474	468	469	469
10	470	472	474	466	469	480	474	469	467	466	463	454	447	451	454	463	475	477	476	472	478	472	479	484	469
11 D	458	464	464	452	464	488	480	481	467	448	458	467	454	462	466	470	477	468	461	465	474	458	467	476	466
12	479	468	475	476	468	475	476	476	469	466	467	465	474	477	473	477	476	472	484	473	470	471	471	468	473
13	463	470	472	474	479	477	476	474	476	473	465	469	475	476	477	478	477	469	475	480	481	481	481	481	475
14 Q	480	480	481	481	483	486	482	481	478	478	476	470	472	475	478	477	472	476	476	477	481	474	478	476	478
15 Q	472	474	472	475	482	485	485	481	477	472	467	465	468	475	474	474	473	469	480	482	480	480	480	480	476
16	480	479	477	477	476	480	487	485	481	477	475	473	472	473	478	481	481	482	482	477	474	474	473	473	478
17 Q	472	478	474	474	477	478	481	480	478	474	473	476	480	478	476	478	481	479	475	476	470	469	470	473	476
18	478	469	469	470	473	475	482	481	475	474	474	474	477	481	475	480	489	476	469	474	478	479	477	476	476
19	474	473	472	470	471	478	482	480	476	473	467	467	471	475	476	478	481	477	470	469	469	480	474	461	473
20	452	457	462	467	472	473	473	472	470	468	464	466	468	470	473	474	475	476	476	475	469	454	459	463	468
21	462	466	458	462	466	469	471	471	469	467	470	469	469	469	469	445	465	470	473	470	468	466	463	465	466
22	463	462	462	467	471	470	470	471	472	469	463	465	468	469	476	478	473	472	473	475	470	469	467	465	469
23	465	462	458	458	456	462	470	472	470	468	467	467	469	471	470	463	467	468	465	459	467	480	462	466	466
24 Q	465	465	469	468	469	470	473	471	470	465	464	465	468	470	471	466	470	471	470	467	465	466	467	467	468
25	467	467	466	468	468	469	470	471	470	466	465	465	469	470	474	471	468	470	464	467	466	465	473	469	468
26 Q	465	465	467	468	469	470	471	471	471	468	467	469	470	470	470	471	472	472	473	471	467	465	467	466	469
27 D	465	464	465	471	465	469	470	471	473	472	469	470	472	474	473	476	480	476	460	473	489	442	439	449	468
28	449	450	454	460	461	466	469	451	460	455	455	454	462	461	447	456	460	457	461	467	467	465	462	464	459
29	466	458	456	458	467	468	469	467	466	462	465	467	463	461	462	461	460	453	450	462	459	462	464	463	462
30	462	458	460	464	469	468	467	465	463	462	466	466	468	468	470	470	470	470	470	452	454	458	464	465	465
Mean	466	467	468	470	472	475	476	473	470	466	464	465	468	469	470	471	474	471	470	470	471	468	468	469	470

## MAGNETIC DECLINATION (WEST).

Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

46. LERWICK. (D.)

15° +

NOVEMBER, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day																									
1	29.3	29.5	29.7	29.9	30.3	30.7	29.5	30.3	31.9	31.5	32.8	35.1	36.3	36.1	32.8	31.9	30.9	30.7	30.3	26.8	26.6	26.8	27.6	28.2	30.6
2	29.5	30.5	29.9	28.2	28.2	28.8	29.0	29.3	28.8	31.5	33.0	34.9	34.0	34.4	32.4	32.1	33.2	30.9	28.0	23.6	24.1	26.1	29.2	29.9	30.0
3	30.1	29.5	30.7	29.9	26.6	28.4	29.5	29.7	29.5	30.5	31.3	32.4	34.4	32.8	32.6	34.0	32.2	32.4	18.7	27.8	27.2	18.9	24.5	28.0	29.2
4	31.1	30.7	28.6	29.9	30.7	30.5	29.9	28.8	29.5	30.3	30.3	31.7	33.6	33.4	32.1	31.3	33.2	33.4	31.3	27.4	14.5	20.7	27.0	27.2	29.5
5	29.7	30.5	31.1	30.5	30.1	30.7	30.3	29.3	29.7	30.9	31.5	33.6	33.6	32.4	31.5	30.9	29.7	25.7	24.7	24.9	24.5	24.3	28.0	27.4	29.4
6 D	25.9	28.4	34.9	28.2	28.0	26.8	33.2	31.5	27.8	26.8	29.3	32.2	35.9	36.3	34.8	35.5	35.5	29.2	22.8	26.6	23.4	21.6	22.2	22.0	29.1
7 D	27.6	33.2	28.2	30.3	30.7	30.5	31.9	34.4	31.5	29.3	30.5	30.3	33.2	33.2	32.1	31.7	14.3	28.6	26.5	24.5	11.0	20.7	24.3	28.2	28.2
8 D	30.9	38.2	27.8	25.9	28.2	41.3	45.0	42.1	38.6	37.6	32.2	32.2	32.4	33.8	30.9	31.3	30.1	28.2	29.5	25.5	24.7	23.8	19.7	28.2	31.6
9	31.5	29.3	28.2	28.2	31.5	30.9	33.8	30.5	31.5	31.7	31.9	32.6	32.1	32.6	31.7	29.7	28.6	30.1	27.6	29.7	22.0	24.5	28.6	28.8	29.9
10	29.2	29.2	29.2	29.5	37.8	31.1	31.5	30.9	29.7	30.3	31.7	33.0	32.6	34.2	32.8	32.6	30.9	30.5	29.7	26.3	26.5	28.2	26.5	24.9	30.4
11 D	23.4	31.7	28.2	29.7	29.7	28.8	30.1	31.5	32.1	31.1	32.1	34.2	35.1	31.1	33.2	29.2	29.5	30.9	26.8	26.5	26.6	28.6	26.1	28.8	29.8
12	32.4	29.0	28.6	28.0	30.1	29.2	28.4	28.4	28.8	29.3	31.1	31.7	32.8	32.2	30.7	29.5	29.9	28.2	21.2	26.3	28.4	27.4	28.2	24.7	28.9
13	27.2	28.8	28.2	28.2	28.8	29.3	29.2	29.3	29.5	30.1	29.9	29.9	30.7	31.1	30.5	29.9	29.5	24.7	28.8	29.5	29.3	29.2	29.2	29.2	29.2
14 Q	29.2	29.2	29.3	29.5	29.5	29.2	30.1	30.1	29.2	29.9	30.7	30.7	31.1	30.9	30.5	29.7	29.0	29.7	30.1	29.9	26.6	28.0	28.0	26.6	29.4
15 Q	28.2	29.3	28.6	29.7	29.2	29.2	29.3	29.0	28.4	28.8	29.5	30.1	30.9	31.3	30.7	30.3	30.5	29.9	29.7	29.3	29.2	28.4	29.0	28.8	29.5
16	29.3	29.2	29.2	29.5	29.5	29.5	29.2	31.7	31.5	30.9	31.7	33.6	33.8	34.4	32.6	31.3	30.1	29.5	29.5	29.7	29.0	29.2	28.8	28.8	30.5
17 Q	28.4	26.3	26.6	28.8	29.2	29.2	29.0	29.2	29.0	29.5	30.5	31.3	31.3	31.1	30.3	30.7	30.9	31.5	32.6	30.7	29.0	28.6	28.4	28.6	29.6
18	26.3	24.9	28.2	29.3	27.8	25.1	25.9	26.8	27.8	28.6	30.1	31.1	31.5	31.9	30.7	30.5	31.9	31.7	31.1	30.5	28.8	28.8	28.6	28.8	29.0
19	29.0	29.2	29.3	30.3	29.0	28.6	27.4	27.8	28.8	30.7	32.4	31.5	32.2	31.9	31.1	30.3	30.5	31.7	30.5	29.5	28.2	26.5	25.1	19.1	29.2
20	15.1	21.6	25.7	28.2	29.3	29.2	29.0	29.0	28.8	28.8	29.2	30.3	31.1	31.3	30.3	30.1	30.1	30.3	29.5	29.5	24.1	16.4	26.8	27.0	27.5
21	23.4	16.0	22.6	26.1	27.8	28.0	28.4	28.6	28.6	29.0	30.7	32.2	32.2	33.0	34.2	23.8	31.3	31.1	30.1	29.5	28.8	24.3	22.6	27.6	27.9
22	24.5	26.6	29.9	29.5	28.0	27.8	29.0	29.7	29.3	30.1	30.9	30.9	32.4	32.6	32.1	32.1	32.4	32.1	30.9	27.2	26.8	26.6	27.8	27.4	29.5
23	26.1	25.7	24.7	26.5	24.9	23.2	26.0	27.2	28.4	28.8	30.3	30.9	32.1	32.6	32.4	30.5	28.2	28.0	26.6	28.0	24.7	22.6	26.6	28.4	27.6
24 Q	28.2	28.8	29.5	28.6	27.0	27.0	27.0	28.6	29.0	29.3	30.1	31.3	31.9	31.7	31.3	30.3	30.3	30.1	29.7	29.5	29.0	28.2	28.4	28.2	29.3
25	29.5	29.2	28.8	28.6	28.6	29.2	29.2	29.3	29.3	29.5	30.5	31.1	32.1	31.5	31.1	30.9	30.9	30.5	26.8	28.0	26.8	28.6	28.4	28.0	29.4
26 Q	28.2	29.2	29.7	29.2	29.5	29.3	29.3	29.3	29.5	30.5	30.7	31.3	31.4	31.5	31.1	30.5	31.1	30.7	30.1	29.5	29.2	28.8	28.4	28.8	29.9
27 D	28.4	29.3	28.2	28.6	28.0	28.4	29.2	29.0	29.3	29.7	30.7	32.1	32.9	31.7	30.9	30.7	30.9	32.1	31.7	32.1	23.6	16.8	24.5	25.3	28.9
28	25.7	28.0	28.8	28.6	29.0	28.6	28.8	34.9	37.1	33.8	33.6	33.6	32.4	33.2	35.3	32.6	30.9	32.1	30.5	29.2	29.2	29.0	28.8	27.8	30.9
29	27.0	27.4	28.2	29.9	28.8	28.4	28.6	29.0	29.7	30.3	30.9	32.2	32.4	33.0	33.2	32.4	30.7	26.1	29.9	28.4	27.2	28.0	28.0	28.8	29.5
30	26.6	28.4	30.1	29.7	28.2	28.4	28.6	28.4	28.6	29.2	30.3	31.3	31.3	31.1	30.3	29.7	29.3	29.3	29.5	25.7	25.7	28.2	28.2	28.6	28.9
Mean	27.7	28.6	28.7	28.9	29.1	29.2	29.8	30.1	30.0	30.3	31.0	32.0	32.7	32.6	31.9	30.9	30.2	30.0	28.5	28.1	25.8	25.7	26.9	27.4	29.4



47. LERWICK. (V.)

46,000  $\gamma$  (.46 C.G.S. unit) +

NOVEMBER, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$
1	610	610	609	608	607	601	599	602	604	604	605	604	608	615	615	615	613	612	611	614	606	605	605	604	608
2	604	603	601	603	604	604	602	601	604	602	605	604	607	612	613	613	614	624	630	612	613	611	605	605	608
3	604	606	603	596	594	598	595	599	599	600	599	599	601	604	607	615	615	611	632	621	610	595	600	592	604
4	587	593	601	603	603	605	602	602	603	605	608	605	607	618	631	645	623	633	636	622	627	608	569	565	608
5	585	592	593	598	598	599	594	598	599	596	596	595	602	606	605	605	604	606	603	605	603	594	574	552	596
6 D	580	578	551	537	567	574	580	584	593	598	594	595	595	604	651	703	689	722	698	652	632	578	555	535	606
7 D	505	471	526	568	584	593	593	593	598	611	614	629	615	614	628	634	660	641	636	616	572	555	574	578	592
8 D	565	486	520	563	577	566	549	583	602	624	630	616	607	617	667	632	630	627	623	618	581	545	565	564	590
9	550	575	594	594	585	585	590	604	607	608	609	611	615	612	614	625	620	615	614	610	600	596	600	602	601
10	602	602	600	600	572	569	588	598	603	604	605	606	615	621	630	619	609	610	611	615	606	608	597	580	603
11 D	572	554	542	561	569	577	588	591	597	607	606	606	616	626	620	626	628	626	637	637	625	579	578	580	598
12	561	579	595	599	604	604	605	607	609	609	609	610	616	611	611	611	612	615	611	610	611	610	608	598	605
13	594	598	604	605	605	604	605	607	608	609	611	611	610	611	611	611	611	614	608	606	606	606	607	607	607
14 Q	606	606	604	602	602	598	599	598	602	599	597	602	603	604	606	607	610	606	607	606	604	604	604	605	603
15 Q	608	604	604	603	600	598	599	599	603	604	606	606	606	609	609	609	609	610	611	606	605	604	605	605	605
16	606	606	605	605	603	599	595	594	595	596	598	600	607	611	612	611	611	608	608	610	612	611	610	603	605
17 Q	599	598	607	608	607	608	607	606	606	605	607	608	609	612	614	614	614	615	619	618	627	627	622	619	611
18	612	613	617	615	613	607	600	601	605	603	601	601	605	610	612	614	613	624	632	621	613	610	610	610	611
19	610	608	606	603	603	602	602	602	602	601	602	604	605	607	612	613	613	615	617	619	621	603	574	573	605
20	566	579	594	601	605	606	606	605	604	600	596	595	595	600	604	605	606	606	605	607	618	621	616	607	602
21	593	574	568	587	598	604	605	604	602	599	595	595	598	604	614	651	627	616	615	615	617	617	613	586	604
22	563	578	592	600	603	606	605	604	605	602	603	603	604	604	605	607	609	615	620	623	617	615	611	608	604
23	596	596	600	604	589	593	598	605	606	607	606	603	604	605	608	613	616	619	625	630	623	604	605	606	607
24 Q	607	606	604	603	604	605	606	606	607	607	607	607	607	607	609	615	611	611	615	617	618	617	616	612	609
25	609	600	606	607	607	608	609	609	609	609	609	608	607	607	608	608	609	610	616	616	617	617	615	608	609
26 Q	608	608	608	608	608	608	608	608	608	608	608	608	609	609	610	609	609	610	610	615	616	617	616	616	610
27 D	615	612	607	598	606	606	607	607	607	607	605	607	607	607	608	607	606	608	625	654	649	588	598	598	610
28	606	611	612	611	609	608	607	608	598	607	608	609	614	619	634	628	627	634	634	624	624	626	625	619	617
29	611	609	608	607	607	608	606	607	607	606	605	607	610	616	618	619	622	633	635	628	623	617	613	607	614
30	604	607	606	607	607	608	607	607	606	605	605	606	608	609	609	610	610	609	609	619	617	612	610	610	609
Mean	591	589	593	597	598	598	599	601	603	605	605	605	607	610	617	620	618	620	622	619	614	603	600	595	605

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS:  
MAGNETIC CHARACTER FIGURES: TEMPERATURE IN MAGNET HOUSE.

48. LERWICK.

NOVEMBER, 1933.

Day.	Terrestrial Magnetic Elements.															HR <sub>H</sub> +VR <sub>V</sub> 10,000γ <sup>2</sup>	Magnetic Character of Day. (0-2)	Temperature in Magnet House. 200 +
	Horizontal Force.					Declination.					Vertical Force.							
	Maximum 14,000 γ +			Minimum 14,000 γ +		Range	Maximum 13° +		Minimum 13° +		Range	Maximum 46,000 γ +		Minimum 46,000 γ +		Range		
	h. m.	γ	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ			°A
1	20 36	497	460	13 14	37	12 55	37.1	23.6	19 48	13.5	13 40	618	595	20 54	23	161	0	78.7
2	19 7	493	447	10 43	46	11 18	36.5	18.7	19 54	17.8	18 5	632	597	2 10	35	230	0	78.5
3	17 30	488	449	18 31	39	12 37	35.9	4.1	18 42	31.8	18 46	644	589	24 0	55	313	1	78.3
4	22 42	507	434	14 54	73	13 29	36.3	-3.7	20 45	40.0	14 59	652	543	22 50	109	614	1	78.2
5	22 55	491	438	21 4	53	11 48	35.3	21.4	17 25	13.9	17 30	610	536	23 13	74	422	1	78.5
6 D	21 20	512	434	22 24	78	15 57	48.1	13.5	24 0	34.6	17 45	765	517	23 50	248	1269	2	79.0
7 D	20 35	511	388	0 43	123	1 4	43.8	-5.4	20 31	49.2	16 19	688	464	1 20	224	1222	2	79.5
8 D	20 33	515	411	1 29	104	6 16	46.1	13.1	22 11	33.0	14 40	694	459	1 35	235	1246	2	79.2
9	20 33	517	435	0 0	82	6 29	34.9	13.9	20 55	21.0	15 47	634	543	0 19	91	543	1	79.7
10	23 24	503	441	11 56	62	4 20	42.7	22.2	19 23	20.5	14 37	634	553	4 55	81	467	1	80.0
11 D	20 53	499	436	3 53	63	12 30	36.7	20.9	0 30	15.8	18 51	645	531	2 10	114	622	1	79.5
12	18 38	492	461	23 32	31	0 15	36.1	16.6	18 30	19.5	18 2	618	556	0 40	62	334	1	78.9
13	5 8	484	459	17 29	25	13 12	31.5	20.9	17 40	10.6	17 35	618	592	0 33	26	157	0	78.5
14 Q	20 45	490	463	16 30	27	12 50	31.3	23.0	20 36	8.3	16 35	613	595	9 55	18	123	0	78.4
15 Q	5 21	489	464	11 10	25	13 35	32.6	27.2	21 20	5.4	17 45	614	596	5 56	18	120	0	78.8
16	6 14	491	466	13 56	25	13 11	34.9	27.2	23 46	7.7	16 5	614	591	8 0	23	143	0	78.9
17 Q	1 43	487	466	20 50	21	18 53	33.4	25.3	2 5	8.1	20 55	629	594	1 40	35	193	0	78.5
18	16 18	493	462	14 20	31	17 25	32.6	23.6	1 14	9.0	18 15	634	596	6 50	38	222	0	78.0
19	22 (2)	503	444	23 48	59	10 12	33.2	11.6	23 58	21.6	20 10	626	564	23 33	62	375	1	77.6
20	22 45	484	434	0 57	50	13 13	31.7	11.8	0 0	19.9	22 8	627	560	0 31	67	385	1	78.0
21	1 14	503	426	15 26	77	14 13	34.9	12.8	1 8	22.1	15 30	669	554	24 0	115	648	1	78.6
22	14 58	485	451	1 57	34	12 45	33.4	19.5	0 23	13.9	19 5	632	547	0 10	85	445	1	79.1
23	21 5	496	445	4 47	51	13 26	34.0	15.1	21 3	18.9	19 20	634	585	4 46	49	302	1	79.2
24 Q	6 0	479	462	9 19	17	12 46	32.4	25.7	6 0	6.7	20 0	620	596	2 50	24	137	0	79.1
25	22 45	485	458	18 36	27	12 35	33.0	23.4	18 44	9.6	18 52	619	597	1 15	22	142	0	79.0
26 Q	16 7	476	461	21 32	15	12 39	33.0	27.0	0 4	6.0	21 15	618	606	0 0	12	78	0	78.5
27 D	20 26	532	423	21 10	109	19 17	36.3	4.1	21 16	32.2	20 26	705	560	21 43	145	834	1	78.3
28	6 20	475	441	14 38	34	8 2	38.8	21.4	0 0	17.4	18 10	639	596	8 40	43	249	0	78.1
29	6 17	473	443	18 22	30	13 16	33.6	22.4	17 32	11.2	18 25	637	601	23 50	36	211	0	78.0
30	18 13	474	444	20 23	30	11 10	32.4	20.5	20 0	11.9	19 35	626	601	0 11	25	160	0	78.4
Mean	-- --	494	445	-- --	49	-- --	35.7	17.4	-- --	18.4	-- --	640	567	-- --	73	412	0.63	78.7
No. of Days Used	-- --	30	30	-- --	30	-- --	30	30	-- --	30	-- --	30	30	-- --	30	30	30	30



**TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT.**  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

49. LERWICK. (H.)

14,000 γ (-14 C.G.S. unit) +

DECEMBER, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1 Q	463	463	463	464	468	468	469	468	467	467	467	464	463	465	467	467	461	465	466	467	469	468	467	467	466
2	468	467	469	468	474	480	478	475	473	469	464	464	464	471	472	473	472	468	460	461	463	476	471	459	469
3 D	462	466	469	472	476	479	480	480	473	462	459	453	436	450	463	464	468	470	459	438	447	451	439	455	461
4 D	460	464	465	462	467	468	452	466	462	455	452	429	425	448	458	463	455	461	455	451	454	460	459	462	456
5 D	463	464	462	461	460	478	476	474	448	438	449	446	452	462	437	451	450	436	444	455	460	462	460	449	456
6	446	449	462	463	456	466	466	464	456	454	459	460	451	461	466	456	463	462	463	465	467	457	460	461	460
7	461	456	462	467	469	470	470	460	468	465	462	461	459	429	459	468	469	469	457	440	456	459	467	459	461
8	457	454	454	459	463	464	464	463	462	461	461	464	465	464	464	462	466	464	464	471	466	463	468	464	463
9 D	462	462	462	464	467	470	472	473	468	466	465	460	465	474	457	451	516	496	520	449	397	345	418	437	459
10 D	448	443	451	455	460	463	469	468	470	470	465	456	460	466	469	457	445	450	468	481	447	427	421	465	457
11	458	454	450	454	461	466	464	463	466	466	465	461	458	462	463	466	466	466	469	463	463	464	471	459	462
12	460	460	462	464	468	467	469	467	466	465	465	467	470	474	474	474	468	464	471	475	473	467	468	467	468
13	467	466	470	469	473	475	478	478	474	472	471	468	467	472	469	471	469	476	474	472	472	470	466	465	471
14 Q	469	465	468	471	472	475	476	476	475	469	466	468	475	477	476	475	475	473	474	471	470	470	470	471	472
15 Q	471	471	472	473	477	479	480	481	479	475	473	469	474	477	477	477	474	474	478	474	469	467	472	473	474
16	473	473	477	473	476	480	482	482	481	480	479	476	473	475	475	481	481	480	470	462	463	466	471	464	475
17	464	466	466	467	470	474	471	471	472	473	471	473	474	465	478	479	477	474	473	471	471	466	460	463	470
18	464	462	462	467	468	476	469	471	473	467	467	471	474	473	474	479	478	476	473	458	470	464	466	457	469
19	458	457	459	469	468	471	470	469	463	474	470	464	464	469	469	463	473	473	470	470	467	467	469	468	467
20	463	461	464	466	470	469	469	471	469	467	463	465	468	467	467	472	474	475	472	472	467	467	467	464	468
21	467	464	465	467	471	471	470	469	466	471	471	470	474	476	474	474	474	473	469	462	464	467	469	468	469
22	467	467	467	467	468	472	475	476	474	470	463	464	468	472	470	475	475	471	469	470	468	468	468	463	469
23	465	465	464	464	466	467	468	468	465	464	461	461	464	469	470	469	461	461	466	466	461	466	468	466	465
24 Q	464	463	463	464	465	465	466	467	466	466	467	466	465	466	470	470	466	467	470	470	471	471	470	470	467
25	468	467	466	466	467	474	473	476	477	476	472	469	470	475	478	478	470	466	463	466	468	473	477	473	471
26	468	467	466	467	471	478	479	476	469	469	469	469	471	473	474	472	470	471	472	465	462	462	465	463	469
27	466	467	466	468	471	471	472	468	469	466	466	465	465	469	474	474	463	454	454	456	463	466	466	463	466
28	468	465	463	466	468	469	470	470	469	467	467	469	470	471	474	471	473	471	473	471	465	464	455	468	469
29	449	449	490	461	462	467	470	468	468	466	466	467	468	472	475	475	469	467	468	467	464	466	467	467	467
30 Q	468	467	466	465	468	472	473	473	470	468	470	469	473	475	474	475	473	474	475	476	475	475	473	472	472
31	471	469	471	475	479	481	483	482	480	476	473	473	475	479	476	476	470	472	467	471	473	473	475	474	475
Mean	463	462	465	466	468	472	472	471	469	467	466	464	465	468	469	470	470	468	469	465	463	461	463	464	467

473 at 0-lh. Jan. 1st. 1934.

**MAGNETIC DECLINATION (WEST).**

Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

50. LERWICK. (D.)

15° +

DECEMBER, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day																									
1 Q	28.8	30.3	29.2	29.5	29.2	29.2	28.8	29.0	29.0	30.1	31.3	32.1	31.3	30.9	29.9	29.5	28.8	29.5	29.5	29.2	28.6	28.8	29.0	29.2	29.6
2	29.2	29.3	30.5	30.9	28.4	27.8	29.3	29.7	29.9	30.1	30.5	31.1	30.7	30.5	30.3	30.1	29.7	30.5	29.2	28.8	28.2	26.1	23.4	27.8	29.3
3 D	31.7	30.1	29.3	29.5	29.7	29.5	29.5	29.3	30.5	31.1	32.6	33.4	37.1	38.2	36.9	34.9	31.9	30.3	30.3	15.1	28.6	15.8	19.3	27.6	29.7
4 D	29.3	29.0	29.5	29.9	32.4	34.8	38.8	41.3	34.9	30.5	32.6	33.4	35.9	33.8	33.6	25.7	30.5	21.2	20.7	25.3	25.5	26.5	28.0	29.0	30.5
5 D	29.3	29.2	29.9	30.7	34.2	33.6	33.0	34.4	34.2	31.3	32.8	32.1	32.6	33.0	21.2	24.3	30.5	19.7	29.5	26.1	21.2	19.7	20.5	24.7	28.7
6	25.3	27.4	28.4	25.9	28.6	28.8	28.8	29.3	30.3	29.3	30.5	32.4	31.5	31.5	30.5	27.4	28.6	29.7	29.3	27.8	27.6	23.0	24.3	27.8	28.5
7	29.2	32.2	30.5	29.0	28.6	29.2	30.1	30.7	30.5	30.3	31.3	30.3	31.7	27.8	29.3	29.2	29.0	29.0	28.4	15.1	28.6	26.5	23.2	26.3	28.6
8	27.0	28.4	30.1	28.8	28.6	28.6	28.6	28.2	28.2	29.0	29.9	30.5	30.9	31.3	30.1	28.4	29.5	29.0	28.2	26.3	26.8	27.4	26.6	27.4	28.7
9 D	28.2	28.4	28.6	28.8	29.2	29.0	28.4	28.6	28.4	28.8	30.7	31.5	32.4	32.6	33.4	32.1	28.8	25.9	27.6	16.8	14.5	14.7	10.1	21.2	26.6
10 D	23.2	27.8	28.2	29.0	29.3	29.3	29.2	28.8	29.3	29.9	30.7	31.9	30.9	30.7	30.5	31.1	30.5	25.7	21.6	20.5	22.0	24.9	29.3	22.0	27.8
11	26.6	26.6	27.8	29.2	28.8	28.8	28.4	27.8	27.2	27.6	29.2	29.5	29.9	30.7	29.7	28.8	30.9	30.9	24.5	29.2	26.8	26.5	24.3	26.6	28.2
12	27.4	28.2	29.3	29.0	29.0	28.6	28.4	28.4	28.4	29.0	29.7	30.7	30.7	30.7	30.1	30.3	32.1	32.4	30.5	28.8	27.8	26.6	27.2	27.2	29.2
13	27.6	30.3	30.3	29.2	28.4	28.4	28.8	28.8	29.2	29.5	30.5	31.3	31.9	31.5	30.7	30.7	28.4	29.5	29.7	28.2	28.0	27.0	26.5	27.6	29.3
14 Q	27.0	28.4	28.6	28.4	28.2	28.0	28.4	28.6	29.2	29.2	30.9	31.7	31.5	31.3	30.1	29.2	29.2	29.0	28.4	28.6	26.6	26.8	28.0	28.4	28.9
15 Q	28.6	29.2	29.3	29.2	29.0	29.0	28.6	28.8	29.0	29.3	30.3	30.5	30.9	31.5	31.1	30.3	29.3	28.2	28.4	28.0	24.9	26.5	28.0	29.0	29.0
16	28.8	29.0	29.2	28.8	29.3	29.2	28.4	28.4	28.6	28.6	29.3	30.3	31.3	31.3	30.3	30.1	30.1	31.5	31.1	32.2	28.4	27.0	26.1	26.6	29.3
17	28.4	28.4	28.8	28.6	28.6	28.8	28.2	28.0	28.6	29.9	30.9	30.7	33.2	31.1	29.5	29.5	29.7	29.9	30.1	29.7	28.4	22.6	24.3	25.5	28.8
18	25.7	25.7	21.2	20.3	24.1	24.3	27.6	27.8	28.2	30.3	30.3	30.5	30.7	30.5	30.1	28.9	29.1	29.2	30.8	20.4	30.0	26.2	13.0	25.2	26.7
19	25.6	29.1	34.4	27.0	28.4	27.8	28.2	29.1	30.1	30.5	29.1	30.3	29.9	30.8	32.3	29.2	29.4	29.6	28.7	28.3	24.6	26.3	26.9	24.8	28.8
20	25.9	27.0	27.4	27.6	27.8	28.2	28.2	28.0	28.2	29.5	30.1	30.2	31.6	31.6	30.2	28.3	27.5	28.5	28.7	28.7	26.0	21.5	25.9	26.4	28.0
21	28.2	28.2	27.6	26.8	26.8	27.4	28.0	28.2	27.6	29.2	30.0	30.2	30.4	30.6	30.2	28.8	28.8	29.2	28.6	22.7	28.5	27.5	27.1	27.6	28.3
22	28.4	28.7	28.5	27.8	29.3	29.1	27.8	27.4	28.0	28.7	28.7	29.9	31.2	31.5	31.3	28.6	31.2	31.0	28.4	26.3	27.3	22.5	17.6	24.6	28.2
23	28.1	28.8	28.4	28.0	28.0	28.0	27.8	27.6	27.8	28.0	29.3	29.3	30.1	29.3	28.7	28.5	28.3	29.3	29.2	27.5	27.1	26.3	25.2	27.5	28.2
24 Q	28.2	27.8	27.9	27.8	27.9	27.9	28.0	28.0	28.1	28.2	28.9	29.4	29.9	29.9	29.8	29.4	29.2	29.7	29.4	29.2	28.1	26.9	26.7	27.2	28.5
25	28.9	29.0	28.9	27.8	28.1	28.0	28.1	27.9	28.5	29.8	30.0	30.4	30.8	31.2	30.7	30.5	31.1	30.9	27.7	27.3	28.0	27.1	24.6	24.8	28.8
26	28.1	28.9	30.1	28.9	28.2	28.0	28.1	28.1	29.6	29.8	30.3	30.7	31.1	30.7	29.6	28.9	28.9	28.7	28.5	27.1	25.4	24.2	27.0	28.0	28.6
27	29.2	30.3	28.0	27.3	27.8	28.1	28.1	28.0	27.6	28.5	28.9	29.9	30.7	30.5	29.9	29.9	29.6	28.8	30.6	31.6	29.1	27.6	27.1	27.8	29.0
28	28.0	27.9	27.2	28.0	28.1	28.1	28.3	28.0	27.6	28.2	28.8	30.0	30.9	30.9	29.9	30.6	30.0	29.9	29.3	28.2	26.1	24.5	24.5	12.1	27.7
29	19.9	24.6	26.3	19.9	24.5	27.1	27.4	27.8	27.3	28.1	28.5	28.8	29.1	29.1	28.7	28.9	28.9	29.4	28.7	26.0	26.4	27.3	27.0	27.1	26.9
30 Q	28.1	28.2	28.8	28.1	28.2	27.5	27.4	27.4	27.4	28.5	29.2	30.0	29.9	28.9	28.1	28.7	28.9	28.5	28.2	28.0	27.9	26.1	27.4	28.1	28.2
31	28.2	29.1	28.9	28.8	28.8	28.2	28.1	28.1	28.5	29.1	29.1	29.9	30.7	30.5	29.4	29.2	29.8	29.1	29.8	28.2	27.3	27.2	27.1	28.0	28.8
Mean	27.6	28.6	28.7	28.0	28.6	28.7	28.9	29.0	29.0	29.4	30.2	30.7	31.3	31.1	30.2	29.4	29.6	28.8	28.5	26.4	26.6	25.1	24.7	26.2	28.5



51. LERWICK. (V.)

46,000  $\gamma$  (-46 C.G.S. unit) +

DECEMBER, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1 Q	609	606	605	607	608	606	607	606	604	600	602	604	606	608	610	615	617	617	615	610	608	608	608	608	608
2	608	608	605	605	604	602	601	600	600	603	605	607	607	606	607	607	608	613	618	620	617	605	589	604	608
3 D	599	598	606	607	607	606	605	604	603	605	603	607	623	625	626	626	621	618	626	665	629	611	615	607	614
4 D	607	608	606	604	588	581	574	563	584	598	604	616	641	633	648	654	643	642	648	669	649	609	607	606	616
5 D	605	604	602	588	580	573	583	591	603	614	616	619	620	625	668	663	639	695	669	632	612	600	590	591	616
6	573	566	563	578	589	591	598	601	603	604	602	604	610	611	610	617	615	615	614	616	609	613	608	599	600
7	594	584	580	593	596	597	598	600	598	598	598	598	606	610	626	614	605	607	607	614	639	613	605	597	602
8	595	596	592	595	600	603	604	604	604	603	601	600	603	612	614	616	615	616	618	614	610	612	608	606	606
9 D	605	605	606	607	607	606	608	609	610	607	605	606	604	605	623	686	797	774	755	699	616	551	483	552	626
10 D	549	580	602	606	606	607	606	608	606	607	607	611	613	608	608	618	651	705	718	682	644	584	489	552	611
11	597	606	605	601	605	604	608	612	612	607	606	608	608	608	614	616	617	617	622	621	626	625	618	617	612
12	614	611	609	606	605	606	606	606	606	606	606	605	603	606	606	607	608	613	608	607	607	615	609	607	608
13	604	599	589	597	597	597	597	599	600	600	600	600	600	601	607	607	609	606	607	607	605	606	609	608	602
14 Q	607	606	601	600	599	598	598	598	598	601	601	601	601	602	604	604	602	602	602	603	604	604	603	602	602
15 Q	601	601	600	600	596	594	593	592	593	594	594	598	599	600	602	603	602	601	597	597	600	600	597	598	598
16	598	599	595	598	594	594	593	593	593	593	593	594	598	599	601	601	601	602	611	621	623	613	607	609	601
17	604	604	604	604	602	599	597	595	593	593	593	594	595	606	604	605	605	605	603	604	607	614	611	607	602
18	609	607	585	579	585	586	594	596	596	594	594	594	595	598	603	603	603	604	606	628	607	615	616	605	600
19	595	579	574	577	586	592	598	597	597	593	596	598	598	603	607	614	612	611	612	612	612	607	604	599	599
20	603	602	606	606	606	606	607	604	604	601	600	598	599	603	606	606	612	610	609	607	612	614	606	605	605
21	597	601	605	606	605	605	605	604	604	601	597	595	595	596	600	602	604	606	606	611	619	612	608	606	604
22	604	603	603	603	599	596	600	600	600	600	602	599	597	598	604	604	606	612	615	612	612	612	603	599	603
23	597	598	600	602	602	604	605	606	606	606	603	601	601	601	602	603	611	612	612	617	624	617	613	609	606
24 Q	606	605	605	604	603	604	606	606	606	606	607	606	606	605	602	603	606	606	607	609	611	611	608	605	606
25	603	602	602	602	601	600	600	601	601	601	605	606	607	608	605	602	606	611	622	618	614	608	598	593	605
26	596	601	602	601	600	598	599	601	603	603	604	605	605	605	604	604	604	604	605	612	614	614	610	608	604
27	605	596	603	603	601	601	601	604	605	605	606	606	605	605	605	604	610	621	627	631	623	613	612	611	608
28	609	608	609	607	605	604	604	604	605	607	605	604	606	609	608	607	608	609	609	610	616	619	625	588	608
29	587	588	566	577	595	601	602	604	605	604	606	607	608	610	610	610	611	611	609	610	611	609	609	610	603
30 Q	609	609	610	609	605	603	603	602	603	603	602	602	602	605	608	608	609	607	606	607	607	607	609	610	606
31	609	609	609	607	604	603	601	600	601	602	604	604	601	605	609	607	610	609	611	610	609	608	604	603	606
Mean	600	600	598	599	599	599	600	600	601	602	602	603	605	607	611	614	618	622	623	623	615	608	599	601	606

604 at 0-lh. Jan. 1st. 1934.

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS:.  
MAGNETIC CHARACTER FIGURES: TEMPERATURE IN MAGNET HOUSE.

52. LERWICK.

DECEMBER, 1933.

Day.	Terrestrial Magnetic Elements.															HR <sub>H</sub> +VR <sub>V</sub> 10,000 $\gamma^2$	Magnetic Character of Day. (0-2)	Temperature in Magnet House. 200 +						
	Horizontal Force.					Declination.					Vertical Force.													
	Maximum 14,000 $\gamma$ +			Minimum 14,000 $\gamma$ +		Range	Maximum 13° +			Minimum 13° +		Range	Maximum 46,000 $\gamma$ +						Minimum 46,000 $\gamma$ +		Range			
	h.	m.	$\gamma$	$\gamma$	h.	m.	$\gamma$	h.	m.	$\gamma$	h.	m.	$\gamma$	$\gamma$	h.	m.	$\gamma$			°A				
1 Q	10	53	471	457	16	35	14	11	15	32.8	28.0	7	31	4.8	16	44	620	599	9	53	21	118	0	78.7
2	21	51	505	456	23	30	49	3	17	33.2	21.4	22	20	11.8	19	36	622	577	22	2	45	281	0	78.7
3 D	5	57	483	424	21	28	59	12	55	39.2	4.6	19	32	34.6	19	34	680	590	0	58	90	505	1	78.7
4 D	17	45	480	398	11	55	82	7	5	46.3	14.9	17	43	31.4	19	43	681	555	7	13	126	706	1	78.4
5 D	5	40	496	415	17	18	75	4	45	39.2	8.3	17	32	30.9	17	33	718	568	5	0	150	808	1	78.0
6	22	5	471	439	1	3	32	1	58	34.2	16.8	21	55	17.4	15	50	621	549	0	54	72	382	1	78.0
7	5	50	474	408	13	30	66	1	17	33.6	6.0	19	24	27.6	19	25	645	576	2	10	69	418	1	78.2
8	20	10	478	450	2	5	28	13	25	31.7	23.8	19	9	7.9	18	42	621	591	2	37	30	181	0	78.1
9 D	18	34	583	481	21	39	302	15	23	37.6	-5.4	22	16	43.0	16	28	840	448	22	28	392	2265	2	78.1
10 D	19	26	528	359	22	33	169	22	22	43.4	11.4	19	33	32.0	17	46	741	455	22	45	286	1578	2	77.9
11	22	44	478	445	3	0	33	16	50	31.9	19.7	18	25	12.2	20	17	628	586	0	0	42	244	0	77.6
12	19	16	482	457	0	54	25	16	30	33.0	25.5	0	2	7.5	21	47	617	602	12	25	15	106	0	77.2
13	5	51	481	459	23	20	22	1	56	34.0	25.5	23	35	8.5	16	42	612	587	2	26	25	149	0	76.8
14 Q	13	5	488	463	20	46	25	13	5	32.6	23.0	20	55	9.6	20	59	610	597	7	10	13	97	0	76.6
15 Q	7	25	482	463	11	11	19	13	41	31.7	22.8	20	23	8.9	17	0	604	592	7	47	12	84	0	76.8
16	7	2	485	453	19	43	32	19	35	34.9	24.1	23	1	10.8	20	2	629	592	10	15	37	218	0	77.0
17	15	42	481	451	23	7	30	12	6	34.2	19.5	21	15	14.7	21	11	620	590	9	18	30	183	0	77.3
18	5	30	483	447	19	10	36	18	45	32.9	2.0	22	24	30.9	19	27	638	577	3	34	61	336	1	78.1
19	7	1	477	445	2	9	32	2	16	38.6	21.3	20	26	17.3	15	34	619	563	2	45	56	307	1	78.6
20	15	54	478	456	0	56	22	13	56	32.7	19.2	21	3	13.5	21	18	621	596	12	26	25	149	0	78.5
21	12	15	478	456	19	1	22	14	2	31.2	18.0	19	14	13.2	19	15	624	593	11	58	31	176	0	78.8
22	15	44	482	460	21	37	22	13	46	32.1	14.9	22	5	17.2	18	16	617	596	12	46	21	130	0	79.2
23	13	57	474	454	17	17	20	12	14	30.5	23.2	22	16	7.3	20	28	627	596	0	50	31	173	0	79.8
24 Q	21	58	478	462	2	2	16	13	36	30.0	24.5	21	57	5.5	21	5	612	601	23	10	11	74	0	80.0
25	22	44	484	459	18	52	25	16	54	32.3	23.3	23	8	9.0	18	58	626	591	23	0	35	199	0	80.1
26	6	23	480	457	20	53	23	2	54	31.7	20.8	21	7	10.9	21	5	621	594	0	0	27	159	0	80.0
27	14	39	477	450	19	0	27	18	53	33.5	26.7	3	45	6.8	19	32	633	593	1	25	40	225	0	79.9
28	23	23	504	448	22	17	56	12	54	31.6	3.8	23	48	27.8	22	25	629	576	23	50	53	328	1	79.7
29	2	35	498	444	1	42	54	17	24	29.8	13.7	0	0	16.1	19	50	612	552	2	54	60	358	1	79.0
30 Q	15	22	476	464	3	43	12	11	17	30.1	24.4	21	42	5.7	23	15	611	601	12	5	10	64	0	78.2
31	6	16	485	464	16	13	21	12	27	31.2	27.1	20	44	4.1	18	40	612	599	7	49	13	91	0	77.8
Mean	--	--	487	440	--	--	47	--	--	33.9	17.8	--	--	16.1	--	--	639	577	--	--	62	358	0.42	78.4
No. of Days Used	--	--	31	31	--	--	31	--	--	31	31	--	--	31	--	--	31	31	--	--	31	31	31	31



Departures from mean of the day adjusted for non-cyclic change.†

MONTH and SEASON.	Hour	G.M.T.	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
	0-1	1-2																						
53. LERWICK. HORIZONTAL FORCE. (ALL DAYS). 1933.																								
Jan. ...	-7.0	-6.5	-3.6	-1.5	+0.5	+4.8	+8.7	+6.6	+1.4	-1.8	-4.1	-4.0	-2.4	+0.4	+2.6	+3.4	+2.4	+1.2	+3.2	+1.1	+1.1	+0.4	-2.0	-4.9
Feb. ...	-6.2	-9.8	-11.6	-5.5	+0.3	+3.4	+5.5	+3.9	+1.7	-1.2	-4.7	-6.8	-4.4	-0.6	+4.3	+6.1	+8.0	+4.6	+5.6	+4.5	+2.7	+4.5	+1.7	-7.0
Mar. ...	-4.8	-8.9	-7.9	-6.1	+0.2	+4.7	+5.0	+3.8	-2.7	-10.4	-16.8	-16.6	-11.6	-2.4	+3.6	+11.0	+12.1	+11.4	+11.5	+10.0	+5.4	+5.2	+7.5	-3.2
Apr. ...	-3.2	-8.6	-3.5	-1.0	-0.9	-1.9	-1.1	-5.2	-12.7	-20.1	-24.6	-23.4	-15.1	-4.7	+2.0	+12.3	+19.3	+23.1	+22.6	+21.9	+17.7	+3.9	+2.4	-1.2
May ...	-20.3	-8.4	-3.8	-1.8	-4.8	-5.3	-6.8	-12.1	-18.6	-23.9	-24.4	-19.5	-11.2	-2.9	+9.0	+31.1	+40.0	+36.8	+36.3	+24.1	+9.9	-9.1	-4.7	-9.6
June ...	-4.0	-4.1	-4.9	-4.4	-2.2	-4.0	-8.6	-14.2	-20.3	-25.6	-26.3	-21.3	-13.8	-0.9	+6.8	+17.4	+25.3	+23.3	+26.4	+22.5	+16.5	+11.0	+4.0	+1.3
July ...	+2.1	-0.5	-1.4	-2.6	+0.2	-0.7	-5.3	-11.9	-18.2	-24.2	-26.1	-22.9	-17.9	-6.3	+2.0	+10.5	+17.1	+19.7	+21.8	+17.9	+12.2	+7.4	+6.0	
Aug. ...	+3.3	+0.5	-4.7	-2.8	+0.8	-2.0	-8.1	-13.6	-20.5	-25.2	-25.7	-22.7	-15.1	-1.7	+6.5	+12.5	+19.4	+21.6	+26.1	+18.8	+13.5	+10.7	+6.8	+2.6
Sept. ...	+2.6	+0.7	-4.5	-2.4	-4.1	-1.5	-1.3	-9.6	-16.5	-19.7	-19.9	-17.2	-7.4	+0.3	+6.8	+10.6	+13.7	+15.0	+13.3	+14.9	+10.3	+8.1	+4.5	+3.3
Oct. ...	-6.2	-8.8	-1.1	-0.5	+5.6	+6.8	+4.4	+0.5	-5.0	-11.7	-15.2	-16.6	-8.6	-1.5	+4.3	+3.7	+4.1	+5.8	+7.4	+7.9	+7.3	+9.2	+5.1	+2.1
Nov. ...	-3.7	-3.5	-1.5	+0.1	+2.3	+5.3	+6.4	+3.2	+0.6	-3.9	-5.2	-4.3	-1.9	-0.7	+0.1	+1.2	+4.1	+1.8	+0.3	+0.9	+1.9	-1.3	-1.8	-0.4
Dec. ...	-3.3	-4.2	-1.5	-0.8	+1.9	+5.3	+5.1	+4.9	+2.4	+0.3	-0.9	-2.8	-2.1	+1.1	+2.5	+3.0	+3.0	+1.7	+1.9	-2.0	-4.0	-5.9	-3.3	-2.3
Year ...	-4.1	-5.1	-4.2	-2.4	0.0	+1.2	+0.3	-3.6	-9.0	-13.9	-16.2	-14.8	-9.3	-1.7	+4.2	+10.2	+14.0	+13.8	+14.7	+12.2	+8.3	+4.1	+2.3	-1.1
Winter ..	-4.8	-6.0	-4.5	-1.9	+1.3	+4.7	+6.4	+4.7	+1.5	-1.7	-3.7	-4.5	-2.7	+0.1	+2.4	+3.4	+4.4	+2.3	+2.7	+1.1	+0.4	-0.6	-1.3	-3.7
Equinox..	-2.9	-5.9	-4.3	-2.5	+0.2	+2.0	+1.7	-2.6	-9.2	-15.5	-19.1	-18.2	-10.7	-2.1	+4.2	+9.4	+12.3	+13.8	+13.7	+13.7	+10.2	+6.6	+4.9	+0.3
Summer...	-4.7	-3.4	-3.7	-2.9	-1.5	-3.0	-7.2	-12.9	-19.4	-24.7	-25.6	-21.6	-14.5	-3.1	+6.1	+17.9	+25.5	+25.3	+27.7	+21.8	+14.5	+6.2	+3.4	+0.1
54. LERWICK. DECLINATION. (ALL DAYS). 1933.																								
Jan. ...	+2.30	-0.81	-0.33	-0.64	-0.54	+0.01	+0.07	+0.08	-0.18	+0.17	+1.23	+2.27	+3.57	+3.44	+2.76	+2.28	+1.69	+0.92	-0.08	-1.37	-2.45	-2.60	-3.68	-3.51
Feb. ...	-2.08	-2.29	-1.24	-0.65	-1.13	-1.21	-0.66	-0.03	+0.58	+0.62	+1.71	+2.99	+4.06	+4.14	+3.73	+2.13	+0.67	+0.66	-2.01	-2.06	-1.26	-2.20	-1.88	-2.52
Mar. ...	-2.07	-0.96	-1.98	-1.91	-1.96	-1.03	-0.97	-1.19	-1.86	-1.07	+0.57	+3.43	+5.26	+6.08	+5.62	+3.86	+1.96	+0.07	-0.97	-1.41	-1.61	-3.25	-2.58	-2.03
Apr. ...	-2.57	-1.80	-2.04	-2.75	-2.86	-2.14	-2.25	-2.27	-2.25	-1.00	+1.08	+3.85	+6.46	+7.48	+6.51	+4.86	+3.35	+1.96	+0.46	-1.75	-2.66	-3.28	-2.79	-3.60
May ...	-1.46	-1.22	-2.24	-2.91	-3.26	-4.57	-4.95	-4.67	-3.39	-1.46	+1.16	+3.53	+5.41	+5.76	+5.01	+4.20	+4.69	+3.62	+1.40	+0.19	-0.47	-0.62	-2.13	-1.62
June ...	-1.65	-2.25	-3.20	-3.67	-4.84	-4.76	-5.10	-4.69	-3.88	-2.06	+0.41	+2.92	+5.02	+6.03	+6.16	+5.11	+3.90	+3.03	+2.35	+1.77	+1.08	+0.57	-0.80	-1.45
July ...	-0.76	-1.15	-2.27	-3.14	-4.52	-5.41	-5.54	-4.79	-3.83	-2.23	+0.42	+2.98	+5.10	+5.91	+5.88	+4.39	+3.07	+2.39	+1.73	+0.89	+0.73	+0.81	-0.30	-0.36
Aug. ...	-1.30	-1.59	-1.53	-2.65	-3.55	-4.31	-3.95	-3.32	-2.42	-0.30	+1.91	+4.46	+6.01	+6.21	+5.38	+3.91	+2.36	+1.35	+0.23	-1.52	-1.02	-1.01	-1.61	-1.74
Sept. ...	-1.63	-1.66	-2.35	-2.78	-2.56	-1.52	-2.07	-2.11	-1.37	+0.23	+2.66	+4.65	+5.80	+5.94	+4.43	+2.67	+0.91	0.00	-0.34	-1.32	-1.35	-2.16	-2.24	-1.81
Oct. ...	-1.90	-1.50	-1.43	-1.44	-0.99	-1.02	-0.27	-0.62	-0.83	+0.52	+1.21	+3.31	+4.44	+4.58	+4.05	+2.48	+1.20	-0.42	-0.49	-1.14	-1.70	-2.34	-1.95	-2.81
Nov. ...	-1.73	-0.86	-0.74	-0.53	-0.30	+0.24	+0.43	+0.70	+0.62	+0.87	+1.60	+2.66	+3.24	+3.20	+2.45	+1.45	+0.80	+0.59	-0.92	-1.36	-3.59	-3.74	-2.49	-2.01
Dec. ...	-0.94	0.00	+0.16	-0.54	0.00	+0.10	+0.31	+0.47	+0.48	+0.80	+1.61	+2.19	+2.79	+2.56	+1.65	+0.80	+1.07	+0.29	-0.04	-2.18	-1.95	-3.46	-3.86	-2.31
Year ...	-1.70	-1.34	-1.60	-1.97	-2.21	-2.17	-2.08	-1.66	-1.53	-0.50	+1.30	+3.26	+4.76	+5.11	+4.47	+3.16	+2.14	+1.21	+0.11	-0.94	-1.35	-1.94	-2.19	-2.15
Winter ..	-1.76	-0.99	-0.54	-0.59	-0.49	-0.33	+0.04	+0.31	+0.37	+0.61	+1.54	+2.50	+3.41	+3.34	+2.65	+1.67	+1.08	+0.61	-0.76	-1.74	-2.31	-3.00	-2.98	-2.61
Equinox..	-2.04	-1.48	-1.96	-2.22	-2.09	-1.43	-1.39	-1.52	-1.58	-0.59	+1.38	+3.81	+5.49	+6.02	+5.15	+3.47	+1.85	+0.40	-0.33	-1.41	-1.83	-2.76	-2.39	-2.56
Summer...	-1.29	-1.55	-2.31	-3.09	-4.04	-4.76	-4.89	-4.37	-3.38	-1.51	+0.97	+3.47	+5.39	+5.98	+5.61	+4.40	+3.51	+2.60	+1.43	+0.33	+0.08	-0.06	-1.21	-1.29
55. LERWICK. VERTICAL FORCE. (ALL DAYS). 1933.																								
Jan. ...	-9.6	-14.8	-16.4	-11.4	-9.5	-10.0	-9.2	-5.6	-2.8	-1.5	+0.3	+0.6	+1.4	+4.3	+7.8	+11.7	+15.5	+17.9	+17.1	+12.4	+7.5	+0.2	-1.1	-4.4
Feb. ...	-24.2	-20.9	-19.3	-20.5	-16.5	-9.8	-6.0	-2.4	-0.9	+0.8	+2.1	+4.5	+5.6	+9.1	+15.1	+24.0	+24.6	+20.4	+19.7	+15.9	+10.6	+0.5	-12.8	-19.6
Mar. ...	-22.8	-28.4	-26.0	-22.5	-17.6	-15.7	-9.3	-3.4	+1.9	+4.7	+6.0	+4.8	+5.2	+7.7	+12.7	+19.4	+25.9	+27.0	+24.6	+17.1	+10.1	+3.3	-7.0	-17.7
Apr. ...	-33.6	-30.4	-23.0	-14.1	-9.0	-7.5	-6.2	-2.0	+0.9	+2.7	+2.2	+2.9	+4.2	+8.9	+12.8	+17.9	+22.1	+24.5	+25.4	+24.8	+17.7	+4.8	-16.2	-29.8
May ...	-17.6	-27.2	-22.6	-12.7	-10.6	-8.6	-2.9	-1.2	-1.8	-2.4	-3.5	-4.3	-3.3	+2.6	+11.0	+12.5	+12.3	+19.9	+24.8	+24.2	+21.2	+12.5	-7.5	-14.8
June ...	-18.6	-21.2	-19.5	-19.1	-11.2	-4.6	-1.2	+0.4	+1.6	+0.6	+0.7	+2.1	-1.3	+1.3	+7.1	+13.2	+18.1	+18.3	+16.2	+16.0	+12.5	+6.8	-2.2	-10.4
July ...	-13.2	-14.3	-11.4	-9.7	-5.2	-1.4	+0.3	+1.5	+0.9	+0.1	-2.3	-5.2	-5.4	-2.8	+1.4	+8.3	+12.3	+14.3	+14.2	+13.4	+10.3	+6.2	-2.9	-9.4
Aug. ...	-13.9	-11.7	-12.1	-10.9	-4.9	-1.9	-0.3	-0.7	-1.9	-3.7	-6.2	-5.6	-4.9	-0.1	+7.3	+12.5	+16.5	+20.0	+20.0	+13.4	+5.9	+1.7	-5.8	-12.7
Sept. ...	-21.1	-22.0	-21.5	-17.3	-14.8	-14.8	-9.6	-4.1	+0.1	+3.2	+3.4	+3.1	+4.7	+9.1	+14.5	+20.6	+26.6	+27.7	+24.1	+17.1	+5.1	-1.6	-11.4	-21.1
Oct. ...	-22.9	-25.4	-18.9	-15.3	-11.9	-7.8	-4.4	-1.2	+2.0	+4.5	+5.7	+6.4	+6.4	+7.9	+11.7	+16.8	+17.7	+18.6	+15.2	+10.6	+6.0	+0.3	-6.1	-15.9
Nov. ...	-14.1	-16.7	-12.4	-8.6	-7.4	-6.9	-6.9	-4.1	-2.1	-0.7	-0.4	0.0	+1.5	+5.0	+11.2	+14.4	+13.0	+14.9	+16.2	+13.4	+8.4	-2.0	-5.4	-10.3
Dec. ...	-6.5	-6.7	-8.0	-7.0	-6.9	-7.5	-6.2	-5.9	-4.8	-4.3	-4.1	-3.2	-1.2	+1.2	+4.6	+7.6	+12.2	+15.7	+16.7	+16.7	+8.7	+1.5	-7.1	-5.5
Year ...	-18.2	-20.0	-17.6	-14.1	-10.5	-8.0	-5.2	-2.4	-0.6	+0.3	+0.2	+0.2	+1.1	+4.5	+9.8	+14.9	+18.1	+19.9	+19.5	+16.3	+10.3	+2.8	-7.1	-14.3
Winter...	-13.6	-14.8	-14.0	-11.9	-10.1	-8.5	-7.1	-4.5	-2.7	-1.4	-0.6	+0.5	+1.8	+4.9	+9.7	+14.4	+16.3	+17.2	+17.4	+14.6	+8.8	-0.1	-6.6	-9.9
Equinox..	-25.1	-26.5	-22.3	-17.3	-13.3	-11.5	-7.4	-2.7	+1.2	+3.8	+4.3	+4.3	+5.1	+8.4	+12.9	+18.7	+23.1	+24.5	+22.3	+17.4	+9.7	+1.7	-10.2	-21.1
Summer...	-15.8	-16.6	-16.4	-13.1	-8.0	-4.1	-1.0	0.0	-0.3	-1.3	-3.2	-4.3	-3.7	+0.3	+6.7	+11.6	+14.8	+18.1	+18.6	+16.7	+12.5	+6.8	-4.6	-11.8



Departures from mean of the day adjusted for non-cyclic change.†

MONTH and SEASON.	Hour 0-1	G. M. T. 1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
	56. LERWICK. HORIZONTAL FORCE (QUIET DAYS). 1933.																							
Jan. ...	-1.3	-1.8	-1.5	-0.1	+1.1	+4.0	+4.9	+3.5	+1.3	-1.4	-4.5	-5.5	-3.1	-0.2	+0.3	+1.3	+1.5	+0.8	+0.7	+1.5	+1.1	-0.8	-0.9	-0.9
Feb. ...	+0.8	+1.2	+1.0	+1.7	+1.5	+2.8	+2.5	+2.0	-0.6	-5.0	-7.3	-8.5	-5.5	-1.9	-0.8	-0.4	+1.8	+3.4	+2.5	+2.7	+1.7	+1.6	+1.0	+1.0
Mar. ...	+2.0	+1.2	+1.5	+1.6	+3.4	+4.8	+4.6	+3.4	-1.5	-6.2	-12.4	-14.4	-9.8	-4.4	-1.5	+2.0	+2.4	+2.0	+2.4	+4.0	+4.1	+4.0	+4.6	+2.2
Apr. ...	+4.6	+4.5	+2.8	+6.2	+6.6	+5.1	+3.0	-2.6	-12.2	-20.7	-22.8	-22.8	-18.6	-12.3	-5.0	+2.6	+8.4	+13.3	+13.4	+11.6	+11.4	+8.9	+8.0	+6.4
May ...	+7.8	+4.6	+3.2	+4.2	+4.3	+0.8	-6.2	-15.1	-24.2	-28.7	-26.7	-21.6	-13.1	-7.1	+1.2	+4.3	+9.9	+15.5	+18.3	+17.3	+16.9	+13.9	+11.0	+9.5
June ...	+2.3	+1.1	+0.8	+2.4	+1.6	-1.5	-7.1	-13.6	-17.8	-22.4	-23.5	-19.9	-10.8	-2.0	+4.5	+8.9	+12.5	+17.2	+18.6	+15.9	+11.3	+9.5	+7.2	+4.8
July ...	+4.9	+0.8	+0.9	+0.9	+1.3	-2.1	-7.0	-12.0	-15.6	-21.1	-26.9	-26.7	-18.3	-9.0	+1.4	+13.8	+17.6	+19.3	+17.8	+17.9	+15.3	+11.2	+8.7	+6.9
Aug. ...	+5.7	+3.7	+1.6	+2.5	+2.9	-0.5	-4.5	-10.1	-18.2	-26.4	-28.3	-26.0	-16.6	-4.9	+2.6	+7.8	+13.9	+17.0	+17.6	+17.9	+14.7	+10.8	+8.7	+8.1
Sept. ...	+6.0	+6.4	+7.8	+8.1	+7.2	+5.6	+0.5	-11.6	-20.5	-24.9	-26.3	-22.2	-11.6	-0.7	+0.4	+0.6	-1.2	+5.9	+12.0	+16.6	+13.8	+11.9	+9.4	+9.0
Oct. ...	+3.0	+2.5	+1.7	+1.1	+2.6	+5.2	+5.7	+1.8	-3.6	-8.4	-13.7	-15.1	-12.0	-6.5	-1.5	+1.7	+1.8	+3.2	+4.5	+4.8	+5.4	+5.4	+5.9	+4.3
Nov. ...	-2.3	-0.7	-0.5	+0.1	+2.9	+4.5	+5.2	+3.6	+1.6	-1.8	-3.9	-4.3	-1.7	+0.3	+0.4	-0.2	+0.2	-0.1	+1.4	+1.1	-0.9	-2.7	-1.1	-1.1
Dec. ...	-1.5	-2.9	-2.4	-1.6	+0.9	+2.6	+3.4	+3.5	+1.7	-0.8	-1.4	-2.9	-0.3	+1.6	+2.2	+2.1	-1.1	-0.3	+1.5	+0.3	-0.6	-1.4	-1.1	-1.5
Year ...	+2.7	+1.7	+1.4	+2.1	+3.0	+2.6	+0.5	-3.9	-9.1	-14.0	-16.5	-15.6	-10.1	-3.9	+0.3	+3.7	+5.6	+8.1	+9.2	+9.3	+7.9	+6.0	+5.1	+4.1
Winter...	-1.1	-1.1	-0.8	0.0	+1.6	+3.5	+4.3	+3.2	+0.9	-2.3	-4.3	-5.3	-2.7	-0.1	+0.5	+0.7	+0.6	+0.9	+1.5	+1.4	+0.3	-0.8	-0.5	-0.6
Equinox..	+3.9	+3.7	+3.4	+3.7	+5.0	+5.2	+3.5	-2.3	-9.5	-15.1	-18.8	-18.6	-13.0	-6.0	-1.9	+1.8	+2.9	+6.1	+8.1	+9.3	+8.7	+7.5	+7.0	+5.5
Summer...	+5.2	+2.5	+1.6	+2.5	+2.5	-0.8	-6.2	-12.7	-16.9	-24.7	-26.3	-23.5	-14.7	-5.7	+2.4	+6.7	+13.5	+17.3	+18.1	+17.3	+14.5	+11.3	+8.9	+7.3
57. LERWICK. DECLINATION (QUIET DAYS). 1933.																								
Jan. ...	-0.41	-0.55	-0.04	-0.14	-0.09	-0.32	-0.55	-0.74	-0.86	-0.49	+0.19	+1.04	+2.08	+2.49	+1.51	+0.94	+0.62	+0.24	+0.09	-0.29	-0.60	-1.42	-1.63	-1.07
Feb. ...	-0.21	-0.14	+0.37	-0.36	-0.57	-0.86	-0.77	-0.78	-0.61	-0.46	+0.33	+1.02	+1.57	+1.74	+1.21	+0.38	-0.21	-0.12	+0.21	+0.04	-0.51	-0.38	-0.31	-0.58
Mar. ...	-0.99	-0.52	-1.17	-1.02	-1.44	-1.30	-1.55	-1.83	-2.52	-1.73	+0.08	+2.29	+4.13	+4.65	+3.70	+2.12	+0.65	+0.38	+0.06	-0.12	-0.26	-0.88	-1.61	-1.11
Apr. ...	-1.71	-0.87	-0.26	-1.85	-2.07	-2.71	-3.22	-3.54	-3.21	-1.66	-0.05	+2.56	+5.23	+6.14	+4.45	+3.08	+1.83	+1.17	+0.42	-0.22	-0.44	-0.81	-1.08	-1.18
May ...	-0.62	-1.04	-1.30	-1.91	-3.23	-4.53	-5.01	-5.22	-3.74	-1.62	+1.04	+3.87	+5.37	+5.55	+4.77	+3.18	+1.74	+1.08	+0.80	+0.77	+0.73	+0.39	-0.59	-0.48
June ...	-0.02	-0.62	-1.31	-2.02	-3.44	-4.91	-5.42	-5.32	-4.79	-2.74	+0.12	+3.23	+5.00	+4.90	+4.47	+3.84	+2.40	+1.87	+1.64	+1.50	+0.99	+0.72	+0.04	-0.13
July ...	+0.33	-0.89	-2.28	-2.93	-4.51	-5.35	-5.35	-5.13	-4.58	-2.83	+0.17	+2.66	+3.76	+4.24	+3.98	+3.56	+2.59	+2.20	+2.42	+2.11	+2.41	+1.97	+0.74	+0.71
Aug. ...	-1.26	-1.27	-1.45	-1.85	-2.93	-4.10	-4.87	-4.98	-4.28	-2.04	+1.15	+4.04	+6.18	+6.79	+4.87	+2.97	+1.68	+0.69	+0.38	+0.67	+0.60	-0.04	-0.83	-0.32
Sept. ...	-1.00	+0.32	-0.99	-2.07	-2.65	-3.39	-3.31	-2.95	-2.40	-0.58	+2.14	+4.60	+5.54	+5.22	+3.37	+1.77	+0.65	+0.53	+0.37	+0.35	-0.22	-1.82	-1.56	-1.92
Oct. ...	-0.71	-1.13	-1.25	-0.79	-0.81	-1.43	-1.33	-1.40	-1.43	-1.01	+0.96	+2.59	+2.98	+2.98	+2.26	+1.32	+0.74	+0.78	+0.42	+0.03	-0.46	-0.72	-1.37	-1.22
Nov. ...	-1.12	-1.01	-0.82	-0.41	-0.69	-0.77	-0.62	-0.32	-0.53	+0.04	+0.76	+1.39	+1.98	+1.75	+1.25	+0.76	+0.82	+0.85	+0.90	+0.25	-0.92	-1.13	-1.08	-1.33
Dec. ...	-0.44	+0.19	-0.02	-0.05	-0.17	-0.37	-0.48	-0.38	-0.23	+0.28	+1.31	+1.90	+1.84	+1.62	+0.89	+0.49	+0.12	+0.01	-0.22	-0.43	-1.83	-2.01	-1.28	-0.74
Year ...	-0.68	-0.63	-0.88	-1.28	-1.88	-2.50	-2.69	-2.72	-2.43	-1.24	+0.68	+2.60	+3.81	+4.01	+3.06	+2.03	+1.14	+0.81	+0.62	+0.39	-0.04	-0.51	-0.88	-0.78
Winter...	-0.55	-0.38	-0.13	-0.24	-0.38	-0.58	-0.61	-0.55	-0.56	-0.16	+0.65	+1.34	+1.87	+1.90	+1.21	+0.64	+0.34	+0.25	+0.25	-0.11	-0.97	-1.23	-1.07	-0.93
Equinox..	-1.10	-0.55	-0.92	-1.43	-1.74	-2.21	-2.35	-2.43	-2.39	-1.25	+0.78	+3.01	+4.47	+4.75	+3.45	+2.07	+0.97	+0.71	+0.31	+0.01	-0.35	-1.06	-1.41	-1.36
Summer...	-0.39	-0.95	-1.59	-2.18	-3.53	-4.72	-5.11	-5.16	-4.35	-2.31	+0.62	+3.45	+5.08	+5.37	+4.52	+3.39	+2.10	+1.46	+1.31	+1.26	+1.18	+0.76	-0.16	-0.05
58. LERWICK. VERTICAL FORCE (QUIET DAYS). 1933.																								
Jan. ...	-0.7	-1.1	-1.3	-1.9	-2.3	-3.2	-3.1	-2.1	-1.9	-0.8	-0.3	+0.3	+0.7	+2.1	+3.1	+2.4	+0.7	+0.9	+0.8	+0.9	+1.4	+2.8	+1.9	+0.7
Feb. ...	-2.0	-2.3	-2.2	-1.4	-0.4	-0.5	-0.3	-0.1	-0.1	0.0	-0.3	-0.1	-0.5	-0.6	+0.7	+1.7	+2.5	+2.6	+2.2	+1.4	+1.6	+0.5	-0.8	-1.6
Mar. ...	-2.6	-1.8	-1.1	-0.5	-0.7	-1.5	-1.1	-0.7	-0.2	-0.6	-2.0	-4.0	-5.2	-3.2	+0.7	+4.9	+4.9	+3.5	+2.9	+2.7	+2.6	+2.4	+0.2	+0.4
Apr. ...	-15.4	-6.6	-4.1	+1.1	+6.5	+6.3	+5.7	+4.3	+1.5	-1.2	-3.6	-4.8	-6.1	-4.7	-0.7	+1.8	+4.5	+5.6	+8.2	+8.1	+5.0	+2.8	-3.5	-10.7
May ...	+1.0	+2.6	+4.5	+5.2	+5.4	+5.5	+4.5	+2.6	+0.8	-3.7	-9.4	-10.8	-10.7	-7.9	-3.8	-0.7	+3.5	+3.0	+2.6	+2.1	+0.7	+1.2	+1.3	+0.5
June ...	-1.4	-2.6	-0.9	+0.7	+0.9	+0.2	+0.4	-0.2	+0.4	-1.1	-3.1	-5.7	-9.0	-5.8	-1.4	+0.7	+1.7	+3.5	+4.7	+5.6	+4.0	+2.9	+0.1	+0.1
July ...	-6.4	-6.6	-4.0	-1.1	+2.4	+5.0	+4.3	+3.6	+2.1	-0.3	-2.3	-6.4	-9.0	-6.2	-5.6	-2.7	+3.8	+6.6	+7.7	+6.0	+4.9	+3.5	+1.5	-0.8
Aug. ...	-6.1	-3.6	-1.3	+0.1	+4.3	+5.6	+5.9	+5.1	+4.0	+1.7	-2.4	-5.6	-8.4	-7.5	-4.2	-2.0	+0.3	+3.6	+5.1	+4.5	+3.7	+2.6	+0.1	-5.5
Sept. ...	-5.1	-8.5	-7.5	-2.8	+1.1	+2.5	+3.1	+4.2	+2.5	+0.1	-3.1	-5.4	-6.6	-5.2	+1.2	+7.5	+10.4	+7.0	+4.2	+2.3	+2.8	+2.0	-1.6	-5.1
Oct. ...	-0.5	-2.5	-2.5	-1.3	-1.5	-2.4	-3.0	-3.0	-2.6	-2.6	-2.2	-0.6	+1.2	+1.0	+2.4	+4.0	+4.6	+2.9	+2.3	+1.5	+1.1	+0.9	+1.3	+1.5
Nov. ...	+0.1	-1.2	-0.4	-1.3	-2.0	-3.0	-3.0	-3.5	-1.9	-2.8	-2.5	-1.5	-1.2	+0.1	+1.3	+2.2	+2.1	+1.7	+2.1	+2.8	+4.2	+4.1	+2.4	+1.2
Dec. ...	+1.1	+0.1	-0.9	-1.0	-2.7	-3.7	-3.2	-3.8	-3.5	-3.5	-2.9	-1.9	-1.0	+0.2	+1.6	+3.0	+3.8	+3.3	+2.2	+2.1	+3.1	+3.2	+2.4	+2.0
Year ...	-3.2	-2.6	-1.6	-0.3	+0.9	+0.9	+0.9	+0.5	+0.1	-1.2	-2.8	-3.9	-4.7	-3.1	-0.4	+1.9	+3.6	+3.7	+3.7	+3.3	+3.1	+2.5	+0.7	-1.4
Winter...	-0.4	-1.1	-1.2	-1.4	-1.9	-2.6	-2.4	-2.4	-1.9	-1.8	-1.5	-0.8	-0.5	+0.5	+1.7	+2.3	+2.3	+2.1	+1.8	+1.8	+2.6	+2.7	+1.5	+0.6
Equinox..	-5.9	-4.9	-3.8	-0.9	+1.3	+1.2	+1.2	+1.2	+0.3	-1.1	-2.7	-3.7	-4.2	-3.0	+0.9	+4.5	+6.1	+4.7	+4.4	+3.7	+2.9	+2.0	-0.9	-3.5
Summer...	-3.2	-2.5	-0.4	+1.2	+3.3	+4.1	+3.8	+2.8	+1.8	-0.9	-4.3	-7.1	-9.4	-6.9	-3.7	-1.2	+2.3	+4.2	+5.0	+4.5	+3.7	+2.8	+1.5	-1.4



Departures from mean of the day adjusted for non-cyclic change.†

MONTH and SEASON.	Hour 0-1	G.M.T. 1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
59. LERWICK.	HORIZONTAL FORCE (DISTURBED DAYS)																							1933.
Jan.	-7.2	-4.1	-6.1	-4.0	-3.8	+3.3	+6.7	+7.9	+3.6	-0.1	-4.9	-3.8	+2.1	+3.8	+8.6	+9.3	+4.3	+0.8	+10.4	-2.4	-2.3	-6.6	-6.4	-2.1
Feb.	-21.5	-21.6	-32.1	-32.0	-17.2	-8.7	+3.0	-1.4	-2.9	+1.0	-0.3	-10.0	-2.3	+9.2	+18.3	+28.2	+32.2	+15.5	+16.4	+16.0	+9.9	+16.0	+10.3	-26.0
March	-21.1	-42.5	-20.4	-21.9	-5.8	-5.1	-0.6	+6.8	+1.2	-7.9	-19.0	-15.0	-7.1	+6.1	+18.8	+37.5	+34.4	+37.3	+29.4	+22.6	-2.8	-4.1	+10.4	-31.2
April	-12.9	-8.6	-22.0	-12.4	-5.1	-4.2	-1.2	-6.5	-10.3	-17.7	-28.2	-28.1	-12.7	+4.2	+9.2	+21.8	+28.7	+31.2	+33.2	+37.7	+35.9	-6.9	-9.0	-16.1
May	-51.9	-53.7	-55.5	-52.8	-56.7	-44.5	-30.9	-33.8	-32.9	-34.5	-32.3	-19.0	+0.4	+16.8	+50.2	+146.5	+167.0	+112.0	+96.4	+43.5	-3.2	-76.4	-26.8	-28.1
June	-15.3	-5.0	-26.0	-22.9	-8.2	-7.6	-9.6	-16.8	-20.5	-24.8	-22.3	-21.2	-11.0	+8.3	+10.0	+34.7	+49.2	+36.5	+36.9	+31.2	+23.3	+8.4	-11.4	-8.9
July	-4.1	-4.2	-9.1	-23.8	-0.4	+4.2	-4.0	-18.6	-26.0	-26.2	-23.9	-13.6	-18.1	-5.7	+1.3	+19.1	+27.8	+27.7	+27.7	+29.8	+24.1	+16.0	-2.4	+2.4
Aug.	-4.8	-12.9	-29.1	-24.6	-10.9	-16.0	-22.6	-17.5	-23.3	-31.4	-33.7	-25.8	-18.8	+4.5	+25.5	+39.0	+48.1	+43.0	+65.2	+28.5	+19.5	+11.4	-4.5	-8.8
Sept.	-10.9	-9.8	-16.2	-14.1	-32.2	-26.9	-18.7	-27.6	-27.4	-19.5	-11.0	-14.1	+4.5	+10.6	+25.6	+42.3	+55.0	+51.5	+30.1	+27.0	+5.4	+1.1	-13.2	-11.5
Oct.	-13.2	-22.9	-2.6	-6.3	+4.4	+8.2	+6.7	+1.7	-3.9	-13.0	-21.0	-22.5	-7.5	+3.8	+14.5	+6.4	+12.5	+12.3	+10.0	+10.4	+8.4	+15.3	+4.1	+1.2
Nov.	-14.4	-12.9	+3.7	+1.7	+4.1	+10.8	+8.4	+1.6	-2.4	-9.7	-7.1	-5.3	-1.3	+1.8	+0.8	+9.0	+8.2	+4.9	-2.3	+3.3	+14.9	-0.2	-9.4	-0.8
Dec.	-0.3	+0.5	+2.7	+3.9	+7.2	+12.8	+11.3	+13.7	+5.9	-0.1	-0.1	-9.2	-10.2	+2.2	-0.8	-0.3	+9.5	+5.2	+12.1	-2.2	-15.9	-27.8	-17.2	-2.9
Year	-14.8	-16.5	-18.9	-18.0	-10.4	-6.1	-4.3	-7.5	-11.6	-15.3	-17.0	-16.2	-6.8	+5.5	+15.2	+32.8	+40.3	+31.5	+30.5	+20.5	+9.8	-4.5	-6.3	-11.7
Winter	-10.9	-9.5	-11.5	-7.6	-2.4	+4.5	+7.3	+5.5	+1.1	-2.2	-3.1	-7.1	-2.9	+4.3	+6.7	+11.5	+15.3	+6.6	+9.1	+3.7	+1.7	-4.7	-5.7	-9.7
Equinox	-14.6	-20.9	-15.3	-13.7	-9.7	-7.0	-3.5	-6.4	-10.1	-14.5	-19.8	-21.7	-5.7	+6.2	+17.0	+27.0	+32.7	+33.1	+25.7	+24.4	+11.7	+1.3	-1.9	-14.4
Summer	-19.0	-18.9	-29.9	-32.7	-19.1	-16.0	-16.8	-21.7	-25.7	-29.2	-28.1	-19.9	-11.9	+6.0	+21.7	+59.8	+73.0	+54.8	+56.5	+33.3	+15.9	-10.1	-11.3	-10.9
60. LERWICK.	DECLINATION (DISTURBED DAYS).																							1933.
Jan.	-2.85	-2.84	-0.43	+0.68	-0.31	+0.39	+0.63	+0.21	+0.11	+0.64	+1.92	+2.75	+4.93	+4.06	+5.15	+4.78	+3.27	+0.69	-2.45	-3.69	-5.45	-3.20	-5.18	-3.81
Feb.	-0.47	-4.58	-4.31	-1.46	-1.21	-1.83	+0.09	+2.79	+4.47	+1.82	+3.38	+5.41	+7.37	+8.22	+8.33	+4.12	-0.53	-0.79	-10.67	-9.91	-0.57	-5.62	-1.78	-2.37
March	-5.29	+2.22	+0.12	-4.01	-3.12	+1.47	+1.12	+0.43	-0.10	+0.32	+2.37	+4.85	+6.48	+6.90	+7.87	+5.15	+3.29	-2.13	-2.92	-3.34	-1.54	-10.27	-4.85	-5.02
April	-6.88	-4.12	-4.12	-1.89	-3.41	-1.15	-1.70	-0.66	-1.47	-0.21	+1.89	+4.00	+6.72	+7.69	+7.99	+6.67	+5.92	+4.70	+3.36	-1.17	-3.05	-6.86	-4.46	-7.78
May	-5.30	-2.85	-3.48	-3.21	-1.96	-5.05	-6.20	-4.81	-4.56	-3.87	+0.06	+2.87	+6.20	+6.79	+6.42	+5.25	+12.34	+10.77	+3.42	+0.97	-2.18	-0.75	-6.92	-4.25
June	-4.76	-7.43	-6.34	-5.51	-7.09	-2.81	-3.72	-4.24	-3.61	-1.74	+0.73	+3.40	+5.92	+7.66	+8.25	+6.11	+5.50	+4.75	+3.42	+2.35	+1.71	+1.33	-0.40	-3.48
July	-2.16	-3.42	-4.97	-4.52	-5.42	-8.46	-5.81	-3.23	-1.30	-1.01	+1.99	+4.19	+7.27	+7.61	+7.92	+4.15	+3.05	+3.31	+2.32	+1.60	+0.33	+0.28	-3.42	-2.30
Aug.	-2.70	-3.59	-3.87	-3.81	-4.74	-5.11	-2.84	-3.13	-2.31	-0.13	+1.92	+5.65	+7.17	+7.44	+10.12	+10.04	+6.61	+4.76	+2.17	-8.42	-6.48	-3.58	-2.65	-2.74
Sept.	-1.16	-2.17	-1.00	-2.48	+0.20	+5.65	+2.26	-0.48	-0.85	+0.33	+1.92	+4.35	+5.98	+8.05	+6.10	+3.04	+1.38	-2.79	-4.00	-8.00	-3.11	-4.45	-5.28	-3.49
Oct.	-2.44	-1.87	-1.38	-2.11	-0.06	-0.82	+0.33	+0.92	+0.47	+1.32	+2.81	+4.92	+6.44	+6.22	+6.26	+3.35	+2.26	-4.40	-4.17	-3.40	-4.99	-4.48	-1.91	-4.04
Nov.	-1.65	+3.22	+0.46	-0.51	-0.18	+1.99	+4.87	+4.44	+2.63	+1.53	+1.52	+2.72	+4.15	+3.63	+2.72	+1.98	-1.70	-0.02	-2.40	-2.88	-8.12	-7.73	-6.73	-3.64
Dec.	-1.09	-0.46	-0.20	+0.36	+1.80	+2.15	+2.76	+3.63	+2.57	+1.51	+3.14	+3.79	+5.17	+5.12	+2.64	+1.22	+2.11	-3.70	-2.25	-7.36	-5.71	-7.67	-6.48	-2.95
Year	-3.06	-2.32	-2.44	-2.37	-2.13	-0.97	-0.70	-0.35	-0.34	+0.07	+1.97	+4.07	+6.15	+6.68	+6.65	+4.65	+3.63	+1.26	-1.17	-3.60	-3.26	-4.41	-4.17	-3.82
Winter	-1.51	-1.17	-1.12	-0.23	+0.03	+0.67	+2.04	+2.74	+2.42	+1.37	+2.49	+3.67	+5.41	+5.26	+4.71	+3.03	+0.79	-0.95	-4.42	-5.98	-4.96	-6.05	-5.04	-3.19
Equinox	-3.94	-1.49	-1.59	-2.62	-1.60	+1.29	+0.50	+0.05	-0.49	+0.44	+2.25	+4.53	+6.41	+7.41	+7.05	+4.55	+3.21	-1.15	-1.93	-3.98	-3.17	-6.51	-4.13	-5.08
Summer	-3.73	-4.32	-4.61	-4.26	-4.80	-4.86	-4.64	-3.65	-2.95	-1.61	+1.17	+4.03	+6.64	+7.37	+8.18	+6.39	+6.87	+5.90	+2.33	-0.87	-1.65	-0.67	-3.35	-3.19
61. LERWICK.	VERTICAL FORCE (DISTURBED DAYS).																							1933.
Jan.	-22.0	-25.7	-24.8	-24.2	-23.6	-21.3	-16.4	-12.0	-9.3	-7.6	-3.7	-4.1	-3.9	+2.2	+5.7	+24.3	+43.2	+53.3	+51.8	+29.8	+13.8	-12.1	-3.8	-9.6
Feb.	-81.1	-58.4	-63.7	-74.0	-69.6	-45.2	-30.6	-15.5	-9.2	-2.9	+3.2	+13.3	+18.3	+31.2	+56.9	+92.6	+89.1	+70.3	+69.7	+49.6	+33.2	+14.5	-30.8	-60.9
March	-51.7	-72.6	-62.5	-63.8	-51.0	-53.1	-37.5	-13.5	+4.8	+14.1	+22.2	+25.9	+26.6	+31.3	+34.8	+51.3	+73.3	+75.6	+78.2	+43.4	+14.9	-4.8	-31.5	-54.4
April	-63.6	-54.0	-48.4	-39.6	-26.9	-19.8	-13.3	-4.3	+3.4	+6.2	+7.6	+11.7	+18.9	+33.8	+24.4	+28.4	+29.3	+38.8	+39.5	+42.3	+49.0	+26.0	-24.6	-64.9
May	-33.5	-35.5	-36.1	-32.1	-41.7	-35.3	-15.6	-7.8	-4.2	-0.8	+3.5	+1.9	+1.9	+12.5	+38.2	+31.0	+3.6	+33.1	+42.0	+46.1	+49.1	+39.7	-28.5	-31.5
June	-53.0	-56.1	-61.0	-88.0	-55.8	-23.5	-9.7	+1.8	+9.5	+13.9	+13.3	+14.2	+14.0	+16.3	+28.8	+52.8	+62.4	+54.1	+41.5	+36.8	+26.7	+11.7	-14.9	-35.8
July	-38.8	-35.8	-27.3	-35.3	-26.0	-10.4	-2.0	-0.2	-1.0	-2.0	-5.0	-2.2	+5.1	+10.7	+21.7	+36.1	+37.0	+34.7	+31.9	+28.6	+21.2	+12.6	-16.7	-36.9
Aug.	-26.6	-20.7	-28.5	-31.7	-18.8	-14.3	-14.6	-17.2	-16.3	-15.9	-13.1	-7.4	-0.8	+12.5	+26.3	+42.5	+57.2	+60.9	+55.2	+28.6	+3.3	+0.5	-20.1	-41.0
Sept.	-87.4	-49.3	-44.6	-40.5	-52.5	-68.6	-50.8	-28.8	-9.5	+12.0	+19.7	+22.2	+28.5	+42.8	+57.3	+68.0	+82.8	+80.9	+73.3	+46.3	-16.0	-18.9	-38.0	-58.9
Oct.	-43.3	-59.8	-56.0	-47.2	-40.8	-23.7	-10.3	-2.9	+1.9	+7.4	+11.4	+22.6	+19.0	+21.7	+32.9	+37.7	+32.5	+47.6	+44.6	+27.6	+15.8	+4.7	-9.1	-34.3
Nov.	-34.5	-61.3	-52.2	-35.7	-20.2	-17.5	-17.0	-8.6	-0.6	+9.7	+10.2	+11.4	+8.9	+14.9	+36.2	+42.1	+44.6	+46.2	+38.0	+14.6	-27.9	-22.8	-25.4	-30.3
Dec.	-28.4	-22.1	-16.2	-17.9	-22.3	-24.7	-23.8	-23.6	-16.9	-11.6	-10.2	-5.1	+3.8	+3.1	+19.1	+34.2	+55.4	+72.5	+69.2	+55.5	+17.0	-21.7	-55.4	-30.3
Year	-45.3	-45.9	-43.4	-44.2	-37.4	-29.8	-20.1	-11.0	-3.9	+1.9	+4.9	+8.7	+11.7	+19.4	+31.9	+45.1	+50.9	+56.6	+53.6	+39.4	+20.2	+2.0	-24.7	-40.3
Winter	-41.5	-41.9	-39.2	-37.9	-33.9	-27.2	-21.9	-14.9	-9.0	-3.1	-0.1	-3.9	+6.8	+12.9	+29.5	+48.3	+58.1	+60.7	+59.2	+43.2	+19.7	-11.8	-28.2	-31.5
Equinox	-56.5	-58.9	-52.9	-47.8	-42.8	-41.3	-28.0	-12.4	+0.1	+9.9	+15.2	+20.6	+23.3	+32.4	+37.3	+46.3	+54.5	+63.2	+58.9	+39.9	+15.9	+1.7	-25.8	-53.1
Summer	-38.0	-37.0	-38.2	-46.8	-35.6	-20.9	-10.5	-5.9	-3.0	-1.2	-0.4	+1.6	+5.1	+13.0	+28.7	+40.6	+40.1	+45.7	+42.7	+35.0	+25.1	+16.1	-20.1	-36.3



RANGE OF MEAN DIURNAL INEQUALITIES FOR THE  
MONTHS, YEAR AND SEASONS OF 1933.

NOTE.- The ranges are those shown in Tables 53 to 61 in the preparation  
of which the non-cyclic change has been eliminated.

62. LERWICK.

1933.

AVERAGE DEPARTURE.

63. LERWICK.

1933.

	All Days.			Quiet Days.			Disturbed Days.			All Days.			Quiet Days.			Disturbed Days.		
	H.	D.	V.	H.	D.	V.	H.	D.	V.	H.	D.	V.	H.	D.	V.	H.	D.	V.
January	15.7	7.25	34.3	10.4	4.12	6.3	19.5	10.60	79.0	3.1	1.54	8.0	1.8	0.77	1.6	5.1	2.52	18.7
February	19.6	6.73	48.8	12.0	2.60	4.9	68.3	18.90	173.7	4.7	1.77	12.7	2.5	0.57	1.1	15.3	3.94	45.2
March	28.9	9.33	55.4	19.2	7.17	10.1	80.0	18.14	150.8	7.6	2.24	14.2	4.2	1.50	2.1	17.0	3.56	41.4
April	47.7	11.08	59.0	36.2	9.68	23.6	65.9	15.77	128.4	10.4	3.00	14.3	9.7	2.07	5.1	16.8	4.08	29.9
May	64.4	10.71	52.0	47.0	10.77	16.3	243.4	19.26	90.8	15.6	2.91	11.7	11.9	2.44	3.9	52.7	4.59	25.2
June	52.7	11.26	39.5	42.1	10.42	14.6	79.1	15.68	150.4	12.9	3.19	9.3	9.9	2.56	2.6	19.9	4.26	33.1
July	47.9	11.45	28.6	46.2	9.59	16.7	56.0	14.38	74.9	11.5	2.86	6.9	11.6	2.82	4.3	15.0	3.67	20.0
August	51.8	10.52	33.9	46.2	11.77	14.3	98.9	18.54	101.9	11.9	2.60	8.1	11.3	2.50	3.9	23.7	4.68	23.9
September	34.9	8.72	49.7	42.9	8.93	18.9	87.2	16.05	159.5	8.7	2.27	13.3	9.9	2.07	4.2	21.1	3.27	45.3
October	24.8	7.39	44.0	21.0	4.41	7.6	44.8	11.98	107.4	6.2	1.77	10.8	5.1	1.27	2.1	10.0	3.01	27.3
November	11.6	6.98	32.9	9.5	3.31	7.7	29.3	12.79	108.2	2.3	1.54	8.2	1.8	0.89	2.0	5.8	2.96	27.0
December	11.2	6.65	24.7	6.4	3.91	7.6	41.5	12.84	127.9	2.8	1.27	7.1	1.7	0.72	2.3	7.3	3.16	27.5
Year	30.9	7.32	39.9	25.8	6.73	8.4	59.2	11.09	102.5	7.1	2.13	9.8	6.1	1.59	2.1	15.5	2.93	28.9
Winter	12.4	6.41	32.2	9.6	3.13	5.3	26.8	11.46	102.6	2.9	1.51	8.8	1.6	0.70	1.7	6.4	2.89	28.5
Equinox	32.9	8.78	51.0	28.1	7.18	12.0	44.8	13.92	122.1	7.7	2.30	13.1	7.1	1.71	2.9	14.9	3.14	34.9
Summer	53.3	10.87	37.4	44.4	10.53	14.4	105.7	13.04	92.5	12.4	2.81	8.9	11.1	2.54	3.4	26.8	4.11	24.5

64. LERWICK.

NON-CYCLIC CHANGE †.

1933.

65. LERWICK.

MEAN VALUES OF  $HR_H + VR_V$  \*  
(Unit 10,000  $\gamma$ )

1933.

	All Days.			Quiet Days.			Disturbed Days.			$HR_H$	$VR_V$	Sum	Mean Character Figure
	H.	D.	V.	H.	D.	V.	H.	D.	V.				
January	-0.6	+0.01	+0.2	+0.1	+0.59	+1.5	- 9.1	-1.52	- 9.3	97	367	464	0.65
February	-0.1	-0.14	+0.3	+4.1	+0.49	+0.2	-23.9	-2.00	-40.5	122	463	585	0.68
March	+0.5	-0.16	-1.0	+2.4	+0.39	-0.4	-10.4	+0.11	-24.2	165	470	635	0.94
April	-1.0	-0.32	-1.0	+4.8	+1.25	+8.1	- 2.0	-0.77	-15.2	158	551	709	1.00
May	+0.8	+0.16	+0.5	+3.3	+0.30	-1.0	-93.8	+3.84	+19.7	253	608	861	0.74
June	+0.4	+0.06	+0.2	+1.4	-0.16	-1.7	+ 1.9	+1.05	+ 6.0	137	399	536	0.53
July	-0.3	+0.05	+0.4	+0.5	-0.81	+2.8	- 6.1	-0.02	- 6.7	118	338	456	0.48
August	-0.3	-0.09	0.0	-1.5	+0.69	+5.1	-16.0	+0.22	-20.0	142	384	526	0.55
September	-0.2	-0.01	+0.1	+3.5	+1.40	+2.6	- 6.4	+1.40	- 9.8	137	522	659	0.83
October	+0.2	-0.04	+0.3	+4.4	+0.62	-0.2	- 5.8	-0.76	-29.4	110	444	554	0.68
November	-0.6	-0.02	0.0	+0.5	-0.05	+5.0	- 5.4	+1.31	- 5.6	71	341	412	0.63
December	+0.3	-0.02	-0.2	+3.5	+0.57	-2.9	- 2.9	-1.65	-10.1	68	290	358	0.42
Year 1933	--	--	--	--	--	--	--	--	--	131	431	563	0.68

\* See page 38

† See page 21

MEAN MONTHLY AND ANNUAL VALUES OF TERRESTRIAL MAGNETIC ELEMENTS.  
(All days except those noted in monthly tables)

66. LERWICK.

1933.

Month.	North Component.	West Component.	Vertical Component.	Total Force.	Declination (West.)	Inclination (North.)	Horizontal Force.
January	14076	3420	46629	48827	13 39.3	72 44.6	14485
February	14076	3416	46625	48823	13 38.4	72 44.6	14484
March	14071	3411	46623	48819	13 37.7	72 44.9	14479
April	14074	3406	46611	48808	13 36.2	72 44.5	14480
May	14078	3404	46605	48804	13 35.6	72 44.2	14483
June	14082	3400	46597	48797	13 34.4	72 43.8	14487
July	14060	3398	46592	48791	13 33.7	72 43.9	14484
August	14073	3390	46591	48788	13 32.7	72 44.4	14476
September	14064	3384	46586	48780	13 31.8	72 45.0	14465
October	14067	3380	46596	48789	13 30.6	72 45.1	14467
November	14070	3375	46606	48800	13 29.4	72 45.1	14470
December	14068	3371	46606	48800	13 28.5	72 45.3	14467
Year 1933	14073	3396	46606	48802	13 34.0	72 44.6	14477



Date.	Month.	Date.	Month.	Date.	Month.	Date.	Month.
JANUARY.		MARCH (contd.)		SEPTEMBER (contd.)		NOVEMBER (contd.)	
1	☞ Moderate aurora 20h 10m - 22h 50m.	19	☞ Glow seen 20h 10m. Active aurora 20h 45m - 21h 10m. Quiet arch 22h 20m, still persisting at 23h 45m.	18	☞ Fine. Very faint bands seen 20h 30m - 20h 50m. Faint glow 20h, eclipsed by cloud 21h 20m.	9	a ☞ Cloudy.
3	c ☞ Cloudy.			20	☞ Cloudy. Faint glow north-north-west.	10	☞ Fine. Glow all evening; bright patches on north horizon 20h 10m.
4	a ☞ Fine.	20	☞ Glow seen through breaks in cloud, 20h onwards.	21	☞ Very cloudy.	11	☞ Variable cloud. Faint glow after 21h.
5	c ☞ Rather cloudy.	22	☞ Glow seen between clouds 20h 20m onwards; slight activity 20h 30m - 20h 36m.	23	c ☞ Very cloudy.	12	☞ Cloudy. Faint glow after 21h 30m.
6	b ☞ Fine, moonlight.			24	c ☞ Fine. Moderate aurora 20h 22h 15m.	13	c ☞ Very cloudy.
7	c ☞ Overcast most of evening.	23	☞ Faint glow and slight activity seen between clouds after 20h 20m.	25	☞ Fine. Faint aurora after 20h 15m; activity about 21h 10m.	14	c ☞ Cloudy - overcast.
9	b ☞ Fine, moonlight.	24	☞ Glow seen through clouds 20h 10m onwards.	26	☞ Cloudy. Moonlight.	15	c ☞ Cloudy.
10	c,b ☞ Very cloudy.	25	☞ Very cloudy. Glow seen after 20h.	29	b ☞ Very cloudy. Moonlight.	16	c ☞ Overcast - cloudy - fine.
11	b ☞ Fine, moonlight.	26	c ☞ Very cloudy.	30	c,b ☞	17	c ☞ Cloudy.
13	c ☞ Variable cloud.	28	☞ Fine. Very feeble glow 22h 20m.			22	☞ Cloudy - fine. Faint glow most of evening.
15	☞ Fine at first; rather cloudy after 21h. Faint aurora 21h. 25m-22h.	29	☞ Fine. Moderate aurora 21h 40m onwards.	1	b ☞ Fine - rather cloudy. Moonlight.	23	c ☞ Very cloudy.
19	☞ Glow seen through clouds 19h 15m onwards.	30	c ☞ Cloudy.	2	b ☞ Fine - rather cloudy. Moonlight.	24	a ☞ Variable cloud.
20	c ☞ Fine at first, overcast after 20h.	31	c ☞ Cloudy.	4	c ☞ Very cloudy. Moonlight.	25	c ☞ Very cloudy.
21	c ☞ Overcast after 20h.		APRIL.	6	c ☞ Very cloudy. Moonlight.	26	c ☞ Very cloudy. Moonlight.
24	c ☞ Overcast after 20h.	1	c ☞ Cloudy.	7	b ☞ Fine. Moonlight.	27	c ☞ Very cloudy. Moonlight.
27	☞ Very cloudy. Glow through breaks in cloud 22h.	3	c ☞ Very cloudy at first, clearing after 21h.	10	☞ Cloudy. Bright bands about 20h; glow between clouds 20h-21h.	28	c ☞ Very cloudy. Moonlight.
28	☞ Very cloudy. Glow through breaks in cloud 21h 15m onwards.	4	a ☞ Fine moonlight.	11	b ☞ Variable cloud.		DECEMBER.
29	☞ Almost completely overcast. Glow through breaks in cloud 21h.	5	b ☞ Fine, moonlight.	12	☞ Variable cloud. Very faint glow 21h - 22h.	7	c ☞ Cloudy. Overcast after 19h.
30	☞ Variable cloud. Glow through breaks 20h; bright patches 21h 20m.	6	c ☞ Very cloudy.	13	b ☞ Overcast - fine.	8	c ☞ Cloudy. Overcast after 19h.
	FEBRUARY.	11	b ☞ Variable cloud.	14	c ☞ Very cloudy.	9	☞ Cloudy. Aurora seen through breaks, N-NE, 20h onwards.
1	a ☞ Variable cloud.	12	☞ Glow seen between clouds about 22h.	15	☞ Feeble glow between clouds during evening.	10	☞ Moderate aurora 17h onwards.
2	a ☞ Variable cloud.	13	b ☞ Glow seen between clouds about 22h.	16	c ☞ Very cloudy.	11	c ☞ Very cloudy.
4	c ☞ Cloudy, moonlight.	15	b ☞ Very cloudy.	17	☞ Fine-cloudy. Faint glow behind clouds.	12	a ☞ Variable cloud.
5	c ☞ Variable cloud, moonlight.	16	☞ Fine. Glow 22h 30m - 23h.	18	☞ Very cloudy.	14	c ☞ Overcast except about 20h.
8	c,b ☞ Cloudy, moonlight.	17	☞ Rather cloudy. Glow 22h 30m.	19	b ☞ Fine at first; cloudy after 21h. Moderate glow 21h 45m.	15	☞ Mainly overcast. Faint glow seen about 17h-19h.
12	c,b ☞ Cloudy.	18	☞ Cloudy. Glow 21h 40m. A few feeble rays 22h 10m.	20	☞ Cloudy.	16	☞ Very cloudy. Faint glow seen at times.
13	c,b ☞ Cloudy.	19	c ☞ Very cloudy.	21	b ☞ Glow seen through breaks in cloud 21h 30m.	18	☞ Fine. Moderate glow.
14	☞ Glow seen through breaks in clouds 19h onwards. Slight activity 19h 10m - 20h.	20	c ☞ Very cloudy.	22	☞ Fine. Faint arch 18h 50m onwards; slight activity 22h-23h.	19	c ☞ Mainly overcast.
15	c ☞ Overcast after 20h.	21	c ☞ Very cloudy.	23	☞ Fine - rather cloudy. Faint glow from 21h; a few rays.	26	c ☞ Very cloudy.
16	c ☞ Overcast after 20h.	22	c ☞ Very cloudy.	24	☞ Cloudy. Moonlight.	28	c ☞ Mainly overcast.
17	c ☞ Cloudy.	23	☞ Variable cloud. Glow to north after 22h.	25	☞ Cloudy. Moonlight.	30	a ☞ Fine. Moonlight.
18	c ☞ Cloudy.	24	a ☞ Rather cloudy.	28	c ☞ Cloudy. Moonlight.	31	c ☞ Very cloudy.
19	☞ Cloudy. Glow seen at 19h.	27	c ☞ Very cloudy.	29	c,b ☞ Cloudy. Moonlight.		
20	☞ Variable cloud. Glow 19h; disappeared later.	30	a ☞ Rather cloudy.	30	c ☞ Very cloudy.		
21	☞ Glow most of evening behind cloud.		SEPTEMBER.	31	c,b ☞ Variable cloud; moonlight.		
22	☞ Glow most of evening behind cloud. Strongest at 19h.	1	b ☞ Fine. Moonlight.				
23	☞ Glow most of evening behind cloud. Strongest about 19h.	3	c ☞ Very cloudy.				
25	☞ Cloudy. Glow most of evening.	4	b ☞ Fine, moonlight.				
	MARCH.	7	b ☞ Fine, moonlight.				
5	b ☞ Fine - cloudy. Moonlight.	8	a ☞ Fine, moonlight.				
6	b ☞ Rather cloudy. Moonlight.	9	☞ Mainly fine. Glow seen at 21h 15m.				
7	b ☞ Cloudy. Moonlight.	10	a ☞ Fine. Moonlight.				
8	c ☞ Overcast most of evening.	13	☞ Aurora seen 21h 10m - 01h on 14th; bright and active 22h 50m - 23h 40m.				
9	c ☞ Very cloudy.						
10	c ☞ Very cloudy.	14	c ☞ Almost entirely overcast.				
11	a ☞ Fine, hazy.	16	☞ Cloudy. Glow seen through breaks.	2	c,b ☞ Variable cloud; moonlight.		
12	b ☞ Fine, hazy.	17	☞ Fine. Faint glow on horizon.	3	c ☞ Very cloudy.		
14	c ☞ Variable cloud.			6	c,b ☞ Overcast at first; clearing after 21h. Moonlight.		
15	c ☞ Very cloudy.						
16	a ☞ Fine most of evening.						

In the interests of brevity there have been omitted from the table above all dates on which the sky throughout the evening remained completely overcast and on which, therefore, no opportunity arose of determining whether or not aurora occurred. The nights on which aurora was actually seen are indicated by the symbol ☾. The nights on which aurora was not seen, despite at least an occasional interval of more or less clear sky, are indicated by the symbol ..; in the latter case also, remarks on the weather are added to assist the reader in judging how far the fact of no observation of aurora may be taken as indicating that there was not actual aurora. The letters a,b,c have the following significance.

- significance.
- a = Aurora absent
  - b = Bright aurora amounts: faint one might have been missed (high cloud amounts and/or moonlight).
  - c = Aurora absent when sky was clear, but observation impossible for considerable part of evening owing to cloud.
  - c,b = Observation impossible for considerable part of evening; faint aurora might have been missed even during the remainder.

A full description is available of the auroral phenomena observed.



1933.

Note - For brevity, stations which figure frequently in the above Table are represented by their initials, viz. D- Deerness, B- Baltasound, A- Aberdeen, G.C.- Gordon Castle.

Note - For brevity, stations which figure frequently in the above Table are represented by their initials, viz. D- Deerness, B- Baltasound, A- Aberdeen, G.C.- Gordon Castle.







M.O. 370  
(Aberdeen)

Air Ministry  
METEOROLOGICAL OFFICE

THE  
OBSERVATORIES' YEAR BOOK  
1933

Comprising the meteorological and geophysical results obtained from autographic records and eye observations at the observatories at Lerwick, Aberdeen, Eskdalemuir, Cahirciveen (Valentia Observatory), and Richmond (Kew Observatory), and the results of soundings of the upper atmosphere by means of registering balloons.

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ABERDEEN

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Published by the authority of the  
METEOROLOGICAL COMMITTEE



LONDON  
HIS MAJESTY'S STATIONERY OFFICE  
1935



## ABERDEEN OBSERVATORY.

Latitude	..	..	..	..	..	57° 10 N.
Longitude	..	..	..	..	..	2° 6 W.
G.M.T. of Local Mean Noon	..	..	..	..	..	12h. 8m.

## Heights in metres above Sea-Level.

Barometer	..	..	..	..	..	26.0*
Rain-gauge	..	..	..	..	..	11.4 and 24.1*
Robinson Cup Anemograph	..	..	..	..	..	36*
Dines Tube Anemographs	..	..	..	..	..	21 and 37

## Heights in metres above ground.

Thermometer Bulbs, North Wall Screen	..	..	..	..	..	12.5
Sunshine Recorder	..	..	..	..	..	20.7
Robinson Cup Anemograph	..	..	..	..	..	23
Dines Tube Anemograph	..	..	..	..	..	13
Beckley Rain-gauge Rim	..	..	..	..	..	0.6

## INTRODUCTION.

## SITE

The Observatory, which was established in 1868 is housed in the top floor of the Cromwell Tower of King's College in Old Aberdeen. The College lies on a plain gradually rising from the sea from which it is distant about 1 mile (1.6 km.). There are no serious irregularities of surface in the vicinity excepting the two river valleys of the Don and the Dee. To the north at a distance of about 1 km. the Don flows eastwards to the sea; the Dee flows into the sea at a distance of about 3 km. to the south-east of the College. Between the College and the sea is a golf course covered for the most part with grass but during the last three years the town has been gradually expanding to the north-eastward of the Observatory; this growth has been very rapid during 1933 with the result that there now exists an inhabited area stretching almost half a mile (1 km.) between the Observatory and the sea in the north-east quadrant. Westwards is the High Street of the Old Town and beyond this is another street. Further west grass pasture extends for about 1 km. To the southward and south-westward lies the main area of the City of Aberdeen.

Because of the aforementioned developments and of their possible further extension under new town-planning schemes, it became necessary to seek another site for the pressure tube anemograph situated at Ladymill, east of the Observatory. This instrument was therefore dismantled, and a new pressure tube instrument, with one-inch pipes, was erected at a new site on the Glebe situated to the north-west of the Observatory, and at a distance of about 350 metres therefrom. To this site were also removed the Stevenson screen,

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\*These values differ slightly from those given in former years. See note on p.89.



rain-gauges, etc; from the Athletic Ground site north-east of the Observatory, because the surroundings of this latter site were likewise becoming unsatisfactory. All the outdoor instruments are therefore now grouped together. The change of site was made on 31st March 1933, and the fact is noted in the tables of rainfall, temperature on the grass, earth temperature, and in certain parts of the tables showing wind distribution.

On account of these changes of site, the plans and photographs given in the volume for 1928 do no longer apply as from 31st March 1933; new plans and photographs will appear in the volume for 1935.

Change of value adopted for height of Station above Mean Sea Level.- The numerous changes of late years call for some remarks upon the adopted values for the heights of station and instruments above M.S.L. Prior to 1st January, 1925, the value for the station level was 14.0 m., and that for the height of the barometer cistern was 26.8 m. As from 1st January 1925, however, following a careful redetermination of these heights the values were altered to 13.4 m. for the Station level and 26.0 m. for the height of the barometer cistern. The change of site of the rain-gauge enclosure in June 1928 altered the value for the station level to 11.4 m. at which figure it remained until 31st March 1933, when the recent removal of instruments to the Glebe site again altered it to 24.1 m. as from 1st April 1933. The actual heights of the barometer cistern, of the north-wall screen thermometer bulbs, and of the Robinson cup anemograph and the Campbell-Stokes Sunshine recorder have remained unaltered throughout.

#### METEOROLOGY.

The elements dealt with in the following tables are:-Atmospheric pressure, air temperature, humidity, rainfall, sunshine, wind speed and direction, earth temperature and minimum temperature on the grass, together with a diary of cloud and weather.

The instruments from which values of the above elements have been obtained and the methods of tabulating the records are described in the General Introduction to this volume. The following additional information refers especially to Aberdeen.

"Pressure and Temperature."-The photo-barograph, standard Fortin barometer and thermograph are housed in the Observatory room. The pressure scale value of the photo-barogram is 1 mb. = 1.18 mm. on the paper, when the paper is at normal atmospheric humidity. In similar circumstances the time scale is 1 hour = 9.3 mm. The records of the photo-barograph are standardized by means of control readings taken from the standard barometer. Up to the end of 1928 this instrument was Fortin Standard Barometer M.O. 273, but from the 1st January, 1929, it was replaced by Fortin Standard Barometer M.O. 1149. The N.P. L. certificate of this latter barometer shows a standard temperature varying from 286° A at 1,050 mb. to 287° A at 910 mb; corresponding corrections have been applied to the control readings.

The recording thermometers are placed in the North-wall screen already referred to. The scale value of the wet bulb thermograph record is 1° absolute = 3.20 millimetre on the paper; for the dry bulb thermograph the scale value varies slightly with the temperature, but is approximately 1° absolute = 3.4 millimetres. The time scale is 1 hour = 9.23 millimetres. Reading of the photo-thermograms is done by means of glass measuring scales, the records being standardized by control readings from Standard Thermometers M.O. 1698



(dry bulb) and M.O. 1697 (wet bulb). These thermometers have corrections, varying at different parts of the scale, of between  $-0.1^{\circ}$  A and  $+0.2^{\circ}$  A; these corrections have been applied to the control readings. The heights of the barometer cisterns and of the bulbs of the thermometers are given at the top of the appropriate tables.

It may be here emphasized that the bulbs of the thermometers in the North-wall screen are at the considerable height of 12.5 metres above the ground, and that readings from these thermometers are exclusively used for this publication (except as noted below under Humidity) and for the corresponding summaries printed in the Monthly Weather Report.\*

"Rainfall".-The recording instrument in use is Beckley rain-gauge No. 2 with an area of 101.1 square inches ( $653 \text{ cm}^2$ ). The procedure adopted in tabulating the records is similar to that described in the General Introduction and calls for no comment. Control was by check gauge M.O. 266 during the year 1933.

"Humidity".-On those occasions when the temperature of the wet bulb has been  $273^{\circ}$  A or under, the relative humidity has been obtained from the records of a hair hygrograph. This instrument is accommodated inside the new large Stevenson screen at the new site. Until 31st March 1933, at the Athletic Ground site, the hygrograph was 13.2 m. below the level of the thermometer-bulbs in the North-wall screen, but from 1st April 1933, at the Glebe site this instrument has been only 0.5 m. below that level. In using its records an appropriate adjustment is made.

"Sunshine".-The sunshine recorder (Campbell-Stokes type) is exposed on the small circular tower on the Observatory roof on which the Robinson cup anemograph is erected. It is rigidly held by lead flaps soldered to the lead roof. The actual diameter of the sunshine sphere is 4.02 inches, and the focal length 2.97 inches, these figures being slightly in excess of the standard values (diameter  $4.00 \pm .05$  inches, focal length  $2.95 \pm .01$  inches). The exposure is excellent; the only obstruction is a flagpole to the east, of angular diameter about  $1^{\circ}$ , which may obstruct 0.1 hr. record about 7h between April and September. This loss has been allowed for, whenever practicable, in tabulating the records. In computing the percentage duration of sunshine the actual possible values for each day of the year 1933 have been employed, a procedure similar to that adopted from 1926 onwards.

"Wind Speed and Direction".-Continuing the practice adopted in July 1930, the values of wind speed for 1933 are those recorded by the Robinson cup anemograph, and are corrected for the effect of exposure in accordance with the factors given in the Table on p.12 of the General Introduction. It has been found that the exposure of the Pressure-tube anemograph at the new Glebe site, though better than that at the Ladymill site after the latter became affected by the north-eastward extension of the town, is not entirely satisfactory, particularly in the north-east quadrant. The cup anemograph is mounted upon the roof of the Observatory building, its cups being at a height of 23 m. above the ground, and about 7 m. above the roof of the main tower of the building.

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\*The temperatures for Aberdeen published in the "Daily Weather Report", and summaries from them given in the "Weekly Weather Report", are from different thermometers, viz., those in the Stevenson Screen, with their bulbs only 1.3 metres above the ground.



On the few occasions when the records of the cup-anemograph have been defective, the required values have been taken from the records of the pressure-tube instrument, and to these values appropriate exposure-factors have been applied. Values thus obtained are entered in brackets, as are also the mean hourly values for the days in question.

In the tables showing "Highest instantaneous wind speed recorded each day by the Dines tube anemograph" (Table 151) and "Distribution of wind speed: extreme velocities as recorded by the Dines tube anemograph" (Table 152), the values entered for the "Gusts" are those actually recorded by that instrument, but it must be remembered that these values are defective in that they are values recorded on sites whose exposures have not been entirely satisfactory.

In Table 152 the values of distribution of wind speed for each month, and those of highest hourly wind are taken from the records of the Robinson cup-anemograph, corrected for the effect of exposure as explained above.

"Earth Temperature".-Readings have been made at 9h G.M.T. of earth temperature at nominal depths of one foot and four feet below the surface of the grass.

The thermometers and the method of exposure are of the standard type described in the "Meteorological Observer's Handbook". The depths of the thermometer bulbs below the grass-covered surface of the ground are 30 and 122 cm.

The data published in the "Observatories' Year Book" 1922-1930 were the readings of an instrument with its bulb at a depth of 124 cm. This instrument, a description of which is given in the Year Book for 1930, p.86, was of unorthodox type, and was situated in the College Gardens until the end of June 1928. It was then removed to the anemometer enclosure, Ladymill. From 1st. January, 1930, the published data refer to new instruments of standard type which were in the anemometer enclosure at Ladymill until 8th. June, 1932. They were then removed to the Athletic Ground site, where they were installed near the screen and rain-gauges. The results of a comparison between the new and old instruments at a nominal depth of 122 cm. at the Ladymill site will be found in the Year Book for 1931, pp. 86-87.

For the period 18th June, 1932, to 25th March, 1933, comparative readings are available from the new 122 cm. thermometer at the Athletic Ground and the old instrument at Ladymill. The results indicate that at 122 cm. depth the Athletic Ground is about  $1.5^{\circ}\text{A}$  to  $2^{\circ}\text{A}$  warmer than Ladymill during June, July and August, and about  $1^{\circ}\text{A}$  colder in November, December, January and February. Similar comparative observations are not available for the College Gardens site, but some idea of the differences between that site and Ladymill can be obtained by comparing the readings at Ladymill during the four years, June 1928 to May 1932, with those obtained for many years prior to June 1928, at the College Gardens. These indicate that Ladymill is warmer than the College Gardens from September to April and colder from May to August, the maximum differences being approximately  $+2^{\circ}\text{A}$  and  $-1^{\circ}\text{A}$ . The continuity of the earth temperature readings has thus been seriously affected by the changes of site, and it is necessary to mention in this connexion that the thermometers were transferred at the end of March 1933 to the Glebe site, thus introducing another discontinuity. In Table 153 there are no entries of earth temperature at a depth of 122 cm. for the dates 1st. to 3rd. April; it was found to require this period for the temperature at 122 cm to resume its steady value after the disturbance of the soil during the sinking of the iron tube which contains the thermometer.



"Minimum Temperature on the Grass".- The grass minimum thermometer is exposed in the enclosure on two wooden pegs about 4 cm. above the grass. It is set at 18h and read at 7h, the reading being entered to the day of observation. The thermometer in use is M.O. 17944/27, and its readings require no correction.

"Cloud".-From the 1st. January, 1931, the recording of cloud-forms at Aberdeen has been in conformity with the definitions laid down in "Instructions for Meteorological Telegraphy" M.O. 191/1 (1930).

"Visibility".-In the subjoined table there is given a list of the objects used for the determination of the degree of visibility, together with their distances and bearings from the observation-point, which may be taken as the roof of the Observatory tower, the N.E. corner thereof being used for the nearer objects.

The range of visibility from the Observatory is somewhat limited by the high ground surrounding the city. From S.E. through S.to N. the distance of the visible horizon is between 2 and 4 miles (4 to 7 km.), but in the N.W. a higher hill, at a distance of 5 miles (8.5 km.), rises above the nearer ridges. To the N.N.E. however there is a clear view of the coastline as far as Cruden Scaurs, where the coast consists of cliffs over 100 feet high, and is nearly 19 miles (30 km.) distant. From N.N.E. to S.E. there is only the sea-line as horizon, which from the height of the Observatory tower is about 10 miles (16 km.) distant.

Definite objects exist at standard distances from A to H, but from I to M there are no definite objects, though there are adequate identification marks for K and L. Owing, however, to these marks being on the sea-coast, and to the generally clearer visibility to the seaward side of the Observatory, it has been deemed advisable to employ small letter entries for all visibility distances that are not definitely landward estimates. The distances I and J are based upon estimates between other available distances. The 21h observations of weather and visibility are made as a rule not actually at the Observatory, but in the neighbourhood within a radius of one or two miles. Apart from that it has to be remarked that, during darkness when the usual fixed objects cannot be seen, the estimates depend upon personal judgment, and upon the degree of obscuration, and alteration in the colour, of the surrounding lights of the town.

VISIBILITY OBJECTS AT ABERDEEN.

OBJECT.	DESCRIPTION.	DISTANCE.	BEARING.
A	Steam-pipe on Boiler house .. .. .	26 yards.	N.E.
B	Top of finial at East end of University Library ..	55 "	E.S.E.
C	Gate in North Wall of Athletics ground.. ..	110 "	E.N.E.
D	East wall of Athletics ground and trees along it ..	218 "	E.
E	(i) Ventilator tops on Sunnybank School.. ..	550 "	S.W.
F	Gasometer .. .. .	1,100 "	S.E.
G	(i) Turret of Salvation Army Citadel .. ..	1½ miles.	S.S.E.
	(ii) Coastguard watch-tower .. .. .	1½ "	N.E.
H	(i) Girdleness lighthouse-top .. .. .	2½ "	S.E.
	(ii) Springhill House .. .. .	2½ "	W.
I (i)	No object. Estimate between Strabathie Hill (3½ miles) and Brimmond Hill (5½ miles)	(3½ " )	N.N.E.
		(5½ " )	N.W.
J (j)	No object. Estimate between Brimmond Hill (5½ miles) and Sea horizon (10 miles).	(5½ " )	N.W.
		(10 " )	E.
K (k)	Sand-patch, mouth of Ythan River .. ..	12½ "	N.N.E.
L (l)	Cruden Scaurs .. .. .	18½ "	N.N.E.
M (m)	Cannot see so far. Used when "L" object shows clear detail and colour-differences.		



## IDENTIFICATION NUMBERS OF INSTRUMENTS USED IN 1933.

The following were the instruments actually in use during the year 1933:-

Standard Fortin Barometer ..	..	M.O. 1149
" Dry Bulb Thermometer ..	..	M.O. 1698
" Wet " " ..	..	M.O. 1697
Recording Beckley Rain-gauge ..	..	2
Control Rain-gauge .. ..	..	M.O. 266
Glass for " .. ..	..	M.O. 1657 and 1578
Hair Hygograph .. ..	..	M.O. 154/27
Campbell-Stokes Sunshine Recorder ..	..	M.O. 32
Robinson Cup Anemograph .. ..	..	M.O. 50
Dines Tube Anemographs .. ..	..	M.O. 1011 and 1040
Earth Thermometers .. ..	..	M.O. 6, M.O. 11
Grass Minimum Thermometer .. ..	..	M.O. 17944/27

## REVIEW OF METEOROLOGICAL RESULTS.

"Pressure".-Pressure over the year exceeded the normal by 2.7 mb. The greatest departure from the normal was shown by the month of December, which had an excess of 15.5 mb. September had an excess of 5.5 mb. while smaller excesses were shown by several other months. The only month showing any noteworthy defect from normal was June, whose average pressure was 3.8 mb. lower than the normal. The highest value recorded during the year was 1045.7 mb. on December 3rd. and the lowest was 976.7 mb. on January 2nd; the annual range was therefore 69 mb.

The mean diurnal inequalities for the months, seasons and year have been analysed harmonically, with the results set out in the accompanying Table. The unit employed for the individual months, is, as before, .01 mb, that for the seasons and the year is .001 mb., and the phase-angles are reduced to Local Mean Time. The average values of the various Coefficients for the period 1871-1926, computed by Dr. A. Crichton Mitchell\* are given for comparison.

HARMONIC COMPONENTS OF THE DIURNAL INEQUALITY OF ATMOSPHERIC PRESSURE  
ABERDEEN, LONGITUDE 2° 6' W.

Values of  $c_n, a_n$ , in the series  $\sum c_n \sin (15nt^\circ + a_n)$ ,  $t$  being Local Mean Time reckoned in hours from midnight.

Month and Season.	$c_1$		$a_1$		$c_2$		$a_2$		$c_3$		$a_3$		$c_4$		$a_4$	
	1933	1871-1926	1933	1871-1926	1933	1871-1926	1933	1871-1926	1933	1871-1926	1933	1871-1926	1933	1871-1926	1933	1871-1926
January ... ..	mb. .48	mb. .094	° 273	° 171	mb. .29	mb. .227	° 147	° 151	mb. .13	mb. .130	° 10	° 355	mb. .03	mb. .054	° 129	° 221
February ... ..	.35	.156	99	176	.26	.270	146	149	.12	.104	340	355	.05	.026	61	96
March ... ..	.38	.164	183	158	.29	.295	146	151	.05	.052	312	336	.06	.031	29	35
April ... ..	.27	.153	164	155	.26	.284	144	151	.04	.019	202	188	.03	.044	355	359
May ... ..	.05	.098	261	135	.20	.237	141	143	.08	.059	165	163	.02	.022	330	329
June ... ..	.18	.057	324	104	.16	.219	123	141	.03	.065	133	155	.01	.008	26	331
July ... ..	.24	.089	149	137	.23	.208	147	144	.07	.068	150	159	.03	.013	21	345
August ... ..	.10	.112	107	162	.26	.232	132	145	.05	.041	200	167	.02	.029	331	336
September ... ..	.10	.119	259	146	.32	.287	151	148	.00	.027	-	342	.05	.053	338	339
October ... ..	.25	.185	178	183	.34	.274	161	149	.08	.075	29	349	.03	.027	53	20
November ... ..	.25	.132	236	197	.29	.229	168	152	.06	.103	15	354	.02	.014	211	172
December ... ..	.05	.164	259	169	.23	.211	146	146	.14	.122	10	356	.06	.051	205	204
Arithmetic Mean ...	.225				.261				.071				.034			
Year ... ..	.104	.116	197	163	.256	.247	147	149	.026	.030	13	0	.012	.009	22	340
Winter ... ..	.107		246		.263		152		.112		3		.019		156	
Equinox ... ..	.229		183		.300		151		.016		345		.036		12	
Summer ... ..	.031		148		.209		136		.053		161		.018		353	

NOTE.-"Winter" comprises the four months January, February, November, December, "Equinox" the months March, April, September, October, and "Summer" May to August.

\*Diurnal Variation of Pressure and Temperature at Aberdeen, 1871-1926, by A. Crichton Mitchell D. Sc., Q.J.R. Met. Soc. 1929, p. 197



In 1933 the phase angles and amplitudes of the various terms do not, except in the case of 12-hour term, approach so closely to the 1871-1926 averages as was the case last year. This year the amplitudes of the 12-hour and 6-hour terms are higher than the average, while those of the two other terms have values less than the average.

December and May are the months showing the smallest amplitude of the 24-hour term while January shows the highest.

In the 12-hour term, the various months show a very fair approach to the average in their phase-angles, and the annual range in amplitude is very marked. The Spring maximum is normal in value and month of occurrence, but the Summer minimum is considerably below its average value and occurs earlier than usual, while the Autumn maximum is very strongly marked, but later than usual.

In the 8-hour term the Winter maximum is well marked, as also are the Equinoctial minima; but the Summer maximum is not well developed.

The 6-hour term follows its normal course fairly well; the Spring maximum exceeding its average value considerably.

"Temperature".-The mean annual temperature for 1933 was  $1.3^{\circ}\text{A}$  above the normal value. Except in the first two months, temperature was in excess throughout the year. Particularly was this the case over the period June to September; these four months showed excesses of  $2.0^{\circ}$ ,  $3.1^{\circ}$  and  $1.4^{\circ}\text{A}$  respectively, July, with an average temperature of  $289.4^{\circ}\text{A}$  showing the greatest excess, as well as the highest monthly average.

"Rainfall".-The years total fall was 673 mm, which is 75 mm. below the normal amount. The beginning and end of the year might be characterized as wet, whereas the period from May to September was very dry, the drought being broken only by the rainfall of July, which was actually 7 mm. above the average. Deficits of between 30 and 40 mm. were recorded in the months of May, August, September, and December and one of over 20 mm. in June, while an excess of 42 mm. occurred in February and one of 43 mm. in October, which latter, together with an excess of 8 mm. in November more than counterbalanced the deficit in December.

"Relative Humidity".-Despite the deficient rainfall and the Summer warmth the relative humidity over the year was above the normal by 1 per cent. The only month appreciably below the normal was August, whose value of 76.5 per cent was 2.7 per cent below the average. September, though having less than half its usual rainfall, recorded the very high relative humidity value of 85 per cent, thus exceeding its normal value by 4.5 per cent, whereas the very wet month of October had a relative humidity 1.4 per cent lower than the average.

"Sunshine".-There was a slight excess of sunshine over the year, actually about one half per cent of the possible. The distribution of sunshine throughout the year was very irregular, March, June, August, and September being outstandingly bright; April May and October abnormally dull. June with 45 per cent of the possible sunshine was the brightest month of the year, showing an excess of 10 per cent, while March had an excess of 11 per cent, and August and September excesses of 8 per cent and 7 per cent respectively. Against these excesses were deficits of 14 per cent in May, 11 per cent in April and 9 per cent in October.



"Wind".-The average velocity of wind for the year was 4.2 m/s., slightly below those of the two previous years. The windiest month was February with an average velocity of 5.7 m/s, and the quietest month was July with 3.1 m/s. Gales were recorded on 3 days, February 26th and 27th and October 28th.

"Aurora".-Aurora was observed on 10 occasions, 3 in the earlier half of year and 7 in the latter half. Dates of occurrence will be found in the General Auroral Table.

"General Remarks".-The year 1933 is remarkable as being a year of outstanding warmth. It was drier than usual so far as rainfall was concerned, but the relative humidity of the air was higher than normal. Sunshine was almost equal to the average. Taking the months individually, January was cool and its air humid; February was wet and windy, with higher relative humidity than usual; March was warm and bright; April was warm and dull; May was dull and dry but the relative humidity of the air was high; June was warm, bright and dry; July was very warm and quiet but otherwise normal; August was warm, dry, bright, and quiet, with low relative humidity; September was warm, dry, and bright but had very high relative humidity; October was warm, dull, windy, and very wet; November was warm and dull, but otherwise fairly normal; December was dry, but did not differ materially from the average otherwise.







PRESSURE.  
Readings in millibars at exact hours, Greenwich Mean Time.

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69. ABERDEEN:  $H_b$  (height of barometer cistern above M.S.L.) = 26.0 metres.

JANUARY, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
1	993.2	993.5	993.7	994.2	994.6	995.1	995.5	997.2	998.9	000.5	001.2	002.3	002.9	003.3	003.8	004.2	004.4	004.6	004.5	004.4	003.8	003.0	002.4	001.8	999.9
2	000.7	999.6	997.2	995.8	994.7	993.2	992.5	992.3	990.4	989.6	986.5	986.2	986.0	984.1	982.2	980.5	979.2	978.3	976.4	975.4	974.1	974.1	973.9	974.8	986.3
3	975.7	977.4	978.3	978.6	979.2	979.9	980.9	981.8	982.5	983.2	983.4	984.8	985.2	985.6	986.3	987.3	987.8	990.0	991.0	991.9	992.6	994.6	994.9	995.1	984.9
4	995.4	996.4	997.5	998.1	999.6	000.2	000.3	000.7	001.3	001.7	001.5	000.9	000.2	000.2	999.6	999.5	999.6	999.6	999.5	999.2	998.4	997.6	996.7	994.9	999.1
5	992.5	990.5	989.0	988.4	989.3	991.6	994.2	995.6	997.9	998.9	999.7	000.4	001.3	002.0	002.4	002.9	003.0	003.5	003.7	003.8	003.9	003.7	003.3	002.5	998.3
6	001.7	001.4	001.8	001.8	002.3	002.7	003.5	004.7	005.4	005.9	006.7	007.1	007.4	008.4	009.9	010.9	011.8	013.2	013.8	014.6	015.9	016.7	017.4	017.6	008.1
7	018.2	018.5	018.0	017.3	017.0	016.8	016.6	015.7	015.1	015.2	013.9	013.9	012.4	011.9	010.5	010.1	008.9	008.3	007.8	008.0	008.3	008.4	009.6	013.1	013.1
8	010.8	011.9	013.1	013.5	014.6	014.6	015.4	015.3	015.7	015.3	015.8	014.5	012.8	011.4	009.6	008.3	006.7	004.6	004.7	004.8	006.9	009.7	011.6	013.6	011.4
9	016.0	017.5	019.2	021.2	021.9	023.3	024.9	026.3	027.5	028.7	029.3	030.1	030.7	031.5	032.3	032.6	032.8	033.0	033.0	032.7	032.0	031.7	031.4	027.6	027.6
10	030.6	029.0	028.2	026.8	026.3	025.9	025.0	024.9	024.7	024.7	023.6	022.7	020.8	020.3	019.0	017.7	017.3	016.6	015.3	014.1	013.3	012.5	012.0	012.2	021.4
11	012.4	012.1	012.3	013.0	014.4	015.3	016.1	017.1	018.0	018.5	019.9	020.4	020.2	021.1	021.9	022.5	022.8	023.6	023.8	023.3	023.7	023.7	023.8	023.2	019.1
12	022.9	022.5	022.0	021.9	021.3	020.9	020.4	020.5	019.8	019.5	019.0	018.1	017.7	017.2	016.3	015.9	015.3	014.7	014.6	014.7	014.5	014.5	014.7	014.7	018.2
13	014.8	014.8	014.9	015.1	015.1	015.1	015.3	015.7	016.2	016.4	016.8	017.4	017.0	017.2	017.8	018.4	018.5	018.6	018.7	018.5	019.1	018.3	017.4	017.0	016.8
14	017.2	016.4	015.5	014.4	013.4	012.8	012.1	011.8	010.8	010.5	009.8	008.0	005.9	004.7	003.0	002.3	001.6	000.9	998.7	997.1	995.3	994.4	993.6	992.8	006.5
15	992.0	991.1	991.2	991.3	991.4	991.7	992.1	992.3	992.9	993.0	993.3	993.2	993.2	993.3	993.6	993.6	993.8	994.1	994.5	994.6	994.6	994.5	994.0	993.0	993.0
16	994.1	994.1	994.1	994.1	993.9	993.9	993.7	993.7	994.0	994.1	994.0	994.0	993.9	994.1	994.1	994.4	995.0	995.4	995.6	995.7	995.8	995.8	995.7	994.5	994.5
17	995.8	995.7	995.7	995.9	996.3	996.8	997.6	997.8	997.9	997.8	997.7	997.0	996.9	996.7	996.7	996.6	996.7	996.4	996.1	995.7	995.7	995.5	995.3	995.1	996.5
18	994.8	994.5	994.1	994.0	993.7	993.7	993.7	993.7	993.9	993.7	993.7	993.5	993.6	993.9	994.3	994.7	995.3	995.9	996.5	997.1	997.9	998.2	999.0	999.8	995.0
19	000.3	001.0	001.7	002.6	003.1	003.9	004.8	005.6	006.7	007.5	008.5	008.7	009.3	010.1	010.5	011.4	012.3	012.7	013.7	014.2	015.2	015.6	016.4	017.2	008.5
20	017.6	018.5	019.5	019.9	020.9	021.7	022.9	023.9	024.5	025.3	026.1	026.4	026.4	026.9	027.5	028.0	028.4	029.0	029.5	029.8	030.2	030.4	030.4	030.6	025.3
21	030.7	030.7	030.5	030.5	030.7	030.9	031.2	031.3	031.4	031.2	031.4	031.5	030.5	030.6	031.0	031.0	031.2	031.1	031.7	032.0	032.2	032.3	032.7	031.1	031.1
22	031.2	031.1	030.8	030.5	030.0	029.9	029.9	030.2	030.5	030.7	031.0	030.9	030.9	030.7	030.7	030.7	031.1	031.4	031.7	032.0	032.2	032.3	032.7	031.1	031.1
23	032.6	032.6	032.6	032.6	033.0	033.2	033.6	034.1	034.4	034.3	034.4	034.4	033.8	033.6	033.8	034.4	034.7	035.2	035.2	035.2	035.3	035.8	036.0	034.1	034.1
24	036.0	036.2	036.3	036.3	036.1	036.2	036.5	036.9	037.0	037.0	036.8	036.6	036.6	036.6	036.3	035.9	036.5	036.5	036.7	036.8	036.7	036.6	036.6	036.6	036.5
25	036.3	036.0	035.5	035.3	035.2	035.2	035.0	035.0	035.1	035.0	035.2	034.3	033.8	033.7	033.3	033.6	033.7	033.6	033.7	033.5	033.5	033.2	033.0	032.8	034.4
26	032.3	031.9	031.8	031.6	031.2	031.0	030.6	030.7	030.6	030.6	030.7	030.6	030.0	029.8	029.4	029.4	029.5	030.3	030.2	029.8	029.9	029.8	029.8	029.9	030.5
27	029.8	029.8	029.5	029.4	029.1	028.9	029.1	029.0	029.0	029.0	029.1	029.0	028.7	028.5	028.2	027.9	027.9	028.0	027.9	027.6	027.4	027.2	027.1	026.9	028.6
28	026.6	026.4	025.8	025.5	025.2	025.1	025.2	025.1	024.7	024.6	024.6	024.0	023.0	021.9	021.3	020.8	020.7	020.6	019.8	019.6	019.2	019.0	018.5	018.0	022.9
29	017.0	016.2	015.6	014.8	014.2	013.4	013.0	012.6	012.0	011.8	011.2	010.2	009.1	008.1	007.7	006.8	005.1	005.5	005.0	004.7	004.1	002.8	002.1	001.6	009.7
30	000.8	999.7	998.7	997.8	996.9	996.0	995.4	994.9	994.2	994.0	993.3	992.9	991.9	991.0	990.7	990.7	990.8	991.1	991.5	992.2	992.5	992.5	992.4	992.4	994.1
31	992.3	992.2	992.1	992.0	991.8	992.2	992.9	993.4	994.2	994.4	994.9	995.0	994.2	993.0	991.5	990.2	988.3	987.2	985.9	982.9	981.4	980.5	979.4	979.4	989.9
Mean (Station Level)	1011 .69	1011 .59	1011 .49	1011 .43	1011 .50	1011 .65	1011 .94	1012 .27	1012 .52	1012 .65	1012 .71	1012 .55	1012 .14	1011 .97	1011 .75	1011 .73	1011 .67	1011 .74	1011 .64	1011 .45	1011 .46	1011 .43	1011 .35	1011 .34	1011 .83
Mean (Sea Level)	1014 .96	1014 .86	1014 .76	1014 .70	1014 .77	1014 .93	1015 .22	1015 .55	1015 .80	1015 .92	1015 .98	1015 .81	1015 .40	1015 .23	1015 .00	1014 .99	1014 .93	1015 .00	1014 .90	1014 .71	1014 .73	1014 .70	1014 .62	1014 .61	1015 .10

70. ABERDEEN:  $H_b$  = 26.0 metres.

FEBRUARY, 1933.

Station Level	Day.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	
	1	975.6	979.3	978.7	977.9	976.8	975.7	974.8	974.5	974.2	975.4	976.3	977.7	978.6	979.5	980.8	981.8	982.3	982.3	982.4	982.6	982.5	982.6	983.1	983.6	979.2
	2	984.5	983.7	982.6	982.6	982.0	982.2	982.7	983.0	983.4	983.5	984.4	985.3	986.2	987.7	989.0	991.3	993.1	994.6	996.3	998.1	999.3	000.9	002.4	004.0	988.9
	3	005.0	006.6	007.5	008.0	008.6	008.6	009.1	009.4	010.0	010.0	010.0	009.3	008.5	007.9	007.2	006.4	005.2	003.8	003.4	001.4	999.8	998.0	995.7	994.2	004.5
	4	992.8	991.5	990.7	990.2	990.4	990.6	991.4	992.4	993.2	994.3	994.5	994.7	995.2	995.3	995.3	995.4	995.5	995.2	995.0	994.5	993.5	992.5	991.2	993.4	
	5	989.7	988.0	986.7	985.1	984.1	983.5	983.5	983.8	984.1	984.1	984.4	984.6	985.1	985.4	985.8	987.5	988.5	991.1	993.5	995.7	997.8	000.1	001.7	003.1	988.8
	6	004.3	004.6	005.7	006.3	006.5	006.9	007.2	007.8	007.7	007.3	007.3	006.5	005.7	004.9	003.9	003.2	002.6	001.9	001.0	000.4	999.7	999.5	998.0	998.0	004.2
	7	997.3	996.5	995.4	994.7	994.3	993.8	993.2	993.3	993.1	992.8	992.8	992.8	992.5	992.6	992.8	993.2	993.4	993.8	994.0	994.5	994.5	995.6	995.6	994.1	
	8	996.2	996.2	996.3	996.7	996.9	997.3	997.0	997.2	997.2	996.9	996.8	996.3	994.7	994.3	992.7	991.9	991.1	991.2	990.3	990.7	990.9	990.5	990.6	994.3	
	9	990.5	990.5	991.4	992.3	992.8	993.0	994.4	994.8	995.8	995.8	995.6	996.1	995.7	995.8	996.7	998.4	001.0	003.5	005.1	006.8	008.2	009.3	010.7	012.3	998.1
	10	012.8	013.6	014.4	015.0	016.3	017.0	018.1	019.2	019.9	021.1	022.3	022.8	023.5	024.0	024.7	025.2	026.1	026.9	027.7	028.1	028.5	029.2	029.5	030.2	022.0
	11	030.8	031.0	031.2	031.8	032.3	032.9	033.0	033.4	033.7	034.0	033.6	033.2	032.3	032.0	031.4	030.8	030.8	030.8	030.6	029.8	029.5	028.9	028.8	028.5	031.5
	12	028.1	027.3	026.9	026.5	025.9	025.5	025.3	025.2	025.0	024.8	024.5	024.0	023.4	023.0	022.5	022.6	023.3	024.7	025.3	025.6	025.7	025.6	025.5	025.7	025.1
	13	025.9	026.0	025.5	025.2	025.4	025.7	025.5	025.7	026.1	026.0	025.8	026.0	025.8	025.9	025.3	025.3	025.6	025.7	025.8	025.7	025.6	025.5	025.4	025.7	
	14	025.6	025.4	024.8	024.9	024.9	024.8	024.9	024.9	024.9	024.9	024.8	024.7	024.6	024.5	024.3	024.3	024.2	024.1	023.6	023.3	023.1	022.6	022.3	022.0	024.3
	15	021.9	021.4	020.9	020.5	019.9	019.9	019.8	019.6	019.3	019.5	019.4	019.3	018.9	018.8	018.6	018.4	018.5	018.7	018.6	018.5	018.0	017.9	018.0	018.0	019.3
	16	018.2	017.9	017.7	017.3	017.0	016.5	016.3	015.9	015.2	015.0	014.3	013.7	013.2	013.0	013.5	014.2	015.0	015.7	016.2	016.9	017.2	017.4	017.7	018.0	016.0
	17	017.8	018.2	017.8	017.6	017.7	017.7	017.7	017.6	017.4	017.4	017.1	016.9	016.4	016.1	015.6	015.4	014.9	014.9	015.0	014.5	014.4	014.4	014.6	014.6	016.4
	18	014.6	014.4	014.2	014.2	014.2	014.5	015.5	015.7	015.8	016.3	016.4	016.4	016.0	015.3	014.4	014.2	013.9	013.9	014.1	014.8	015.5	015.8	015.9	016.2	015.1
	19	016.4	016.1	016.0	016.0	016.2	016.4	017.4	017.6	017.8	018.5	018.8	018.9	018.9	019.0	018.6	019.1	019.3	019.6	019.7	019.8	020.0	019.9	019.7	019.4	018.2
	20	019.0	018.3	017.5	016.7	016.1	014.9	013.8	012.9	012.3	012.1	012.2	012.2	011.9	011.5	011.1	011.1	011.3	011.1	010.6	010.4	010.2	010.1	010.2	010.3	013.0
	21	010.1	010.0	010.1	010.3	010.2	010.3	010.0	010.0	010.2	010.0	009.8	009.6	009.3	009.2	009.1	010.1	010.3	011.2	011.5	012.1	012.4	013.0	013.4	013.2	010.6
	22	013.4	013.7	014.2	014.4	014.4	014.6	015.5	016.2	016.5	016.6	016.4	016.6	016.5	016.6	016.5	016.6	016.7	016.7	016.6	016.6	016.1	015.9	015.3	014.9	015.7
	23	014.5	014.1	013.2	012.4	012.1	011.9	011.5	011.1	010.5	010.2	009.8	009.5	009.0	008.3	007.9	007.6	007.4	007.7	008.0	008.0	008.1	007.9	008.0	008.1	010.0
	24	008.2	008.1	008.1	008.1	008.0	008.1	008.3	008.4	008.5	008.6	008.7	008.6	008.6	008.8	008.0	008.1	008.2	008.4	008.3	008.3	008.5	008.4	008.3	008.2	008.3
	25	008.1	008.1	008.0	007.6	007.3	007.2	007.3	007.6	007.9	008.3	008.4	008.5	008.7	008.8	008.8	009.1	009.3	009.5	009.9	010.1	010.3	010.4	010.4	010.3	008.7
	26	010.3	010.0	009.6	009.3	008.7	008.1	007.9	007.6	007.0	007.1	007.0	006.4	005.5	005.1	004.5	003.7	003.2	003.0	002.8	002.4	002.1	001.6	000.5	000.8	005.8
	27	000.9	001.1	001.4	001.5	001.5	001.5	001.7	001.7	001.7	001.5	001.6	001.9	001.9	001.5	001.2	001.8	002.4	002.9	003.3	003.8	004.3	004.7	005.4	006.2	002.3
28	006.8	007.3	007.6	007.8	008.1	008.4	008.9	009.2	009.4	009.8	010.3	010.4	010.3	010.4	010.3	010.4	010.6	010.9	011.3	011.4	011.5	011.6	011.7	011.7	009.7	
Mean (Station Level)		1008 -69	1008 +53	1008 +36	1008 +25	1008 +16	1008 +13	1008 +28	1008 +41	1008 +49	1008 +63	1008 +70	1008 +67	1008 +46	1008 +39	1008 +24	1008 +46	1008 +70	1009 +07	1009 +29	1009 +49	1009 +58	1009 +64	1009 +69	1009 +80	1008 +73
Mean (Sea Level)		1011 +95	1011 +79	1011 +62	1011 +50	1011 +42	1011 +38	1011 +53	1011 +66	1011 +74	1011 +87	1011 +95	1011 +91	1011 +69	1011 +62	1011 +47	1011 +70	1011 +94	1012 +32	1012 +54	1012 +75	1012 +84	1012 +90	1012 +94	1013 +06	1011 +98
Hour G. M. T.		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean



71. ABERDEEN:  $H_b$  (height of barometer cistern above M.S.L.) = 26.0 metres.

MARCH, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
1	011.7	011.7	011.8	011.6	011.3	011.6	011.5	011.7	011.8	011.8	011.6	011.8	011.5	011.1	010.6	010.4	010.3	010.2	010.0	009.5	009.1	008.7	008.3	007.8	010.8
2	007.3	006.9	005.9	005.3	004.4	003.9	003.1	003.2	002.8	002.1	001.8	001.3	000.7	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	001.0
3	993.4	992.6	991.8	991.4	991.0	990.3	990.1	989.5	989.0	988.8	988.7	988.1	987.7	987.5	987.1	987.2	987.1	986.9	986.7	986.6	986.4	986.4	985.8	985.6	988.8
4	985.2	984.3	983.4	982.3	981.4	980.9	980.3	980.7	980.9	981.2	981.3	981.3	981.1	981.1	980.9	981.0	981.0	981.3	981.5	981.7	981.9	982.1	982.5	982.6	981.8
5	982.8	982.9	983.0	983.3	983.9	985.0	986.0	986.9	987.6	988.2	989.0	989.9	990.6	991.0	991.5	991.5	992.0	992.0	991.5	990.9	990.4	989.6	988.3	987.4	988.0
6	986.5	985.7	985.4	985.5	985.3	985.6	985.6	986.8	987.4	987.7	987.9	988.4	988.5	988.8	988.6	988.6	988.7	989.5	989.8	990.2	991.1	991.6	992.3	992.2	988.1
7	992.8	992.7	992.8	993.1	993.3	994.0	994.0	995.0	995.0	996.1	997.4	998.8	999.7	1001.1	1002.3	1004.7	1006.4	1007.8	1009.5	1011.2	1012.1	1013.6	1014.9	1016.9	1000.4
8	015.8	016.7	017.0	017.7	018.3	019.0	019.6	019.9	020.5	020.6	020.4	020.2	019.7	018.9	018.4	017.9	017.7	017.3	016.6	016.3	015.5	014.5	014.2	013.5	017.8
9	012.9	012.4	012.0	011.7	011.4	011.2	011.3	011.4	011.5	012.2	013.0	013.3	013.4	013.6	014.5	014.6	014.7	015.5	015.6	015.8	015.7	015.9	016.0	016.2	013.5
10	016.5	016.5	016.4	016.2	016.1	016.1	016.2	016.7	016.8	017.0	017.2	016.7	016.7	016.6	016.5	016.4	016.4	017.0	017.3	017.1	017.1	017.0	016.7	016.7	016.6
11	016.6	016.3	016.0	015.7	015.6	015.5	015.4	015.5	015.9	015.8	015.7	015.2	015.2	015.2	015.2	015.4	015.7	015.8	015.8	015.9	016.0	016.4	016.5	016.5	015.7
12	016.4	016.3	016.3	016.1	016.3	016.5	016.6	016.7	016.4	016.6	016.5	016.5	016.3	015.8	015.4	015.1	015.1	014.8	014.6	014.4	014.1	013.7	013.6	013.6	015.6
13	013.5	013.5	013.3	013.2	013.3	013.4	013.5	013.6	013.7	013.6	013.2	013.0	013.0	012.6	012.2	012.2	012.3	012.7	012.7	012.7	012.6	012.5	012.2	011.8	013.0
14	011.4	011.1	010.8	010.5	010.2	010.3	010.3	010.4	010.5	010.2	010.2	010.1	009.8	009.5	009.5	009.4	009.3	009.2	009.1	008.4	007.7	006.4	005.0	003.0	009.4
15	002.1	001.7	001.1	001.0	000.6	999.7	999.1	998.7	999.1	999.6	000.3	001.0	001.6	001.6	002.1	002.2	001.8	000.7	000.4	999.6	998.3	996.9	995.6	994.3	000.1
16	992.6	990.4	988.1	986.3	984.4	984.3	984.6	984.9	985.1	985.1	984.9	984.9	984.2	983.9	983.5	983.4	983.1	983.4	983.3	983.4	983.4	983.3	983.4	983.5	985.1
17	983.0	982.8	981.8	980.9	980.6	979.9	979.7	979.6	979.4	978.9	978.8	978.4	978.4	977.9	977.7	977.6	977.4	977.4	977.8	978.1	978.0	978.2	978.4	978.4	979.2
18	978.5	978.7	978.9	979.4	979.7	980.9	981.6	982.4	982.9	983.4	984.2	984.7	984.9	984.9	984.8	984.7	984.5	984.6	984.4	984.1	983.7	983.1	982.4	981.2	982.5
19	980.0	979.2	979.3	979.5	979.8	980.1	980.4	980.2	980.5	981.0	981.2	981.8	981.7	981.9	982.0	982.3	982.5	983.7	984.2	984.5	984.9	985.8	986.7	988.0	982.4
20	989.3	990.8	992.0	993.5	995.6	997.2	998.7	1001.0	1002.5	1004.2	1005.9	1007.5	1009.3	1010.5	1011.8	1012.7	1014.0	1015.2	1016.3	1017.3	1017.8	1018.9	1019.8	1020.6	1021.6
21	020.4	021.1	021.4	022.0	022.4	022.7	023.1	023.5	023.6	022.9	023.1	023.3	023.1	023.8	021.8	021.1	021.0	020.9	020.3	020.2	019.6	019.0	018.8	018.7	021.6
22	018.5	018.3	018.2	018.0	018.3	018.4	018.8	018.8	018.5	018.3	018.3	018.3	018.2	018.6	018.7	018.5	018.9	019.4	019.4	019.7	020.0	020.2	020.5	020.5	018.7
23	020.6	020.6	020.7	020.9	020.8	021.1	021.6	021.9	022.1	021.9	022.3	022.7	022.5	022.3	022.3	022.4	022.5	022.4	022.9	023.4	023.4	023.6	023.7	024.0	022.1
24	023.9	023.7	023.9	023.7	023.9	023.9	024.4	024.5	024.3	024.5	024.6	024.6	024.3	024.0	023.8	023.6	023.3	023.1	023.2	023.1	022.8	022.6	022.7	022.1	023.7
25	021.8	021.6	021.4	021.2	021.3	021.3	021.5	021.5	020.9	021.0	021.0	021.0	020.8	020.1	019.6	019.4	019.5	019.9	020.0	019.8	019.9	019.9	020.1	020.2	020.6
26	020.3	020.7	020.8	021.2	021.4	021.6	022.0	022.4	022.6	022.7	022.7	022.6	022.7	022.8	022.8	022.9	023.6	024.5	025.2	025.9	026.1	026.0	026.3	026.1	023.0
27	026.1	025.9	025.6	025.5	025.0	024.9	024.6	024.5	024.1	023.5	022.9	022.4	021.7	021.2	020.4	019.9	019.8	019.9	020.0	019.9	019.6	019.5	019.5	019.2	022.5
28	018.6	017.9	017.3	017.1	016.8	016.7	017.0	016.8	016.5	016.1	015.9	015.2	014.6	014.2	013.1	012.4	012.0	011.8	011.9	012.0	012.2	011.9	011.6	011.0	014.8
29	010.5	009.8	009.3	008.6	008.0	007.6	007.1	006.5	006.2	005.3	004.7	004.3	003.7	003.3	003.0	003.0	003.2	003.6	003.8	004.1	004.3	004.4	004.3	004.0	005.7
30	003.6	003.3	002.9	002.4	002.0	001.9	001.9	001.5	001.7	001.7	001.7	001.6	001.6	001.5	001.4	001.7	002.5	003.1	003.8	004.0	004.3	005.0	005.3	005.4	002.7
31	005.4	005.4	005.4	005.4	005.7	005.8	006.1	006.4	006.6	006.8	007.1	006.9	006.7	006.5	006.1	006.2	006.3	006.9	007.4	007.7	007.9	008.2	008.5	009.1	006.6
Mean (Station Level)	1005.74	1005.53	1005.29	1005.17	1005.08	1005.19	1005.33	1005.57	1005.69	1005.79	1005.93	1006.01	1005.93	1005.85	1005.71	1005.67	1005.75	1006.03	1006.16	1006.20	1006.17	1006.08	1006.01	1005.85	1005.74
Mean (Sea Level)	1008.96	1008.75	1008.51	1008.39	1008.31	1008.42	1008.56	1008.79	1008.89	1008.99	1009.11	1009.20	1009.11	1009.03	1008.89	1008.85	1008.94	1009.22	1009.36	1009.41	1009.38	1009.29	1009.23	1009.06	1008.95

72. ABERDEEN:  $H_b$  = 26.0 metres.

APRIL, 1933.

Station Level ↑ Day ↓	1	mb. 009.0	mb. 009.2	mb. 009.4	mb. 009.5	mb. 009.8	mb. 010.3	mb. 010.5	mb. 010.6	mb. 010.7	mb. 011.8	mb. 012.6	mb. 013.45	mb. 013.8	mb. 014.3	mb. 014.5	mb. 014.9	mb. 015.5	mb. 016.4	mb. 017.0	mb. 017.7	mb. 018.1	mb. 018.2	mb. 018.1	mb. 018.2	mb. 013.3
	2	018.0	016.8	016.6	015.7	015.1	014.8	014.0	012.7	011.8	011.2	009.8	008.1	006.7	006.1	005.0	004.5	004.0	003.7	004.1	004.3	004.4	004.6	004.7	004.6	009.5
	3	004.4	004.3	004.1	003.9	004.2	004.3	004.6	005.0	005.3	005.9	006.3	006.8	007.0	007.5	008.0	008.3	008.5	009.4	010.4	011.6	012.4	013.3	013.5	014.3	007.4
	4	014.5	014.9	015.1	015.4	015.7	016.0	016.5	016.9	017.1	017.5	017.7	017.9	018.1	018.0	017.9	018.0	018.1	018.2	018.5	018.6	018.7	018.7	018.6	018.6	017.2
	5	018.5	018.4	018.2	018.1	018.1	018.2	018.2	018.4	018.4	018.6	018.7	018.7	018.4	018.5	018.5	018.6	018.6	018.5	018.8	018.8	019.1	019.1	018.8	018.9	018.5
	6	019.0	019.1	018.8	018.9	019.3	019.6	019.9	020.3	020.9	021.5	021.9	022.4	022.4	022.4	022.1	021.9	022.1	022.0	022.2	022.0	021.7	021.2	020.9	021.0	021.0
	7	020.1	019.4	018.5	018.3	017.8	017.4	017.0	016.7	016.6	016.5	016.4	016.0	015.3	015.2	014.9	014.6	014.3	014.4	014.5	014.7	014.5	014.7	014.7	016.3	013.9
	8	014.8	014.6	014.4	014.4	014.6	014.8	015.1	015.1	015.2	015.4	015.4	015.2	015.0	014.5	013.9	013.4	012.9	012.5	012.6	012.7	012.6	011.6	011.1	010.1	013.9
	9	008.6	006.8	005.7	003.8	002.9	003.4	003.1	003.9	004.8	005.3	005.6	006.1	006.7	006.7	006.8	006.9	007.3	007.6	008.3	008.4	008.2	007.9	008.1	007.8	006.3
	10	007.9	007.9	007.9	007.8	007.4	007.6	007.8	007.9	008.1	008.2	008.1	008.1	008.0	007.9	007.7	007.6	007.7	008.0	008.2	008.1	008.2	007.8	007.4	006.7	007.9
	11	006.1	005.9	005.2	004.7	004.8	004.9	004.9	004.1	004.5	004.4	004.5	005.1	005.5	005.5	005.9	006.4	006.6	006.8	006.9	006.6	006.2	005.2	004.3	003.7	005.4
	12	003.4	003.5	004.0	004.3	005.2	005.5	006.3	006.8	006.8	007.7	007.6	008.0	008.4	009.0	009.5	009.8	010.2	010.5	011.2	012.4	013.4	014.0	014.9	015.8	008.4
	13	017.0	018.0	018.5	018.8	019.5	020.0	020.7	021.2	021.6	022.3	022.8	023.0	023.4	024.0	024.2	024.6	025.2	026.1	026.9	027.5	028.2	029.0	029.4	029.6	025.7
	14	029.6	029.7	029.7	029.6	030.1	030.4	030.6	031.4	030.1	029.3	028.6	027.5	026.9	026.1	025.4	024.2	022.8	022.1	020.4	019.6	018.7	017.5	016.2	014.6	023.1
	15	014.2	013.0	012.5	011.2	010.5	010.2	010.3	010.5	010.9	011.6	012.0	012.1	012.6	012.7	012.7	013.2	013.6	014.1	014.1	013.9	014.0	014.3	014.1	014.1	012.6
	16	013.6	013.8	014.1	014.1	014.7	015.2	015.7	016.1	016.6	017.0	017.8	018.1	018.6	019.1	019.7	019.9	020.4	021.0	021.4	021.8	022.3	022.5	022.8	023.0	018.1
	17	022.9	022.8	022.8	022.8	022.7	022.7	022.4	022.4	022.2	022.2	022.2	021.9	021.5	021.5	020.8	020.8	020.7	021.0	021.3	021.9	022.4	022.7	022.9	023.1	022.1
	18	023.4	023.4	023.7	023.8	023.8	024.2	024.3	024.5	024.8	024.7	025.0	024.7	024.7	024.9	024.9	025.1	025.1	025.2	025.3	025.3	025.2	025.2	024.9	024.6	024.6
	19	024.8	024.6	024.4	023.9	023.8	024.0	024.4	024.1	024.2	024.2	024.2	024.2	024.1	023.9	023.6	023.4	023.0	022.8	022.7	022.6	022.4	021.9	021.5	021.1	023.6
	20	020.7	020.2	019.7	019.6	019.5	019.4	019.1	018.9	018.7	018.4	018.4	018.2	018.1	017.9	017.9	017.6	017.5	017.8	018.0	018.1	018.3	018.4	018.6	018.7	018.7
	21	018.7	018.6	018.6	018.8	018.9	019.3	019.6	019.8	020.0	020.1	020.2	020.3	020.4	020.5	020.6	020.9	020.9	021.1	021.3	021.8	022.0	022.1	022.0	020.2	020.2
	22	021.9	021.5	021.2	021.2	021.3	021.4	021.4	021.3	021.0	020.9	020.8	020.7	020.2	020.2	019.7	019.5	019.3	018.7	018.5	018.3	018.0	017.6	017.5	017.1	020.1
	23	016.6	016.3	015.5	014.9	014.6	014.5	014.3	014.1	013.6	013.5	013.5	013.4	013.0	012.8	012.4	012.2	012.0	012.0	012.0	012.0	012.1	012.2	012.2	013.5	013.5
	24	012.1	012.2	012.4	012.3	012.3	012.4	012.7	012.8	013.0	012.7	012.9	013.0	013.1	012.8	012.7	012.4	011.9	011.7	011.8	011.8	011.6	010.9	010.1	012.2	013.5
	25	009.5	009.0	008.4	007.9	007.4	007.1	006.9	006.0	005.7	005.2	005.2	004.9	004.8	004.5	004.3	003.9	003.8	003.7	003.6	003.5	003.6	003.5	003.1	005.5	005.5
	26	003.0	003.1	003.2	003.4	003.4	003.5	003.8	004.0	004.0	003.6	003.4	003.0	002.8	002.7	002.2	002.1	001.9	001.5	001.6	001.4	001.4	000.6	000.3	999.7	002.6
	27	999.5	999.3	998.9	998.6	998.4	998.2	998.1	997.7	997.9	998.1	998.3	998.4	998.8	998.8	998.9	999.1	999.2	999.3	999.8	000.2	000.2	000.3	000.4	000.3	999.0
	28	000.4	000.5	000.5	000.4	000.5	000.6	000.8	000.9	001.3	001.6	001.6	001.7	001.9	002.2	002.3	002.3	002.4	002.4	002.8	003.0	003.5	003.7	003.9	003.8	001.9
	29	003.7	003.5	003.4	003.4	003.4	003.7	003.6	003.6	003.7	003.8	003.9	003.9	004.0	004.3	004.4	004.5	004.6	004.8	005.2	005.5	005.7	005.8	006.0	004.3	004.3
	30	006.2	006.2	006.2	006.2	006.4	006.9	007.3	007.9	008.2	008.7	008.8	008.8	008.8	008.9	009.0	009.1	009.1	009.2	009.5	010.1	010.5	010.9	011.2	011.6	008.5
	Mean (Station Level)	1013 +40	1013 +22	1013 +05	1012 +86	1012 +87	1013 +02	1013 +13	1013 +15	1013 +26	1013 +40	1013 +47	1013 +46	1013 +43	1013 +44	1013 +35	1013 +32	1013 +30	1013 +42	1013 +62	1013 +82	1013 +92	1013 +86	1013 +80	1013 +84	1013 +38
Mean (Sea Level)	1016 +63	1016 +45	1016 +28	1016 +09	1016 +10	1016 +25	1016 +35	1016 +37	1016 +46	1016 +60	1016 +67	1016 +65	1016 +63	1016 +64	1016 +54	1016 +51	1016 +50	1016 +63	1016 +83	1017 +04	1017 +14	1017 +08	1017 +02	1016 +87	1016 +60	
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	



73. ABERDEEN:  $H_b$  (height of barometer cistern above M.S.L.) = 26.0 metres.

MAY, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
1	011.9	012.2	012.5	012.8	013.1	013.4	013.6	014.2	014.4	014.8	014.9	015.0	015.0	015.1	015.1	015.2	015.1	015.1	015.5	015.7	016.2	016.2	016.3	016.4	014.5
2	016.4	016.2	016.0	016.1	016.2	016.4	016.4	016.2	015.8	015.9	015.8	015.9	016.0	016.0	015.8	015.3	015.1	015.0	015.1	015.1	015.2	015.0	014.9	014.6	015.7
3	014.1	013.6	013.5	013.5	013.4	013.5	013.2	013.5	013.7	013.4	013.4	013.3	013.3	013.1	013.0	012.8	012.8	012.7	012.5	012.7	012.7	012.7	012.6	012.7	013.2
4	012.7	012.7	012.6	012.4	012.3	012.5	012.9	013.1	013.4	013.3	013.3	013.3	013.1	012.9	012.8	012.4	011.8	011.5	011.3	011.2	010.9	010.4	010.0	009.3	012.2
5	008.6	008.5	008.1	008.0	007.6	008.0	008.3	008.5	008.5	008.6	008.5	008.2	008.4	008.4	008.0	007.2	006.8	006.3	006.5	006.5	006.4	006.6	006.8	006.6	007.7
6	006.2	005.7	005.2	005.0	004.6	004.6	004.4	004.5	004.6	004.4	004.2	003.8	003.5	003.4	002.9	002.7	002.5	001.9	001.9	001.8	001.9	001.8	001.4	000.9	003.6
7	000.6	000.2	000.2	000.1	999.9	999.8	999.9	999.8	999.7	999.9	000.0	999.9	999.8	999.8	999.9	999.9	000.0	000.9	000.9	001.1	001.4	001.9	002.3	002.4	000.4
8	002.4	002.4	002.5	002.6	002.9	003.4	004.0	004.3	004.5	004.3	004.1	003.8	003.7	003.2	002.5	002.1	001.9	001.6	001.6	001.3	001.1	000.6	000.0	999.4	002.6
9	999.0	998.9	998.7	998.7	998.8	999.1	999.7	999.8	000.1	000.3	000.5	000.8	001.1	001.4	001.7	002.0	002.4	002.6	003.1	003.9	004.3	004.7	005.2	005.6	001.2
10	005.9	006.5	007.0	007.3	007.8	008.3	008.6	008.9	009.4	009.6	010.0	010.8	010.8	010.6	010.6	010.7	011.0	010.9	011.5	012.0	012.2	012.2	012.1	011.9	009.8
11	011.9	011.9	011.8	011.7	011.7	011.8	011.8	011.6	011.7	011.7	011.7	011.6	011.6	011.6	011.3	011.1	010.7	010.8	010.9	011.1	011.1	011.2	011.0	010.9	011.4
12	010.7	010.5	010.5	010.3	010.4	010.4	010.7	010.9	010.9	011.0	010.7	010.8	010.5	010.5	010.4	010.3	010.6	010.4	010.7	010.5	010.8	010.6	010.6	010.4	010.6
13	010.3	010.1	009.9	009.9	009.8	009.8	009.8	009.6	009.3	009.1	009.0	008.7	008.7	008.3	008.3	008.3	008.2	008.3	008.7	008.8	009.0	009.1	009.1	009.1	009.1
14	009.0	009.0	008.8	008.8	009.2	009.2	009.7	010.1	010.2	010.5	010.8	011.3	011.9	012.2	012.4	012.8	013.2	013.6	014.2	014.7	015.2	015.2	015.3	015.5	011.8
15	015.6	015.6	015.6	015.7	016.0	016.5	016.8	016.8	016.9	017.1	017.7	017.8	018.0	018.1	018.2	018.3	018.5	018.5	018.6	019.0	019.5	019.6	019.5	019.5	017.6
16	019.1	018.8	019.0	019.0	018.9	018.9	018.9	018.8	018.6	018.2	018.3	018.3	018.3	018.4	018.3	018.4	018.1	017.8	017.9	018.4	018.5	018.5	018.5	018.7	018.5
17	018.9	018.8	018.8	018.9	019.4	019.5	019.6	019.7	019.8	019.7	019.4	019.5	019.1	018.7	018.5	018.2	018.0	017.3	017.2	017.1	016.7	016.4	016.0	015.8	018.5
18	021.0	020.7	020.6	020.3	020.2	020.1	019.8	019.7	019.4	019.5	019.1	018.7	018.5	018.2	018.0	017.3	017.2	017.1	016.7	016.4	016.0	015.8	015.3	014.7	018.5
19	014.2	013.8	013.4	013.4	013.4	013.4	013.2	013.2	013.0	012.7	012.6	012.8	012.8	012.8	012.7	012.5	012.4	012.1	012.1	012.0	011.7	011.7	011.6	011.2	012.8
20	010.8	010.4	009.8	009.2	008.8	008.9	008.9	008.7	008.5	008.3	008.2	008.2	007.9	007.7	007.4	007.5	007.6	007.7	007.7	008.5	008.0	008.4	009.0	008.9	008.6
21	008.9	009.5	009.8	010.0	010.4	011.0	011.6	012.0	012.5	012.8	013.4	014.0	014.3	014.6	014.9	015.0	015.2	015.5	016.1	017.0	017.2	017.7	017.8	018.2	013.5
22	018.7	018.8	018.8	018.8	018.9	019.5	019.7	019.9	020.1	020.2	020.3	020.4	020.7	020.7	020.8	021.0	020.9	020.9	020.9	021.0	021.2	021.3	021.2	021.1	020.6
23	020.4	020.1	020.0	019.7	019.4	018.9	018.9	018.9	019.1	018.9	018.7	018.7	018.4	018.3	017.8	017.8	017.6	017.6	017.4	017.3	017.4	017.4	017.5	017.2	018.6
24	017.1	020.0	016.0	016.7	016.2	016.1	016.0	015.8	015.6	015.3	015.0	014.3	013.9	013.4	012.5	012.1	011.5	011.0	010.6	010.3	010.1	010.1	010.4	010.4	013.8
25	010.3	010.1	010.0	010.1	010.2	010.4	010.5	010.6	010.6	010.4	010.6	010.6	010.8	010.5	010.7	010.6	010.7	010.7	010.9	011.3	011.6	011.7	011.8	011.8	010.7
26	011.5	011.5	011.5	011.6	011.8	011.8	011.8	011.6	011.5	011.4	011.3	011.3	011.4	011.4	011.3	011.3	011.4	011.4	011.5	011.7	012.0	011.9	012.0	012.1	011.6
27	011.9	011.9	011.8	011.7	011.7	012.0	012.3	012.4	012.5	012.4	012.5	012.6	012.6	012.7	012.7	012.7	012.8	013.1	013.4	013.5	013.9	014.0	014.2	014.5	011.6
28	014.4	014.1	014.1	014.1	014.2	014.6	014.9	015.0	015.5	015.5	015.5	015.6	015.9	016.0	016.1	016.2	016.4	016.6	017.1	017.2	017.7	017.8	017.7	017.8	015.8
29	017.8	017.9	017.8	017.7	017.7	017.8	017.9	018.0	018.2	018.1	018.1	018.0	018.0	018.0	017.7	017.7	017.4	017.1	017.2	017.3	017.5	017.6	017.6	017.3	017.7
30	017.0	016.6	016.1	015.7	015.6	015.6	015.6	015.3	016.1	014.8	014.5	014.0	013.8	013.7	013.3	012.9	012.6	012.4	012.4	012.4	012.5	012.5	012.6	012.3	014.2
31	012.1	011.9	011.8	011.7	011.5	011.7	011.8	011.8	011.7	011.8	011.8	011.7	011.9	012.1	012.0	011.8	011.9	011.9	012.0	012.1	012.3	012.5	012.6	012.5	011.9
Mean (Station Level)	1012 -24	1012 -13	1012 -02	1011 -97	1012 -10	1012 -19	1012 -32	1012 -39	1012 -44	1012 -45	1012 -46	1012 -41	1012 -42	1012 -38	1012 -26	1012 -14	1012 -10	1012 -03	1012 -18	1012 -34	1012 -46	1012 -50	1012 -40	1012 -28	
Mean (Sea Level)	1015 -45	1015 -34	1015 -24	1015 -19	1015 -31	1015 -40	1015 -52	1015 -58	1015 -62	1015 -63	1015 -64	1015 -59	1015 -59	1015 -56	1015 -44	1015 -32	1015 -28	1015 -21	1015 -37	1015 -54	1015 -66	1015 -70	1015 -61	1015 -48	

74. ABERDEEN:  $H_b$  = 26.0 metres.

JUNE, 1933.

Station Level	Day	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	
	1	012.4	012.6	012.7	012.8	012.7	012.8	013.2	013.3	013.5	013.3	013.3	013.2	013.0	012.8	012.3	012.1	011.8	011.7	011.7	011.7	011.7	012.0	012.1	011.9	012.5
	2	011.7	011.4	011.2	011.1	011.2	011.4	011.7	012.0	012.3	012.3	012.4	012.7	012.4	013.0	013.1	013.1	013.2	013.6	013.5	013.6	014.1	014.2	014.3	012.6	012.6
	3	014.5	014.5	014.5	014.3	014.3	014.3	014.3	014.4	014.2	014.5	014.7	014.9	014.6	014.3	014.7	014.4	014.3	014.4	014.4	014.5	014.7	014.7	015.0	014.9	014.5
	4	014.5	014.5	014.3	014.8	013.9	013.9	013.8	013.7	013.5	013.3	013.3	013.3	013.5	013.4	013.1	012.9	012.9	012.7	012.7	012.7	012.9	013.0	013.0	012.8	013.5
	5	012.7	012.5	012.3	012.3	012.3	012.3	012.1	011.9	011.6	011.3	011.4	011.3	011.3	011.6	011.6	011.4	011.3	011.4	011.6	011.9	012.3	012.3	012.7	013.3	011.9
	6	013.8	014.1	014.2	014.6	015.0	015.5	015.8	015.8	015.7	015.9	016.0	016.0	016.0	015.8	015.3	015.0	014.9	015.1	015.1	014.9	015.0	015.1	015.2	015.3	015.2
	7	015.3	015.5	015.4	015.5	015.7	015.8	015.9	016.0	016.0	016.1	016.2	016.1	016.0	015.7	015.6	015.4	015.4	015.6	015.6	015.8	015.9	016.5	016.9	015.8	015.8
	8	017.8	018.3	018.5	019.0	019.4	019.6	020.0	020.7	021.0	021.2	021.5	021.7	021.6	021.8	022.3	022.8	023.2	023.3	023.9	023.8	024.4	024.6	024.7	021.5	021.5
	9	025.0	025.1	025.1	025.1	025.4	025.2	025.6	026.0	026.1	026.1	026.0	025.9	025.7	025.7	025.7	025.7	025.6	025.6	025.6	025.6	025.8	025.8	025.5	025.6	025.6
	10	025.3	024.9	024.6	024.2	023.8	023.5	023.5	023.1	022.8	022.5	021.9	021.6	021.5	020.8	020.4	019.9	019.4	019.1	019.0	018.8	018.9	018.7	018.6	018.4	021.6
	11	018.1	017.8	017.6	017.3	017.4	017.4	017.4	017.3	017.2	017.1	017.0	016.7	016.5	016.2	016.0	015.7	015.4	015.3	015.2	015.3	015.4	015.4	015.3	015.0	016.5
	12	014.8	014.6	014.4	014.0	013.9	013.9	013.7	013.6	013.7	013.5	013.5	013.4	013.3	013.3	013.0	012.8	012.7	012.6	012.5	012.4	012.7	012.6	012.8	012.9	013.4
	13	012.9	012.7	012.6	012.6	012.8	012.5	013.1	013.3	013.8	013.8	014.5	014.7	014.6	015.0	015.4	015.5	015.6	015.9	016.2	016.6	016.9	017.3	017.3	017.5	014.6
	14	017.6	017.7	018.0	018.1	018.3	018.4	018.6	018.7	018.7	018.8	018.5	018.5	018.7	018.4	017.9	017.5	017.3	016.8	016.6	016.4	016.3	016.0	015.7	015.5	017.7
	15	015.0	014.5	013.9	013.3	012.9	012.9	012.3	011.8	011.3	010.9	010.3	010.0	009.2	008.9	009.0	008.8	008.5	008.0	007.8	007.8	007.9	007.7	007.6	007.4	010.5
	16	007.3	007.3	007.3	007.2	007.2	007.0	006.8	006.2	005.4	004.5	003.4	002.3	000.9	999.2	997.4	996.1	995.4	993.5	991.2	989.4	988.4	987.3	987.1	986.7	999.8
	17	986.6	986.1	985.9	985.4	985.0	985.0	984.8	984.8	984.7	984.4	984.0	983.6	983.2	983.0	983.0	983.2	982.5	982.8	982.7	982.7	982.9	982.4	982.3	982.2	984.0
	18	982.0	981.5	981.6	981.5	981.8	982.2	982.5	983.2	983.9	984.6	984.9	985.6	986.1	986.5	986.8	987.2	987.5	988.3	988.6	989.2	989.7	989.9	990.3	990.7	985.5
	19	990.8	990.9	991.3	991.7	992.1	992.8	993.2	993.7	994.0	994.5	994.7	994.8	995.0	994.9	994.8	994.8	994.9	995.0	995.0	994.9	994.8	994.8	994.2	993.8	993.7
	20	993.6	993.1	992.2	991.6	991.5	991.2	990.6	990.4	990.3	990.0	989.9	989.6	989.4	989.5	989.5	989.5	989.6	989.9	990.0	990.3	990.9	991.4	991.6	991.9	990.8
	21	992.6	993.1	994.1	994.7	995.4	996.1	997.0	997.8	998.1	998.8	999.3	999.4	999.6	000.1	000.2	000.5	000.6	000.7	000.8	001.2	001.4	001.4	001.4	001.6	998.4
	22	001.8	002.1	002.3	003.0	003.5	004.1	004.3	004.4	004.4	004.5	004.8	004.8	004.8	004.9	004.8	004.7	004.7	004.7	004.8	005.1	004.8	004.8	004.8	004.5	004.2
	23	004.2	004.0	003.6	003.5	003.3	003.1	003.0	002.8	002.5	002.3	002.2	002.2	002.1	001.9	001.6	001.8	002.0	002.0	002.0	002.2	002.4	002.3	002.5	002.9	002.6
	24	003.1	003.0	002.7	002.8	002.6	002.8	003.2	003.4	003.5	003.9	004.4	004.8	005.5	005.6	006.0	006.4	006.6	006.9	007.3	007.8	008.4	008.4	008.8	009.6	005.2
	25	009.8	009.8	009.8	010.2	010.4	010.4	010.5	010.7	010.8	011.5	011.7	011.7	011.9	011.8	011.8	011.8	011.5	011.2	011.3	011.5	011.7	011.7	011.8	011.8	011.1
	26	011.7	011.3	010.9	010.8	010.8	010.7	010.9	011.3	011.5	011.6	011.9	012.0	012.4	012.3	012.3	012.2	012.3	012.4	012.5	012.4	012.6	012.5	012.3	012.0	011.8
	27	011.6	011.3	011.0	010.5	010.5	010.3	010.1	009.9	010.0	009.9	009.9	009.3	009.1	008.8	008.9	007.1	006.5	006.6	006.8	007.1	007.2	007.3	007.4	007.6	008.6
	28	007.9	007.7	007.5	007.6	007.7	007.9	008.0	008.1	008.2	008.5	008.6	008.7	008.8	008.8	008.9	009.1	009.3	009.4	009.7	010.1	010.4	010.6	010.7	010.8	008.8
	29	010.8	010.7	010.6	010.6	010.9	011.2	011.4	011.6	011.8	011.8	012.0	011.9	011.9	012.1	012.5	012.5	012.6	012.7	012.8	013.0	013.5	013.5	013.5	013.5	012.0
30	013.4	013.3	013.2	013.2	013.3	013.0	013.1	013.1	012.9	012.8	012.6	012.3	012.0	011.9	011.7	011.4	011.2	010.6	010.6	010.9	011.4	011.6	011.8	011.8	012.3	
Mean (Station Level)	1008 -95	1008 -86	1008 -78	1008 -78	1008 -84	1008 -91	1009 -02	1009 -11	1009 -11	1009 -14	1009 -16	1009 -10	1009 -03	1008 -93	1008 -81	1008 -72	1008 -62	1008 -59	1008 -59	1008 -64	1008 -83	1008 -83	1008 -89	1008 -92	1008 -88	
Mean (Sea Level)	1012 -11	1012 -03	1011 -94	1011 -94	1012 -00	1012 -06	1012 -16	1012 -24	1012 -24	1012 -27	1012 -28	1012 -22	1012 -15	1012 -05	1011 -93	1011 -84	1011 -74	1011 -71	1011 -72	1011 -77	1011 -97	1011 -98	1012 -04	1012 -08	1012 -02	
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	



PRESSURE.  
Readings in millibars at exact hours, Greenwich Mean Time.

75. ABERDEEN: H<sub>b</sub> (height of barometer cistern above M.S.L.) = 26.0 metres.

JULY, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
1	011.9	012.1	012.3	012.8	013.4	013.9	014.4	014.7	015.1	015.5	015.9	016.0	016.2	016.5	016.9	017.4	018.1	018.7	019.0	019.5	020.3	020.7	020.9	021.1	016.2
2	021.2	021.4	021.6	022.2	022.5	022.7	022.8	022.9	023.1	023.4	023.6	023.7	023.7	024.0	024.5	024.9	025.3	025.6	026.6	027.1	027.7	027.8	027.9	028.1	024.2
3	028.3	028.2	028.0	028.1	028.5	028.6	028.9	029.2	029.2	029.1	029.2	029.5	029.5	029.6	029.4	029.4	029.4	029.4	030.2	030.8	030.8	030.8	030.7	030.7	029.3
4	030.6	030.5	030.6	030.7	030.7	030.8	030.8	030.7	030.6	030.2	029.8	029.7	029.4	029.4	028.9	028.8	028.8	028.6	028.7	028.7	028.9	029.0	028.9	028.8	029.7
5	028.5	027.8	027.2	026.8	026.5	026.3	026.0	025.7	024.9	024.7	024.2	023.8	023.6	022.9	022.3	021.9	021.6	021.0	020.7	020.8	020.9	021.2	021.0	020.7	024.0
6	020.4	019.8	019.7	019.5	019.3	019.1	018.8	018.8	018.4	018.2	018.0	017.9	017.7	017.2	016.3	015.9	015.4	015.5	015.3	015.3	015.3	015.2	015.1	014.9	017.5
7	015.0	014.4	014.2	014.0	013.6	013.4	013.4	013.3	013.3	013.4	013.5	013.3	013.3	013.2	012.8	012.2	012.9	012.1	011.7	011.6	011.4	011.3	010.8	010.3	012.9
8	010.3	010.3	009.9	009.8	009.9	010.3	010.8	011.5	011.9	012.1	012.9	013.2	013.3	013.4	013.5	013.5	013.5	013.5	013.4	013.4	013.4	012.8	012.8	012.8	012.1
9	012.8	012.3	012.0	012.0	011.8	011.9	012.0	011.8	011.9	011.9	011.2	010.9	010.2	009.8	009.4	008.8	008.0	007.4	007.0	005.9	005.2	004.5	003.6	002.9	009.6
10	000.7	000.9	000.8	000.6	000.4	000.4	000.4	000.4	000.4	000.4	000.4	000.4	000.4	000.4	000.4	000.4	000.4	000.4	000.4	000.4	000.4	000.4	000.4	000.4	000.4
11	000.7	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8
12	000.7	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8
13	000.7	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8
14	000.7	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8
15	000.7	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8
16	000.7	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8
17	000.7	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8
18	000.7	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8
19	000.7	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8
20	000.7	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8
21	000.7	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8
22	000.7	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8
23	000.7	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8
24	000.7	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8
25	000.7	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8
26	000.7	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8
27	000.7	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8
28	000.7	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8
29	000.7	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8
30	000.7	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8
31	000.7	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8
Mean (Station Level)	1010	1010	1010	1010	1010	1010	1010	1010	1010	1010	1010	1010	1010	1010	1010	1010	1010	1010	1010	1010	1010	1010	1010	1010	1010
Mean (Sea Level)	1013	1013	1013	1013	1013	1013	1013	1013	1013	1013	1013	1013	1013	1013	1013	1013	1013	1013	1013	1013	1013	1013	1013	1013	1013

76. ABERDEEN: H<sub>b</sub> = 26.0 metres.

AUGUST, 1933.

Station Level	Day	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
	1	012.8	013.7	014.5	014.9	015.7	016.5	016.8	017.4	017.6	018.0	018.8	018.8	018.8	018.8	019.0	019.3	019.3	019.4	019.4	019.1	019.1	019.0	019.2	018.6
	2	018.1	017.7	017.4	017.3	017.4	017.6	017.8	018.0	017.8	018.0	018.0	017.9	017.9	017.8	017.7	017.8	018.1	018.1	018.2	018.6	018.6	018.6	018.5	018.4
	3	018.6	018.5	018.6	018.8	019.1	019.2	019.5	019.6	019.7	019.7	019.8	019.8	019.7	019.7	019.7	019.7	019.7	019.7	019.7	019.7	019.7	019.7	019.7	019.7
	4	021.9	021.9	022.0	022.1	022.1	022.2	022.5	022.7	023.1	023.0	023.0	022.9	022.7	022.7	022.9	022.9	023.1	023.2	023.1	023.2	023.3	023.2	022.9	022.5
	5	022.2	021.6	021.4	020.8	021.0	021.0	020.9	021.0	020.7	020.3	020.5	020.3	019.8	019.7	018.9	018.5	018.1	017.4	017.2	016.9	016.8	016.7	016.4	015.9
	6	014.1	013.6	013.4	012.9	012.1	011.8	011.9	011.9	012.1	012.0	012.2	012.1	012.4	012.9	013.3	013.6	013.9	014.0	015.1	015.4	015.9	016.0	015.9	016.0
	7	016.0	015.8	015.8	015.6	015.1	014.7	014.3	013.6	012.8	012.0	011.5	011.5	010.3	008.3	007.6	006.9	005.3	003.8	002.8	002.6	002.3	002.3	002.3	002.5
	8	002.7	002.7	002.8	002.6	002.8	002.9	003.5	003.8	004.2	004.9	005.6	006.1	006.5	006.5	006.5	007.0	007.5	007.5	007.9	008.4	008.6	008.5	008.3	008.2
	9	007.5	006.7	005.9	005.5	004.6	003.8	003.6	003.4	003.8	004.8	005.4	006.0	006.6	007.1	007.6	008.0	008.2	008.5	009.0	009.4	010.0	010.6	011.1	011.2
	10	011.3	011.9	012.3	012.5	012.9	013.5	014.1	014.5	014.9	015.2	015.6	015.9	016.0	016.5	016.6	016.8	017.2	017.4	018.1	018.9	019.2	019.7	019.9	020.2
	11	020.2	020.1	020.4	020.4	020.5	020.7	020.9	021.2	021.3	021.4	021.3	021.3	021.3	021.3	021.3	021.3	021.3	021.3	021.3	021.3	021.3	021.3	021.3	021.3
	12	023.3	023.1	022.9	023.3	023.8	024.0	024.7	024.5	024.7	024.7	024.6	024.3	024.0	023.7	023.3	022.8	022.5	022.2	022.1	022.1	022.0	022.1	021.8	021.1
	13	020.5	020.1	019.7	019.5	019.0	018.9	018.8	018.3	017.7	017.3	016.9	016.2	015.8	015.2	014.9	014.3	014.0	013.5	013.2	013.1	013.1	013.1	012.7	012.7
	14	012.5	011.7	011.2	010.6	010.3	010.2	009.8	009.4	009.2	008.7	008.5	008.5	008.0	007.0	006.5	006.0	005.5	005.1	005.0	004.9	004.1	003.7	003.1	002.1
	15	001.3	000.5	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0
	16	001.3	000.5	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0	000.0
	17	001.5	000.8	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1
	18	001.5	000.8	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1
	19	002.7	002.9	002.8	002.8	002.8	002.9	003.1	003.1	003.3	003.5	003.6	003.6	003.4	002.9	002.5	002.1	002.3	002.2	002.4	002.6	002.4	002.2	002.1	001.7
	20	001.2	000.6	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1	000.1
	21	006.2	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1
	22	006.2	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1
	23	005.6	005.6	005.5	005.2	005.3	005.4	005.8	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1	006.1
	24	008.3	008.3	008.5	008.7	009.4	009.4	009.4	010.1	010.7	011.2	011.4	011.5	011.6	011.6	011.6	011.6	011.6	011.6	011.6	011.6	011.6	011.6	011.6	011.6
	25	011.3	011.1	010.9	010.7	010.9	011.0	011.1	011.5	011.7	011.8	011.8	011.9	011.8	011.7	011.4	011.5	011.8	012.0	012.5	012.8	013.2	013.4	013.9	014.1
	26	014.5	014.7	014.7	014.9	015.0	015.4	015.6	015.7	015.4	015.6	015.8	015.7	015.7	015.5	015.4	015.5	015.3	015.4	015.6	015.7	015.3	015.0	015.0	015.3
	27	014.6	014.5	014.3	014.1	013.8	013.9	014.2	014.1	013.5	013.5	013.1	013.4	013.8	013.8	013.9	013.8	013.2	013.4	013.2	013.1	012.5	011.7	010.9	009.9
	28	009.2	008.4	007.9	007.9	007.3	006.8	007.0	007.6	008.2	009.1	009.5	010.6	011.5	011.9	012.6	012.3	012.5	013.1	013.4	013.5	013.5	013.7	013.3	013.0
	29	012.8	012.4	012.2	011.1	011.4	011.3	011.1	011.5	011.7	011.7	011.8	011.6	011.1	011.0	010.3	010.2	010.1	009.8	009.8	010.1	010.1	010.2	010.4	010.4
	30	010.3	010.3	010.0	009.9	009.7	009.6	009.6	009.8	010.2	010.4	010.3	010.9	010.4	012.3	012.8	013.1	013.8	014.3	015.5	016.0	016.8	017.2	017.4	017.3
31	017.4	016.8	016.3	016.2	016.1	015.8	015.7	015.4	014.9	014.2	013.8	013.2	012.6	011.6	011.1	010.4	009.8	009.2	008.9	008.8	008.9	009.3	009.6	009.9	
Mean (Station Level)	1009 .69	1009 .54	1009 .44	1009 .28	1009 .27	1009 .29	1009 .43	1009 .48	1009 .54	1009 .55	1009 .62	1009 .66	1009 .53	1009 .42	1009 .33	1009 .25	1009 .17	1009 .22	1009 .41	1009 .64	1009 .77	1009 .83	1009 .84	1009 .73	
Mean (Sea Level)	1012 .83	1012 .68	1012 .58	1012 .43	1012 .42	1012 .43	1012 .55	1012 .60	1012 .64	1012 .65	1012 .72	1012 .76	1012 .62	1012 .51	1012 .42	1012 .34	1012 .26	1012 .32	1012 .51	1012 .75	1012 .90	1012 .96	1012 .97	1012 .86	
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	
																								Mean	



Readings in millibars at exact hours, Greenwich Mean Time.

77. ABERDEEN:  $H_b$  (height of barometer cistern above M.S.L.) = 26.0 metres.

SEPTEMBER, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
1	009.9	010.2	010.1	010.4	010.7	011.0	011.6	012.0	012.8	013.2	013.6	013.6	014.0	014.6	014.6	014.8	015.3	015.7	016.0	016.5	016.9	017.2	017.2	017.3	013.6
2	017.2	016.8	016.9	016.9	016.5	016.6	016.6	016.7	016.5	016.2	016.0	016.2	015.8	015.6	015.7	015.5	015.6	015.8	016.3	016.5	016.8	017.0	017.1	017.2	016.3
3	016.8	016.9	017.0	016.7	016.7	016.9	017.3	017.5	017.9	017.8	017.9	017.9	018.2	018.3	018.3	018.5	019.1	019.4	020.1	020.7	020.9	021.4	021.4	021.4	018.4
4	021.4	021.5	021.4	021.4	021.4	021.8	022.4	022.4	022.3	022.4	022.5	022.4	022.2	022.0	021.7	021.5	021.2	021.1	021.4	021.8	022.0	021.9	022.1	021.9	021.9
5	021.8	021.8	021.8	021.8	021.7	021.8	022.2	022.1	021.9	021.6	021.4	021.0	020.6	020.1	019.6	019.0	018.8	018.7	018.8	018.7	018.6	018.7	018.7	018.7	020.5
6	018.9	018.8	018.7	019.0	019.3	019.7	020.3	020.9	021.3	022.0	022.3	022.3	022.9	023.3	023.3	024.0	024.6	025.2	026.2	027.0	027.7	028.1	028.5	028.8	022.8
7	029.1	029.3	029.7	030.0	030.0	030.3	030.8	031.2	031.3	031.7	031.3	031.4	031.6	031.5	031.3	031.2	031.1	031.3	031.6	031.7	031.8	031.7	031.7	031.6	031.0
8	031.4	031.2	031.1	030.8	030.8	031.1	031.3	031.2	031.3	031.2	030.9	030.8	030.5	030.3	030.0	029.6	029.6	029.4	029.4	029.4	029.5	029.6	029.4	029.3	030.4
9	029.3	029.1	029.0	028.8	028.8	028.9	028.9	029.1	029.1	029.2	029.2	029.1	029.1	029.0	028.8	028.6	028.4	028.5	028.7	028.9	029.0	028.9	028.8	028.7	028.9
10	028.7	028.6	028.6	028.8	028.7	028.9	029.2	029.1	029.0	029.0	028.8	028.8	028.9	028.5	028.4	028.2	028.1	028.1	028.3	028.5	028.5	028.5	028.4	028.3	028.6
11	028.0	027.8	027.6	027.6	027.4	027.6	027.7	027.9	027.5	027.1	026.9	026.7	026.7	026.5	025.9	025.7	025.3	024.9	024.8	024.8	024.6	024.3	024.1	023.8	026.4
12	023.7	023.2	022.6	022.5	022.2	022.2	022.0	021.8	021.8	021.6	021.3	020.8	020.3	019.5	019.1	018.7	018.4	018.4	018.2	018.1	017.6	017.1	016.5	016.1	020.3
13	015.5	014.8	014.4	013.8	013.3	012.6	012.4	013.1	013.2	013.3	012.9	012.9	012.4	012.6	012.2	011.4	011.1	010.7	011.1	011.8	012.4	012.9	013.4	013.6	012.9
14	013.8	014.2	014.4	015.0	015.6	016.4	017.2	018.2	018.3	018.8	018.8	019.1	019.2	019.3	019.6	019.4	019.7	020.0	020.1	020.4	020.0	019.9	019.7	019.3	018.1
15	018.8	018.6	018.2	018.1	017.9	018.1	018.1	018.2	018.0	017.8	017.3	017.0	016.4	016.1	015.4	015.1	015.1	015.3	015.3	015.3	015.5	015.4	015.7	015.6	016.8
16	015.5	015.2	015.1	015.1	014.9	014.9	014.7	014.5	014.4	013.9	013.5	013.2	012.9	012.5	012.1	011.8	011.7	011.6	011.6	011.3	011.3	011.0	010.8	010.8	013.2
17	010.8	010.6	010.5	010.3	010.0	009.9	009.8	010.2	010.1	009.8	009.2	009.0	008.5	007.5	007.1	006.2	005.3	004.8	004.3	003.7	002.9	002.2	001.5	000.8	007.5
18	000.0	999.4	999.3	999.0	999.2	999.7	000.8	002.1	003.6	004.7	005.8	006.7	007.5	007.8	008.2	008.8	009.5	009.6	010.1	010.2	010.3	010.3	010.2	009.8	005.3
19	009.4	009.1	008.8	008.4	008.3	008.1	007.9	007.2	007.1	006.8	006.5	006.2	005.4	005.4	004.8	004.3	004.1	004.4	004.4	004.3	004.3	004.0	003.8	003.6	006.3
20	003.3	003.0	003.0	002.6	002.4	002.7	003.0	003.1	003.1	003.4	003.5	003.4	003.4	003.5	003.5	003.7	004.3	005.0	005.6	006.4	006.6	006.9	007.3	007.6	004.1
21	008.0	008.2	008.6	008.7	009.2	009.7	010.2	010.9	011.2	011.4	011.4	011.6	011.7	011.8	011.9	012.2	012.3	012.3	012.1	012.1	011.8	011.9	011.7	011.5	010.9
22	011.4	011.1	010.7	010.2	010.3	010.2	009.8	009.5	009.3	009.1	008.6	008.2	007.9	007.7	006.9	006.7	006.1	005.7	005.5	005.0	004.5	004.1	003.7	003.0	007.9
23	002.6	002.0	001.2	000.6	000.5	000.0	999.9	999.7	999.5	999.3	999.0	998.6	998.4	998.1	998.3	998.4	998.6	999.1	999.5	999.8	000.1	000.4	000.9	001.2	999.9
24	001.7	001.9	002.1	002.5	002.8	003.4	003.8	004.1	004.4	004.5	005.0	005.1	004.9	005.1	005.5	005.7	006.2	006.7	007.4	008.1	008.4	008.7	008.9	009.0	005.1
25	009.2	009.3	009.5	010.0	010.5	011.0	011.8	012.4	013.5	014.3	014.6	015.2	015.5	015.7	016.1	016.3	016.8	017.2	017.5	017.6	017.8	018.1	018.1	018.1	014.2
26	018.1	017.9	017.8	017.9	018.0	018.4	018.7	018.9	019.1	019.1	019.0	018.9	019.1	019.1	019.1	019.1	019.3	019.8	020.2	020.2	020.1	020.5	020.4	020.4	019.1
27	020.5	020.6	020.5	020.5	020.7	021.1	021.6	021.6	021.8	021.8	021.9	021.9	021.9	021.9	021.7	021.5	021.8	021.7	021.7	022.2	022.5	022.8	022.7	022.8	021.6
28	022.5	022.6	022.6	022.6	022.5	022.9	023.0	023.2	023.2	023.2	022.6	022.2	022.0	021.5	021.0	020.6	019.9	019.6	019.5	019.3	018.8	018.5	018.2	017.5	021.3
29	017.3	016.5	015.9	015.4	015.2	015.7	015.7	016.0	016.1	016.6	016.6	016.6	016.9	017.2	017.3	017.6	018.0	018.5	019.0	019.8	020.5	021.1	021.3	021.7	021.5
30	021.9	022.1	022.2	022.3	022.7	023.1	023.3	023.6	024.2	024.3	024.4	024.4	024.4	024.4	024.2	024.1	023.9	023.8	024.0	024.0	024.2	024.1	024.1	023.8	023.6
Mean (Station Level)	1016 -55	1016 -41	1016 -31	1016 -26	1016 -27	1016 -49	1016 -73	1016 -95	1017 -11	1017 -19	1017 -11	1017 -06	1017 -00	1016 -87	1016 -71	1016 -62	1016 -64	1016 -75	1016 -96	1017 -15	1017 -20	1017 -23	1017 -21	1017 -08	1016 -82
Mean (Sea Level)	1019 -73	1019 -60	1019 -50	1019 -45	1019 -47	1019 -68	1019 -92	1020 -13	1020 -27	1020 -35	1020 -26	1020 -20	1020 -14	1020 -01	1019 -85	1019 -76	1019 -79	1019 -90	1020 -12	1020 -32	1020 -37	1020 -41	1020 -39	1020 -26	1019 -99

78. ABERDEEN:  $H_b$  = 26.0 metres.

OCTOBER, 1933.

Station Level	Day	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
	1	023.5	023.2	023.3	022.6	022.6	023.0	023.2	023.3	023.6	023.5	023.4	023.3	023.1	023.2	023.0	023.0	023.2	023.7	023.9	024.1	024.1	024.0	024.3	024.5	023.4
	2	024.7	025.0	025.5	026.0	026.7	027.3	028.0	028.5	029.1	029.6	029.9	029.8	029.7	029.8	029.4	029.4	029.7	030.1	030.2	030.1	030.0	029.8	029.5	029.5	028.5
	3	029.2	028.5	028.1	027.7	027.4	026.9	026.6	026.4	026.2	025.7	025.4	024.9	024.1	023.0	022.5	021.9	021.5	021.3	021.2	020.9	020.5	019.8	019.3	019.0	024.3
	4	018.5	017.9	017.3	017.2	016.8	016.6	016.6	016.5	016.4	016.6	016.4	016.1	016.2	015.6	015.7	015.6	016.1	016.7	016.7	016.9	017.2	017.0	017.2	016.7	016.7
	5	017.6	017.7	017.8	017.9	018.2	018.4	018.8	019.2	019.7	020.1	020.3	020.3	020.2	020.3	020.4	020.6	020.6	020.7	020.8	020.9	021.0	021.0	020.9	020.9	019.7
	6	020.8	020.7	020.2	020.0	019.8	019.7	019.8	020.0	019.8	019.6	019.4	019.0	018.6	018.4	017.9	017.7	017.4	017.0	017.1	017.3	017.1	017.0	016.9	016.7	018.7
	7	016.2	015.8	015.5	015.1	015.0	015.0	015.0	014.9	015.0	014.9	014.8	014.4	014.1	013.7	013.1	012.6	012.0	011.5	011.2	011.0	009.8	008.9	008.0	006.8	013.3
	8	005.7	004.2	003.4	002.1	001.0	999.9	999.1	998.0	996.9	995.7	994.1	992.7	991.4	990.5	990.2	990.0	989.2	991.0	992.3	992.3	992.6	992.8	993.1	995.7	995.7
	9	993.6	993.5	993.7	993.7	993.6	993.7	993.4	993.0	992.1	991.2	990.0	989.4	987.8	986.2	984.3	983.4	982.2	981.4	981.0	981.5	982.5	983.3	983.8	984.1	988.2
	10	983.9	983.7	983.3	982.9	982.5	982.7	983.5	983.7	983.6	983.4	983.1	982.9	983.0	982.9	982.2	982.2	982.3	981.9	982.3	981.8	981.7	981.5	982.1	982.1	982.6
	11	981.7	981.4	981.4	981.4	981.4	981.5	981.8	981.5	982.0	982.2	982.5	983.0	983.7	984.4	985.7	987.2	988.9	990.3	991.4	992.5	994.7	995.7	997.1	997.9	986.0
	12	998.9	999.5	000.3	001.0	001.6	002.5	003.5	004.2	005.1	005.9	006.7	007.2	007.8	008.3	008.9	009.5	010.5	011.3	011.8	012.3	012.7	012.9	012.8	012.7	006.7
	13	012.4	012.1	011.7	011.4	011.1	010.8	010.4	010.5	010.4	010.2	009.8	008.9	008.1	007.4	006.6	006.0	005.9	006.0	005.9	005.6	005.1	004.9	005.0	004.8	008.5
	14	004.9	004.9	004.8	005.0	005.9	006.4	007.4	008.2	009.0	009.4	009.9	010.2	010.5	010.6	010.8	011.2	011.4	011.4	011.6	011.6	011.4	011.2	010.9	010.4	009.0
	15	009.9	009.2	008.4	007.6	007.2	006.0	005.5	004.3	003.9	003.0	001.9	000.7	000.1	998.8	997.5	996.9	996.1	995.5	995.5	995.4	995.2	995.4	995.3	994.8	001.3
	16	994.5	993.6	992.8	992.7	992.3	992.0	992.2	992.1	992.2	992.3	992.3	992.7	993.1	994.0	994.7	995.3	996.7	997.7	997.9	998.0	998.7	999.3	000.8	001.7	994.8
	17	002.3	002.9	003.4	003.7	004.5	005.1	006.6	007.1	007.9	008.3	008.9	009.1	009.4	009.7	010.0	010.1	010.4	010.8	011.0	011.1	010.9	010.8	010.7	010.9	008.0
	18	010.9	010.7	010.1	010.0	010.0	010.2	010.6	010.7	010.7	010.9	010.6	010.3	010.0	009.8	009.4	009.3	009.2	009.3	009.0	009.0	008.8	009.1	008.8	008.9	009.9
	19	008.3	008.3	008.2	008.3	008.5	008.9	009.3	009.9	010.3	010.7	011.1	011.0	011.1	011.3	011.6	012.0	012.6	013.3	013.6	014.4	014.9	015.3	015.8	016.2	011.3
	20	016.6	016.6	016.8	017.2	017.8	018.5	019.2	019.9	020.6	021.2	021.5	021.7	021.8	021.7	021.8	022.0	022.2	022.5	022.9	023.1	023.3	023.4	023.6	023.4	020.7
	21	022.8	022.4	022.1	021.8	021.6	021.8	021.9	021.8	021.7	021.3	020.9	020.1	019.5	018.9	018.4	018.2	018.0	017.8	017.0	016.4	015.4	014.4	013.6	012.7	019.4
	22	012.0	011.0	010.4	009.9	009.4	009.3	009.5	009.8	010.0	010.3	010.4	010.6	010.7	010.6	011.0	011.2	011.4	011.7	012.0	012.0	011.8	011.7	011.5	010.9	010.9
	23	010.8	010.5	009.5	009.1	009.1	009.0	009.4	009.6	010.1	010.3	010.6	011.0	011.4	012.2	012.8	013.6	014.5	015.4	015.8	016.3	016.8	016.9	016.9	016.8	012.3
	24	016.8	016.6	016.3	016.4	016.3	016.6	017.1	017.3	017.6	017.5	017.6	017.5	017.5	017.7	017.9	018.1	018.6	019.0	019.5	019.7	019.7	019.6	019.8	019.8	017.9
	25	019.9	019.9	019.7	019.7	019.7	019.8	019.8	019.8	019.9	019.7	019.6	019.5	019.1	018.8	019.1	019.3	019.4	019.8	020.1	020.0	020.3	020.2	020.1	020.2	019.7
	26	020.0	019.9	019.8	019.4	019.3	019.4	019.7	019.5	019.2	018.8	018.7	017.9	017.6	016.8	016.0	015.0	013.5	012.5	010.9	009.0	007.0	004.4	002.1	000.0	015.3
	27	998.4	996.9	995.6	995.2	994.5	993.3	992.7	992.8	992.9	991.9	991.2	989.9	989.4	989.0	988.3	987.6	987.2	986.6	986.1	985.1	984.6	983.1	982.0	981.4	990.2
	28	991.0	980.5	979.3	980.1	981.2	981.6	982.6	984.5	986.2	987.5	988.9	989.7	991.0	991.8	992.3	993.0	993.8	994.5	994.8	995.2	995.9	996.0	996.4	996.9	988.6
	29	997.0	997.3	997.8	997.9	998.2	998.8	999.1	999.6	000.2	000.6	001.0	001.2	001.6	002.0	002.5	002.9	003.3	003.9	004.2	004.6	005.0	005.2	005.2	005.4	001.3
	30	005.4	005.4	005.5	005.5	005.6	005.3	005.4	005.2	005.2	005.3	005.4	004.8	004.7	004.5	004.4	004.0	003.8	003.3	002.4	001.6	000.7	000.7	000.7	000.7	003.8
31	994.6	993.3	992.8	991.9	991.6	991.2	991.7	991.7	991.8	991.7	991.6	991.7	991.5	991.6	991.6	991.7	992.0	992.4	993.1	993.7	994.3	994.7	995.7	996.6	992.7	
Mean (Station Level)		1008 -15	1007 +84	1007 +57	1007 +44	1007 +44	1007 +46	1007 +73	1007 +85	1008 +04	1008 +04	1007 +00	1007 +67	1007 +53	1007 +42	1007 +44	1007 +58	1007 +73	1007 +81	1007 +84	1007 +85	1007 +72	1007 +65	1007 +53	1007 +73	
Mean (Sea Level)		1011 -34	1011 +03	1010 +76	1010 +62	1010 +64	1010 +92	1011 +04	1011 +22	1011 +21	1011 +16	1010 +95	1010 +83	1010 +69	1010 +58	1010 +60	1010 +74	1010 +91	1010 +99	1011 +02	1011 +04	1010 +90	1010 +84	1010 +71	1010 +91	
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	



PRESSURE.  
Readings in millibars at exact hours, Greenwich Mean Time.

79. ABERDEEN:  $H_b$  (height of barometer cistern above M.S.L.) = 26.0 metres.

NOVEMBER, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
1	997.2	997.8	998.5	999.3	999.9	1000.4	1001.3	1001.9	1002.7	1002.7	1003.0	1003.3	1003.2	1002.8	1002.5	1002.4	1002.1	1001.5	1001.2	1001.1	1001.0	1000.8	1000.7	1000.1	1001.1
2	999.1	999.2	999.7	1001.7	1002.7	1003.7	1004.1	1004.7	1004.9	1004.8	1004.6	1005.2	1005.8	1007.5	1008.4	1010.1	1011.4	1012.1	1012.6	1013.4	1013.8	1014.1	1014.4	1014.4	1006.9
3	1014.8	1014.7	1014.7	1015.2	1015.8	1016.2	1016.6	1017.4	1018.0	1018.5	1019.3	1019.4	1019.6	1019.8	1020.1	1020.8	1020.9	1021.1	1021.5	1022.0	1022.1	1022.2	1021.9	1021.7	1018.8
4	1021.6	1021.4	1021.2	1021.0	1020.7	1021.1	1021.7	1021.6	1021.2	1021.0	1021.1	1020.7	1020.3	1019.9	1019.7	1019.3	1018.8	1018.6	1018.3	1017.8	1017.3	1016.8	1016.2	1015.8	1019.8
5	1015.4	1015.2	1014.8	1015.0	1015.0	1015.0	1015.4	1015.4	1015.7	1016.0	1016.1	1016.0	1015.9	1015.5	1015.1	1014.8	1014.9	1014.7	1014.8	1014.5	1014.3	1013.9	1013.7	1013.3	1015.1
6	1012.8	1012.1	1011.2	1011.1	1010.8	1010.4	1010.1	1010.4	1011.2	1011.0	1011.5	1011.7	1011.9	1012.2	1012.2	1012.0	1011.3	1011.9	1012.5	1013.5	1013.7	1014.0	1014.4	1014.7	1012.0
7	1014.7	1015.3	1015.7	1015.9	1016.2	1016.8	1017.6	1018.0	1018.6	1019.4	1019.9	1020.1	1020.1	1019.9	1019.8	1020.1	1020.3	1020.4	1020.5	1020.6	1020.7	1020.7	1020.4	1020.1	1018.7
8	1019.9	1019.8	1019.4	1019.2	1019.0	1018.7	1018.5	1018.3	1018.2	1018.0	1017.2	1016.7	1016.2	1015.7	1015.3	1014.8	1014.3	1014.0	1013.8	1013.3	1012.8	1012.8	1012.7	1012.2	1016.4
9	1011.0	1010.2	1009.9	1009.4	1008.8	1008.5	1008.4	1008.3	1007.6	1007.2	1006.9	1006.5	1005.8	1005.0	1004.3	1004.0	1003.6	1003.3	1002.9	1002.8	1002.4	1002.1	1001.7	1001.3	1006.1
10	1001.0	1000.6	1000.3	1000.0	1000.0	1000.6	1000.9	1001.7	1002.7	1003.0	1003.0	1003.0	1003.0	1003.0	1003.0	1003.0	1003.0	1003.0	1003.0	1003.0	1003.0	1003.0	1003.0	1003.0	1000.4
11	1000.9	1000.4	1000.1	1000.1	1000.1	1000.1	1000.1	1000.1	1000.1	1000.1	1000.1	1000.1	1000.1	1000.1	1000.1	1000.1	1000.1	1000.1	1000.1	1000.1	1000.1	1000.1	1000.1	1000.1	1000.4
12	997.4	997.8	998.4	998.9	999.2	999.8	1000.5	1001.1	1002.0	1002.3	1002.6	1002.9	1003.2	1003.5	1003.6	1003.7	1004.0	1004.4	1004.6	1004.8	1004.7	1004.6	1004.6	1003.6	1002.0
13	1003.3	1002.9	1002.3	1001.8	1001.6	1001.4	1001.1	1000.5	1000.2	1000.0	1000.0	1000.1	1000.9	1001.5	1002.0	1002.3	1002.6	1002.9	1003.2	1003.5	1003.8	1004.1	1004.4	1004.7	1002.8
14	997.4	998.2	998.8	999.2	999.8	1000.2	1000.6	1001.0	1001.4	1001.8	1002.2	1002.6	1003.0	1003.4	1003.8	1004.2	1004.6	1005.0	1005.4	1005.8	1006.2	1006.6	1007.0	1007.4	1005.8
15	993.2	992.8	992.5	992.3	992.3	992.5	992.8	993.3	994.2	995.0	995.4	995.7	996.5	997.4	998.1	999.3	1000.3	1001.5	1002.4	1003.2	1004.1	1005.0	1005.4	1006.3	997.3
16	1006.8	1007.5	1007.9	1008.5	1009.1	1010.2	1011.0	1011.9	1013.2	1013.7	1014.2	1014.7	1014.9	1015.4	1015.5	1015.8	1016.4	1016.8	1017.0	1017.1	1017.1	1017.2	1017.2	1017.4	1013.4
17	1017.2	1017.1	1016.0	1016.2	1017.5	1018.0	1018.5	1019.4	1020.3	1020.6	1021.1	1021.1	1021.4	1021.7	1021.8	1022.1	1022.7	1023.4	1023.9	1024.3	1024.3	1024.3	1024.5	1024.5	1020.7
18	1024.4	1024.2	1023.6	1023.5	1023.4	1023.3	1023.3	1023.6	1023.6	1023.2	1022.6	1021.8	1021.0	1020.6	1020.1	1019.7	1019.3	1018.8	1018.0	1017.4	1016.5	1016.0	1015.3	1014.6	1020.9
19	1013.9	1013.8	1013.8	1013.9	1013.9	1013.9	1013.7	1013.8	1014.0	1013.9	1013.6	1013.4	1013.2	1013.1	1012.9	1012.7	1012.8	1012.6	1012.4	1012.3	1012.6	1012.2	1012.1	1011.9	1013.2
20	1011.7	1011.5	1011.4	1011.5	1011.5	1011.9	1012.3	1013.1	1013.4	1014.1	1014.7	1014.8	1015.0	1015.4	1016.0	1016.5	1017.1	1017.6	1017.9	1018.4	1018.9	1019.3	1019.6	1019.7	1015.0
21	1019.8	1019.9	1019.8	1020.1	1020.2	1020.2	1020.3	1020.6	1020.9	1020.6	1020.4	1020.0	1019.4	1019.2	1018.9	1018.6	1018.2	1018.1	1017.8	1017.4	1017.0	1016.9	1016.5	1016.3	1019.1
22	1015.7	1015.4	1015.2	1014.8	1015.0	1015.1	1015.3	1015.6	1015.9	1015.7	1015.8	1015.8	1015.7	1015.3	1015.3	1015.3	1015.2	1015.4	1015.4	1015.3	1015.2	1015.0	1015.0	1014.9	1015.4
23	1014.4	1014.2	1014.1	1013.8	1013.8	1013.7	1013.8	1013.9	1014.3	1014.3	1014.2	1014.1	1014.1	1014.2	1014.1	1014.3	1014.3	1014.7	1014.9	1014.9	1015.1	1015.1	1015.4	1015.3	1014.4
24	1015.2	1015.3	1015.5	1015.6	1015.6	1015.6	1016.1	1016.4	1016.6	1016.7	1016.6	1016.4	1016.5	1016.5	1016.4	1016.4	1016.5	1016.8	1016.9	1017.1	1017.2	1017.2	1017.3	1017.3	1016.4
25	1017.3	1017.3	1017.2	1016.9	1016.8	1017.0	1016.9	1017.5	1017.6	1017.6	1017.7	1017.4	1017.1	1016.6	1016.4	1016.0	1016.2	1016.2	1016.2	1016.2	1016.2	1015.4	1014.8	1014.3	1016.7
26	1014.1	1013.5	1013.0	1012.6	1012.2	1012.0	1012.0	1012.1	1012.0	1011.9	1011.7	1011.1	1010.7	1010.4	1010.2	1010.1	1009.9	1009.8	1009.8	1009.5	1009.6	1009.3	1009.0	1008.9	1011.2
27	1008.5	1008.4	1008.2	1008.1	1008.0	1008.0	1008.0	1008.2	1008.5	1008.8	1009.2	1009.0	1009.1	1009.0	1008.9	1008.6	1008.9	1009.2	1009.9	1010.2	1010.9	1011.2	1011.6	1012.1	1009.4
28	1012.4	1012.7	1012.7	1012.9	1013.0	1013.2	1013.4	1014.0	1014.8	1014.9	1015.3	1015.2	1015.3	1015.6	1015.7	1016.3	1016.8	1016.9	1017.0	1017.3	1017.4	1017.8	1018.0	1018.1	1015.2
29	1018.2	1018.2	1018.2	1018.1	1018.3	1018.4	1018.8	1019.3	1019.7	1019.8	1019.7	1019.7	1019.1	1018.6	1018.6	1019.0	1019.2	1019.4	1019.6	1019.5	1019.6	1019.6	1019.5	1019.2	1019.0
30	1019.3	1019.2	1019.2	1018.8	1018.4	1018.4	1018.4	1018.5	1018.6	1018.5	1018.4	1018.2	1017.9	1017.7	1017.9	1018.1	1018.2	1018.0	1017.8	1017.6	1017.8	1017.7	1017.7	1017.9	1018.3
Mean (Station Level)	1010 -95	1010 -89	1010 -78	1010 -85	1010 -94	1011 -08	1011 -30	1011 -60	1011 -91	1011 -92	1011 -95	1011 -83	1011 -68	1011 -61	1011 -58	1011 -67	1011 -75	1011 -86	1011 -94	1012 -00	1012 -01	1012 -00	1011 -92	1011 -80	1011 -56
Mean (Sea Level)	1014 -18	1014 -11	1014 -00	1014 -07	1014 -16	1014 -31	1014 -52	1014 -83	1015 -14	1015 -15	1015 -16	1015 -04	1014 -89	1014 -82	1014 -79	1014 -88	1014 -97	1015 -09	1015 -16	1015 -23	1015 -24	1015 -23	1015 -14	1015 -03	1014 -78

80. ABERDEEN:  $H_b$  = 26.0 metres.

DECEMBER, 1933.

Station Level	Day	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
	1	017-5	017-2	017-0	016-4	015-8	015-3	015-3	015-6	016-0	016-0	015-8	015-6	015-1	015-1	015-3	015-8	016-1	016-8	017-3	017-9	018-4	018-9	019-2	019-8
	2	020-4	021-0	021-6	022-3	023-1	024-0	025-0	026-1	027-3	028-5	029-0	030-0	030-4	030-8	031-8	032-9	033-4	034-2	035-0	035-8	036-5	037-1	037-8	038-4
	3	038-7	039-1	039-8	039-9	040-1	040-5	041-3	041-8	041-9	041-8	041-8	042-2	042-0	041-8	041-8	042-4	041-9	041-8	042-0	041-8	041-9	041-6	041-6	041-7
	4	041-3	041-1	041-0	040-5	040-0	039-6	039-2	039-2	039-0	038-6	038-3	037-7	036-9	036-2	035-8	035-3	034-8	034-5	034-3	033-8	033-3	033-3	033-0	032-6
	5	032-0	031-5	031-3	030-7	030-3	030-2	030-1	030-0	030-0	030-0	029-5	029-0	028-2	027-9	027-6	027-3	026-8	026-6	026-1	025-9	025-5	025-3	024-9	024-4
	6	024-1	023-7	023-3	023-1	022-6	022-3	022-0	021-8	021-5	021-7	021-2	021-0	020-6	020-2	019-8	019-6	019-1	019-1	019-1	018-7	018-6	018-9	019-1	019-1
	7	019-0	019-2	019-2	019-3	019-5	020-1	020-6	021-4	022-6	023-4	024-1	024-5	024-8	025-2	025-7	026-3	026-9	027-4	027-9	028-4	028-8	029-1	029-1	029-4
	8	029-5	029-6	029-8	029-7	029-6	029-7	029-7	029-9	030-1	030-1	030-5	030-3	029-8	029-8	029-8	029-6	029-7	029-4	029-0	029-3	029-3	029-2	029-2	029-1
	9	029-0	029-0	028-6	028-1	028-0	028-5	028-8	028-9	029-0	029-8	029-6	029-4	029-2	029-0	029-0	029-0	029-2	029-3	029-5	029-5	029-2	029-2	029-0	029-0
	10	028-8	028-5	028-6	028-2	027-9	028-0	027-7	027-8	027-8	027-8	027-5	026-9	026-4	026-1	025-8	025-7	025-6	025-6	025-4	025-3	025-2	025-0	024-7	024-2
	11	023-7	023-2	022-8	022-5	022-1	021-7	021-3	021-2	021-1	020-8	019-9	019-0	018-2	017-5	016-7	015-8	015-3	014-5	013-5	012-7	011-7	010-6	009-8	009-1
	12	008-2	007-3	006-7	006-3	005-8	005-4	005-4	005-4	005-8	006-1	006-3	006-2	006-4	006-6	007-0	007-8	008-5	009-2	009-8	010-5	011-7	013-0	014-2	015-3
	13	016-4	017-1	017-7	018-4	019-1	019-8	020-6	021-5	022-7	023-4	024-0	024-1	023-8	023-7	023-7	024-1	024-7	024-8	024-6	024-6	024-2	024-3	023-6	023-2
	14	022-3	021-5	020-9	020-0	019-3	019-3	018-9	018-1	017-9	017-5	016-8	016-0	015-4	015-1	015-1	014-7	014-3	014-1	013-7	013-4	013-4	013-5	013-6	013-8
	15	014-0	014-1	014-2	014-3	014-3	014-7	015-0	015-1	015-5	016-1	016-1	015-9	015-9	016-0	016-0	016-0	016-6	016-7	016-4	016-6	016-6	016-6	016-4	015-5
	16	016-4	015-7	015-7	015-7	015-7	015-9	016-0	016-5	017-2	017-7	017-3	017-4	017-8	017-3	017-1	017-4	017-7	018-1	018-7	019-2	019-3	019-7	019-7	020-2
	17	020-1	019-8	019-7	019-5	019-4	019-5	019-7	019-9	020-3	020-5	020-3	020-0	019-8	019-9	019-9	020-0	020-1	020-2	020-1	020-0	020-2	020-1	020-1	019-9
	18	019-7	019-5	019-6	019-5	019-5	019-6	019-9	019-9	020-4	020-4	020-3	020-3	020-3	020-6	020-8	021-5	021-9	022-5	022-9	023-5	023-9	024-4	024-6	024-9
	19	025-3	025-8	025-9	026-3	026-3	026-8	027-3	027-7	028-0	027-8	028-5	028-6	028-3	028-4	028-4	028-6	028-7	028-7	028-7	028-7	028-7	028-4	028-5	028-3
	20	028-2	028-2	028-3	028-4	028-5	028-6	028-8	029-1	029-6	029-7	029-6	029-4	029-2	028-9	028-9	029-0	028-8	028-9	028-8	029-1	029-2	029-2	029-3	028-8
	21	028-7	028-3	028-2	028-4	027-9	027-7	027-5	027-6	027-4	027-0	026-4	026-4	026-0	025-3	025-6	025-7	025-5	025-8	025-2	024-9	024-6	024-4	024-2	023-9
	22	023-4	023-8	023-7	023-8	023-7	023-9	024-2	024-8	025-0	025-3	025-6	025-4	025-2	025-4	025-6	026-0	026-6	026-7	026-6	026-6	026-7	027-1	027-3	027-9
	23	028-2	028-5	028-6	028-6	029-0	029-4	029-4	030-0	030-1	030-3	029-9	029-6	028-8	028-0	027-6	027-5	026-7	026-5	025-9	025-4	025-5	025-2	025-0	025-0
	24	024-9	024-4	024-4	023-8	023-5	023-2	023-0	022-7	022-4	021-9	021-7	021-1	020-6	020-1	019-3	019-2	018-6	017-9	017-5	016-6	016-0	015-2	014-7	014-0
	25	013-5	013-1	012-4	011-6	010-6	009-8	008-9	008-2	007-6	007-0	006-3	005-1	004-1	003-6	003-2	002-7	002-5	002-0	001-5	001-0	000-7	001-0	001-0	006-0
	26	000-9	001-0	000-9	000-7	000-6	000-8	001-3	001-9	002-3	002-9	002-9	003-1	003-3	003-8	004-3	004-6	004-9	005-0	005-2	005-4	005-7	005-6	005-5	003-5
	27	005-3	004-9	004-6	004-1	003-3	002-6	001-8	001-1	000-6	999-9	999-4	998-7	997-7	996-6	995-9	995-1	994-5	993-6	993-0	992-4	991-9	991-2	990-9	990-7
	28	999-3	990-0	990-1	990-1	989-9	990-2	990-7	991-1	991-5	992-0	992-3	992-5	992-7	993-3	993-8	994-1	994-5	994-7	994-8	995-3	995-6	995-9	996-1	998-8
	29	996-0	996-3	996-6	996-4	996-8	996-8	997-1	997-4	997-8	997-9	998-0	997-8	997-9	997-7	997-8	998-2	998-2	997-9	997-9	998-1	998-4	998-3	998-0	997-8
	30	997-5	996-9	996-7	996-5	996-2	995-7	995-5	995-5	995-8	996-2	996-2	996-0	996-3	996-7	997-6	998-3	999-8	001-4	002-6	004-1	005-4	006-7	007-6	998-8
31	010-6	011-8	012-9	013-4	013-9	014-4	015-2	016-5	018-2	018-8	018-9	018-6	018-4	018-6	018-9	019-1	018-7	018-7	018-9	018-5	018-3	017-9	017-6	017-1	
Mean (Station Level)	1019 -16	1019 -07	1019 -05	1018 -92	1018 -78	1018 -84	1018 -94	1019 -15	1019 -44	1019 -59	1019 -50	1019 -28	1019 -01	1018 -88	1018 -90	1019 -00	1019 -05	1019 -09	1019 -10	1019 -13	1019 -17	1019 -21	1019 -19	1019 -22	
Mean (Sea Level)	1022 -43	1022 -34	1022 -32	1022 -19	1022 -05	1022 -11	1022 -22	1022 -43	1022 -72	1022 -87	1022 -78	1022 -55	1022 -27	1022 -14	1022 -16	1022 -27	1022 -33	1022 -37	1022 -32	1022 -40	1022 -44	1022 -48	1022 -46	1022 -50	
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	
																								Mean	



PRESSURE AT STATION LEVEL AND AT SEA LEVEL.  
ANNUAL MEANS FROM HOURLY VALUES.

103

From readings in millibars at exact hours, Greenwich Mean Time.

81. ABERDEEN:  $H_b = 26.0$  metres.

1933.

Hour G. M. T.	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24	Mean
Station Level.	mb. 011.33	mb. 011.17	mb. 011.03	mb. 010.95	mb. 010.95	mb. 011.04	mb. 011.21	mb. 011.37	mb. 011.50	mb. 011.57	mb. 011.59	mb. 011.53	mb. 011.40	mb. 011.32	mb. 011.21	mb. 011.21	mb. 011.24	mb. 011.33	mb. 011.45	mb. 011.54	mb. 011.62	mb. 011.61	mb. 011.57	mb. 011.51	mb. 011.34
Sea Level.	014.53	014.38	014.24	014.15	014.15	014.25	014.41	014.57	014.69	014.76	014.77	014.71	014.58	014.49	014.38	014.38	014.42	014.52	014.63	014.73	014.81	014.81	014.78	014.71	014.53

PRESSURE AT STATION LEVEL; MONTHLY MEANS AND DIURNAL INEQUALITIES.  
The departures from the mean of the day are adjusted for non-cyclic change.†

82. ABERDEEN:  $H_b = 26.0$  metres.

1933.

Month.	Mean.	Hour 1	G.M.T. 2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24
Jan.	1011.83	mb. -0.33	mb. -0.41	mb. -0.49	mb. -0.54	mb. -0.45	mb. -0.28	mb. +0.02	mb. +0.37	mb. +0.65	mb. +0.79	mb. +0.87	mb. +0.72	mb. +0.33	mb. +0.18	mb. -0.03	mb. -0.03	mb. -0.07	mb. +0.01	mb. -0.07	mb. -0.24	mb. -0.21	mb. -0.22	mb. -0.29	mb. -0.28
Feb.	1008.73	+0.49	+0.28	+0.06	-0.10	-0.23	-0.32	-0.21	-0.13	-0.10	-0.01	+0.02	-0.05	-0.32	-0.44	-0.63	-0.46	-0.27	+0.06	+0.22	+0.38	+0.42	+0.43	+0.43	+0.49
Mar.	1005.74	-0.04	-0.24	-0.48	-0.60	-0.68	-0.57	-0.43	-0.19	-0.06	+0.04	+0.18	+0.27	+0.19	+0.12	-0.02	-0.05	+0.03	+0.31	+0.44	+0.49	+0.46	+0.38	+0.31	+0.15
Apr.	1013.38	+0.06	-0.13	-0.30	-0.50	-0.49	-0.34	-0.23	-0.21	-0.11	+0.02	+0.09	+0.07	+0.05	+0.05	-0.05	-0.08	-0.10	+0.02	+0.21	+0.41	+0.51	+0.44	+0.38	+0.22
May	1012.28	-0.03	-0.15	-0.25	-0.30	-0.18	-0.09	+0.04	+0.11	+0.16	+0.16	+0.18	+0.13	+0.13	+0.10	-0.03	-0.15	-0.19	-0.26	-0.11	+0.05	+0.17	+0.20	+0.20	+0.11
June	1008.88	+0.06	-0.03	-0.11	-0.11	-0.05	+0.02	+0.13	+0.22	+0.23	+0.26	+0.28	+0.22	+0.15	+0.05	-0.07	-0.16	-0.26	-0.29	-0.28	-0.23	-0.04	-0.04	+0.02	+0.05
July	1010.45	+0.15	-0.10	-0.34	-0.40	-0.37	-0.29	-0.17	-0.08	-0.09	-0.07	-0.06	-0.02	-0.01	-0.03	-0.11	-0.07	-0.04	-0.04	+0.17	+0.29	+0.47	+0.49	+0.39	+0.33
Aug.	1009.50	+0.16	+0.02	-0.09	-0.23	-0.24	-0.22	-0.08	-0.02	+0.03	+0.05	+0.12	+0.16	+0.03	-0.08	-0.16	-0.24	-0.32	-0.26	-0.07	+0.16	+0.30	+0.36	+0.37	+0.26
Sept.	1016.82	-0.05	-0.21	-0.33	-0.41	-0.21	+0.01	+0.21	+0.35	+0.41	+0.31	+0.24	+0.16	+0.01	-0.17	-0.28	-0.28	-0.19	+0.01	+0.18	+0.21	+0.22	+0.18	+0.03	
Oct.	1007.73	+0.02	-0.25	-0.49	-0.59	-0.55	-0.49	-0.19	-0.02	+0.20	+0.24	+0.23	+0.06	-0.02	-0.13	-0.20	-0.15	+0.03	+0.22	+0.34	+0.39	+0.45	+0.35	+0.32	+0.23
Nov.	1011.56	-0.28	-0.38	-0.52	-0.48	-0.42	-0.30	-0.12	+0.16	+0.44	+0.42	+0.42	+0.27	+0.09	-0.01	-0.07	-0.01	+0.04	+0.13	+0.17	+0.21	+0.18	+0.15	+0.03	-0.12
Dec.	1019.11	+0.03	-0.05	-0.08	-0.20	-0.34	-0.28	-0.17	+0.04	+0.32	+0.48	+0.39	+0.17	-0.10	-0.23	-0.21	-0.11	-0.05	-0.01	-0.01	+0.03	+0.07	+0.11	+0.09	+0.12
Year	1011.34	+0.02	-0.14	-0.28	-0.37	-0.37	-0.28	-0.12	+0.04	+0.17	+0.23	+0.25	+0.19	+0.06	-0.03	-0.14	-0.15	-0.12	-0.03	+0.08	+0.18	+0.25	+0.24	+0.20	+0.13

ABSOLUTE EXTREMES OF PRESSURE AT STATION LEVEL FOR EACH DAY.  
Maximum and Minimum for the interval 0h. to 24h., Greenwich Mean Time.

83. ABERDEEN:  $H_b = 26.0$  metres.

1933.

Month.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Day.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	mb. 004.6	mb. 993.0	mb. 983.6	mb. 974.2	mb. 012.1	mb. 007.8	mb. 018.3	mb. 008.9	mb. 016.4	mb. 011.6	mb. 013.6	mb. 011.5
2	001.8	973.6	004.0	981.8	007.8	993.9	018.2	003.5	016.6	014.6	014.4	010.9
3	995.1	974.8	010.2	994.1	993.9	985.6	014.3	003.8	014.6	012.4	015.1	013.9
4	001.9	994.9	995.6	990.1	985.6	980.2	018.8	014.2	013.5	009.2	014.9	012.6
5	004.2	988.2	003.1	983.4	992.1	982.6	019.2	018.0	009.3	006.2	013.3	011.2
6	017.6	001.0	007.8	998.0	992.4	985.3	022.6	018.7	006.6	000.9	016.3	013.3
7	018.5	007.7	998.0	992.4	014.9	992.9	020.9	014.2	002.4	999.6	016.9	015.2
8	015.8	004.3	997.4	989.8	020.7	013.5	015.6	010.1	004.5	999.4	024.7	016.9
9	033.1	013.6	012.3	990.0	016.2	010.8	010.1	002.4	005.6	998.6	026.3	024.7
10	031.4	011.9	030.2	012.3	017.3	015.8	008.5	006.7	012.3	005.6	025.5	018.4
11	024.0	012.1	034.0	028.5	016.7	015.1	007.0	003.7	012.0	010.6	018.4	015.0
12	023.2	014.2	028.5	022.3	016.7	013.5	015.8	003.2	011.1	010.2	015.0	012.3
13	019.5	014.7	026.3	024.9	013.8	011.8	029.7	015.8	010.4	008.1	017.5	012.3
14	017.4	993.6	025.9	022.0	011.8	003.0	030.7	014.6	015.5	008.7	018.8	015.5
15	994.8	990.9	022.1	017.8	003.0	994.3	014.6	010.2	019.8	015.4	015.5	007.4
16	995.9	993.6	018.2	012.8	994.3	983.0	023.0	013.4	019.5	017.7	007.4	986.7
17	998.0	995.1	018.3	014.3	983.5	977.1	023.1	020.6	021.4	018.7	986.8	982.2
18	999.8	993.4	016.5	013.7	985.0	978.4	025.5	023.1	021.2	014.7	990.7	981.4
19	017.2	999.8	020.0	015.9	988.0	979.2	024.9	021.1	014.7	011.2	995.1	990.7
20	030.6	017.2	019.4	010.0	019.8	988.0	021.1	017.5	011.2	007.3	993.8	989.3
21	032.0	030.4	013.6	009.0	023.6	018.6	022.1	018.5	018.2	008.8	001.6	991.9
22	032.7	029.8	017.2	013.2	020.5	017.8	022.0	017.1	020.9	018.2	005.2	001.6
23	036.0	032.5	014.9	007.4	024.0	020.5	017.1	011.9	020.6	017.2	004.5	001.6
24	037.2	035.8	009.2	008.0	024.8	022.1	013.1	010.1	017.2	009.9	009.6	002.7
25	036.6	032.8	010.6	007.1	022.1	019.1	010.1	003.1	011.9	009.9	012.0	009.6
26	032.8	029.3	010.5	000.8	026.3	020.2	004.1	999.7	012.1	011.2	012.7	010.6
27	029.9	026.9	006.2	000.6	026.3	019.2	000.5	997.6	014.5	011.6	012.0	006.2
28	026.9	018.0	011.9	006.2	019.2	011.0	003.9	000.3	017.9	014.0	010.8	007.4
29	018.0	001.6	-	-	011.0	002.9	006.1	003.3	018.2	017.0	013.6	010.5
30	001.6	990.3	-	-	005.4	001.4	011.6	006.0	017.3	012.3	013.5	010.5
31	995.0	978.9	-	-	009.1	005.3	-	-	012.7	011.4	-	-
Mean	1016 +87	1006 -25	1013 +05	1005 +02	1009 +61	1002 +23	1016 +42	1010 +38	1014 +20	1010 +39	1011 +18	1006 +47

Note:- When pressure exceeds 1000 mb. the leading figure 1 is not printed i.e. 1012.3 mb. is written 012.3. This rule does not, however, apply to monthly means. † See page 21.



TEMPERATURE  
Readings in degrees absolute at exact hours, Greenwich Mean Time.

84. ABERDEEN: North Wall Screen on Tower:  $h_t$  (height of thermometer bulb above ground) = 12.5 metres.

JANUARY, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	80.2	80.5	80.5	80.5	80.5	80.6	80.2	79.9	79.2	78.4	78.7	78.9	79.2	78.9	78.5	78.3	78.0	78.6	79.0	79.3	79.2	79.3	79.2	79.3	79.4
2	79.4	79.5	79.6	80.0	80.4	80.9	81.0	81.0	81.0	81.0	80.9	81.2	81.4	81.4	81.0	81.0	81.4	81.7	81.5	81.4	82.1	82.1	82.4	82.4	81.0
3	82.6	80.8	80.0	80.0	80.0	79.6	79.5	79.4	79.0	79.2	79.2	79.6	79.6	79.6	79.9	79.5	79.5	79.3	79.0	79.0	78.7	78.9	78.8	78.5	79.6
4	78.0	77.9	77.5	77.3	77.4	77.6	77.8	77.7	77.9	79.0	78.9	79.0	79.2	78.2	78.0	77.4	77.0	78.5	77.0	76.8	77.4	78.9	79.4	79.0	77.9
5	79.3	79.9	80.0	80.2	77.8	77.2	76.8	76.8	75.9	76.4	77.0	77.1	77.5	77.6	77.0	76.4	76.3	76.6	76.1	76.0	75.6	76.0	76.3	77.9	77.3
6	78.3	78.4	78.1	77.9	77.4	76.6	76.0	75.7	75.2	75.4	76.6	77.6	78.1	78.1	77.7	77.1	77.1	76.9	77.0	75.9	76.0	75.3	75.8	75.6	76.9
7	75.4	76.0	76.5	76.6	76.5	76.9	77.0	78.1	78.8	79.5	79.4	79.7	79.7	80.2	81.2	81.4	81.0	81.3	81.7	81.9	81.4	81.5	81.4	80.5	79.2
8	82.2	80.3	79.4	79.2	78.5	78.7	78.2	78.4	78.6	79.4	79.7	79.7	79.2	79.7	80.0	80.2	81.0	81.8	82.0	84.7	84.1	81.9	80.8	80.1	80.3
9	79.4	79.1	78.4	78.3	78.4	78.5	78.6	78.9	78.7	78.4	79.1	79.8	80.1	80.3	80.0	79.0	78.0	77.2	76.9	76.5	76.4	76.1	76.2	75.9	78.3
10	75.8	75.3	74.5	74.3	73.9	74.4	75.0	75.2	76.5	76.2	77.8	77.3	78.2	78.1	79.0	78.0	78.5	78.3	79.0	78.7	79.9	80.1	80.3	79.9	77.2
11	80.1	79.4	78.9	77.8	77.5	76.9	75.8	76.0	75.9	76.0	75.8	76.8	77.0	77.0	76.4	75.4	74.5	74.5	74.3	74.3	73.8	73.4	73.3	72.5	776.1
12	72.0	71.2	71.5	71.7	71.8	71.7	72.7	72.4	72.7	73.2	74.0	74.3	74.7	74.4	74.6	74.8	75.0	75.3	75.3	75.1	75.2	75.3	74.9	73.7	73.7
13	74.4	73.5	74.2	73.1	74.0	74.0	75.0	74.4	74.2	74.0	75.6	77.1	77.3	77.1	77.1	76.6	76.2	75.9	75.0	75.7	75.3	75.2	74.3	76.5	75.2
14	76.4	76.7	77.4	78.0	78.2	78.0	78.0	78.2	78.8	78.9	79.1	79.3	79.7	80.0	80.0	79.7	79.9	80.1	80.3	80.4	80.4	80.5	80.4	79.8	79.0
15	79.6	79.6	79.4	79.0	76.7	76.9	77.0	76.8	77.0	76.6	76.9	77.0	77.1	77.3	77.3	77.1	75.9	75.3	75.0	74.4	74.4	73.8	73.6	73.5	76.7
16	73.4	73.2	73.1	73.0	73.0	72.9	73.0	73.4	73.6	73.8	74.0	74.4	74.6	75.0	75.2	74.6	74.4	74.3	74.4	74.4	73.6	73.6	73.7	73.6	73.8
17	73.4	73.9	74.0	74.0	74.1	74.1	74.1	74.0	74.4	74.5	76.9	77.0	76.4	76.6	76.8	76.6	75.1	76.5	75.3	75.8	76.3	75.8	76.3	76.3	75.3
18	76.5	76.2	76.0	76.0	76.4	75.9	75.0	74.8	76.0	74.4	74.7	74.7	74.7	75.2	74.3	73.9	72.9	72.4	72.3	71.8	71.8	71.4	71.3	71.0	74.2
19	70.6	70.1	70.0	69.9	69.5	69.1	69.2	68.8	69.0	70.0	72.5	73.5	74.0	74.2	74.8	74.1	73.8	74.1	73.3	72.7	72.1	72.1	71.7	71.0	71.7
20	71.1	70.6	69.8	70.4	70.7	70.9	71.2	71.8	71.2	72.6	74.1	77.9	77.9	77.9	77.6	77.5	77.5	77.2	77.3	77.5	77.4	77.0	76.8	76.9	74.5
21	76.4	76.2	75.7	75.8	75.8	75.4	75.0	74.8	75.0	75.1	75.0	75.1	75.4	75.3	75.0	75.0	75.1	75.2	75.1	75.0	74.7	74.3	74.1	73.7	75.2
22	73.9	74.0	74.4	74.3	74.4	74.6	74.7	74.6	74.4	74.6	75.2	75.9	75.9	75.8	75.8	75.4	75.1	74.5	74.4	74.4	73.8	73.2	72.9	72.6	74.6
23	72.6	72.3	71.5	70.9	70.8	70.0	69.8	70.0	69.8	70.4	71.1	72.4	73.9	74.2	74.1	73.4	71.9	71.9	71.2	70.4	69.7	69.9	72.3	71.5	72.3
24	72.3	73.0	73.7	73.5	73.4	73.2	72.8	72.9	73.9	74.1	74.2	74.6	75.3	75.5	75.8	75.2	74.4	73.9	73.9	74.4	74.5	74.4	73.5	73.0	74.0
25	72.9	73.1	73.4	73.4	73.0	72.7	72.5	72.2	72.5	72.1	72.7	73.3	73.6	73.6	73.5	73.0	72.6	72.0	71.6	71.1	70.7	70.8	71.1	71.1	72.5
26	71.6	70.9	71.5	71.6	71.2	71.3	71.6	71.6	72.1	72.8	74.0	74.5	74.8	75.0	75.6	74.5	72.9	73.2	71.6	71.0	71.3	70.5	70.0	70.5	72.3
27	69.8	69.6	68.9	69.0	68.2	68.0	69.2	69.7	70.4	71.0	73.9	74.0	75.0	75.4	75.0	74.9	74.0	73.9	73.2	72.4	71.1	70.4	69.8	69.4	71.5
28	68.9	69.0	68.0	67.3	68.3	68.2	68.0	68.0	68.4	69.4	70.8	72.5	73.9	74.1	74.4	74.4	73.7	73.5	73.0	72.4	71.6	71.3	70.4	69.8	70.8
29	70.1	71.8	71.9	71.8	71.9	71.9	73.2	73.2	74.0	74.6	74.8	75.4	75.8	76.5	76.5	75.7	75.8	75.9	76.4	75.7	75.6	76.2	76.8	76.4	74.4
30	76.3	76.7	77.1	77.1	77.2	77.3	77.0	77.1	76.9	76.8	76.4	76.4	75.5	75.2	74.9	75.3	75.6	75.6	75.3	75.0	74.7	74.5	74.4	74.4	76.0
31	74.8	74.0	74.2	73.9	75.0	74.9	74.7	74.4	75.8	76.3	76.4	76.7	77.2	77.6	78.0	78.7	78.7	79.2	79.3	79.0	75.3	79.9	80.7	80.9	76.9
Mean	75.4	75.2	75.1	75.0	74.9	74.8	74.8	74.8	75.0	75.3	76.0	76.5	76.8	76.9	76.9	76.6	76.2	76.2	76.0	75.9	75.8	75.6	75.5	75.5	75.7

85. ABERDEEN: North Wall Screen on Tower:  $h_t$  = 12.5 metres.

FEBRUARY, 1933.

Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	81.2	81.6	81.5	81.6	81.4	81.1	81.1	80.6	80.4	77.6	77.4	77.8	79.4	79.7	79.6	78.2	76.9	76.4	76.1	76.2	75.6	75.2	74.9	74.7	78.7
2	74.9	74.4	74.6	74.8	75.3	75.6	76.3	76.1	77.2	78.0	78.6	79.0	78.3	78.4	78.6	77.5	77.0	77.5	77.6	76.9	76.8	76.5	76.0	76.5	76.7
3	78.2	75.8	75.8	75.1	74.6	73.9	73.9	74.8	75.7	76.4	77.6	78.6	79.1	78.5	77.7	77.3	76.9	76.8	77.1	77.6	76.4	76.0	76.7	76.8	76.5
4	76.7	76.2	75.6	75.3	75.4	75.8	75.8	76.4	76.9	77.3	77.7	78.2	77.9	77.8	77.7	77.6	77.4	77.2	77.1	77.2	77.5	77.9	78.0	78.2	77.0
5	78.3	78.4	79.0	80.0	80.9	81.1	81.2	81.8	81.9	81.5	82.4	82.5	83.8	83.2	83.1	83.1	83.8	81.0	80.1	79.2	78.8	78.6	78.4	78.3	80.9
6	78.2	77.8	76.9	77.6	77.4	77.5	77.7	78.8	79.0	79.3	79.3	79.3	79.6	79.7	79.8	79.9	80.0	80.3	80.4	80.4	81.1	80.4	79.8	79.5	79.1
7	79.8	79.5	79.6	79.6	79.5	79.2	79.2	79.4	79.3	79.5	79.8	79.9	80.0	80.1	79.9	79.9	79.8	79.8	79.5	79.4	79.4	78.8	78.4	78.4	79.5
8	78.3	77.4	77.7	76.9	76.3	77.1	77.2	78.2	79.2	80.4	80.4	80.2	81.6	82.2	83.0	82.3	84.0	84.0	84.4	85.1	84.4	83.6	83.0	83.2	80.7
9	83.2	83.0	83.2	83.3	83.0	82.8	82.8	82.1	82.2	82.8	83.7	83.4	82.1	81.3	79.5	78.5	77.8	77.9	77.5	77.1	76.7	76.4	75.8	75.6	80.6
10	75.3	75.1	75.0	75.1	74.8	74.6	74.8	74.3	74.1	74.0	74.4	74.7	74.4	75.9	74.8	75.2	74.6	74.7	74.6	74.2	74.0	73.8	74.0	73.6	74.6
11	73.4	73.4	73.9	74.4	73.7	73.4	73.0	73.5	73.8	74.5	76.2	77.5	78.2	78.9	78.9	78.2	77.3	75.9	75.7	77.1	77.1	77.1	76.8	76.4	75.7
12	75.9	76.0	76.0	75.6	76.0	76.2	76.2	77.6	78.9	80.2	82.0	82.0	83.3	83.5	83.3	83.0	81.1	80.0	78.0	77.6	77.3	76.4	76.6	76.8	78.5
13	76.4	76.0	76.0	77.2	77.2	77.0	77.1	77.3	77.7	78.4	79.2	79.6	79.8	79.7	79.0	78.9	77.8	77.9	77.5	77.8	77.7	77.7	77.2	77.7	77.8
14	76.4	76.6	76.8	76.9	75.3	78.2	76.4	76.1	75.8	76.5	77.0	77.6	77.0	76.7	76.6	76.4	76.0	75.6	75.4	75.4	75.2	75.3	75.3	75.3	76.2
15	74.9	74.8	74.8	74.9	74.9	74.9	74.5	74.4	74.7	74.9	75.5	76.7	76.6	76.7	76.7	76.6	76.2	75.3	75.7	75.7	75.9	75.6	76.1	76.2	75.5
16	75.8	75.7	75.6	75.9	76.2	76.2	76.2	76.4	77.5	78.4	79.4	79.6	80.3	81.2	80.2	79.2	77.9	77.0	76.5	76.3	76.0	75.5	75.2	74.6	77.2
17	74.7	75.0	74.9	74.7	74.9	74.5	74.1	74.0	75.1	74.0	74.2	75.5	74.8	74.4	73.0	72.9	73.4	72.9	72.7	72.4	72.0	71.6	71.9	71.9	73.8
18	71.8	71.4	72.2	72.3	72.6	73.6	73.3	74.0	74.7	75.0	75.4	75.3	75.2	75.1	75.3	74.7	73.9	74.8	75.3	75.1	74.7	74.4	73.9	72.6	74.0
19	72.6	73.1	71.6	72.0	72.2	71.9	72.7	72.9	72.4	73.5	73.8	74.1	75.2	74.5	74.7	74.7	74.2	73.7	73.5	73.4	73.7	73.5	73.0	73.1	73.3
20	73.6	74.0	74.0	73.8	73.6	73.2	73.4	73.4	74.4	76.0	76.8	76.8	77.4	77.7	77.8	76.5	76.3	75.0	75.0	75.2	74.8	74.4	73.7	72.6	75.0
21	73.3	73.2	73.3	72.6	72.8	72.5	72.3	72.3	72.7	72.8	73.3	73.6	73.9	74.2	74.6	72.9	73.1	73.0	73.6	74.0	73.8	73.9	73.5	73.6	73.3
22	73.9	72.7	72.5	72.4	72.9	72.4	72.3	72.5	72.8	73.2	74.0	74.3	74.9	73.4	74.3	72.7	72.4	72.0	71.9	72.0	71.7	71.6	71.7	72.1	72.8
23	71.4	71.2	71.3	71.3	70.9	71.2	71.2	71.1	71.0	72.0	72.5	72.7	73.4	73.1	72.9	72.6	72.3	71.5	71.9	70.8	71.0	70.6	72.5	71.4	71.8
24	74.1	74.2	73.7	73.1	72.9	73.9	73.6	73.9	74.0	74.2	74.2	74.1	74.1	73.9	74.4	74.3	74.4	73.9	74.0	74.1	73.7	73.9	74.2	74.0	73.9
25	74.4	74.5	74.7	74.8	75.2	75.4	75.9	75.0	76.0	75.9	75.9	76.0	75.9	76.2	76.2	76.3	76.2	76.2	76.0	75.9	75.9	75.8	75.8	75.8	75.6
26	75.7	75.8	76.2	76.4	76.6	76.7	76.8	76.8	77.0	77.0	77.1	77.5	77.8	77.8	77.8	77.9	77.9	77.4	77.7	77.1	76.7	76.5	76.4	76.5	76.9
27	76.4	76.2	76.1	76.1	76.3	76.4	76.5	76.7	76.9	77.0	77.3	77.5	77.6	77.6	77.5	77.4	77.4	77.5	77.4	77.6	78.0	78.2	78.4	78.4	77.1
28	78.3	78.2	78.2	78.2	78.4	78.3	78.4	78.4	78.4	78.4	78.5	78.5	78.6	78.5	78.4	78.3	78.3	78.2	78.2	78.2	78.3	78.2	78.2	78.4	78.3
Mean	75.9	75.8	75.7	75.8	75.8	75.8	75.9	76.0	76.3	76.7	77.2	77.6	77.9	77.9	77.7	77.3	76.9	76.5	76.4	76.4	76.2	76.0	75.9	75.8	76.5
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean



86. ABERDEEN: North Wall Screen on Tower:  $h_t$  (height of thermometer bulb above ground) = 12.5 metres.

MARCH, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	78.4	78.3	78.3	78.2	78.2	78.1	78.0	78.0	78.3	78.4	78.5	78.6	78.5	78.6	78.6	78.4	78.4	78.4	78.4	78.4	78.4	78.0	77.6	77.6	78.3
2	77.7	77.9	77.9	77.8	77.8	77.4	77.4	77.4	77.6	77.9	78.1	78.0	78.2	78.1	78.0	78.0	78.0	77.8	77.6	77.4	77.4	77.4	77.4	77.5	77.7
3	77.7	77.8	77.9	77.9	77.6	77.9	78.1	78.1	78.1	78.2	78.2	78.2	78.1	78.2	78.2	78.1	78.1	77.8	77.4	77.3	77.3	77.1	77.1	77.3	77.9
4	77.4	77.6	77.6	77.8	78.1	78.4	78.6	78.6	78.8	78.8	78.9	73.6	78.8	78.9	78.9	79.0	78.9	79.0	78.9	78.7	78.7	78.6	78.7	78.8	78.5
5	79.0	78.9	79.0	79.0	79.1	79.1	78.8	78.6	79.2	79.9	80.5	80.5	80.7	81.3	80.9	80.3	79.2	79.1	79.0	79.3	79.6	79.6	79.8	79.8	79.6
6	79.7	79.4	79.4	79.4	79.6	79.4	79.3	79.3	79.8	80.3	81.1	81.3	81.0	80.8	80.4	80.1	79.9	79.7	79.3	79.0	78.4	78.4	78.4	78.7	79.7
7	78.6	78.7	78.9	78.9	78.5	78.5	78.6	79.0	79.1	79.6	80.2	80.3	81.3	82.3	82.6	82.5	81.8	81.0	80.4	79.4	79.4	79.0	78.1	78.1	79.8
8	77.4	76.5	76.5	76.5	76.3	76.2	75.4	76.1	77.3	79.0	80.2	79.6	79.4	79.9	80.2	79.8	79.9	79.5	79.5	79.4	79.1	78.9	79.0	79.0	78.3
9	79.0	78.9	79.1	80.0	79.7	81.0	80.7	81.6	82.2	82.9	82.3	83.7	82.8	82.2	83.4	83.1	82.6	82.2	82.0	81.5	81.4	81.3	80.6	79.5	81.4
10	79.5	79.0	78.9	78.4	78.4	78.6	78.7	79.0	79.5	80.4	81.4	81.8	82.6	82.5	82.8	83.2	82.7	80.3	80.2	81.0	80.0	79.8	80.0	79.8	80.3
11	79.5	79.4	79.1	78.7	78.3	78.2	78.2	78.7	79.3	80.1	80.8	80.4	81.7	81.9	81.9	82.0	81.4	80.8	80.3	80.1	79.8	79.1	78.7	78.9	79.9
12	78.5	78.0	78.1	78.1	78.1	78.3	78.4	78.5	78.7	79.0	79.5	80.2	81.2	80.3	79.7	79.0	78.3	77.6	77.4	77.4	77.1	76.0	73.8	74.4	78.2
13	74.5	75.9	75.9	75.0	75.1	75.4	75.7	76.2	78.1	80.4	82.1	82.9	83.7	82.4	83.1	83.4	82.5	82.8	81.0	80.2	79.4	79.1	79.0	79.5	79.2
14	79.6	79.8	80.0	80.2	80.0	78.4	78.1	78.0	79.4	81.0	82.5	82.8	83.9	83.8	84.1	83.6	83.2	82.5	81.5	81.3	81.0	80.6	79.9	79.4	81.0
15	79.6	79.3	78.9	79.7	78.9	78.6	80.2	80.8	81.9	83.2	84.3	85.0	85.1	84.8	83.7	83.8	83.5	81.5	81.6	81.2	80.8	80.4	80.5	80.3	81.5
16	80.1	80.2	80.0	80.0	79.7	79.6	78.8	79.1	80.0	80.1	80.9	81.4	81.9	81.8	81.2	81.5	81.1	79.6	78.6	78.4	77.9	77.2	76.2	76.4	79.7
17	76.5	76.0	75.5	75.6	75.3	74.3	73.4	74.4	75.1	77.2	79.1	79.8	79.4	79.6	79.3	79.1	78.8	78.2	78.0	77.8	77.3	76.5	75.7	75.3	77.0
18	74.8	74.6	74.5	74.6	74.9	75.2	74.1	75.0	77.0	77.9	78.3	78.3	78.7	78.6	78.6	78.1	77.7	77.5	77.7	77.7	77.8	76.9	75.0	76.0	76.6
19	77.1	75.3	74.2	74.0	73.9	73.9	73.6	74.3	75.5	76.3	77.3	77.9	78.2	78.6	78.4	78.2	77.3	77.0	76.5	75.2	76.0	76.8	76.9	76.9	76.2
20	76.9	75.1	75.1	75.0	74.4	74.4	73.8	75.0	76.3	77.5	78.3	78.2	78.2	78.2	78.3	78.6	78.0	77.4	76.5	75.8	75.0	74.4	74.4	73.5	76.3
21	72.8	72.5	72.6	72.7	72.5	72.2	71.7	73.4	77.6	78.7	79.1	79.1	79.2	79.2	79.0	79.0	79.0	78.9	78.9	78.9	78.9	79.0	78.9	78.4	76.7
22	78.7	78.4	78.2	77.5	77.5	77.7	78.0	79.5	80.4	82.0	83.1	83.1	84.2	84.8	83.6	82.1	80.7	80.4	80.4	80.2	80.2	80.0	79.9	79.6	80.4
23	79.6	79.5	79.4	79.1	79.0	79.0	79.1	79.7	80.0	80.5	80.7	81.2	80.9	80.6	80.4	79.7	79.6	79.1	78.8	78.6	78.5	78.5	78.4	78.4	79.5
24	78.5	78.4	78.4	78.3	78.1	78.0	78.2	78.6	79.0	79.5	80.0	80.2	80.1	79.9	80.0	79.8	79.8	78.9	78.4	78.3	78.1	78.0	78.1	78.2	78.9
25	78.0	77.6	77.1	76.7	76.6	76.0	76.9	77.5	78.4	79.4	80.5	80.8	81.0	81.2	81.0	80.6	80.2	79.5	79.2	78.9	78.9	78.5	78.2	77.6	78.8
26	77.4	77.5	77.7	77.0	76.7	76.1	77.3	78.3	81.8	83.0	84.3	84.9	85.3	86.1	86.2	85.5	85.2	83.8	83.3	83.4	83.2	81.5	8.2	80.0	81.4
27	79.0	78.2	78.0	78.1	78.0	77.3	77.5	80.4	82.8	84.1	84.8	86.2	87.6	88.2	87.7	87.9	86.7	85.2	86.2	86.1	85.8	85.4	85.3	85.0	83.3
28	84.3	84.8	84.6	83.9	83.7	82.4	82.7	84.7	86.4	88.0	88.2	88.8	90.4	90.2	90.3	90.1	89.3	88.2	86.5	85.5	84.1	83.0	82.1	80.1	86.0
29	81.2	79.7	79.3	78.4	76.9	79.4	79.4	80.7	82.1	84.2	84.4	85.2	86.1	86.5	87.1	86.6	85.6	84.0	82.8	82.0	81.0	79.9	79.2	78.6	82.1
30	78.6	78.5	77.9	77.4	77.2	76.7	77.5	79.0	80.0	81.5	82.1	81.6	82.4	82.7	82.8	82.2	81.3	80.1	79.2	78.4	79.1	77.6	76.9	76.8	79.5
31	76.5	77.1	77.0	77.5	77.9	77.2	78.2	79.5	81.1	82.3	83.0	82.5	83.2	83.5	82.7	82.5	82.4	81.0	80.2	79.9	80.0	79.3	78.6	78.0	80.0
Mean	78.3	78.0	77.9	77.8	77.6	77.5	77.6	78.3	79.4	80.4	81.1	81.3	81.7	81.8	81.7	81.5	81.0	80.3	79.9	79.6	79.3	78.9	78.5	78.3	79.5

87. ABERDEEN: North Wall Screen on Tower:  $h_t$  = 12.5 metres.

APRIL, 1933.

Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	77.9	78.7	78.1	78.0	78.0	77.8	78.0	78.6	79.9	79.3	79.2	77.8	80.0	80.5	81.0	81.1	80.9	80.3	78.9	79.3	78.7	78.1	78.1	77.7	79.0
2	78.1	78.1	77.8	78.9	79.1	78.6	78.6	78.8	79.3	80.2	80.9	82.1	83.3	84.8	85.0	84.8	84.8	85.0	84.8	84.6	84.5	84.2	82.9	81.9	81.6
3	83.1	83.8	84.6	85.2	85.1	85.0	85.0	85.9	86.9	86.7	85.7	83.4	83.7	86.1	85.9	86.1	85.3	83.6	82.7	81.2	80.7	80.3	79.9	79.8	84.0
4	79.8	79.4	78.8	79.6	79.5	79.3	79.6	79.9	80.5	81.3	81.8	82.2	80.7	79.8	79.7	79.7	79.8	79.9	79.4	79.4	79.3	79.2	79.0	78.9	79.9
5	79.0	79.2	79.0	79.5	79.4	79.5	80.4	81.4	82.3	83.4	84.5	84.8	85.3	86.0	85.2	85.3	85.2	85.1	83.0	83.4	84.2	83.0	82.2	81.3	82.5
6	81.5	80.8	82.1	81.2	80.2	80.6	81.5	83.0	83.6	81.0	80.0	80.0	80.1	80.4	80.4	80.3	79.6	79.1	78.7	78.4	78.6	78.5	78.3	78.3	80.3
7	78.1	78.2	78.3	78.3	78.4	78.5	78.9	79.7	80.7	81.2	82.4	83.0	84.4	85.8	86.6	86.5	86.0	85.8	85.9	85.2	85.1	84.1	84.0	83.1	82.3
8	82.7	82.5	82.1	82.3	82.1	82.0	82.5	83.5	83.6	84.9	84.7	84.8	84.8	84.8	84.0	83.9	82.6	82.4	82.2	82.4	81.6	82.0	83.2	83.1	83.1
9	82.6	81.6	82.1	81.6	82.7	82.7	82.8	84.4	86.0	86.2	87.1	88.1	88.0	88.3	88.4	88.9	88.9	87.7	85.8	85.6	86.1	85.4	85.0	85.3	85.4
10	85.9	85.3	84.6	84.2	84.8	85.0	84.1	85.0	85.3	85.3	85.9	86.3	87.0	87.6	87.9	87.9	87.2	86.1	85.9	84.2	84.0	84.1	83.6	82.4	85.5
11	82.2	82.0	83.2	82.8	81.9	81.5	82.0	83.5	84.0	85.7	88.4	88.8	88.8	88.9	87.0	84.0	82.5	81.8	81.6	81.4	81.0	81.1	82.1	82.1	83.7
12	83.6	83.6	82.6	80.7	79.8	80.1	80.8	81.4	81.9	82.6	82.9	83.2	82.2	81.0	79.5	79.0	81.2	80.8	79.3	78.3	78.2	78.0	77.4	77.2	80.7
13	77.0	76.0	75.6	75.7	75.4	76.8	77.7	78.8	80.0	80.5	80.3	80.6	80.2	80.2	80.5	80.4	79.4	78.6	78.0	77.4	76.9	76.0	75.0	75.6	78.1
14	75.2	74.1	73.1	72.7	72.8	73.4	75.6	77.0	78.1	78.6	79.6	80.0	80.2	80.6	80.1	79.9	79.9	79.8	79.8	80.1	81.5	81.4	80.7	80.7	78.0
15	81.1	81.4	81.0	81.6	82.4	82.8	85.2	86.3	87.2	87.1	87.4	86.6	85.9	85.2	85.2	81.3	80.4	79.8	79.7	79.6	79.3	79.3	79.4	79.2	82.7
16	79.1	78.8	78.7	78.8	78.9	78.8	78.9	79.1	79.2	79.1	79.0	79.9	79.4	79.4	79.6	79.8	79.6	79.7	79.6	78.7	78.0	77.4	77.9	77.8	79.0
17	76.2	76.5	75.8	75.9	76.0	76.2	78.1	78.4	78.7	78.1	78.6	79.2	79.0	78.9	78.8	78.1	77.8	77.3	77.2	77.6	77.2	77.1	76.3	75.7	77.5
18	75.3	74.2	75.2	75.3	74.6	74.9	76.0	76.8	77.7	77.9	77.3	78.2	78.3	78.2	78.2	77.7	78.4	77.8	76.1	75.7	75.3	74.7	74.8	73.9	76.4
19	74.8	74.7	75.1	75.2	74.7	75.9	74.2	76.0	77.1	78.0	78.2	78.4	78.6	78.4	78.7	78.4	78.3	77.9	77.6	77.2	77.2	77.2	77.4	77.0	76.9
20	76.4	76.5	76.4	75.9	75.1	75.6	76.4	77.3	77.8	78.3	78.5	79.0	78.5	78.8	78.9	78.9	78.5	78.4	78.3	77.9	77.4	77.2	77.1	77.0	77.5
21	76.3	75.9	76.1	76.1	76.0	76.9	77.1	78.2	79.1	79.8	80.3	79.6	80.0	80.7	80.1	79.4	80.2	79.8	79.2	78.9	78.3	77.8	76.4	76.6	78.3
22	76.8	76.8	77.1	76.8	76.6	76.7	77.6	78.6	80.0	80.7	81.4	80.6	80.3	80.1	80.3	80.3	80.6	80.2	79.6	79.3	79.1	78.6	78.0	77.9	78.9
23	78.1	78.0	77.4	76.0	74.6	74.6	76.8	79.6	81.2	81.4	81.2	82.0	82.0	81.6	81.8	81.6	81.2	80.7	80.2	79.6	79.0	79.2	78.8	78.6	79.4
24	78.0	79.0	79.1	79.4	79.5	79.6	79.7	79.9	80.0	80.3	80.8	81.1	80.5	80.6	80.7	80.6	80.6	80.4	80.0	80.0	80.0	80.0	80.0	80.2	80.0
25	80.2	80.0	80.0	79.9	80.0	80.0	80.2	80.2	80.5	80.5	80.6	80.9	81.0	81.4	82.0	81.4	81.2	81.0	80.5	80.6	81.0	80.5	80.8	80.8	80.6
26	81.0	80.6	80.5	80.4	80.4	81.1	81.9	82.5	83.4	84.1	85.0	85.8	85.4	85.0	84.2	83.4	82.8	82.4	81.9	81.9	82.0	82.0	81.4	81.4	82.5
27	81.4	82.2	81.8	81.7	81.8	81.4	81.3	82.5	84.5	86.3	86.5	87.5	87.0	87.0	87.6	85.7	85.2	84.9	84.0	83.5	82.8	81.6	81.1	81.2	83.8
28	80.2	80.0	79.4	79.4	79.4	80.5	81.1	82.5	84.1	84.9	86.0	85.4	85.7	84.4	83.5	85.0	84.1	82.8	82.4	82.1	81.9	81.6	81.3	81.3	82.5
29	80.8	79.7	79.7	79.4	78.9	79.7	81.1	82.8	83.2	83.1	82.8	82.9	83.0	82.8	82.9	83.0	83.6	83.9	83.2	82.4	81.7	81.2	81.4	81.4	81.9
30	81.1	80.7	80.8	80.7	80.3	80.3	80.7	80.9	81.0	81.2	81.4	82.6	83.0	83.2	83.5	83.5	83.5	83.4	82.8	81.8	81.4	80.9	80.6	80.2	81.7
Mean	79.5	79.3	79.2	79.1	78.9	79.2	79.8	80.7	81.6	81.9	82.3	82.5	82.5	82.7	82.6	82.2	82.0	81.5	80.9	80.6	80.4	80.1	79.8	79.6	80.8
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean



TEMPERATURE.  
Readings in degrees absolute at exact hours, Greenwich Mean Time.

88. ABERDEEN: North Wall Screen on Tower:  $h_t$  (height of thermometer bulb above ground) = 12.5 metres.

MAY, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	79.3	78.9	78.8	78.6	78.4	78.6	79.0	80.0	79.5	79.6	79.6	80.0	80.2	80.3	80.2	80.0	80.1	79.9	79.5	79.4	78.9	78.1	77.0	75.8	79.2
2	74.7	74.2	73.6	73.8	73.3	74.1	76.2	79.1	79.8	80.1	80.3	80.4	80.5	80.6	80.3	80.2	80.4	80.3	79.8	79.7	79.6	79.6	79.5	79.4	79.9
3	79.5	79.4	78.8	78.7	79.0	79.3	79.7	79.9	80.1	80.5	80.2	80.4	80.8	80.6	80.8	80.6	80.4	80.2	80.0	79.7	79.6	79.5	79.5	79.4	79.9
4	79.3	79.3	79.2	79.2	79.1	79.3	79.9	80.0	80.1	80.2	80.7	81.2	81.2	81.1	81.2	81.1	80.9	80.9	80.6	80.5	80.4	80.4	80.4	80.3	80.3
5	80.4	80.6	80.5	80.5	80.6	80.7	80.8	81.0	81.0	81.8	81.8	81.2	80.9	81.1	80.9	81.2	81.2	82.0	82.2	81.8	81.6	81.3	81.2	80.9	81.1
6	80.7	80.6	81.0	81.1	81.0	81.0	81.1	81.2	81.5	82.1	82.8	83.3	84.8	84.4	84.5	84.2	84.8	84.5	83.7	82.5	82.1	82.0	81.9	81.8	82.4
7	81.6	81.6	81.5	81.4	81.4	81.6	80.6	80.8	81.1	81.3	82.0	83.0	83.7	84.0	83.1	83.6	84.0	83.2	82.4	81.9	81.5	81.4	81.3	81.3	82.1
8	81.0	81.0	80.9	80.8	80.3	80.4	80.8	81.4	81.2	82.1	82.2	82.2	82.1	82.9	82.7	82.9	82.6	81.9	81.4	81.1	80.9	81.0	81.0	81.0	81.5
9	81.1	81.1	81.1	80.8	80.6	81.2	82.4	83.6	85.0	85.4	86.2	86.2	84.3	83.4	82.6	82.9	82.2	81.9	82.4	81.8	81.6	81.4	81.3	80.9	82.6
10	80.9	81.0	81.0	81.1	81.1	81.4	82.1	82.4	83.2	83.7	83.5	83.9	84.2	84.9	85.0	85.0	83.6	83.4	82.9	82.2	81.3	81.3	80.9	80.6	82.5
11	80.2	79.9	79.8	79.8	79.9	80.0	80.5	80.9	81.2	81.6	81.6	81.3	81.7	81.7	81.9	82.5	82.4	82.1	81.8	80.9	80.6	80.6	80.5	80.5	81.0
12	80.4	80.4	80.3	80.2	80.0	80.4	80.9	81.1	82.1	81.2	83.0	82.4	84.2	84.2	83.1	83.8	82.9	83.0	82.8	82.0	82.1	81.7	81.1	80.8	81.8
13	80.5	80.4	80.5	80.2	80.2	80.9	82.0	83.1	83.5	84.0	83.1	83.5	84.0	84.0	84.0	83.1	83.0	82.0	81.8	81.9	81.5	81.5	81.2	80.4	82.2
14	80.0	79.1	79.2	80.0	80.2	80.1	80.6	81.0	81.7	82.5	84.0	84.4	84.4	84.2	84.3	84.1	83.3	82.5	81.7	81.0	80.1	79.7	79.7	78.5	81.6
15	78.4	78.1	78.0	77.6	78.4	79.8	80.1	80.9	81.1	81.9	82.3	83.5	84.1	84.0	84.3	84.0	83.9	84.0	83.9	82.3	80.9	79.1	79.0	78.5	81.2
16	77.3	76.8	76.4	75.5	76.8	78.3	80.9	81.8	81.8	81.8	81.9	81.9	82.5	82.1	82.0	82.1	81.7	81.7	81.5	81.2	80.9	80.7	80.7	80.7	80.3
17	80.8	80.6	80.7	80.7	80.7	81.2	81.6	82.0	82.9	83.0	82.5	83.0	83.5	83.1	83.8	83.1	83.6	82.4	81.5	81.2	80.9	81.1	80.9	80.9	82.0
18	81.0	80.8	80.9	80.8	81.2	81.4	81.5	82.0	82.0	82.1	82.7	83.3	83.2	83.1	82.6	82.3	82.1	81.9	81.8	81.7	81.7	81.7	81.7	81.8	81.9
19	81.7	82.1	82.0	81.9	82.9	84.9	85.5	86.7	87.8	89.3	89.9	91.1	90.4	88.5	89.2	88.7	87.5	87.0	86.2	85.6	85.0	84.9	84.6	83.2	86.1
20	83.5	83.2	83.5	83.8	83.8	83.9	84.4	84.9	84.5	85.4	85.4	85.0	85.2	85.9	86.1	85.4	85.5	85.3	84.7	84.1	83.6	83.5	84.0	84.4	84.5
21	84.0	83.1	83.5	85.2	85.2	84.8	85.7	86.2	89.0	90.3	88.3	88.3	89.1	87.0	88.0	88.1	88.0	88.6	85.8	84.8	84.3	84.0	83.4	82.6	86.2
22	83.1	82.4	83.1	83.4	83.8	84.0	84.1	85.0	86.1	87.3	88.4	86.4	85.5	85.5	85.1	84.6	85.0	84.9	84.5	84.2	84.0	83.4	82.8	82.6	84.5
23	82.5	81.8	81.5	80.8	81.1	81.9	83.6	85.3	86.7	83.2	83.4	84.1	86.1	86.5	87.2	86.6	83.0	83.0	83.2	84.8	84.4	84.1	83.6	83.2	83.8
24	83.0	83.1	83.1	82.9	83.1	83.1	82.9	83.2	84.3	83.6	83.6	84.2	84.9	84.9	85.1	85.2	84.2	84.7	84.8	84.0	83.0	83.2	83.2	83.2	83.9
25	82.5	82.4	82.2	82.0	82.0	82.1	82.7	83.2	84.0	84.6	85.3	86.0	85.0	85.0	83.9	83.8	83.9	83.9	83.3	82.4	81.4	80.0	79.4	83.2	83.2
26	78.6	78.4	78.1	78.0	79.1	80.8	83.0	84.1	85.2	86.2	87.1	85.5	86.0	85.0	84.1	83.4	84.1	83.9	83.0	83.5	83.0	82.7	82.7	82.4	82.8
27	82.3	81.8	81.1	80.9	81.2	81.6	81.8	82.4	83.0	83.3	83.1	83.8	84.0	84.5	85.0	84.8	84.5	84.2	83.6	83.1	82.2	81.7	81.7	81.6	82.8
28	81.1	81.0	81.0	81.2	81.2	81.6	81.4	83.0	82.4	83.0	84.0	84.0	83.4	84.2	84.0	84.2	84.0	83.6	83.0	82.4	82.0	81.5	81.7	81.6	82.5
29	81.5	81.2	80.9	80.6	80.9	81.2	81.8	82.1	82.1	82.1	82.7	83.0	83.0	83.4	83.1	83.2	83.2	83.4	83.1	81.7	80.6	78.4	77.5	82.0	82.0
30	77.1	76.5	75.9	75.4	76.7	79.5	80.1	81.9	82.2	82.8	83.8	83.7	83.7	84.0	83.9	83.6	83.9	83.7	82.8	82.7	82.0	81.7	81.5	81.4	81.2
31	81.3	81.2	81.2	81.4	82.1	82.6	82.7	82.9	83.7	84.0	84.3	84.5	84.5	85.2	84.8	84.3	84.2	84.0	83.5	83.0	83.0	83.0	83.1	83.0	83.2
Mean	80.6	80.4	80.3	80.3	80.5	81.0	81.6	82.4	82.0	83.2	83.6	83.7	83.9	83.8	83.8	83.6	83.4	83.2	82.7	82.3	81.9	81.6	81.3	81.0	82.2

89. ABERDEEN: North Wall Screen on Tower:  $h_t$  = 12.5 metres.

JUNE, 1933.

Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	82.8	83.0	83.1	83.0	83.1	83.4	83.5	84.0	84.0	84.5	84.5	85.1	84.5	85.9	86.2	86.5	87.0	86.2	85.8	85.4	85.1	84.9	84.9	84.4	84.6
2	84.3	84.1	83.7	83.5	83.8	84.0	84.9	85.6	86.5	86.7	86.9	88.5	89.4	87.8	88.0	87.5	86.7	85.9	85.8	84.6	84.4	84.2	83.8	83.4	85.6
3	83.0	82.8	83.3	83.5	83.4	84.4	85.4	86.7	87.7	89.5	87.2	88.1	89.6	91.2	89.6	87.5	90.1	89.6	88.5	86.8	86.5	86.4	84.8	85.9	86.7
4	85.2	84.9	84.4	84.3	85.3	86.9	88.4	88.4	88.0	92.0	92.2	91.6	92.1	92.5	93.7	94.0	94.3	94.3	94.0	92.7	91.0	89.8	89.2	88.7	89.9
5	88.0	87.3	86.2	86.3	86.9	87.6	89.9	91.3	92.2	92.4	93.6	94.8	94.0	92.1	90.2	92.3	92.4	92.0	93.4	93.6	92.6	91.2	90.9	89.0	90.8
6	88.6	87.9	86.5	85.9	86.4	87.9	89.6	90.1	89.7	89.1	89.2	88.6	88.1	87.9	88.0	88.8	92.7	93.2	91.5	90.4	89.7	89.5	88.6	88.5	89.0
7	88.1	87.7	86.4	85.2	87.0	88.8	90.9	89.2	90.1	90.6	90.1	91.1	91.1	91.8	91.8	89.6	90.5	88.9	88.4	88.9	87.0	86.4	85.9	87.2	88.9
8	86.5	86.4	86.1	86.1	86.6	86.9	87.2	87.7	88.3	88.9	89.5	89.4	89.1	89.0	88.4	87.4	86.4	86.3	86.0	85.4	85.0	85.1	84.9	84.7	87.0
9	84.3	84.3	84.2	84.4	84.1	85.2	85.6	86.1	86.6	87.0	86.4	86.8	87.1	87.2	87.1	87.2	87.1	86.4	86.2	85.8	84.4	83.9	82.8	82.2	85.6
10	82.0	81.3	80.9	80.7	82.6	84.1	85.7	86.0	86.6	85.2	86.7	85.5	83.5	84.0	83.3	84.0	83.9	83.9	83.5	83.2	82.8	82.5	81.3	80.8	83.5
11	81.2	81.3	81.7	81.8	82.2	82.6	83.4	84.0	83.9	84.4	84.3	85.0	85.7	85.7	85.8	85.8	84.4	85.1	86.0	85.2	83.2	80.9	79.9	79.5	83.5
12	79.1	78.6	78.3	78.2	80.0	81.9	83.7	83.8	84.9	85.1	85.3	85.4	85.7	85.1	85.0	85.9	86.9	85.7	85.8	85.4	85.0	84.5	83.8	83.6	83.5
13	82.9	82.8	83.3	83.5	83.7	84.5	85.7	86.3	86.8	88.0	88.0	88.2	87.5	86.6	86.8	86.1	86.9	86.7	86.4	84.6	84.1	84.8	84.6	84.6	85.5
14	84.4	84.1	83.6	83.3	83.7	83.9	84.7	86.2	85.8	87.8	88.0	86.7	85.5	89.0	89.0	90.0	89.9	89.0	89.0	88.5	86.9	87.2	87.1	86.2	86.6
15	85.2	84.6	84.1	84.0	85.0	87.8	90.2	91.8	92.1	92.7	93.1	93.6	94.1	94.5	92.4	91.8	90.7	91.2	90.9	90.6	89.8	89.0	88.5	87.6	89.8
16	87.5	86.9	85.5	84.9	84.8	85.4	86.4	87.3	87.4	87.9	87.9	87.2	87.6	87.8	86.4	86.4	86.2	84.7	85.0	84.4	84.4	85.1	85.6	84.2	86.2
17	82.7	81.7	81.3	81.0	82.6	83.8	84.4	85.3	86.0	86.3	88.1	88.7	88.6	87.1	85.6	87.8	85.8	85.3	85.3	85.4	84.3	83.6	83.1	82.6	84.9
18	82.0	81.3	81.1	80.9	81.9	84.9	84.9	85.4	85.3	85.3	85.4	85.4	85.1	86.1	86.2	86.0	86.3	85.6	84.7	84.7	84.3	84.0	84.1	84.2	84.3
19	84.3	84.1	84.1	84.2	84.4	85.0	86.1	85.7	86.1	85.5	86.1	86.5	86.3	86.8	86.9	86.7	87.3	86.4	85.8	85.6	85.5	84.7	84.5	84.0	85.5
20	83.9	83.4	83.5	83.6	83.8	84.3	85.2	85.7	86.0	85.3	85.6	86.2	86.3	86.5	86.9	85.6	85.9	86.5	86.6	86.6	86.0	85.7	85.7	85.8	85.4
21	85.2	84.8	84.9	85.0	86.0	86.6	86.9	87.0	87.0	86.9	87.4	87.3	87.4	87.6	87.1	87.1	86.7	87.2	87.1	86.3	86.2	86.0	85.6	85.3	86.5
22	85.3	85.5	85.4	85.7	85.5	85.8	86.1	86.2	86.7	86.8	87.5	88.0	87.8	88.0	88.0	87.9	88.9	88.1	86.5	86.5	85.5	85.7	85.6	85.6	86.6
23	85.1	85.0	84.7	84.7	84.1	84.0	84.5	85.4	85.9	87.0	86.8	87.9	87.7	87.8	87.8	86.8	86.2	87.1	85.4	84.9	85.0	85.2	85.0	85.4	85.8
24	85.0	85.1	85.4	85.3	85.6	86.4	88.4	90.0	89.4	89.5	89.5	89.6	90.2	90.8	90.2	89.6	90.0	89.2	89.6	89.8	89.4	87.8	87.2	86.0	88.3
25	85.4	85.8	86.3	86.3	86.6	87.3	87.7	87.4	88.6	87.8	87.8	88.5	88.8	90.2	90.3	89.4	89.9	89.4	88.1	86.7	86.3	85.8	85.4	85.6	87.6
26	85.1	85.0	84.3	84.5	84.7	84.4	84.6	84.6	84.9	85.2	85.0	85.3	85.9	86.4	87.5	88.2	88.3	88.3	86.9	85.6	84.6	83.4	82.6	81.7	85.4
27	82.1	82.4	82.9	83.6	83.8	84.6	85.7	85.9	87.0	87.0	88.0	88.0	89.1	89.4	90.4	90.8	91.0	88.7	87.9	86.7	86.1	85.0	83.9	82.9	86.4
28	83.5	83.4	83.4	83.4	84.1	85.0	85.8	86.2	87.0	87.1	87.5	87.7	87.9	87.6	87.7	87.7	87.0	87.5	86.4	85.7	84.5	83.4	83.8	83.6	85.7
29	82.0	80.9	80.4	80.6	82.4	84.1	84.5	85.7	86.3	86.5	87.1	87.9	88.5	87.6	86.5	86.7	87.0	87.0	86.4	85.5	85.4	85.2	85.4	85.2	85.2
30	84.9	84.8	84.9	84.8	85.2	85.8	86.5	87.2	88.0	89.0	89.5	90.4	91.8	92.1	92.7	92.7	93.9	93.3	93.3	93.6	92.2	92.0	91.0	88.6	89.4
Mean	84.3	84.0	83.8	83.7	84.3	85.2	86.2	86.7	87.2	87.6	87.8	88.2	88.2	88.4	88.1	88.1	88.3	88.0	87.5	87.0	86.3	85.8	85.3	84.9	86.5
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean



90. ABERDEEN: North Wall Screen on Tower:  $h_t$  (height of thermometer bulb above ground) = 12.5 metres.

JULY, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day.	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	88.4	88.5	87.4	88.2	88.5	89.3	90.7	92.2	91.6	93.0	92.8	94.0	95.0	95.6	94.9	94.2	89.3	89.2	89.2	90.2	89.0	90.5	90.4	89.9	90.9
2	88.5	87.6	88.1	87.6	88.3	90.3	92.9	94.3	95.3	96.2	97.5	98.0	98.1	98.2	97.8	97.6	96.0	96.3	90.1	89.6	88.4	88.2	87.4	86.4	92.5
3	85.8	85.4	85.3	85.5	87.3	90.0	91.2	93.4	94.8	95.5	96.0	96.9	97.4	97.0	98.0	98.0	98.9	98.7	93.9	91.8	91.0	91.1	90.4	90.9	92.6
4	90.7	90.1	89.2	88.2	89.9	91.0	91.9	92.5	93.9	95.5	96.5	96.2	95.9	96.5	96.3	96.6	94.0	94.9	91.5	90.0	88.9	88.3	88.0	88.4	92.3
5	88.7	88.4	88.4	88.0	88.5	89.4	89.9	89.6	91.0	92.0	92.8	94.0	93.9	94.5	94.5	94.6	94.2	93.5	93.0	91.5	90.5	89.6	89.0	88.9	91.2
6	88.5	87.8	87.2	87.2	87.2	87.4	87.5	87.5	88.0	88.4	87.9	88.5	89.0	89.5	88.8	89.0	89.0	88.2	87.8	87.6	87.6	87.7	87.6	87.5	88.0
7	87.7	87.6	87.8	87.9	87.6	87.9	89.4	89.8	90.4	90.7	90.9	90.4	90.6	90.9	90.5	90.0	89.8	89.0	88.7	88.6	88.0	88.0	87.9	88.0	89.1
8	88.4	88.5	88.5	88.4	88.6	89.0	90.6	92.2	92.7	93.2	93.5	93.4	93.2	93.8	94.1	93.9	93.7	93.2	92.0	90.9	90.0	89.4	89.1	88.4	91.2
9	88.3	88.3	87.6	88.1	88.4	89.4	90.2	90.8	90.9	91.1	91.4	91.5	92.3	91.8	92.2	92.0	91.2	91.9	90.1	89.3	89.0	88.4	87.8	88.1	90.0
10	87.3	87.0	87.1	87.0	87.3	87.7	88.4	90.1	91.2	91.8	93.0	93.0	92.9	93.8	92.7	93.0	92.9	91.9	88.8	89.2	89.1	88.2	88.0	88.0	90.0
11	88.0	88.0	87.7	87.5	87.4	87.8	88.1	89.3	90.5	91.2	90.9	91.5	91.2	90.9	92.0	90.8	91.3	90.2	89.3	89.2	88.9	88.4	88.1	87.0	89.4
12	86.4	85.6	86.1	86.7	86.6	87.4	89.0	89.8	89.8	90.6	90.8	88.8	90.1	89.1	87.4	88.5	88.3	88.2	88.4	88.2	87.9	87.5	86.9	86.6	88.1
13	86.7	86.8	86.5	86.6	86.7	87.1	87.9	88.4	88.4	89.3	89.1	89.9	89.8	89.4	88.8	89.1	88.3	88.2	87.6	87.0	86.9	86.8	86.6	86.6	87.9
14	86.5	86.6	86.5	86.4	86.6	86.8	87.0	88.0	88.3	88.9	89.2	88.3	88.4	88.0	87.7	88.1	88.2	88.2	87.9	87.8	87.5	87.4	87.3	87.0	87.6
15	87.1	86.9	86.8	86.8	86.7	86.5	86.4	86.1	86.4	87.0	88.6	88.6	88.9	88.6	88.6	88.4	88.2	87.9	87.8	87.5	87.4	86.9	86.4	86.1	87.3
16	85.6	86.0	85.7	85.2	85.8	86.7	87.2	87.5	88.1	88.8	89.6	90.1	90.0	90.1	90.7	90.2	89.5	89.9	89.0	88.4	87.0	86.5	86.1	85.9	87.9
17	86.2	85.4	86.1	84.5	85.7	86.9	87.7	88.6	88.7	88.5	90.3	89.8	90.3	91.5	89.9	89.9	91.1	91.4	91.0	90.1	88.4	86.9	86.9	86.8	88.4
18	85.8	85.5	85.7	85.1	85.2	86.1	87.0	87.7	88.2	88.9	88.9	88.9	90.0	91.0	91.6	91.0	89.9	89.6	89.3	89.9	89.5	88.7	89.3	89.6	88.4
19	88.1	88.1	87.8	87.5	87.4	88.0	90.6	90.9	91.9	91.8	93.0	92.7	91.3	91.0	91.9	90.8	92.4	91.9	91.0	89.8	89.5	89.1	88.8	88.8	90.2
20	88.3	87.9	87.3	86.9	87.7	88.8	89.9	90.9	91.9	92.4	92.1	92.5	93.4	93.0	91.4	91.0	90.6	93.0	91.0	90.0	89.4	88.6	88.1	87.8	90.2
21	87.2	87.0	86.4	86.5	87.0	87.9	88.6	90.8	91.8	91.1	91.8	92.6	92.1	91.3	91.4	90.9	89.7	89.2	89.3	89.2	88.5	88.3	88.4	88.3	89.4
22	87.8	87.6	86.7	86.5	86.4	86.9	87.6	88.2	89.0	89.0	90.2	89.9	90.2	91.5	91.6	91.8	92.1	92.1	90.9	89.9	89.2	89.1	87.6	87.2	89.1
23	86.8	87.0	87.0	87.0	86.9	87.7	87.9	88.8	90.6	91.8	90.1	90.0	92.4	92.0	91.9	92.3	91.8	91.1	90.9	89.9	89.8	89.6	89.2	89.1	89.6
24	88.2	87.4	86.9	87.0	87.4	87.6	88.8	89.7	91.3	92.0	92.7	93.3	94.7	95.6	96.3	94.5	92.8	91.7	90.8	89.8	89.2	88.9	88.3	88.4	90.6
25	88.0	87.5	86.1	86.1	86.0	86.1	86.8	88.0	88.8	89.7	90.1	89.8	89.5	89.9	89.5	89.5	89.6	89.7	89.2	88.9	88.7	88.5	88.2	87.9	88.4
26	87.9	87.9	87.6	87.4	87.5	88.2	89.1	90.5	92.1	92.9	92.6	93.0	93.0	93.9	94.0	93.9	93.0	93.6	93.1	92.5	91.8	90.0	89.0	87.6	90.9
27	86.9	86.5	86.0	86.0	86.6	87.5	89.0	89.2	90.4	91.0	91.0	91.1	92.0	92.9	92.9	91.5	90.0	88.7	88.0	87.6	87.2	86.8	86.6	85.9	88.8
28	85.9	85.5	85.7	85.8	85.9	86.2	87.9	88.2	89.7	90.5	90.7	91.2	91.1	91.2	90.4	90.0	90.2	90.1	90.0	88.3	88.1	87.2	86.9	86.5	88.5
29	86.2	86.4	85.8	85.6	85.4	85.6	85.9	86.4	86.7	86.0	85.9	86.2	86.4	86.5	87.2	87.1	87.2	87.9	87.2	86.6	85.7	85.0	85.6	85.5	86.3
30	84.2	83.3	83.3	83.4	83.7	85.4	86.1	87.1	88.5	89.6	90.4	90.0	90.8	91.2	90.6	90.3	90.3	89.9	88.1	87.9	87.5	87.5	87.2	87.6	87.6
31	86.3	86.7	86.8	86.8	87.1	87.2	87.5	87.5	87.7	87.9	89.0	88.8	88.8	89.2	89.0	88.5	87.9	87.5	87.0	86.5	86.2	86.6	86.5	86.6	87.5
Mean	87.3	87.1	86.8	86.7	87.0	87.7	88.7	89.5	90.3	90.8	91.2	91.4	91.7	91.9	91.8	91.5	91.0	90.9	89.7	89.2	88.6	88.2	87.9	87.7	89.4

91. ABERDEEN: North Wall Screen on Tower:  $h_t$  = 12.5 metres.

AUGUST, 1933.

Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	86.4	86.0	85.8	85.7	85.6	86.1	87.0	87.6	88.9	90.3	89.9	90.8	91.1	92.0	92.2	93.0	91.3	90.6	90.4	89.7	88.2	89.2	87.9	87.6	88.9
2	87.0	86.5	86.4	86.1	86.5	87.3	88.4	90.3	92.3	93.7	93.8	94.5	94.5	95.9	93.5	91.9	92.6	92.3	96.6	94.0	93.8	92.8	93.6	93.3	91.4
3	93.0	93.1	92.8	92.2	92.3	93.6	93.8	95.1	95.9	97.0	97.6	98.9	99.4	99.7	99.8	99.9	99.0	98.0	97.2	95.8	94.7	93.8	92.6	92.9	<u>95.2</u>
4	92.6	92.1	91.0	90.3	91.1	92.1	93.0	93.6	94.1	94.9	95.0	95.8	95.5	94.3	91.5	91.5	91.3	91.5	90.9	90.4	90.1	89.8	89.6	89.5	92.2
5	89.5	89.3	88.8	88.5	88.5	88.6	89.0	90.0	90.9	90.5	90.5	91.1	91.2	91.7	93.8	94.4	94.2	91.9	89.1	89.0	90.0	91.8	91.9	91.5	90.6
6	90.1	89.9	90.0	91.2	90.9	92.5	92.3	93.2	94.6	95.2	95.6	95.7	95.6	92.8	92.2	92.7	92.1	91.2	90.6	88.6	87.4	86.7	86.2	85.4	91.5
7	84.5	84.2	83.6	83.5	83.5	83.5	85.7	86.5	88.7	89.3	88.7	88.8	89.1	89.0	88.7	87.8	87.4	89.6	89.0	87.9	86.8	86.3	86.3	87.6	86.9
8	86.8	86.2	85.6	86.2	86.8	87.7	88.2	89.1	89.9	90.0	90.1	91.0	91.1	91.6	92.0	91.8	90.9	90.4	89.7	88.9	88.3	87.8	87.1	86.4	88.9
9	86.3	85.9	85.4	85.3	85.8	86.0	86.7	88.0	88.6	87.6	88.5	89.2	89.1	89.0	88.9	90.1	89.6	89.9	88.6	87.7	86.7	85.8	85.0	85.0	87.5
10	85.0	84.2	83.9	82.8	83.5	84.8	86.4	87.1	88.0	89.0	88.8	89.7	89.8	90.6	90.5	90.6	88.9	90.3	88.6	87.9	86.2	85.8	84.0	84.7	87.1
11	83.8	82.7	82.4	82.6	82.4	82.9	84.0	85.7	86.9	87.0	87.4	87.7	88.2	88.1	87.9	87.5	87.3	87.1	87.1	86.6	86.4	86.5	86.1	84.8	85.8
12	83.5	82.6	81.5	79.9	80.0	81.3	83.3	85.0	87.3	88.0	88.4	89.1	89.4	89.6	90.0	89.6	88.4	88.1	87.9	87.2	87.0	86.9	86.8	86.9	86.1
13	86.4	86.1	86.2	86.1	86.4	87.8	88.5	89.7	92.1	92.4	92.6	93.4	93.1	92.7	92.9	92.2	93.9	92.1	90.2	89.1	89.2	88.7	88.4	88.5	89.9
14	88.4	88.9	88.5	88.9	88.1	88.8	89.1	89.8	90.8	91.8	92.3	90.9	92.0	92.2	92.9	92.9	90.9	90.1	89.6	89.1	89.0	89.0	88.4	88.0	90.0
15	88.0	88.0	87.2	87.2	87.4	87.8	88.2	88.7	89.0	89.5	89.6	90.5	90.3	90.2	89.1	88.8	89.0	88.9	88.9	89.4	89.4	88.7	88.3	87.2	88.7
16	86.9	86.6	85.8	83.9	83.9	85.0	86.8	87.7	88.8	89.6	89.8	91.5	90.3	90.9	91.4	91.4	90.9	89.3	89.0	87.8	86.1	85.2	85.1	85.5	87.9
17	85.4	84.8	84.9	85.7	86.0	85.9	86.5	86.4	86.8	86.8	87.2	87.7	87.5	90.7	90.3	91.5	92.9	91.5	90.6	89.6	88.6	87.6	87.4	87.0	87.9
18	88.0	88.5	87.6	87.6	87.1	87.7	88.4	89.3	89.1	89.5	90.0	90.9	90.7	90.5	91.2	90.6	89.9	90.3	89.6	88.2	87.4	86.6	86.0	86.0	88.8
19	85.5	85.6	85.6	85.2	85.3	84.6	85.9	87.4	87.7	87.9	87.9	88.4	88.3	89.0	91.5	90.0	91.2	91.1	89.6	88.3	86.9	85.9	85.3	84.6	87.5
20	84.4	84.2	84.0	85.9	84.0	84.6	85.8	86.6	88.2	88.6	87.4	88.2	89.7	90.3	90.2	89.9	89.6	88.5	87.6	87.2	86.5	86.0	84.7	84.2	86.9
21	83.9	83.9	83.1	83.0	83.1	83.2	84.1	85.4	86.7	87.1	87.9	87.9	86.2	86.3	85.7	85.7	85.8	85.8	84.8	84.3	83.7	83.3	83.0	82.2	<u>84.9</u>
22	82.5	82.9	83.2	82.9	83.1	84.0	84.0	84.1	84.1	85.4	86.9	87.2	87.4	87.5	87.0	86.9	86.7	86.3	86.0	84.7	84.0	84.4	84.0	84.6	84.9
23	84.0	84.1	83.9	83.2	83.2	84.4	84.4	86.0	85.6	86.8	85.8	85.2	86.8	87.8	88.3	86.9	87.3	86.0	85.9	85.4	85.2	84.8	84.3	84.9	85.4
24	84.9	84.7	83.3	82.9	82.6	83.4	85.0	86.3	87.7	88.0	88.4	88.9	89.2	89.0	88.8	88.4	88.4	87.6	87.0	86.8	86.0	85.8	85.5	85.0	86.4
25	85.4	85.6	85.7	85.8	85.9	86.1	86.8	87.7	89.5	89.4	90.1	90.0	90.4	91.3	93.0	93.7	92.0	92.7	91.1	91.1	91.0	90.2	88.9	88.1	89.2
26	87.9	87.2	86.9	86.6	85.4	85.9	88.5	90.5	92.8	93.9	94.7	95.0	95.0	94.4	93.9	93.5	92.5	91.8	90.0	89.2	88.9	88.8	88.5	88.1	90.4
27	87.7	86.9	86.6	88.0	88.4	89.5	89.7	90.1	90.6	90.8	90.7	90.6	91.0	91.7	91.8	91.9	92.4	91.3	90.4	89.4	88.8	88.6	88.4	89.1	89.7
28	89.3	89.4	89.5	89.5	89.4	89.5	89.9	90.0	89.9	89.8	91.0	92.0	90.1	89.9	90.0	89.0	88.7	88.5	88.1	87.9	87.8	87.6	87.4	86.9	89.3
29	86.9	86.9	86.8	86.6	86.7	86.7	86.9	87.4	87.9	88.4	89.1	88.7	90.0	89.7	88.6	89.4	90.4	90.3	89.8	89.6	87.8	88.7	86.6	86.2	88.2
30	85.5	85.6	85.5	84.9	84.8	85.8	85.7	87.1	88.9	89.8	90.5	91.2	91.5	89.7	89.8	89.9	89.9	90.2	88.3	86.8	85.5	84.3	84.1	83.5	87.5
31	83.4	83.7	83.0	82.4	82.7	84.1	85.0	86.1	86.7	86.9	87.2	86.9	86.8	86.9	87.0	87.2	86.8	86.9	87.2	86.8	86.3	85.7	85.5	85.1	85.6
Mean	86.5	86.3	86.0	<u>85.8</u>	85.8	86.5	87.3	88.3	89.3	89.8	90.1	90.6	90.7	<u>90.8</u>	90.8	90.7	90.4	90.0	89.3	88.5	87.9	87.5	87.0	86.8	88.4
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean



TEMPERATURE  
Readings in degrees absolute at exact hours, Greenwich Mean Time.

92. ABERDEEN: North Wall Screen on Tower:  $h_t$  (height of thermometer bulb above ground) = 12.5 metres.

SEPTEMBER, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	85.3	85.3	84.3	84.5	84.9	85.3	86.2	87.0	87.5	87.2	87.6	88.4	88.4	88.9	89.0	88.5	87.9	88.1	86.5	85.6	84.5	82.8	81.9	81.7	86.2
2	81.9	82.0	82.4	83.1	83.1	83.3	85.2	85.8	87.4	89.1	89.5	89.0	89.5	90.2	90.3	91.1	89.4	88.1	88.3	87.9	87.7	87.6	87.0	86.7	86.8
3	87.0	87.0	86.9	87.1	87.0	87.4	87.8	88.7	90.0	91.7	91.6	89.2	88.7	89.3	89.7	89.9	88.7	88.7	88.8	88.6	88.5	88.2	87.4	86.7	88.5
4	86.3	86.1	86.0	85.9	85.9	85.9	86.1	86.7	88.1	89.1	89.0	88.5	90.4	89.9	89.6	91.9	90.3	88.8	88.3	87.8	87.0	86.9	86.6	86.4	87.8
5	86.2	86.3	86.1	86.1	86.2	86.4	86.6	87.0	86.8	87.2	87.8	88.7	89.0	88.8	88.9	88.5	88.4	88.0	87.6	86.9	87.6	87.8	87.8	87.7	87.4
6	87.4	87.5	87.4	87.0	87.1	87.3	87.6	87.8	87.9	89.1	89.5	90.5	90.0	90.6	90.5	89.9	90.0	89.8	88.2	88.0	87.9	87.5	87.3	86.8	88.5
7	86.1	86.2	86.4	86.4	86.4	86.3	86.8	86.9	87.0	87.6	88.2	88.6	89.1	89.1	87.9	87.7	87.7	87.2	86.1	85.4	84.2	84.3	83.3	83.1	86.7
8	82.6	83.1	83.2	83.0	83.3	83.6	84.2	85.5	86.7	86.9	87.2	87.6	87.3	87.4	87.2	87.1	87.0	86.7	86.0	85.8	85.0	85.0	83.1	82.2	85.3
9	81.6	80.7	80.6	79.6	79.0	78.7	80.0	82.4	86.9	87.6	88.2	88.4	88.1	88.1	88.0	87.6	87.2	87.0	86.2	85.6	85.4	84.8	84.5	83.9	84.5
10	83.5	83.2	83.1	79.7	79.0	78.3	79.7	82.6	86.6	88.8	89.1	89.2	89.4	89.8	89.3	88.3	87.8	87.3	86.4	86.0	85.3	84.8	83.2	81.5	85.1
11	80.0	79.8	78.6	78.0	77.8	78.4	79.7	81.4	84.0	85.6	86.5	87.6	87.7	87.9	88.1	88.2	87.3	87.0	86.2	85.3	84.3	83.8	83.2	82.0	83.7
12	80.9	79.8	78.9	78.2	78.3	79.2	81.1	83.4	84.9	86.0	87.4	87.4	87.5	87.1	87.3	86.9	86.8	86.5	85.8	84.2	83.9	84.2	84.2	84.3	83.9
13	84.5	84.4	85.1	85.0	85.0	84.4	84.8	83.1	83.6	83.9	84.5	82.5	84.4	82.7	83.5	83.9	84.1	83.5	83.2	83.3	83.0	82.8	81.5	81.9	83.7
14	82.0	82.0	81.9	81.4	81.5	81.5	81.3	82.3	83.9	84.5	85.0	85.5	86.1	86.1	86.2	86.3	86.0	85.5	85.3	84.9	84.8	84.7	84.4	84.3	84.0
15	84.2	84.0	83.9	83.8	83.5	82.7	83.6	84.8	86.7	87.3	88.8	89.6	89.7	91.0	91.0	90.9	90.0	89.6	88.3	87.2	85.9	85.2	83.6	82.7	86.6
16	81.4	81.2	80.8	80.1	79.0	78.7	79.9	84.0	86.1	86.8	88.4	89.3	89.7	89.7	88.8	88.5	87.9	87.1	86.5	86.5	86.0	85.2	85.3	86.8	85.1
17	86.8	86.7	85.1	85.1	84.6	85.2	86.1	87.2	88.7	88.9	89.9	90.1	90.0	90.1	90.0	90.0	88.9	88.6	88.2	87.9	87.8	87.6	87.6	88.0	87.9
18	88.5	88.6	87.9	87.8	87.7	88.4	89.0	89.5	89.8	90.4	91.2	91.4	91.9	92.5	92.4	88.9	88.5	87.5	87.1	86.9	85.9	84.5	83.8	82.8	88.6
19	82.4	82.6	83.0	83.9	84.4	85.5	85.4	86.2	87.0	86.5	86.8	87.0	87.3	87.4	87.3	87.1	86.5	86.3	86.4	86.3	86.4	86.5	86.8	86.7	85.8
20	86.9	86.9	86.9	86.9	86.8	86.8	86.9	87.2	87.6	87.5	87.5	87.6	87.7	87.9	87.7	87.5	87.3	87.1	87.0	86.9	86.8	86.9	86.9	86.8	87.2
21	86.7	86.8	86.8	86.6	86.6	86.5	86.9	87.1	87.3	87.5	87.5	87.7	87.6	87.3	87.2	87.3	86.9	86.4	86.2	85.1	84.4	84.9	84.7	83.8	86.6
22	83.2	83.4	83.8	83.1	82.5	82.4	83.2	83.8	84.4	85.8	86.7	86.8	86.9	87.0	86.5	86.4	85.9	85.4	85.6	85.5	85.1	84.5	83.8	83.3	84.8
23	82.9	82.3	82.1	81.3	81.5	81.0	80.9	81.9	84.4	85.4	86.4	86.3	86.5	86.1	86.0	85.8	85.6	85.4	85.2	83.8	83.2	82.5	82.5	82.5	83.8
24	82.3	82.2	82.8	81.4	81.4	82.1	83.2	83.9	85.0	86.3	85.9	86.4	86.6	86.5	86.5	86.6	86.4	86.1	86.2	86.5	86.5	86.6	86.6	86.8	84.9
25	86.5	86.5	86.5	86.7	86.7	86.7	86.6	86.5	86.7	86.4	86.6	86.7	86.9	87.2	87.1	86.8	86.5	85.9	85.5	85.4	85.0	84.5	84.1	83.3	86.2
26	82.8	82.4	82.0	81.9	81.9	82.0	82.7	83.9	85.0	85.7	86.4	86.8	86.3	85.8	85.6	85.6	85.5	85.5	85.4	85.4	85.5	85.3	85.1	85.0	84.5
27	85.0	85.1	85.2	85.1	85.1	85.1	85.2	85.5	85.9	86.6	86.7	86.6	87.0	87.2	87.1	86.6	86.2	85.5	84.4	83.2	82.6	81.0	80.7	79.8	85.0
28	79.9	79.1	78.5	78.2	78.1	77.5	78.0	79.8	81.9	83.9	85.2	86.1	86.2	86.6	86.7	86.3	86.3	86.0	86.0	86.0	86.1	86.1	86.1	86.2	83.2
29	86.2	86.2	86.4	86.1	85.7	85.9	85.8	86.1	87.4	89.2	90.1	90.7	90.1	90.6	89.4	87.4	87.0	86.4	86.3	86.3	86.3	85.7	85.7	86.0	87.4
30	86.0	85.4	85.2	85.1	84.9	84.9	84.9	85.3	85.4	86.1	86.3	86.0	86.0	85.9	85.7	85.5	85.2	84.2	84.4	84.0	83.2	83.2	83.4	83.7	85.0
Mean	84.2	84.1	83.9	83.6	83.5	83.6	84.2	85.1	86.4	87.2	87.7	87.9	88.1	88.2	88.1	87.8	87.3	86.9	86.4	85.9	85.5	85.2	84.7	84.4	85.8

93. ABERDEEN: North Wall Screen on Tower:  $h_t$  = 12.5 metres.

OCTOBER, 1933.

Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	83.4	83.1	82.9	82.5	81.5	80.8	80.5	82.9	83.6	84.7	85.8	86.0	86.1	86.5	86.8	86.3	85.6	84.2	82.9	83.5	84.4	84.8	84.6	84.1	84.1
2	83.9	83.7	83.3	82.9	82.4	81.9	81.9	82.3	82.6	83.3	83.2	83.9	83.7	83.9	83.9	83.2	82.4	82.1	80.9	80.6	80.9	80.9	80.9	81.1	82.6
3	80.5	78.6	77.7	78.3	77.9	78.4	78.5	79.8	80.5	81.8	82.2	83.9	85.2	86.3	87.0	86.9	86.3	85.9	85.2	84.4	84.3	84.8	84.8	84.9	82.6
4	85.0	84.0	84.5	85.0	86.1	86.6	86.8	87.2	87.7	88.0	88.4	89.3	90.7	90.4	90.8	89.9	87.8	86.5	85.6	86.2	85.4	84.3	85.3	85.2	86.9
5	84.9	85.0	85.0	85.4	84.6	84.4	85.1	85.4	86.2	86.9	87.2	87.4	88.0	88.1	87.9	87.0	86.8	86.5	86.2	86.3	86.0	86.1	86.0	85.5	86.2
6	85.1	85.0	85.0	84.8	84.9	84.9	85.2	85.5	86.6	87.2	86.8	87.9	88.0	88.0	88.0	87.8	87.1	86.8	86.5	86.3	86.0	85.8	85.5	85.4	86.3
7	85.2	85.0	84.8	84.5	84.3	84.0	83.8	84.2	84.9	85.7	86.0	85.4	85.1	84.5	84.4	84.9	84.9	85.0	84.3	84.5	84.6	84.9	85.2	85.0	84.8
8	85.0	85.0	84.9	84.8	84.8	84.9	84.8	84.5	84.2	84.0	84.2	84.8	85.5	86.3	85.8	84.9	84.9	84.5	84.0	83.7	82.9	81.8	82.5	82.8	84.4
9	83.1	82.9	83.4	83.1	84.0	84.0	84.0	84.5	85.8	86.3	86.8	87.2	87.1	87.1	87.3	87.1	87.0	86.9	86.7	85.9	84.7	83.5	83.0	82.2	85.2
10	82.2	82.1	82.0	81.7	81.5	81.4	81.3	81.8	83.0	84.3	84.3	85.2	85.7	85.8	85.8	85.7	85.1	84.4	84.1	84.0	83.9	83.8	83.9	83.8	83.6
11	83.4	83.4	83.3	83.0	81.2	80.5	79.9	80.9	82.8	84.4	84.8	84.3	84.3	84.0	83.7	82.9	82.0	81.6	81.0	80.8	80.1	80.0	80.1	80.0	82.3
12	79.9	79.5	79.0	79.8	79.9	79.7	79.4	79.8	81.2	82.0	81.8	82.4	81.9	82.7	83.0	82.8	82.0	80.0	78.8	77.7	78.9	78.4	78.0	78.8	80.3
13	78.4	78.9	79.8	79.1	79.9	80.9	81.3	81.9	82.5	84.7	85.0	85.1	85.1	85.2	85.3	85.5	85.6	85.2	85.2	85.3	85.4	85.5	85.2	84.8	83.2
14	84.9	84.8	84.5	84.2	83.4	82.3	81.4	82.4	84.2	84.6	86.5	86.6	87.2	87.0	86.9	86.1	85.8	84.9	83.7	83.8	83.7	83.0	82.4	81.9	84.5
15	82.0	81.7	81.8	82.3	81.9	82.0	82.1	82.1	82.9	83.8	84.2	84.8	84.7	84.9	85.0	84.9	84.3	83.7	83.5	82.9	81.5	80.8	80.0	79.6	82.9
16	79.4	79.1	80.2	80.4	79.8	79.8	80.0	80.9	81.3	81.9	82.5	83.3	82.7	82.4	81.9	81.5	80.5	79.9	79.4	79.4	79.8	79.9	79.8	79.5	80.6
17	79.4	79.0	79.2	78.9	78.9	78.6	78.4	78.7	79.5	79.8	80.8	81.2	81.0	81.8	81.1	81.0	80.7	80.3	80.1	81.1	81.1	81.1	81.0	80.9	80.1
18	80.7	80.2	80.4	80.4	80.6	81.4	81.5	81.5	83.6	84.6	85.9	85.9	85.9	85.8	85.4	85.4	85.1	85.0	84.9	85.0	84.9	84.8	84.8	84.7	83.8
19	84.6	84.4	84.5	84.7	84.8	84.9	84.9	85.0	85.2	85.5	85.5	85.6	85.7	85.8	85.5	85.5	85.4	84.9	85.2	85.1	85.0	84.9	84.9	84.9	85.1
20	84.9	84.9	84.9	84.7	84.6	84.6	84.6	84.8	85.0	85.0	85.4	85.8	85.6	85.5	85.1	85.0	84.9	84.8	84.5	84.4	84.0	84.4	84.4	84.4	84.9
21	84.4	84.5	84.8	84.8	84.9	84.4	84.5	84.7	84.6	84.3	84.8	84.6	84.9	85.0	85.1	85.1	85.1	85.0	84.8	84.4	84.6	84.8	84.7	84.9	84.7
22	84.9	84.9	84.8	84.7	83.8	83.7	83.8	84.0	84.5	84.8	85.9	85.6	85.9	85.9	85.7	85.2	84.9	84.3	83.1	82.1	81.8	81.4	81.7	81.9	84.2
23	82.4	82.8	83.5	83.9	84.5	84.8	85.0	85.0	84.9	84.8	84.9	85.4	85.1	85.1	85.0	85.0	85.0	85.0	84.9	84.7	84.4	84.4	84.4	84.5	84.5
24	84.5	84.6	84.5	84.7	84.3	84.3	84.3	84.4	84.4	84.5	84.3	84.0	84.0	83.0	83.2	82.5	82.4	82.2	82.0	81.5	81.0	80.4	79.9	80.0	83.2
25	79.4	79.2	79.3	79.4	78.9	78.7	78.3	78.5	79.0	78.1	79.0	80.0	79.0	77.4	77.1	77.2	77.4	77.0	76.6	77.0	77.3	76.4	76.9	77.8	78.2
26	76.9	77.5	78.0	78.0	78.0	78.0	77.1	77.8	78.3	78.5	77.8	78.4	77.9	78.0	77.9	78.0	77.4	77.3	77.2	77.3	77.2	77.4	77.3	77.9	77.7
27	78.9	78.0	77.3	76.0	74.3	76.2	75.7	75.1	75.2	74.8	74.8	77.3	77.8	78.0	75.4	76.3	75.2	75.2	75.3	76.0	76.0	77.8	78.2	78.6	76.4
28	78.5	78.9	79.4	81.8	81.1	80.4	82.4	82.5	82.9	81.1	79.6	81.9	82.3	82.8	82.8	81.8	81.5	81.2	80.8	80.8	80.6	80.1	79.9	79.3	81.0
29	80.0	77.9	79.3	77.9	79.0	77.8	79.4	78.9	80.7	81.9	82.9	83.0	82.6	81.9	82.2	81.5	81.1	81.1	80.3	79.8	78.7	77.5	77.2	78.0	80.1
30	77.6	78.6	79.2	78.9	79.9	79.0	78.7	78.8	79.5	79.9	80.0	79.6	79.8	80.0	79.9	79.7	78.9	79.0	78.9	77.9	78.0	78.1	78.4	78.0	79.0
31	78.2	78.1	79.9	80.2	79.0	78.9	78.1	78.0	78.2	79.1	79.3	79.9	80.0	79.9	78.7	78.4	78.3	78.0	77.9	77.0	77.5	77.6	77.3	77.3	78.5
Mean	82.0	81.8	82.0	82.0	81.8	81.7	81.7	82.1	82.8	83.2	83.6	84.1	84.1	84.2	84.0	83.7	83.3	82.9	82.4	82.2	82.1	81.9	81.9	81.9	82.6
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean



TEMPERATURE  
Readings in degrees absolute at exact hours, Greenwich Mean Time.

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94. ABERDEEN: North Wall Screen on Tower:  $h_t$  (height of thermometer bulb above the ground) = 12.5 metres.

NOVEMBER, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	77.3	77.1	76.9	77.0	76.9	77.3	77.5	77.2	78.4	79.0	79.7	80.8	80.7	80.4	79.4	78.9	78.9	79.0	78.9	78.1	79.9	80.0	80.1	80.7	78.7
2	81.3	80.7	79.2	79.0	78.9	78.1	78.0	77.8	78.0	77.6	77.8	77.9	78.9	79.1	79.0	78.2	79.0	78.9	78.8	78.5	77.9	77.4	77.8	77.2	78.6
3	78.1	78.9	78.6	79.1	79.3	79.4	79.3	79.7	79.8	80.8	80.4	80.8	80.7	81.4	81.4	80.5	80.0	79.9	79.8	80.1	78.9	79.4	79.9	79.5	79.8
4	79.1	79.0	78.8	78.5	78.1	77.8	77.4	77.5	77.7	77.9	78.5	79.3	79.8	80.2	80.0	79.7	79.0	78.2	78.6	78.6	78.8	78.9	79.2	79.1	78.7
5	79.3	79.8	78.8	79.8	81.1	80.8	80.3	79.4	80.2	81.8	82.1	82.4	82.8	82.8	82.7	82.4	82.5	82.3	82.3	82.1	81.8	82.4	82.0	81.5	81.3
6	83.2	83.2	83.4	84.8	85.3	85.7	86.3	86.4	86.8	87.2	87.4	87.2	87.4	87.2	87.0	86.9	86.5	85.9	85.4	84.9	84.4	84.2	84.0	84.2	85.6
7	84.0	83.9	83.0	82.8	83.0	83.0	82.8	83.0	83.0	82.2	82.1	82.2	82.4	83.9	84.0	84.0	83.9	83.7	83.9	83.5	83.5	83.8	83.9	83.4	83.3
8	83.2	83.2	83.2	83.2	83.1	83.0	83.0	83.4	83.8	83.4	84.0	85.0	84.4	84.7	84.6	84.2	83.5	82.7	82.4	81.7	81.1	80.9	80.5	80.6	83.1
9	80.9	81.4	81.5	81.2	81.0	81.1	80.0	80.1	80.7	81.2	81.9	82.4	81.4	81.4	81.3	81.1	81.0	81.0	80.9	80.7	80.2	79.6	78.7	78.2	80.8
10	77.8	77.8	78.0	77.4	77.0	76.9	77.0	76.8	77.0	78.7	79.4	80.1	80.4	80.7	80.0	79.8	78.7	78.0	77.9	77.4	77.0	77.0	76.7	77.1	78.1
11	77.0	76.7	76.7	76.6	77.1	77.2	76.8	75.9	76.4	77.5	78.7	79.2	80.3	80.2	79.6	78.5	77.8	77.0	76.9	76.6	76.1	75.4	74.3	73.8	77.3
12	73.4	73.1	72.6	72.2	72.0	71.8	72.0	71.9	72.2	73.2	74.8	76.6	79.0	79.4	79.6	77.2	76.4	76.4	74.6	73.5	73.8	74.5	74.6	75.9	74.5
13	76.4	75.9	75.4	74.8	74.1	73.3	74.8	74.8	76.2	77.2	79.1	79.0	79.8	80.1	80.1	79.9	79.5	79.6	79.0	78.9	78.6	78.2	78.9	79.2	77.5
14	78.8	77.3	77.0	76.7	75.8	75.5	76.3	75.2	76.0	77.2	79.0	79.9	80.4	80.1	80.1	79.5	78.8	80.0	80.2	80.1	80.6	80.8	81.3	81.4	78.7
15	81.4	81.3	81.3	81.6	81.7	81.8	81.8	81.8	81.9	81.9	81.9	82.0	82.1	82.0	81.9	81.5	81.6	81.3	81.0	81.1	80.7	80.2	80.7	80.3	81.5
16	80.8	79.9	80.6	79.8	80.5	80.0	80.5	80.2	79.2	80.2	80.3	80.3	80.1	78.2	79.0	79.5	78.4	77.4	77.6	77.0	76.9	76.9	76.8	76.9	79.1
17	76.8	76.6	76.6	76.5	76.2	75.9	76.0	75.9	76.5	76.1	76.9	77.9	79.5	78.7	78.9	79.0	79.2	79.6	79.4	78.5	78.0	78.4	78.4	79.5	77.7
18	78.2	78.8	79.4	78.9	78.6	79.2	79.2	78.4	78.8	78.9	79.5	79.8	79.7	78.9	78.8	78.6	79.1	79.2	79.7	80.0	80.5	80.8	81.1	81.5	79.4
19	81.9	82.1	82.1	82.3	82.5	82.5	82.3	82.4	82.5	82.8	82.9	82.9	82.8	82.8	82.8	82.9	82.7	82.7	82.6	82.5	82.5	82.2	82.4	82.2	82.5
20	82.4	82.5	82.7	82.8	83.0	83.2	83.3	83.3	83.1	83.1	83.1	83.0	83.1	83.1	83.0	83.0	83.0	83.0	82.9	83.0	82.9	82.8	82.8	82.6	82.9
21	82.5	82.5	82.4	82.4	82.4	82.4	82.2	82.0	82.0	82.0	82.0	82.0	81.9	81.9	81.4	81.2	81.2	81.2	81.0	80.9	80.9	81.0	81.0	80.6	81.7
22	80.5	80.4	80.2	80.0	80.0	80.0	79.6	79.4	78.9	78.0	79.1	80.0	80.4	80.5	80.1	79.2	77.5	77.0	76.0	75.7	75.0	74.7	74.6	74.9	78.5
23	74.3	74.8	74.0	74.8	74.9	75.2	76.3	75.9	76.7	78.1	79.8	80.2	80.9	80.6	80.6	80.2	79.7	79.3	79.0	78.4	79.9	79.5	80.0	79.3	77.9
24	78.9	79.3	79.4	79.8	79.8	79.4	79.4	79.3	78.8	78.9	79.6	79.9	80.0	80.1	79.9	79.9	79.7	79.6	79.5	79.6	79.4	79.4	79.5	79.5	79.5
25	79.4	79.3	79.2	78.9	78.6	78.0	78.1	77.7	77.7	77.9	78.4	78.7	79.1	79.0	79.3	78.2	77.0	75.6	75.9	76.0	76.2	75.4	75.8	75.9	77.8
26	75.9	76.0	75.9	75.8	76.0	76.0	76.1	76.1	76.0	76.3	76.2	77.2	77.9	77.9	76.6	76.6	76.3	75.4	76.8	78.5	78.0	78.4	78.8	78.9	76.8
27	78.0	78.9	78.8	78.9	79.1	78.3	78.6	78.6	78.9	78.2	79.2	78.7	79.5	79.4	79.5	79.4	79.4	79.4	79.7	79.7	79.3	80.0	79.9	80.0	79.2
28	79.6	80.2	80.5	80.8	80.5	80.5	80.8	80.6	80.2	80.7	80.1	81.2	81.3	80.5	81.0	81.0	80.2	80.2	80.8	80.2	80.3	79.9	79.8	80.3	80.5
29	80.1	79.9	80.0	79.9	80.0	79.5	79.0	78.7	78.7	78.7	79.8	79.9	79.3	80.0	79.7	79.9	79.9	79.4	79.0	79.0	78.6	78.7	78.5	80.1	79.4
30	80.2	80.2	80.2	79.6	79.3	78.9	78.4	78.4	78.4	80.0	80.1	80.3	80.3	80.4	79.8	79.7	78.5	78.5	78.2	78.5	79.8	79.8	79.4	79.0	79.4
Mean	79.4	79.4	79.2	79.2	79.2	79.1	79.1	78.9	79.1	79.6	80.1	80.6	80.9	80.9	80.7	80.4	80.0	79.7	79.6	79.4	79.4	79.4	79.4	79.4	79.7

95. ABERDEEN: North Wall Screen on Tower:  $h_t$  = 12.5 metres.

DECEMBER, 1933.

Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	79.1	78.7	79.4	79.5	79.9	79.9	80.1	79.9	79.9	80.0	80.0	79.7	79.9	80.0	80.0	79.0	79.6	79.6	79.2	79.7	80.1	80.1	80.6	80.7	79.7
2	80.1	80.2	79.9	80.1	79.8	80.4	80.7	80.6	80.7	80.3	81.1	80.6	80.3	80.4	79.4	79.6	79.9	80.2	80.6	80.3	80.1	79.9	79.8	80.0	80.2
3	79.5	79.7	79.1	79.7	79.8	79.6	79.7	79.8	79.4	79.8	79.7	79.7	79.4	79.3	79.2	79.2	79.3	79.2	79.0	79.0	79.1	79.1	78.9	78.5	79.4
4	78.2	77.9	77.8	77.8	77.9	77.9	77.8	77.9	77.5	77.9	78.1	78.2	78.3	78.0	78.1	77.9	77.8	77.9	77.9	78.0	78.0	77.8	77.7	77.4	77.9
5	77.7	76.5	76.0	77.8	78.0	78.2	76.4	76.3	76.5	76.7	77.0	77.2	77.3	77.4	77.6	77.7	77.8	77.8	77.9	77.8	78.0	78.2	78.4	78.4	77.4
6	78.0	78.0	78.0	78.4	78.5	78.5	78.4	78.9	79.1	79.4	79.8	79.9	79.5	79.2	79.0	78.9	78.8	78.7	78.8	78.4	78.7	79.4	80.0	79.3	78.9
7	78.8	78.5	77.8	77.9	78.0	80.0	80.4	80.4	80.1	80.4	80.0	80.5	79.9	79.5	79.5	79.1	79.0	79.0	78.4	77.9	77.5	77.0	78.3	78.1	79.0
8	78.0	77.9	77.7	77.7	77.3	77.9	75.5	74.4	74.1	73.8	74.9	75.3	75.9	76.0	75.9	75.5	75.5	75.5	75.3	75.2	75.1	75.0	75.0	75.2	75.9
9	75.0	75.0	75.3	75.3	75.3	75.5	75.2	74.9	74.9	75.4	76.1	76.5	76.6	76.7	76.5	76.1	76.0	75.8	75.9	75.8	76.0	75.8	75.7	74.2	75.7
10	73.5	73.0	72.7	72.6	72.4	72.1	72.1	71.8	72.4	73.0	73.9	75.1	76.0	75.7	75.7	75.5	75.4	74.9	75.3	75.3	75.4	76.0	76.6	76.8	76.7
11	76.9	76.9	77.3	76.8	76.8	76.8	76.9	76.9	76.8	76.7	76.9	78.0	78.0	78.2	77.6	77.1	76.9	76.4	76.4	76.5	76.0	75.0	75.6	75.0	76.8
12	74.3	74.2	75.2	75.1	75.0	74.8	75.6	77.0	77.6	77.7	78.5	78.9	78.5	78.0	78.5	77.8	77.4	76.8	78.5	79.0	78.5	78.6	78.9	78.7	77.1
13	78.4	78.4	78.4	78.0	78.0	77.5	77.0	78.0	77.0	77.7	76.4	76.5	78.0	77.5	77.9	76.9	75.7	75.3	75.0	74.3	74.2	73.9	74.4	74.4	76.7
14	74.4	74.4	74.3	75.0	75.1	75.8	75.6	75.4	75.2	76.2	77.0	77.4	77.3	77.6	77.5	76.8	76.7	77.4	77.4	77.7	77.6	77.7	77.7	77.9	76.4
15	78.2	78.0	77.9	77.8	77.7	77.6	77.9	78.0	77.0	76.9	77.3	78.2	78.7	78.8	78.1	77.0	75.7	77.6	76.7	75.4	77.6	75.8	76.1	76.2	77.4
16	75.7	76.7	76.9	77.5	76.9	76.0	76.7	76.5	76.0	77.0	77.6	78.0	78.6	78.3	77.5	77.0	75.7	75.2	74.4	73.8	74.1	74.9	74.0	74.0	76.3
17	73.7	74.2	75.6	76.8	76.3	77.0	77.2	76.7	76.6	77.1	77.7	78.5	79.7	80.7	80.0	80.3	80.3	80.0	79.7	79.3	79.4	79.1	78.1	77.6	77.9
18	76.9	76.9	76.2	75.6	75.0	74.8	74.4	74.6	74.5	75.7	77.3	78.5	79.0	78.9	79.1	78.8	77.5	76.2	76.6	78.8	77.9	77.1	77.4	76.0	76.9
19	75.5	75.9	76.2	76.0	76.6	76.2	76.0	75.8	75.0	75.3	76.6	77.6	78.0	77.9	76.7	75.8	75.1	75.5	74.9	75.1	75.8	76.0	76.6	76.5	76.1
20	76.5	76.9	77.1	77.0	76.9	75.0	75.3	74.1	74.3	75.0	76.6	77.5	78.1	78.6	77.7	76.4	76.2	75.4	75.6	74.4	73.9	73.8	73.8	73.8	75.9
21	73.9	74.0	75.2	74.7	74.0	74.2	75.0	74.8	74.9	75.3	76.3	77.4	78.0	78.2	78.0	77.7	77.9	77.5	78.0	78.0	77.9	78.4	78.9	79.5	76.5
22	80.0	80.1	80.0	80.2	80.3	80.4	80.1	80.0	81.0	80.9	80.9	81.7	82.1	81.7	81.5	82.2	82.0	81.0	81.7	81.7	81.5	81.5	81.9	80.7	81.1
23	80.1	79.8	79.2	79.8	79.7	78.2	77.1	79.8	78.9	78.1	78.5	79.4	81.8	81.3	82.0	81.9	81.1	80.7	79.3	78.7	77.6	77.4	77.1	76.0	79.4
24	75.7	75.2	74.8	75.2	74.8	74.2	73.4	73.4	72.7	72.6	73.0	73.9	74.9	75.7	75.5	76.2	75.6	76.8	77.0	79.4	79.1	78.5	78.6	78.4	75.6
25	78.4	77.7	77.1	76.4	78.0	78.2	78.5	78.2	78.3	78.2	78.7	79.0	79.4	79.8	79.8	80.0	79.9	79.9	80.0	80.1	80.0	79.7	79.5	79.8	78.9
26	79.5	79.8	79.9	79.8	79.5	79.4	79.3	79.2	79.3	79.4	79.4	79.7	79.7	79.9	78.7	78.0	77.3	76.6	76.0	76.4	76.9	76.9	76.0	76.0	78.5
27	76.0	75.9	77.2	77.1	77.9	78.2	78.6	78.7	78.8	78.8	78.3	77.3	77.4	77.7	77.7	77.5	77.0	77.1	77.2	78.2	78.3	78.4	78.5	78.6	77.7
28	78.5	78.1	77.7	77.9	77.9	77.4	78.0	77.7	78.0	78.0	78.4	78.2	78.0	77.6	77.1	78.0	77.8	77.6	77.0	77.8	77.9	78.2	77.8	78.4	77.9
29	78.2	78.0	78.0	78.2	78.7	78.0	77.1	77.5	77.9	78.2	77.8	77.7	77.3	77.3	77.1	77.0	76.4	76.6	76.3	76.4	76.0	75.9	76.0	76.0	77.3
30	77.1	78.2	78.0	77.9	77.5	77.7	77.4	77.0	76.5	76.0	76.2	76.8	77.1	76.7	76.4	75.5	75.0	74.9	75.3	75.9	76.1	76.0	75.4	75.1	76.5
31	75.5	75.4	76.1	75.1	75.0	75.4	74.1	74.0	73.8	73.9	75.3	76.9	77.7	77.2	77.0	76.4	76.3	76.5	76.6	77.0	77.3	77.1	77.4	77.6	76.0
Mean	77.1	77.1	77.2	77.2	77.2	77.2	77.0	77.0	76.9	77.1	77.6	78.1	78.4	78.4	77.8	77.5	77.4	77.4	77.4	77.5	77.5	77.4	77.4	77.2	77.5
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean



**TEMPERATURE: ANNUAL MEANS OF HOURLY VALUES.**  
From Readings in degrees absolute at exact hours, Greenwich Mean Time.

96. ABERDEEN: North Wall Screen on Tower H<sub>t</sub> 12.5 metres.

1933.

Hour 1	G.M.T. 2	3	4	5	6	7	8	9	10	11	Noon.	13	14	15	16	17	18	19	20	21	22	23	24	Mean.
°A 80.91	°A 80.73	°A 80.62	°A 80.54	°A 80.57	°A 80.81	°A 81.19	°A 81.70	°A 82.30	°A 82.77	°A 83.22	°A 83.57	°A 83.78	°A 83.86	°A 83.73	°A 83.47	°A 83.14	°A 82.83	°A 82.40	°A 82.08	°A 81.76	°A 81.48	°A 81.25	°A 81.07	°A 82.07

**TEMPERATURE: MONTHLY MEANS AND DIURNAL INEQUALITIES.**  
The departures from the mean of the day are adjusted for non-cyclic change†.

97. ABERDEEN: North Wall Screen on Tower H<sub>t</sub> 12.5 metres.

1933.

Month.	Mean.	Hour 1	G.M.T. 2	3	4	5	6	7	8	9	10	11	Noon.	13	14	15	16	17	18	19	20	21	22	23	24
Jan.	275.71	°A -0.29	°A -0.45	°A -0.57	°A -0.67	°A -0.81	°A -0.90	°A -0.88	°A -0.86	°A -0.68	°A -0.42	°A +0.27	°A +0.83	°A +1.13	°A +1.23	°A +1.23	°A +0.87	°A +0.51	°A +0.49	°A +0.29	°A +0.19	°A +0.04	°A -0.13	°A -0.21	°A -0.26
Feb.	276.47	°A -0.61	°A -0.75	°A -0.76	°A -0.72	°A -0.74	°A -0.68	°A -0.64	°A -0.45	°A -0.13	°A +0.21	°A +0.74	°A +1.12	°A +1.39	°A +1.39	°A +1.23	°A +0.79	°A +0.49	°A +0.10	°A 0.00	°A -0.05	°A -0.22	°A -0.45	°A -0.52	°A -0.63
Mar.	279.48	°A -1.23	°A -1.46	°A -1.59	°A -1.70	°A -1.88	°A -1.98	°A -1.92	°A -1.19	°A -0.10	°A +0.68	°A +1.57	°A +1.85	°A +2.26	°A +2.32	°A +2.23	°A +2.00	°A +1.51	°A +0.82	°A +0.40	°A +0.14	°A -0.16	°A -0.57	°A -1.00	°A -1.17
Apr.	280.79	°A -1.30	°A -1.48	°A -1.56	°A -1.65	°A -1.82	°A -1.58	°A -0.98	°A -0.03	°A +0.78	°A +1.14	°A +1.49	°A +1.70	°A +1.75	°A +1.88	°A +1.77	°A +1.40	°A +1.17	°A +0.74	°A +0.13	°A -0.23	°A -0.42	°A -0.76	°A -1.01	°A -1.24
May	282.21	°A -1.55	°A -1.78	°A -1.88	°A -1.91	°A -1.69	°A -1.17	°A -0.56	°A +0.16	°A +0.70	°A +1.03	°A +1.37	°A +1.53	°A +1.68	°A +1.63	°A +1.55	°A +1.42	°A +1.13	°A +0.98	°A +0.50	°A +0.10	°A -0.37	°A -0.69	°A -0.97	°A -1.29
June	286.46	°A -2.05	°A -2.34	°A -2.59	°A -2.68	°A -2.09	°A -1.17	°A -0.20	°A +0.32	°A +0.73	°A +1.13	°A +1.37	°A +1.69	°A +1.75	°A +1.94	°A +1.67	°A +1.62	°A +1.84	°A +1.45	°A +0.99	°A +0.45	°A -0.27	°A -0.78	°A -1.23	°A -1.65
July	289.35	°A -2.08	°A -2.32	°A -2.57	°A -2.71	°A -2.36	°A -1.63	°A -0.69	°A +0.12	°A +0.92	°A +1.49	°A +1.90	°A +2.03	°A +2.35	°A +2.58	°A +2.43	°A +2.18	°A +1.87	°A +1.53	°A +0.41	°A -0.18	°A -0.75	°A -1.14	°A -1.46	°A -1.67
Aug.	288.45	°A -1.92	°A -2.14	°A -2.52	°A -2.71	°A -2.64	°A -1.97	°A -1.14	°A -0.15	°A +0.86	°A +1.39	°A +1.66	°A +2.11	°A +2.20	°A +2.36	°A +2.35	°A +2.24	°A +1.95	°A +1.56	°A +0.90	°A +0.10	°A -0.57	°A -0.91	°A -1.43	°A -1.65
Sept.	285.83	°A -1.62	°A -1.76	°A -1.91	°A -2.24	°A -2.34	°A -2.26	°A -1.66	°A -0.73	°A +0.51	°A +1.32	°A +1.89	°A +2.04	°A +2.24	°A +2.33	°A +2.24	°A +2.01	°A +1.56	°A +1.04	°A +0.57	°A +0.12	°A -0.29	°A -0.63	°A -1.07	°A -1.36
Oct.	282.63	°A -0.73	°A -0.93	°A -0.73	°A -0.74	°A -0.93	°A -1.00	°A -0.97	°A -0.60	°A +0.10	°A +0.59	°A +0.93	°A +1.42	°A +1.53	°A +1.55	°A +1.39	°A +1.11	°A +0.68	°A +0.27	°A -0.17	°A -0.31	°A -0.47	°A -0.83	°A -0.86	°A -0.67
Nov.	279.66	°A -0.28	°A -0.28	°A -0.43	°A -0.44	°A -0.46	°A -0.59	°A -0.55	°A -0.71	°A -0.52	°A -0.07	°A +0.45	°A +0.93	°A +1.21	°A +1.23	°A +1.03	°A +0.68	°A +0.29	°A +0.04	°A -0.04	°A -0.24	°A -0.30	°A -0.33	°A -0.30	°A -0.25
Dec.	277.46	°A -0.33	°A -0.37	°A -0.30	°A -0.21	°A -0.22	°A -0.27	°A -0.44	°A -0.42	°A -0.53	°A -0.31	°A +0.14	°A +0.61	°A +0.95	°A +0.93	°A +0.70	°A +0.39	°A +0.05	°A -0.02	°A -0.09	°A +0.02	°A -0.05	°A -0.05	°A +0.02	°A -0.18
Year	282.07	°A -1.17	°A -1.34	°A -1.45	°A -1.53	°A -1.50	°A -1.27	°A -0.89	°A -0.38	°A +0.22	°A +0.70	°A +1.15	°A +1.49	°A +1.70	°A +1.78	°A +1.65	°A +1.39	°A +1.07	°A +0.75	°A +0.32	°A +0.01	°A -0.31	°A -0.59	°A -0.82	°A -1.00

**ABSOLUTE EXTREMES OF TEMPERATURE FOR EACH DAY**  
Maximum and Minimum for the interval Oh. to 24h., Greenwich Mean Time.

98. ABERDEEN: North Wall Screen on Tower: H<sub>t</sub> 12.5 metres.

1933.

Month.	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
Day.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	°A 80.7	°A 77.8	°A 81.8	°A 74.7	°A 78.8	°A 77.5	°A 81.6	°A 77.2	°A 80.5	°A 75.7	°A 87.2	°A 82.7	°A 95.9	°A 87.3	°A 93.1	°A 85.5	°A 89.5	°A 81.7	°A 86.9	°A 80.3	°A 80.9	°A 76.8	°A 80.8	°A 78.6
2	82.6	79.2	79.3	73.9	78.3	77.3	85.6	77.4	81.0	73.3	90.1	83.4	98.3	86.2	97.0	86.0	92.4	81.7	84.1	80.4	81.4	77.1	81.2	79.3
3	83.0	78.5	79.1	73.6	78.3	76.9	87.2	79.4	80.9	78.4	91.6	82.5	99.0	85.1	90.1	82.0	92.1	86.6	87.1	77.4	81.8	77.0	80.2	78.5
4	79.5	76.3	78.3	75.1	79.1	77.2	82.4	78.4	81.5	79.1	94.7	84.2	97.1	87.8	96.0	89.4	92.0	85.8	90.9	83.7	80.3	77.3	78.5	77.2
5	80.3	75.6	84.0	78.1	80.4	78.5	86.1	78.9	82.4	80.3	95.0	86.0	95.3	87.7	94.6	88.2	89.3	85.9	88.3	84.2	82.9	78.4	78.5	75.9
6	78.5	75.0	81.1	76.9	81.5	78.2	83.6	78.0	85.3	80.5	94.0	85.8	89.5	87.0	96.1	85.4	90.8	86.8	88.1	84.7	87.6	81.4	80.1	77.9
7	82.0	75.3	80.2	77.8	82.7	77.6	86.9	78.0	84.3	80.3	92.2	85.1	91.3	87.4	89.6	82.7	89.6	83.1	86.4	83.6	84.3	82.0	80.6	77.0
8	85.9	77.7	85.9	75.5	80.4	75.0	86.5	81.3	83.1	80.2	89.7	84.7	94.5	87.9	92.1	85.3	87.6	82.2	86.6	81.8	85.2	80.3	78.2	73.5
9	80.4	75.9	84.0	75.5	84.1	78.8	89.2	81.6	86.9	80.5	87.7	82.2	92.8	87.2	90.5	84.6	88.5	78.4	87.5	82.1	82.4	77.9	76.9	74.2
10	80.4	73.2	76.2	73.6	83.4	78.3	88.0	82.1	85.4	80.5	86.8	80.2	93.9	86.8	91.3	82.6	89.9	78.0	86.1	81.0	81.0	76.1	76.9	71.6
11	80.1	72.2	79.2	72.8	82.2	77.9	89.1	80.5	83.1	79.5	86.5	79.5	92.5	87.0	88.6	81.9	88.2	77.6	84.9	78.9	80.4	73.0	78.4	74.7
12	75.4	71.2	83.7	75.6	81.3	73.3	84.1	77.2	84.7	79.9	87.0	77.9	91.7	85.1	90.2	79.6	87.9	78.1	83.2	77.4	79.9	71.6	79.3	74.2
13	77.8	73.2	79.9	75.4	84.0	74.0	81.5	74.9	85.6	80.0	89.0	82.8	90.1	86.2	94.3	85.6	85.2	81.4	85.8	78.0	80.3	73.2	78.8	73.9
14	80.5	76.2	77.8	75.0	84.3	77.8	81.5	72.3	84.9	78.5	91.0	83.0	89.7	86.3	93.9	87.9	86.8	81.2	87.6	80.8	81.4	74.9	77.9	74.1
15	79.8	73.5	77.1	74.1	85.2	78.4	87.5	79.1	84.5	77.5	94.7	83.8	89.1	86.0	91.1	87.0	91.1	82.2	85.1	79.4	82.2	79.8	78.9	75.3
16	75.2	72.8	82.1	74.6	82.6	76.0	80.0	77.3	83.0	75.4	88.4	84.2	90.7	85.1	91.7	83.6	90.2	78.2	84.0	78.9	80.9	76.7	78.7	73.6
17	77.4	73.4	75.9	71.4	80.0	73.1	79.6	75.6	84.1	80.5	89.1	80.3	91.8	84.2	93.1	84.4	90.6	84.6	81.9	78.2	79.7	75.8	80.8	73.6
18	76.6	71.0	75.8	71.2	79.1	74.0	78.7	73.7	83.8	80.6	86.6	80.2	92.1	84.9	91.8	85.8	92.6	82.8	86.1	80.0	81.5	77.5	79.2	73.8
19	75.0	68.7	75.2	71.3	78.7	73.5	79.0	73.9	91.9	81.7	87.5	83.9	93.5	87.1	92.1	84.3	87.6	82.1	85.9	84.3	83.0	81.4	78.1	74.2
20	78.1	69.7	78.0	72.6	78.9	73.5	79.3	74.9	86.2	82.6	87.0	83.3	94.0	86.5	91.2	83.2	88.0	86.7	85.9	83.9	83.4	82.2	78.6	72.9
21	76.9	73.7	74.6	72.0	79.6	71.6	80.8	75.8	90.3	82.5	87.9	84.7	93.9	85.8	88.8	82.1	88.0	83.8	85.3	84.0	82.6	80.6	79.5	73.1
22	76.0	72.6	75.2	71.4	84.8	77.3	81.8	76.1	89.0	82.4	88.9	85.2	92.9	85.3	87.6	81.9	87.2	82.0	86.1	81.1	80.6	74.4	82.3	79.1
23	74.4	69.5	73.7	70.4	81.2	78.4	82.3	74.2	87.2	80.8	88.3	83.9	93.6	86.5	88.7	83.0	87.0	80.5	85.5	82.1	80.9	73.9	82.2	76.0
24	75.8	72.2	74.8	71.4	80.3	77.9	81.2	77.0	85.2	82.8	91.2	85.0	96.4	86.8	89.3	82.4	86.8	81.3	84.7	79.8	80.2	78.6	79.5	71.8
25	73.7	70.6	76.3	74.0	81.2	76.0	82.0	79.9	86.2	79.4	90.6	85.0	90.3	85.8	93.7	85.3	87.3	83.3	80.3	75.9	79.4	75.2	80.1	75.9
26	75.6	69.5	78.0	75.6	86.7	75.7	86.1	80.1	87.2	77.8	88.4	81.7	94.4	87.3	95.1	85.3	86.9	81.8	78.8	76.7	78.9	75.3	80.0	75.8
27	75.4	67.6	78.5	75.9	88.3	76.5	87.6	81.1	85.3	80.9	91.1	81.6	93.2	85.0	92.7	86.6	87.4	79.8	79.2	73.9	80.6	77.9	78.9	75.5
28	74.9	67.3	78.6	78.0	90.7	79.9	86.4	79.3	84.3	80.9	88.2	82.9	92.4	85.3	92.2	86.9	87.1	77.4	83.1	78.4	81.4	79.4	78.6	76.0
29	76.9	69.1	--	--	87.2	76.5	84.4	78.5	84.5	77.5	88.7	80.1	88.0	85.0	90.7	86.0	91.9	85.5	83.1	76.9	80.5	78.4	78.2	75.5
30	77.4	74.3	--	--	83.1	76.7	84.0	80.1	84.4	75.2	94.2	84.7	91.5	83.2	91.9	83.2	86.6	82.9	80.1	77.6	80.5	78.1	78.3	74.3
31	81.0	73.8	--	--	83.8	76.4	--	--	85.2	81.1	--	--	89.3	85.9	87.5	81.9	--	--	80.5	77.0	--	--	78.0	73.6
Mean	78.3	73.1	78.7	74.2	82.3	76.4	83.8	77.8	84.9	79.6	89.8	83.0	92.9	86.2	92.1	84.8	88.9	82.1	84.8	80.1	81.5	77.4	79.2	75.2



99. ABERDEEN: North Wall Screen on Tower:  $h_t$  (height of thermometer bulbs above the ground) = 12.5 metres.

JANUARY, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	Vapour* Pressure
Day	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.
1	98	93	93	93	93	91	87	83	84	91	86	86	79	81	83	83	84	88	91	88	88	94	93	90	88.5	8.5
2	91	96	94	98	98	94	94	92	89	90	90	83	82	82	86	86	84	86	89	92	89	91	93	93	90.0	9.7
3	84	75	82	85	79	81	75	73	76	67	67	64	62	64	63	68	67	69	67	67	68	65	67	70	71.5	7.0
4	71	69	70	70	68	71	70	73	81	82	84	87	84	87	90	87	88	90	90	92	89	84	79	81	80.5	7.0
5	96	93	94	98	89	85	82	75	79	76	74	76	74	68	73	83	85	80	85	85	84	81	83	78	82.4	6.8
6	78	80	83	84	84	87	79	77	85	82	69	68	71	71	67	69	71	73	67	76	74	77	75	77	76.0	6.1
7	80	76	77	83	85	92	92	92	90	81	86	84	84	83	82	84	89	88	88	87	89	92	93	96	86.0	8.2
8	76	86	81	76	80	74	74	71	75	75	77	84	90	93	88	93	94	93	92	79	84	73	69	69	81.6	8.3
9	72	62	65	63	62	64	64	63	67	71	69	67	68	65	65	70	74	74	77	78	75	78	78	79	69.4	6.2
10	80	82	87	87	87	87	85	84	87	81	79	82	68	86	81	90	91	92	88	93	86	88	88	90	85.1	7.0
11	90	84	83	84	86	88	93	90	85	83	86	78	77	75	80	80	83	80	80	76	77	80	79	82	82.6	6.3
12	85	86	78	76	73	74	69	72	70	68	66	67	68	71	76	75	71	70	80	85	91	93	89	91	76.6	4.9
13	91	96	89	98	90	90	84	87	91	81	80	80	80	80	84	82	83	82	89	82	84	85	94	88	86.3	6.2
14	97	97	96	92	90	90	89	87	85	88	86	86	83	82	78	81	81	83	80	80	80	80	82	88	85.9	8.0
15	91	93	90	93	93	92	90	92	87	90	85	84	82	82	84	79	85	87	82	85	80	82	80	80	86.3	6.9
16	81	81	79	81	81	80	81	76	74	75	75	74	76	75	79	84	83	83	80	82	90	90	96	96	81.0	5.2
17	98	98	98	96	96	98	98	100	96	91	73	85	88	80	75	73	91	75	87	84	80	89	80	78	88.2	6.4
18	80	85	90	90	85	90	94	96	94	98	98	96	98	96	94	98	98	94	96	97	97	98	98	98	93.7	6.3
19	100	100	100	100	97	98	97	96	94	91	94	94	85	89	93	98	94	89	89	94	95	95	93	92	94.6	5.3
20	92	94	95	94	94	94	96	95	96	94	83	64	59	59	62	63	66	68	66	70	66	69	70	69	78.7	5.4
21	71	71	74	75	75	77	78	73	73	77	80	77	74	75	75	73	75	72	75	77	77	78	81	84	75.4	5.4
22	82	83	82	83	82	82	80	82	83	84	80	76	79	77	79	77	77	80	78	82	85	91	94	95	82.0	5.6
23	94	94	92	90	88	89	86	86	81	83	81	84	81	78	79	85	91	89	92	94	94	93	95	96	88.1	4.8
24	96	92	89	90	92	93	88	86	84	81	80	84	72	74	70	74	76	82	81	74	74	72	78	83	82.1	5.4
25	82	81	80	78	81	78	80	82	80	79	75	71	71	71	70	75	82	91	93	94	94	94	92	94	81.8	5.6
26	84	90	86	78	84	88	88	86	81	78	70	71	73	75	70	74	86	91	95	96	96	96	97	98	84.5	4.9
27	99	99	99	99	98	98	97	95	87	87	77	73	71	70	71	71	77	79	79	84	88	90	93	95	86.6	4.8
28	94	94	95	95	94	91	91	91	91	90	88	80	73	70	67	71	77	80	83	84	86	88	91	95	85.8	4.5
29	95	95	95	97	95	93	89	89	90	82	75	80	86	82	83	93	93	91	87	91	91	87	82	87	88.8	6.0
30	88	80	79	82	80	79	80	76	77	78	78	76	82	89	86	85	79	79	75	75	75	76	78	76	79.7	6.0
31	71	81	83	87	85	88	88	89	77	78	82	85	84	81	84	82	88	86	88	91	88	87	86	88	84.2	6.8
Mean	86.7	86.6	86.4	86.2	85.9	86.3	85.1	84.2	83.5	82.3	79.7	78.9	77.5	77.8	78.0	80.2	82.7	82.7	83.5	84.3	84.3	85.0	85.3	86.3	83.4	6.3†
Vapour Pressure*	mb. 6.3	mb. 6.2	mb. 6.2	mb. 6.2	mb. 6.0	mb. 6.0	mb. 5.9	mb. 5.9	mb. 5.9	mb. 5.9	mb. 6.0	mb. 6.2	mb. 6.2	mb. 6.3	mb. 6.3	mb. 6.3	mb. 6.4	mb. 6.4	mb. 6.3	mb. 6.4	mb. 6.3	mb. 6.3	mb. 6.3	mb. 6.3	mb. 6.2‡	

100. ABERDEEN: North Wall Screen on Tower:  $h_t$  = 12.5 metres.

FEBRUARY, 1933.

Day	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24	Mean	mb.
1	88	87	88	88	89	91	91	96	96	98	97	89	75	58	62	66	65	66	73	73	77	75	71	69	80.7	7.4
2	89	80	76	71	65	62	55	64	58	54	57	69	68	64	78	77	71	67	69	67	67	71	62	66.6	5.3	
3	65	66	64	71	76	87	87	73	60	62	64	62	60	68	73	79	84	83	80	79	87	93	93	92	74.7	5.9
4	93	92	93	93	93	93	93	93	97	96	92	90	89	89	90	90	90	96	97	98	98	97	100	100	93.7	7.6
5	100	100	99	99	98	96	92	86	86	91	84	86	77	84	83	83	77	93	96	97	97	96	97	96	91.5	9.7
6	95	97	100	97	98	97	100	93	97	94	96	100	100	100	100	100	99	99	98	92	93	94	96	97.3	9.2	
7	93	96	94	93	98	99	99	99	99	100	100	100	100	100	99	100	100	99	100	100	100	97	100	99	98.4	9.5
8	97	100	97	100	100	97	93	92	94	93	94	98	96	98	92	99	92	90	87	64	70	73	78	70	80.8	9.5
9	66	66	64	60	57	57	57	68	70	64	63	65	77	84	93	96	90	86	82	80	77	73	66	67	72.1	7.5
10	68	73	73	64	69	78	73	82	83	89	83	85	93	69	82	68	76	77	75	77	83	87	92	96	78.4	5.4
11	92	94	94	85	87	87	88	90	85	89	75	66	80	60	62	61	68	74	74	68	66	69	70	70	77.8	5.8
12	76	73	78	80	74	73	76	74	77	70	66	66	61	64	65	70	77	78	83	79	71	73	69	65	72.5	6.6
13	68	64	64	57	58	59	61	60	60	62	59	57	60	63	69	67	76	75	78	74	74	73	76	70	65.9	5.7
14	88	87	88	78	93	87	87	88	86	82	66	59	67	65	63	66	68	74	72	70	72	66	63	63	74.8	5.8
15	69	73	71	69	69	69	74	74	75	67	65	58	60	60	69	69	68	77	82	85	88	89	38	90	72.7	5.3
16	93	94	96	98	95	88	90	92	87	82	79	80	89	73	77	84	86	82	78	75	76	75	79	85	84.8	7.0
17	77	73	75	77	73	78	79	81	75	90	91	82	80	87	100	100	98	94	94	96	97	97	89	85	86.2	5.6
18	85	84	77	76	84	89	98	87	75	71	72	75	72	77	75	88	92	77	65	54	57	60	75	92	77.2	5.1
19	96	96	97	95	95	95	96	96	86	85	82	81	77	87	85	88	92	92	94	94	94	89	79	77	89.8	5.6
20	74	72	72	73	78	91	94	94	94	91	83	85	82	73	67	75	75	85	84	82	75	78	89	92	81.3	5.7
21	94	87	83	88	96	90	94	96	87	88	81	82	79	87	82	94	96	94	90	75	75	73	90	76	86.9	5.4
22	79	80	88	92	88	84	85	88	82	74	70	67	65	76	74	84	88	91	87	91	93	93	91	91	83.1	5.0
23	90	90	96	94	93	92	90	94	94	95	96	96	94	90	82	80	82	86	85	88	92	96	96	95	91.0	5.1
24	75	58	67	83	92	77	69	52	57	51	60	61	61	71	69	70	60	61	64	65	73	73	70	90	68.4	4.5
25	62	57	54	63	64	72	85	80	66	94	91	90	78	73	75	73	73	70	74	71	73	70	70	70	73.3	5.4
26	74	72	73	75	80	77	78	77	82	80	84	74	71	70	73	76	76	82	78	80	85	88	88	90	78.0	6.3
27	92	92	90	90	88	88	90	88	88	95	90	89	89	87	89	92	90	89	96	97	95	95	94	96	91.1	7.5
28	97	90	90	92	96	94	94	97	97	97	96	96	96	96	94	97	97	97	95	95	96	97	95	92	95.2	8.5
Mean	82.7	81.9	82.0	82.2	83.8	83.8	84.6	84.4	81.9	82.3	79.7	78.4	78.5	77.7	78.9	81.9	82.6	83.5	83.2	81.2	82.1	82.3	83.3	83.4	81.9	6.5†
Vapour Pressure*	mb. 6.2	mb. 6.1	mb. 6.1	mb. 6.1	mb. 6.2	mb. 6.3	mb. 6.3	mb. 6.4	mb. 6.4	mb. 6.6	mb. 6.6	mb. 6.7	mb. 6.8	mb. 6.7	mb. 6.7	mb. 6.8	mb. 6.7	mb. 6.6	mb. 6.5	mb. 6.3	mb. 6.3	mb. 6.2	mb. 6.3	mb. 6.2	mb. 6.4	
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	



RELATIVE HUMIDITY.  
Percentages at exact hours, Greenwich Mean Time.

101. ABERDEEN: North Wall Screen on Tower:  $h_t$  (height of thermometer bulbs above the ground) = 12.5 metres.

MARCH, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	Vapour* Pressure
Day	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.
1	94	96	96	92	92	94	94	95	94	96	94	93	94	93	91	94	94	94	94	94	92	90	90	90	93.4	8.3
2	90	92	94	90	90	90	90	89	86	87	86	87	84	86	84	86	86	84	89	89	92	96	98	98	88.6	7.6
3	97	97	96	94	90	92	95	97	97	98	98	98	100	95	95	94	92	92	96	96	92	93	97	93	95.3	8.2
4	96	94	96	96	98	100	100	100	100	100	100	100	100	99	100	100	100	100	100	100	99	100	99	97	98.8	8.9
5	96	97	97	99	97	90	94	88	82	72	62	62	55	55	54	70	83	88	87	90	88	86	86	81.7	8.0	
6	88	93	93	93	90	93	93	93	83	80	71	82	79	76	80	80	81	84	81	78	82	85	85	82	84.5	8.3
7	85	82	81	81	85	85	83	82	83	83	82	82	73	70	60	61	68	72	72	79	76	74	77	72	77.2	7.6
8	76	80	78	77	78	78	80	85	73	67	72	80	83	79	80	81	81	87	88	87	91	94	91	91	81.1	7.2
9	91	94	94	91	93	89	91	88	88	89	89	89	99	95	91	91	92	92	89	93	88	88	89	88	91.0	10.0
10	87	90	87	89	89	88	85	85	83	85	81	77	74	72	71	72	76	80	80	64	78	86	84	86	81.3	8.3
11	88	88	91	93	92	90	94	93	94	87	82	93	78	77	76	74	78	76	76	76	80	84	86	86	84.7	8.4
12	89	92	92	92	92	92	91	93	91	90	88	86	83	88	90	94	96	98	97	93	93	91	94	91	91.4	8.1
13	93	85	88	91	89	87	85	85	85	80	76	78	69	83	75	74	83	76	86	87	86	86	84	80	83.2	7.9
14	81	84	82	83	85	92	88	87	81	72	57	56	49	48	45	49	50	54	59	60	62	64	77	83	68.6	7.4
15	80	84	84	70	69	67	55	52	48	43	39	36	36	42	51	52	47	67	70	78	82	89	88	87	63.1	7.0
16	87	83	85	87	90	87	79	71	65	69	59	59	52	55	70	56	59	80	85	74	71	76	81	76	73.4	7.2
17	77	81	85	85	87	89	94	89	91	85	78	73	79	77	87	90	88	95	97	98	93	97	96	93	87.3	7.0
18	98	94	94	96	95	96	100	100	85	71	72	71	63	61	67	64	68	70	71	67	68	75	93	93	80.5	6.4
19	95	93	94	92	90	84	82	76	72	66	63	64	66	64	69	71	84	85	92	90	91	87	82	75	80.7	6.2
20	69	91	84	75	69	69	77	68	66	57	53	58	56	51	65	52	60	62	65	70	75	78	78	82	67.8	5.3
21	88	88	88	90	86	87	95	94	71	64	68	72	75	79	84	85	87	86	87	87	88	87	86	82	83.5	6.7
22	76	75	77	82	81	76	76	74	69	65	61	61	57	47	49	68	90	80	76	76	76	79	81	84	72.3	7.4
23	84	81	75	78	79	79	96	80	77	76	76	75	75	77	77	74	76	76	76	75	77	74	72	71	77.6	7.5
24	70	71	71	72	77	76	74	73	72	67	69	68	68	70	71	73	74	77	80	82	85	86	88	87	74.7	6.9
25	89	90	90	88	93	95	92	92	82	76	72	67	69	79	79	82	84	87	88	88	88	93	90	90	85.1	7.9
26	89	89	92	90	92	90	90	89	87	74	71	68	66	66	64	68	68	73	75	75	78	81	86	82	79.5	8.8
27	88	90	92	94	94	96	94	85	80	74	68	56	43	56	55	60	71	75	72	75	74	71	72	72	75.6	9.5
28	71	68	70	74	74	78	79	73	67	63	62	63	52	41	38	35	51	49	53	54	62	69	71	77	62.1	9.3
29	71	80	79	80	87	68	73	64	57	50	54	51	39	47	50	49	55	60	66	73	73	70	75	74	64.4	7.4
30	71	72	76	80	82	83	81	75	74	56	51	52	44	41	42	42	55	62	63	68	66	67	69	69	64.3	6.2
31	70	67	69	66	62	71	65	63	56	45	46	50	48	53	68	74	70	85	82	84	81	83	85	83	67.5	6.8
Mean	84.6	85.8	86.1	85.8	86.0	85.5	86.0	83.3	78.7	73.7	71.0	71.2	68.0	68.5	70.3	71.4	75.5	78.8	80.3	80.5	81.5	83.1	84.8	84.0	79.4	7.7†
Vapour Pressure*	mb. 7.5	mb. 7.5	mb. 7.5	mb. 7.4	mb. 7.3	mb. 7.2	mb. 7.3	mb. 7.5	mb. 7.6	mb. 7.6	mb. 7.6	mb. 7.8	mb. 7.7	mb. 7.7	mb. 7.9	mb. 7.9	mb. 8.1	mb. 8.1	mb. 8.0	mb. 7.9	mb. 7.8	mb. 7.7	mb. 7.6	mb. 7.5	mb. 7.7†	

102. ABERDEEN: North Wall Screen on Tower:  $h_t$  = 12.5 metres.

APRIL, 1933.

Day	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.	
1	86	70	71	74	74	76	74	71	57	63	72	89	57	59	52	47	51	54	63	66	71	74	75	78	67.8	6.3	
2	74	75	79	67	72	77	82	85	81	80	79	74	72	68	74	76	76	74	76	75	76	77	82	89	76.4	8.5	
3	87	84	79	74	75	74	75	69	66	71	88	94	93	75	68	67	64	70	71	78	79	74	72	68	76.1	10.0	
4	66	68	69	68	71	74	76	76	73	69	66	67	85	90	86	88	88	87	87	88	90	91	90	91	78.9	7.8	
5	91	90	91	86	86	87	83	79	78	75	69	67	63	56	65	63	64	64	78	75	68	74	76	78	75.5	9.0	
6	79	83	79	83	86	86	86	76	79	92	98	96	81	93	93	90	94	97	97	97	99	97	97	96	89.4	9.1	
7	97	97	97	99	97	96	96	96	93	98	95	94	96	89	85	87	90	90	86	84	78	85	87	88	91.8	10.8	
8	89	92	93	93	93	95	94	91	93	85	86	87	86	86	87	87	89	91	92	91	93	86	81	83	89.4	11.0	
9	87	93	88	89	89	95	88	75	67	64	56	51	56	55	54	53	54	59	69	70	64	73	82	80	71.3	10.2	
10	75	82	87	88	76	72	79	71	70	74	68	71	63	61	60	66	71	73	72	79	80	79	81	87	74.2	10.7	
11	87	89	82	84	88	91	88	85	85	81	49	48	49	45	66	77	83	89	89	88	90	91	92	95	79.5	10.2	
12	91	89	88	87	63	66	64	60	52	40	38	37	50	58	71	70	43	42	49	59	57	60	63	65	60.7	6.4	
13	67	68	72	70	74	67	60	55	52	47	51	46	54	51	62	53	62	62	61	68	64	66	71	65	61.2	6.1	
14	68	75	77	78	80	78	69	61	61	65	64	69	70	72	77	79	81	84	84	78	58	60	67	64	71.6	6.2	
15	68	73	79	81	82	82	72	65	64	66	69	79	83	86	87	92	96	96	96	94	87	96	96	97	82.1	9.9	
16	97	97	99	97	97	97	97	96	94	97	93	87	91	93	90	83	81	78	74	83	83	80	84	74	89.7	8.4	
17	87	88	88	88	88	90	77	74	74	83	79	71	76	77	81	86	87	93	84	73	71	79	87	79	81.6	6.9	
18	84	91	82	79	73	77	76	73	67	76	74	71	63	72	61	67	66	67	81	77	80	88	82	92	75.5	5.9	
19	84	90	80	79	88	80	89	85	68	66	63	62	62	59	57	55	57	64	64	68	65	65	65	70	70.7	5.7	
20	83	80	80	90	96	94	87	82	86	78	77	76	68	73	78	66	72	69	74	78	79	85	85	84	79.7	6.7	
21	92	90	88	87	85	72	79	69	68	68	70	83	77	65	70	72	62	67	75	77	78	81	88	90	77.1	6.9	
22	88	90	85	88	88	87	82	79	72	59	56	70	72	73	73	73	64	70	78	81	84	86	84	86	77.9	7.2	
23	83	84	85	90	87	89	83	76	74	73	82	68	72	81	77	76	79	82	83	83	87	88	91	94	81.8	7.9	
24	94	96	97	96	94	94	96	94	96	94	92	89	93	93	93	91	90	93	93	94	94	94	94	90	93.6	9.4	
25	90	93	94	98	98	99	99	99	99	98	99	99	100	100	98	97	100	100	99	100	100	100	100	100	100	98.1	10.2
26	99	98	100	99	98	98	91	89	84	79	71	70	74	76	81	85	87	87	91	91	89	88	88	92	87.9	10.4	
27	91	84	91	92	92	96	99	98	82	63	63	66	69	67	57	70	70	71	73	72	75	84	86	83	79.1	10.2	
28	83	82	88	93	94	90	88	83	70	66	70	72	70	82	87	80	81	86	89	92	91	95	94	92	83.9	10.0	
29	92	94	96	96	96	93	94	86	83	84	87	89	98	88	86	83	74	75	83	88	88	88	88	88	88	87.9	10.0
30	86	88	88	89	88	85	80	76	75	71	73	65	62	66	62	62	64	66	65	76	78	88	83	89	76.0	8.5	
Mean	84.8	85.2	85.7	85.4	85.5	85.2	83.4	79.1	75.4	74.2	73.2	73.6	73.2	73.6	74.6	74.8	74.7	76.6	79.2	80.8	79.9	82.4	83.7	84.2	79.5	8.5†	
Vapour Pressure*	mh. 8.2	mb. 8.2	mb. 8.1	mb. 8.0	mb. 8.0	mb. 8.0	mb. 8.2	mb. 8.3	mb. 8.4	mb. 8.5	mb. 8.6	mb. 8.7	mb. 8.7	mb. 8.8	mb. 8.9	mb. 8.7	mb. 8.6	mb. 8.6	mb. 8.5	mb. 8.4	mb. 8.2	mb. 8.3	mb. 8.3	mb. 8.2	mb. 8.4‡		
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean		



RELATIVE HUMIDITY.  
Percentages at exact hours, Greenwich Mean Time.

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103. ABERDEEN: North Wall Screen on Tower:  $h_t$  (height of thermometer bulbs above the ground) = 12.5 metres.

MAY, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	Vapour* Pressure
Day	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.
1	87	81	81	74	71	70	67	59	65	62	62	59	60	59	57	52	56	60	63	61	69	71	77	80	87.0	7.1
2	85	89	89	89	91	90	83	66	59	64	61	67	64	64	64	61	62	61	63	62	65	68	70	71.0	8.0	7.1
3	77	71	67	66	66	76	64	76	76	72	73	73	72	72	76	80	86	84	85	91	91	90	88	88	77.1	7.8
4	88	87	88	87	87	86	84	84	84	83	83	83	83	85	85	88	89	86	90	90	91	94	94	96	87.2	8.9
5	96	94	96	99	99	98	96	96	98	93	95	98	100	99	99	99	100	99	96	98	98	98	99	99	97.5	10.5
6	100	100	100	100	100	100	100	100	100	100	92	92	83	84	85	85	78	81	80	87	91	92	92	93	92.4	10.9
7	95	96	98	98	99	98	99	100	100	99	93	89	90	87	89	89	81	83	86	87	88	88	88	89	92.1	10.6
8	93	92	89	90	90	88	86	87	87	86	86	87	88	84	86	83	84	88	91	91	93	92	92	93	88.5	9.8
9	96	93	93	93	94	89	78	71	64	61	55	54	77	81	88	84	86	88	83	89	89	91	91	93	82.5	9.9
10	93	92	93	91	93	92	88	84	78	74	73	71	68	66	64	65	73	72	75	81	84	82	83	83	80.1	9.5
11	87	91	90	87	86	85	79	76	79	76	79	79	77	77	74	79	79	81	87	88	90	90	90	91	83.0	8.9
12	94	94	94	96	93	93	90	92	91	96	92	95	80	83	84	87	88	87	82	87	83	84	85	83	89.0	9.2
13	85	86	82	83	82	79	76	68	68	55	52	57	73	65	74	72	72	86	81	81	83	84	87	86	75.6	8.0
14	81	84	88	78	79	83	85	83	80	70	64	56	60	61	60	61	66	69	70	72	74	73	74	76	73.0	8.2
15	77	80	83	86	82	77	76	71	71	74	75	68	61	56	59	59	60	62	63	71	79	88	88	86	72.8	7.9
16	90	93	90	94	90	92	83	71	74	74	73	74	75	77	76	73	78	80	79	82	86	88	89	89	82.4	8.4
17	89	90	89	88	88	85	83	84	78	79	86	79	75	76	75	75	72	75	83	89	91	90	88	88	83.1	9.5
18	89	90	93	94	92	92	94	93	93	96	92	92	91	91	89	93	95	96	96	98	98	96	96	96	93.3	10.6
19	98	99	99	100	98	93	90	86	80	74	69	71	72	78	74	74	77	78	80	82	85	85	87	91	84.3	12.7
20	93	89	91	90	90	89	86	83	82	79	78	79	79	76	76	79	82	83	83	89	90	94	95	93	85.3	10.6
21	94	96	96	96	97	99	96	91	87	71	86	86	78	86	82	82	82	80	89	93	93	93	94	96	89.2	13.5
22	94	96	99	98	95	94	95	91	88	82	78	87	87	85	87	87	86	89	91	92	93	94	94	95	90.7	12.3
23	95	93	94	96	98	98	95	88	81	91	94	89	82	80	78	81	92	94	95	86	88	90	93	95	90.3	10.6
24	98	98	98	98	98	98	99	95	92	95	94	92	89	89	84	88	90	89	88	68	75	80	93	93	90.9	10.8
25	89	87	81	81	81	79	74	72	63	59	56	55	63	69	74	72	71	76	74	78	82	81	85	87	74.7	9.3
26	88	87	86	87	86	81	74	75	65	60	56	72	69	73	85	87	81	76	80	74	72	69	73	79	76.6	9.3
27	82	81	89	92	92	86	77	78	69	70	71	67	62	58	56	58	60	65	67	71	76	81	83	84	73.9	8.9
28	88	86	86	85	87	84	88	76	78	74	69	73	78	72	68	67	68	71	75	80	86	89	87	84	79.1	9.4
29	86	83	85	86	85	83	76	73	73	73	66	64	67	65	73	73	71	57	62	61	70	72	82	87	73.8	9.1
30	87	88	90	91	90	83	84	66	67	66	70	69	65	63	67	68	62	67	69	69	74	77	78	78	74.7	8.0
31	81	82	81	82	84	82	82	83	80	83	82	78	76	75	76	78	78	77	82	87	87	88	88	89	81.5	8.9
Mean	89.5	89.3	89.6	89.5	89.1	87.8	84.7	81.2	79.0	77.2	76.0	76.0	75.6	75.4	76.3	76.7	77.6	78.7	80.2	81.8	84.2	85.5	87.1	88.1	82.3	9.6†
Vapour Pressure *	mb. 9.4	mb. 9.2	mb. 9.2	mb. 9.1	mb. 9.2	mb. 9.4	mb. 9.5	mb. 9.6	mb. 9.6	mb. 9.6	mb. 9.7	mb. 9.8	mb. 9.9	mb. 9.8	mb. 9.9	mb. 9.8	mb. 9.8	mb. 9.8	mb. 9.7	mb. 9.6	mb. 9.6	mb. 9.5	mb. 9.5	mb. 9.4	mb. 9.6‡	

104. ABERDEEN: North Wall Screen on Tower:  $h_t$  = 12.5 metres.

JUNE, 1933.

Day	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.
1	91	89	88	89	89	89	88	87	87	86	87	87	89	85	83	77	71	74	69	72	71	74	76	82	82.6	11.3
2	82	83	87	91	90	89	87	85	80	81	79	74	72	72	69	73	75	80	85	94	93	93	94	94	83.1	12.1
3	95	96	96	96	98	95	88	82	78	73	78	75	66	61	65	77	63	64	70	76	77	77	86	78	79.9	12.5
4	84	86	88	89	85	79	75	76	76	62	60	62	62	61	56	53	49	48	50	52	58	63	67	72	67.3	12.9
5	75	78	82	82	79	78	71	68	61	61	59	58	59	63	74	62	59	63	61	63	67	75	76	79	68.7	14.0
6	80	82	87	88	86	82	76	73	73	76	76	77	80	81	83	82	60	54	61	67	69	69	76	76	75.6	13.7
7	77	80	86	89	80	72	60	76	70	74	77	69	67	60	56	75	68	77	81	79	86	91	89	82	75.7	13.7
8	89	89	88	87	83	84	80	75	69	65	60	59	59	62	61	72	85	82	85	89	88	87	87	85	77.9	12.5
9	88	89	89	88	90	86	77	71	59	60	62	59	59	61	60	59	62	63	65	68	76	79	86	86	72.6	10.6
10	87	87	88	89	84	80	71	66	61	74	64	82	94	90	93	87	89	89	87	90	87	91	92	90	83.7	10.6
11	93	92	93	91	88	87	71	68	71	69	60	59	58	58	58	57	75	64	55	62	67	75	86	83	72.2	9.2
12	84	82	85	86	82	80	76	70	66	66	69	70	73	78	79	78	70	76	77	74	76	83	89	89	77.3	9.8
13	91	91	93	91	92	91	85	81	80	81	80	82	84	86	89	89	84	83	91	96	97	96	99	99	88.6	12.9
14	99	99	99	99	99	98	97	95	93	83	84	87	93	73	71	61	62	65	62	66	77	75	76	78	83.4	13.0
15	83	85	86	87	89	80	73	57	54	53	56	57	55	53	58	56	63	60	66	68	73	77	82	91	69.0	13.2
16	93	85	93	90	88	87	75	71	74	72	73	80	77	76	85	85	75	79	78	91	95	90	72	75	82.0	12.4
17	70	74	78	81	75	68	70	62	57	52	43	48	52	65	70	61	57	73	74	73	84	92	84	87	68.5	9.5
18	88	89	89	90	93	85	84	86	86	85	78	79	75	76	77	86	74	81	91	88	85	89	92	89	84.7	11.3
19	89	89	93	84	93	90	88	89	88	90	89	88	87	88	87	87	82	90	91	93	93	87	85	87	88.7	12.7
20	87	92	90	89	84	82	76	75	77	88	90	85	86	87	87	93	91	85	87	87	88	88	87	83	86.1	12.4
21	87	95	95	94	90	89	88	88	88	91	88	88	85	85	91	90	93	88	90	95	95	97	97	98	90.7	14.0
22	97	97	95	95	94	94	94	96	92	85	87	84	84	88	87	81	87	97	95	95	99	98	98	98	92.2	14.4
23	99	99	98	97	97	95	95	94	89	81	84	78	76	76	78	81	83	78	88	90	91	89	90	90	88.3	13.0
24	95	97	97	96	96	94	86	70	74	75	78	78	73	69	71	73	72	78	77	76	76	83	86	89	81.6	14.2
25	89	95	94	91	90	88	85	87	80	83	82	82	80	78	78	77	75	82	86	87	89	90	88	88	84.6	14.1
26	88	89	93	91	89	92	91	87	86	89	83	74	73	68	52	46	40	37	47	55	63	62	66	68	72.5	10.4
27	67	76	79	75	77	79	77	75	68	70	62	58	57	60	59	57	51	63	68	73	77	86	75	80	69.3	9.7
28	82	84	88	88	85	76	69	61	58	56	54	55	59	52	51	54	56	52	57	62	69	75	77	80	66.7	9.8
29	86	86	88	90	84	79	75	67	62	64	61	59	59	65	70	74	68	66	69	71	73	76	72	74	72.6	10.3
30	74	74	73	75	75	73	74	75	68	69	67	64	57	58	57	57	53	57	61	47	54	55	61	66	64.5	12.0
Mean	86.3	87.7	89.3	88.9	87.5	84.7	80.1	77.1	74.2	73.7	72.3	72.0	71.7	71.0	71.8	72.2	69.5	71.0	74.1	76.6	79.6	82.1	83.1	83.9	78.4	12.17
Vapour Pressure*	mb. 11.6	mb. 11.5	mb. 11.5	mb. 11.5	mb. 11.7	mb. 12.1	mb. 12.3	mb. 12.1	mb. 12.0	mb. 12.2	mb. 12.2	mb. 12.4	mb. 12.4	mb. 12.4	mb. 12.4	mb. 12.4	mb. 12.1	mb. 12.1	mb. 12.2	mb. 12.2	mb. 12.1	mb. 12.1	mb. 11.9	mb. 11.7	mb. 12.17	
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	



RELATIVE HUMIDITY.  
Percentages at exact hours, Greenwich Mean Time.

105. ABERDEEN: North Wall Screen on Tower:  $h_t$  (height of thermometer bulbs above the ground) = 12.5 metres.

JULY, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	Vapour* Pressure
Day	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.
1	73	74	77	74	76	75	68	63	66	57	57	54	51	53	61	67	82	86	82	80	82	79	78	78	70.3	14.4
2	81	82	78	83	83	74	65	62	59	53	49	48	50	51	51	52	56	58	74	73	80	81	85	87	67.1	15.2
3	88	89	90	88	83	62	59	49	51	59	56	56	55	53	53	53	49	45	58	66	74	72	77	76	65.3	14.9
4	75	79	86	89	82	75	71	67	64	59	58	59	58	55	56	56	68	60	78	82	88	90	91	93	72.1	16.1
5	91	93	93	96	94	87	86	87	82	76	74	70	70	66	63	64	66	68	68	74	79	84	87	89	79.5	16.6
6	91	92	97	96	96	94	92	91	89	86	90	86	84	83	90	85	85	88	94	96	96	94	96	94	90.9	15.5
7	92	94	96	96	97	94	89	89	85	81	80	85	83	78	79	83	81	87	88	89	93	92	93	93	88.2	16.0
8	89	92	92	94	93	84	78	69	66	64	66	66	66	64	59	64	65	70	72	80	85	86	88	90	77.9	16.3
9	90	91	91	92	90	85	81	71	72	66	67	66	60	63	63	65	73	69	78	83	79	78	81	80	76.6	14.8
10	94	95	97	98	96	96	94	81	72	62	55	53	55	50	63	58	61	67	86	86	84	87	86	88	77.5	15.0
11	88	87	86	86	84	85	86	78	73	69	72	73	75	79	69	76	78	67	78	79	81	80	76	78	78.7	14.7
12	81	82	78	75	81	75	69	64	68	64	64	75	76	82	90	89	88	86	81	82	83	85	88	86	78.7	13.5
13	82	79	85	85	83	85	80	73	79	74	73	73	69	77	78	78	85	87	87	91	91	92	94	94	82.1	13.9
14	95	95	95	96	95	94	95	88	85	77	82	89	87	90	92	90	88	88	90	90	93	93	95	96	90.7	15.2
15	97	95	96	95	93	95	94	97	95	92	85	82	82	88	81	88	87	89	84	93	92	93	90	90	90.7	14.8
16	93	94	90	93	91	87	86	72	64	61	60	57	58	58	55	65	66	63	66	75	80	83	86	83	74.5	12.7
17	78	83	69	76	73	66	64	61	57	60	55	61	64	55	63	64	61	61	63	67	69	75	73	68	66.4	11.6
18	74	77	70	75	82	77	78	74	74	71	70	76	74	76	78	83	87	86	88	89	90	92	93	86	79.6	13.9
19	92	93	92	94	94	91	84	84	81	81	78	81	87	88	81	86	74	75	79	85	87	88	89	90	85.5	16.8
20	88	88	90	91	86	82	81	79	87	70	71	69	63	66	67	69	74	61	70	75	75	81	80	81	76.2	15.0
21	85	81	86	85	86	81	79	68	61	66	63	57	63	69	70	73	83	88	85	83	87	89	87	87	77.5	14.5
22	87	84	83	86	83	80	77	74	70	66	63	61	61	60	64	62	61	61	63	70	76	80	86	87	72.7	13.3
23	87	88	88	88	90	86	85	80	72	69	78	79	66	66	67	64	69	71	74	85	84	85	89	88	79.1	15.0
24	92	95	92	92	88	90	87	84	71	79	74	74	68	53	48	60	64	63	71	76	82	84	85	83	77.4	15.5
25	88	93	88	89	90	90	88	77	71	65	63	69	73	75	74	74	72	69	69	66	64	65	66	71	75.6	13.2
26	77	83	88	92	94	91	86	81	79	75	80	76	77	74	69	67	71	62	66	69	62	63	59	68	75.4	15.4
27	68	71	73	73	69	73	63	67	57	57	61	63	58	55	56	62	77	86	90	92	93	91	89	91	71.8	12.9
28	90	93	90	85	81	77	69	68	59	54	54	54	56	57	67	69	73	70	72	83	86	90	90	90	74.1	13.1
29	95	94	94	95	95	93	90	87	82	89	89	90	88	86	87	83	82	71	72	81	86	89	83	77	86.9	13.3
30	79	82	81	82	83	77	76	73	69	59	57	68	64	57	61	61	62	71	77	78	82	76	82	84	72.4	12.0
31	91	93	94	95	93	95	96	97	98	98	91	94	94	96	92	93	91	94	93	95	95	94	95	94	94.0	15.5
Mean	86.2	87.5	87.2	88.2	87.2	84.0	80.7	76.3	72.3	69.8	68.8	69.8	68.9	68.5	69.3	71.1	73.5	73.1	77.3	81.1	83.2	84.2	85.1	85.2	78.3	14.5†
Vapour Pressure*	mb. 14.0	mb. 14.0	mb. 13.8	mb. 13.6	mb. 13.9	mb. 14.1	mb. 14.4	mb. 14.3	mb. 14.3	mb. 14.3	mb. 14.4	mb. 14.8	mb. 14.8	mb. 15.0	mb. 15.0	mb. 15.2	mb. 15.2	mb. 15.0	mb. 14.7	mb. 14.9	mb. 14.7	mb. 14.5	mb. 14.4	mb. 14.2	mb. 14.6‡	

106. ABERDEEN: North Wall Screen on Tower:  $h_t$  = 12.5 metres.

AUGUST, 1933.

Day	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.
1	94	96	93	92	89	86	77	71	67	69	69	71	71	65	65	66	70	72	73	74	87	73	83	87	77.6	14.0
2	91	94	93	90	90	90	87	82	73	70	67	62	66	60	73	79	78	81	56	74	75	82	73	74	77.8	16.5
3	74	74	74	77	75	76	74	72	69	64	60	55	53	51	52	50	54	57	60	62	66	67	70	65	64.8	18.0
4	69	70	75	79	75	73	68	64	65	64	62	60	60	70	83	82	82	83	86	89	90	93	94	95	75.7	16.9
5	94	95	97	97	97	96	95	93	90	92	90	88	86	85	73	72	74	83	96	96	90	83	82	84	88.9	17.9
6	92	93	92	91	93	79	82	74	75	64	66	57	58	70	67	60	55	53	57	62	70	68	72	74	72.0	15.3
7	77	77	77	76	75	84	70	70	59	59	69	68	69	77	73	72	74	65	64	71	78	85	85	72	72.8	11.6
8	78	77	80	73	68	67	68	64	55	61	62	52	52	61	62	63	62	65	64	58	59	63	68	77	64.9	11.7
9	81	81	88	90	90	91	91	85	79	86	74	71	75	76	61	57	56	52	54	60	61	67	69	66	73.6	12.2
10	64	68	70	75	72	71	62	58	54	50	52	55	54	53	60	56	70	51	57	57	65	66	76	72	61.9	10.0
11	77	82	83	83	84	82	79	74	69	75	69	67	68	68	77	78	81	83	83	82	82	83	86	91	78.3	11.6
12	93	92	93	96	96	94	94	90	74	75	75	72	70	64	62	67	72	78	80	80	85	85	86	88	81.8	12.3
13	89	88	85	82	82	71	70	72	55	60	64	65	70	67	67	71	58	71	77	81	80	83	86	86	74.2	14.3
14	87	83	85	80	87	82	80	76	71	68	69	76	71	72	73	74	83	86	89	88	89	89	93	96	80.9	15.7
15	96	94	98	97	96	90	88	87	88	82	81	76	76	74	79	82	86	88	88	85	84	74	73	78	85.4	15.2
16	73	75	81	85	82	76	67	60	55	55	53	54	57	60	52	51	51	59	64	72	75	78	75	70	66.0	11.2
17	70	78	76	82	82	83	88	86	85	85	87	81	86	78	81	74	56	60	65	71	76	83	82	84	78.0	13.2
18	75	66	69	68	66	61	57	53	53	49	47	55	60	52	54	62	63	59	60	62	62	65	67	73	61.0	11.0
19	79	80	82	78	78	80	75	69	69	68	68	72	74	78	60	64	39	41	50	59	59	66	71	75	68.0	11.2
20	76	79	77	81	79	79	78	75	62	61	73	66	56	56	59	58	58	67	63	64	64	67	74	73	68.6	10.9
21	74	72	78	78	78	78	75	73	71	63	59	62	81	74	83	89	87	86	84	87	80	81	80	83	77.1	10.8
22	82	82	82	87	83	80	80	81	85	83	69	63	65	64	73	70	74	85	88	94	90	84	87	75	79.5	11.1
23	76	79	85	87	89	84	88	80	88	81	90	95	86	78	67	80	76	87	90	91	93	91	93	90	84.9	12.2
24	90	86	89	87	89	88	83	78	72	67	68	67	67	64	60	62	64	72	82	80	89	89	88	91	78.0	12.0
25	90	91	91	91	91	90	88	83	85	84	84	84	84	80	72	68	79	74	80	78	78	78	88	90	83.7	15.4
26	90	92	92	93	94	93	88	81	77	74	71	72	67	68	66	67	71	72	79	83	85	86	88	90	80.8	16.1
27	91	94	95	84	83	82	82	80	75	77	78	78	79	74	75	80	81	85	86	84	87	88	89	85	93.1	15.6
28	84	83	82	83	83	83	82	82	88	90	86	87	88	90	89	90	91	91	93	91	91	90	92	97	87.5	16.2
29	97	98	98	99	98	97	96	98	91	90	87	91	86	88	90	81	74	76	76	69	75	67	67	75	86.0	14.9
30	81	78	75	75	78	74	74	68	65	57	48	50	48	57	69	66	69	62	77	80	86	96	93	94	71.3	11.8
31	94	92	92	95	96	84	88	82	81	73	75	79	81	84	87	87	93	93	90	90	91	91	94	82	87.5	12.8
Mean	83.2	83.5	84.7	84.9	84.5	82.1	79.9	76.2	72.4	70.9	70.1	69.4	69.8	69.6	69.8	70.3	70.4	72.2	74.5	76.6	78.8	79.1	81.5	81.7	76.5	13.5†
Vapour Pressure *	mb. 12.9	mb. 12.8	mb. 12.7	mb. 12.5	mb. 12.5	mb. 12.7	mb. 13.0	mb. 13.3	mb. 13.4	mb. 13.6	mb. 13.8	mb. 14.0	mb. 14.1	mb. 14.2	mb. 14.2	mb. 14.2	mb. 14.0	mb. 14.0	mb. 13.9	mb. 13.5	mb. 13.3	mb. 13.1	mb. 13.0	mb. 12.9	mb. 13.4†	
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	



RELATIVE HUMIDITY.  
Percentages at exact hours, Greenwich Mean Time.

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107. ABERDEEN: North Wall Screen on Tower:  $h_t$  (height of thermometer bulbs above the ground) = 12.5 metres.

SEPTEMBER, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	Vapour * Pressure
Day	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.
1	78	71	74	74	77	78	76	71	71	75	76	70	67	64	65	67	68	71	76	80	87	89	89	89	75.0	11.4
2	89	92	92	89	89	93	83	83	79	70	74	86	83	77	77	75	87	88	88	91	91	91	94	94	85.5	13.5
3	95	94	95	95	93	92	89	84	82	70	70	85	89	87	86	86	90	89	89	90	92	89	93	93	88.2	15.5
4	90	93	94	93	93	93	93	92	88	83	84	86	78	82	83	70	79	86	87	90	96	97	98	96	88.4	14.9
5	98	98	98	99	98	99	100	100	100	98	98	96	95	96	97	97	97	99	98	96	92	89	88	88	96.6	15.9
6	90	90	90	88	86	85	86	85	85	80	79	73	82	80	81	85	84	81	89	89	88	88	87	92	85.0	15.0
7	96	96	93	93	90	91	90	88	84	83	79	73	73	70	82	82	82	78	83	87	90	91	94	94	85.9	13.5
8	94	92	91	94	93	93	92	89	75	77	76	72	74	74	77	77	79	81	86	86	89	89	92	92	84.8	12.1
9	93	91	94	93	91	93	93	95	78	72	68	71	72	72	71	74	76	79	85	86	86	86	87	89	83.2	11.3
10	90	90	88	90	91	94	91	92	83	76	74	71	73	72	73	76	76	79	83	87	90	91	91	92	83.8	11.8
11	87	91	91	92	92	94	93	94	87	86	86	80	74	72	71	71	75	78	81	86	88	90	90	89	85.0	10.9
12	88	90	90	95	96	97	94	92	87	81	73	72	72	78	75	78	77	79	80	86	89	89	90	91	84.9	11.1
13	87	91	87	89	86	84	81	91	80	64	59	67	48	71	56	47	53	62	61	64	69	65	87	86	72.4	9.3
14	87	87	84	87	91	92	89	89	82	77	72	71	63	63	63	64	66	73	73	80	80	79	83	84	78.3	10.3
15	85	87	87	87	88	86	77	73	61	58	59	56	63	57	51	57	56	61	63	58	58	61	73	73	68.4	10.6
16	81	81	81	84	85	88	87	75	76	73	65	60	64	63	72	72	78	84	82	81	77	80	74	62	76.3	10.8
17	70	70	80	76	80	78	75	75	77	78	74	73	73	67	69	70	78	77	79	85	86	89	89	87	76.8	13.0
18	85	86	94	98	97	93	81	74	69	63	54	49	48	46	49	78	77	83	84	84	88	87	90	88	76.9	13.6
19	92	92	94	94	95	93	94	90	92	91	90	87	85	82	85	86	90	90	93	94	93	93	91	93	90.7	13.4
20	92	91	92	92	91	90	91	91	90	92	93	91	89	88	89	88	87	87	87	87	88	86	81	86	89.3	14.5
21	83	84	82	86	92	91	87	86	90	85	84	84	85	87	87	85	90	91	91	94	93	89	91	90	87.7	13.7
22	91	91	90	91	92	95	89	90	91	88	79	80	78	76	81	81	85	89	86	88	88	91	90	92	87.1	12.1
23	94	98	95	96	94	92	94	92	93	83	76	75	75	77	75	75	80	78	84	89	93	96	96	94	87.2	11.3
24	95	92	91	93	93	92	90	89	90	86	93	88	89	93	95	94	96	98	97	95	97	96	95	92	92.9	12.9
25	96	97	98	97	97	97	97	97	95	96	93	89	87	85	85	88	85	88	88	89	91	93	93	94	92.3	14.0
26	95	95	96	95	95	96	95	93	90	89	83	81	88	95	97	97	97	98	98	97	98	97	98	98	94.1	12.8
27	99	99	99	99	98	99	98	96	95	85	85	85	81	79	83	85	87	91	92	95	92	96	94	94	92.0	12.9
28	93	97	96	95	96	97	94	95	90	93	87	87	88	88	89	90	90	93	95	95	95	96	93	93	93.1	11.6
29	96	97	95	94	95	93	91	91	85	77	79	78	81	76	69	84	95	96	97	96	90	91	92	95	88.8	14.6
30	94	90	88	87	87	87	89	86	85	73	72	72	70	70	70	71	73	77	79	81	84	84	84	80	80.9	11.4
Mean	90.1	90.4	90.6	91.2	91.3	91.5	89.4	87.9	84.5	79.9	78.0	76.9	76.2	76.2	76.8	78.3	81.1	83.5	85.1	86.9	87.9	88.3	89.6	89.3	85.0	12.7†
Vapour Pressure*	mb. 12.0	mb. 11.9	mb. 11.8	mb. 11.7	mb. 11.6	mb. 11.7	mb. 11.9	mb. 12.4	mb. 13.0	mb. 12.9	mb. 13.1	mb. 13.0	mb. 13.1	mb. 13.1	mb. 13.1	mb. 13.2	mb. 13.2	mb. 13.2	mb. 13.1	mb. 13.0	mb. 12.8	mb. 12.6	mb. 12.4	mb. 12.1	mb. 12.7‡	

108. ABERDEEN: North Wall Screen on Tower:  $h_t$  = 12.5 metres.

OCTOBER, 1933.

Day	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.
1	88	88	88	87	92	90	93	88	87	79	73	76	78	70	69	66	68	75	82	81	78	73	76	84	80.2	10.6
2	89	89	81	80	75	63	71	62	69	59	59	52	54	53	54	61	70	71	76	77	79	81	79	74	70.1	8.4
3	77	83	86	83	86	85	88	86	80	74	78	74	72	67	61	65	73	76	79	83	84	84	85	86	78.7	9.4
4	84	87	87	88	83	81	79	76	71	69	65	60	54	57	61	67	73	87	81	72	78	85	72	73	74.9	11.9
5	75	75	74	74	80	83	79	82	80	78	78	77	75	75	78	82	84	85	87	83	87	81	78	83	79.5	12.1
6	89	93	91	93	89	89	86	83	72	66	69	62	64	64	64	67	76	76	77	81	83	85	86	86	78.7	12.0
7	86	86	87	89	87	87	89	85	87	90	90	94	91	97	93	89	89	89	98	96	96	95	93	97	90.6	12.8
8	96	95	95	97	97	96	95	95	97	100	98	97	98	100	90	93	89	85	85	84	88	95	89	88	93.6	12.6
9	88	89	92	95	87	89	94	95	91	89	90	86	87	88	86	88	90	91	86	87	87	82	84	88.8	12.6	
10	78	75	76	80	81	81	82	81	76	71	70	67	63	62	62	59	64	70	73	74	75	76	76	77	73.0	9.3
11	82	81	83	70	75	79	80	73	69	69	68	72	72	74	80	83	84	86	85	78	81	74	74	72	75.9	9.0
12	72	72	75	67	66	72	73	73	69	66	66	65	71	65	63	64	71	78	81	82	77	77	76	70	71.3	7.3
13	71	74	71	86	87	82	91	87	87	83	83	85	82	79	80	79	80	82	83	80	80	78	82	85	81.2	10.1
14	85	87	89	88	85	86	88	83	77	74	69	68	57	62	67	76	74	76	85	85	84	79	75	77	78.3	10.6
15	76	77	80	80	86	84	83	84	83	77	80	78	79	77	76	74	77	80	71	76	73	69	77	78	78.1	9.6
16	78	81	74	73	74	76	74	71	69	66	60	60	65	67	67	65	68	69	69	68	68	70	71	75	70.0	7.3
17	73	76	75	74	75	74	75	73	71	73	62	67	64	60	64	65	73	79	81	68	70	71	73	76	71.3	7.2
18	77	83	83	86	88	87	93	94	92	91	80	85	87	87	87	89	90	89	85	82	77	78	78	79	85.2	10.9
19	80	77	76	74	73	71	75	75	73	71	76	77	77	77	71	73	74	86	80	76	75	75	75	77	75.6	10.7
20	77	76	77	79	79	76	75	76	78	74	72	68	71	73	78	78	79	78	80	78	75	76	79	79	76.3	10.6
21	82	85	87	91	90	93	91	86	86	89	90	92	89	90	91	90	89	88	90	95	95	94	94	95	89.7	12.3
22	97	94	91	93	97	95	95	98	95	93	88	88	88	88	86	88	89	89	92	96	98	96	93	96	92.4	12.3
23	96	95	95	97	97	98	99	99	99	100	100	100	100	100	100	100	99	99	99	99	97	97	97	96	98.3	13.1
24	96	94	93	89	93	83	84	83	84	83	85	87	87	92	84	87	79	74	73	76	71	65	73	71	83.3	10.4
25	68	69	74	75	69	74	78	76	72	86	87	66	79	97	92	93	90	87	93	90	87	95	87	74	81.5	7.2
26	83	76	75	72	72	69	82	78	69	67	76	75	79	78	75	75	77	77	79	92	85	92	92	90	78.2	6.7
27	81	84	85	98	100	92	87	94	93	93	90	70	70	69	84	70	87	80	87	81	91	86	90	88	85.5	6.7
28	91	88	94	81	98	96	83	80	76	99	100	83	79	70	71	71	69	73	69	73	70	71	76	81	81.1	8.7
29	74	86	79	84	84	86	86	84	83	84	70	67	71	72	72	70	74	72	82	86	88	90	93	95	80.2	8.1
30	92	94	94	86	86	96	93	96	90	88	87	91	88	85	86	86	88	87	86	87	81	80	74	84	87.9	8.2
31	83	85	84	76	76	74	80	75	75	71	72	71	70	69	74	77	78	81	76	90	81	86	89	85	78.2	7.1
Mean	82.7	83.7	83.5	83.4	84.1	83.5	84.5	82.9	80.6	79.7	78.3	75.1	76.2	76.3	76.3	77.1	79.5	81.1	82.4	82.4	81.8	82.0	81.7	82.4	80.9	9.9†
Vapour Pressure *	mb. 9.5	mb. 9.5	mb. 9.6	mb. 9.5	mb. 9.5	mb. 9.4	mb. 9.5	mb. 9.6	mb. 9.7	mb. 10.0	mb. 10.0	mb. 10.0	mb. 10.1	mb. 10.1	mb. 10.0	mb. 9.9	mb. 9.9	mb. 9.9	mb. 9.7	mb. 9.6	mb. 9.5	mb. 9.4	mb. 9.3	mb. 9.4	mb. 9.7‡	
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	



RELATIVE HUMIDITY.  
Percentages at exact hours, Greenwich Mean Time.

109. ABERDEEN: North Wall Screen on Tower:  $h_t$  (height of thermometer bulbs above the ground) = 12.5 metres.

NOVEMBER, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	Vapour* Pressure
Day	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.
1	82	84	85	82	82	80	82	84	78	84	77	73	73	77	81	86	90	96	94	95	83	79	80	79	82.9	7.6
2	75	85	90	84	75	85	83	86	86	94	92	96	87	87	85	89	82	77	72	76	75	77	76	84	83.2	7.6
3	88	86	86	83	81	79	81	84	84	82	86	82	77	81	79	85	84	86	80	80	88	88	84	88	83.3	8.2
4	88	88	87	82	82	84	90	89	86	87	86	83	80	80	74	76	82	83	83	83	84	81	79	83	83.4	7.6
5	84	83	87.5	91	92	85	86	88	86	76	76	75	74	75	75	75	75	78	76	77	80	76	78	84	80.5	8.8
6	78	79	78	73	74	76	75	78	78	77	76	77	74	75	76	71	73	76	79	79	78	77	77	78	75.5	11.2
7	79	82	92	94	89	91	96	98	98	99	99	98	98	90	89	87	89	90	89	92	91	89	89	94	91.4	11.4
8	96	96	96	96	96	98	98	98	94	90	93	90	91	88	88	92	94	96	95	96	98	96	94	98	94.0	11.6
9	94	86	86	89	90	89	90	88	83	83	80	82	93	93	93	96	96	96	93	90	90	88	88	83	89.4	9.5
10	84	78	78	82	84	84	84	85	85	79	79	81	83	82	88	86	90	90	87	90	90	90	92	88	84.9	7.5
11	88	90	90	92	92	90	88	93	88	90	86	87	74	70	73	80	76	85	84	82	83	89	89	85	85.2	7.1
12	84	90	86	91	91	87	85	85	91	93	84	83	76	75	77	85	85	89	89	92	98	91	89	88	86.8	5.9
13	90	90	93	85	87	91	85	90	90	93	91	88	80	80	84	86	91	94	94	88	91	94	84	81	88.5	7.5
14	79	87	85	88	89	89	83	89	88	80	72	72	72	67	81	83	81	78	73	74	72	67	71	67	78.9	7.2
15	70	67	69	66	64	67	63	64	62	68	76	76	71	72	71	79	66	69	72	74	73	83	77	79	70.5	7.8
16	72	79	77	80	77	71	73	80	71	68	70	65	68	81	72	64	77	87	89	92	90	88	88	88	77.6	7.3
17	87	90	90	92	93	91	91	91	93	93	92	86	67	74	72	70	67	60	71	82	83	77	78	67	82.0	7.0
18	78	79	69	78	80	74	75	74	72	79	77	77	78	84	85	86	81	82	80	84	85	88	96	93	80.0	7.7
19	93	95	93	93	91	92	96	96	98	94	92	91	92	92	92	89	91	89	91	92	92	95	93	98	92.8	11.0
20	95	94	92	91	94	94	94	95	98	98	98	99	98	98	98	98	98	98	99	98	98	98	96	95	96.5	11.8
21	98	96	98	96	96	95	96	99	97	95	96	95	95	95	96	94	96	96	96	96	94	93	94	96	95.7	10.8
22	98	94	91	91	88	87	86	84	83	84	83	77	73	73	74	84	87	87	90	87	89	90	91	86	85.9	7.8
23	91	85	90	84	86	89	82	86	83	83	86	83	86	89	89	83	81	86	94	97	86	88	74	90	86.2	7.5
24	93	87	76	67	68	78	76	72	85	86	77	76	74	73	74	72	74	76	75	71	75	75	71	70	75.3	7.4
25	71	72	71	74	74	80	77	79	82	78	78	77	79	82	63	72	75	80	82	81	75	75	72	73	75.9	6.5
26	78	74	78	80	81	79	74	73	73	73	73	76	73	78	83	85	87	91	83	67	80	75	72	72	77.4	6.2
27	81	71	73	77	75	85	79	83	84	81	83	78	81	80	81	90	87	82	87	90	87	84	83	84	81.7	7.7
28	84	82	82	79	77	79	79	80	83	79	86	78	78	89	78	79	86	83	76	80	77	83	86	76	81.0	8.4
29	81	81	74	80	74	87	91	90	90	90	87	87	88	82	80	77	76	75	76	78	77	79	72	71	81.4	7.8
30	70	70	73	80	81	84	82	83	83	70	70	69	66	72	80	77	79	78	77	70	68	75	76	75.4	7.3	
Mean	84.3	84.0	83.8	84.0	83.4	84.7	84.0	85.3	84.9	84.3	83.3	81.9	79.2	81.2	81.0	82.5	83.2	84.5	84.2	84.7	84.4	84.0	83.2	83.1	83.5	8.37
Vapour Pressure*	mb. 8.1	mb. 8.1	mb. 8.0	mb. 8.0	mb. 7.9	mb. 8.0	mb. 7.9	mb. 7.9	mb. 8.0	mb. 8.2	mb. 8.4	mb. 8.5	mb. 8.5	mb. 8.6	mb. 8.5	mb. 8.5	mb. 8.3	mb. 8.3	mb. 8.2	mb. 8.2	mb. 8.1	mb. 8.1	mb. 8.0	mb. 8.0	mb. 8.2	

110. ABERDEEN: North Wall Screen on Tower:  $h_t$  = 12.5 metres.

DECEMBER, 1933.

Day	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.	
1	78	79	76	74	76	74	70	63	63	63	63	72	69	71	70	82	70	74	79	73	61	71	65	62	71.0	7.0
2	76	79	81	80	78	77	76	74	75	79	66	72	80	79	86	77	80	82	76	76	74	71	71	76.6	7.8	
3	80	76	78	70	61	57	57	59	65	61	66	60	62	63	63	66	63	60	62	65	66	68	66	65	65.1	6.3
4	65	65	70	65	67	69	67	70	78	65	68	66	65	68	68	64	64	64	65	68	69	67	67	77	67.3	5.8
5	76	85	91	74	74	69	87	88	87	88	90	92	93	93	94	94	97	97	96	97	98	97	96	96	89.1	7.5
6	97	98	97	99	99	99	99	99	99	98	96	94	94	91	87	87	87	86	88	96	93	86	79	88	93.3	8.7
7	93	94	94	92	94	78	72	72	76	61	71	65	70	70	65	68	65	63	66	65	79	80	57	54	74.2	6.9
8	58	56	56	53	55	55	67	76	79	82	73	74	69	69	71	74	72	72	72	72	73	73	70	70	68.2	5.6
9	71	68	63	63	65	67	70	73	71	70	68	70	72	67	65	68	69	69	68	69	68	70	74	78	68.8	5.1
10	82	85	86	86	84	85	85	83	84	85	82	77	74	79	79	79	84	80	80	82	85	82	80	80	82.0	5.5
11	80	80	77	78	78	77	77	77	75	78	77	71	74	74	78	77	78	80	80	78	78	87	82	80	78.0	6.3
12	82	85	85	89	89	91	94	90	87	86	79	78	83	80	79	86	90	93	77	74	85	74	65	67	83.1	6.8
13	60	63	62	69	69	73	80	66	82	64	82	85	66	73	73	78	87	93	96	94	94	92	89	87	77.8	6.2
14	83	78	80	69	71	69	79	80	82	78	73	74	82	89	89	87	87	87	90	86	87	90	96	96	82.4	6.4
15	95	95	94	92	94	96	92	89	90	92	93	84	82	82	83	85	87	81	87	87	74	84	81	81	87.8	7.3
16	85	78	82	84	85	88	92	92	90	87	84	83	80	80	82	84	87	89	93	92	94	90	94	94	86.8	6.7
17	92	91	85	78	85	84	84	87	88	82	84	85	83	73	75	72	72	77	78	81	81	84	83	82	82.2	7.1
18	85	84	87	89	93	91	93	89	91	87	80	76	76	81	83	84	87	88	90	87	86	90	89	90	86.3	7.0
19	93	90	92	90	88	90	90	88	87	87	83	79	78	78	83	86	84	87	86	87	84	85	83	83	85.9	6.6
20	85	84	85	84	85	87	93	96	92	91	85	79	78	75	79	85	85	81	87	91	89	87	87	87	86.0	6.5
21	87	92	89	90	90	89	84	85	84	84	80	76	75	78	83	81	82	89	86	87	87	86	87	87	84.9	6.7
22	84	84	87	89	89	90	93	93	86	88	89	89	86	91	91	88	88	91	91	91	92	91	87	90	89.0	2.6
23	96	96	96	91	93	97	95	93	93	94	96	94	89	93	91	89	89	88	90	86	92	92	87	93	92.1	8.9
24	89	89	85	82	85	87	92	92	90	94	92	89	86	84	87	85	89	87	85	86	88	93	91	92	88.3	6.5
25	92	94	95	97	95	97	96	97	97	98	97	97	94	94	94	94	93	96	96	96	96	94	93	91	95.1	8.8
26	93	91	91	91	93	90	94	94	94	94	94	90	90	86	85	86	89	93	96	93	88	87	93	93	91.1	8.2
27	95	98	97	95	89	86	82	86	88	88	87	89	89	89	89	90	92	92	90	83	83	78	80	75	88.3	7.5
28	76	80	84	82	79	82	78	79	78	78	69	74	76	76	79	69	73	76	87	82	82	83	87	83	78.7	6.8
29	83	84	86	84	76	84	95	86	82	83	86	89	87	89	88	87	88	90	88	88	87	85	85	85	86.0	7.1
30	80	78	81	86	86	87	89	90	90	88	87	85	82	87	87	91	91	90	89	86	90	83	85	85	86.4	6.8
31	82	80	74	80	80	75	85	83	85	89	79	77	81	76	72	78	80	83	83	84	80	82	79	82	80.4	6.1
Mean	83.0	83.2	83.4	82.1	82.1	81.9	84.1	83.5	84.1	82.6	81.3	80.2	79.5	79.9	80.6	81.3	82.2	83.5	83.8	83.3	83.4	83.4	81.7	82.1	82.3	7.07
Vapour Pressure*	mb. 6.8	mb. 6.8	mb. 6.9	mb. 6.8	mb. 6.8	mb. 6.8	mb. 6.8	mb. 6.8	mb. 6.8	mb. 6.8	mb. 6.9	mb. 7.0	mb. 7.1	mb. 7.2	mb. 7.1	mb. 7.0	mb. 6.9	mb. 7.0	mb. 7.0	mb. 7.0	mb. 7.0	mb. 6.9	mb. 6.8	mb. 6.9		
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	



RELATIVE HUMIDITY AND VAPOUR PRESSURE: ANNUAL MEANS FROM HOURLY VALUES.  
For exact hours, Greenwich Mean Time.

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111. ABERDEEN: North Wall Screen on Tower:  $h_t$  (height of thermometer bulbs above the ground) = 12.5 metres.

1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Relative Humidity.	85.4	85.8	86.1	86.1	85.9	85.1	83.9	81.8	79.3	77.5	75.9	75.3	74.5	74.6	75.3	76.4	77.7	79.1	80.6	81.7	82.6	83.4	84.2	84.5	80.9
Vapour pressure in millibars*.	mb. 9.1	mb. 9.0	mb. 9.0	mb. 8.9	mb. 8.9	mb. 9.0	mb. 9.1	mb. 9.2	mb. 9.3	mb. 9.4	mb. 9.6	mb. 9.6	mb. 9.6	mb. 9.7	mb. 9.7	mb. 9.7	mb. 9.6	mb. 9.6	mb. 9.5	mb. 9.4	mb. 9.3	mb. 9.3	mb. 9.2	mb. 9.1	mb. 9.3

\*Computed from the mean temperature and mean relative humidity.

RELATIVE HUMIDITY: MONTHLY MEANS AND DIURNAL INEQUALITIES.  
The departures from the mean of the day are adjusted for non-cyclic change.†

112. ABERDEEN: North Wall Screen on Tower:  $h_t$  = 12.5 metres.

1933.

Month	Mean	Hour 1.	G.M.T. 2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
Jan.	83.4	+3.2	+3.2	+2.9	+3.5	+2.5	+2.9	+1.7	+0.8	+0.1	-1.1	-3.6	-4.5	-5.8	-5.6	-5.3	-3.1	-0.6	-0.8	+0.3	+1.1	+1.1	+1.8	+2.1	+3.1
Feb.	81.9	+0.8	0.0	+0.1	+0.3	+1.9	+1.9	+2.7	+2.5	0.0	+0.4	-2.2	-3.5	-3.5	-4.2	-3.1	-0.1	+0.7	+1.5	+1.2	-0.8	+0.2	+0.3	+1.3	+1.4
Mar.	79.4	+5.2	+6.4	+6.7	+6.3	+6.6	+6.1	+6.5	+3.9	-0.7	-5.6	-8.3	-8.2	-11.3	-10.9	-9.1	-7.9	-3.7	-0.5	+1.0	+1.3	+2.2	+3.9	+5.5	+4.8
Apr.	79.5	+5.4	+6.3	+6.3	+5.9	+6.1	+5.7	+3.9	-0.4	-4.1	-5.3	-6.3	-5.9	-6.4	-6.0	-5.0	-4.8	-4.9	-3.0	-0.4	+1.2	+0.3	+2.8	+4.1	+4.6
May	82.3	+7.2	+6.9	+7.3	+7.2	+6.8	+5.5	+2.4	-1.1	-3.3	-5.2	-6.4	-6.4	-6.7	-7.0	-6.1	-5.6	-4.8	-3.7	-2.1	-0.5	+1.9	+3.1	+4.8	+5.7
June	78.4	+7.6	+9.0	+10.6	+10.3	+8.9	+6.1	+1.5	-1.4	-4.3	-4.7	-6.1	-6.4	-6.7	-6.3	-6.5	-6.0	-8.7	-6.1	-4.1	-1.5	+1.5	+4.0	+5.1	+5.9
July	78.2	+8.3	+9.6	+9.3	+10.3	+9.3	+6.0	+2.7	-1.8	-5.8	-8.4	-9.4	-8.4	-9.4	-9.2	-9.1	-7.3	-4.9	-5.3	-1.2	+2.5	+4.6	+5.6	+6.4	+6.5
Aug.	76.5	+6.5	+6.9	+8.1	+8.2	+7.8	+5.5	+3.3	-0.3	-4.2	-5.7	-6.5	-7.1	-6.7	-6.9	-6.6	-6.2	-4.3	-1.8	+0.2	+2.4	+2.7	+5.1	+5.4	
Sept.	85.0	+5.0	+5.4	+6.1	+6.3	+6.4	+4.3	+2.9	+0.5	-5.1	-7.0	-8.1	-8.1	-8.8	-8.8	-8.3	-6.7	-3.9	+1.5	+0.1	+1.9	+2.9	+3.3	+4.6	+4.3
Oct.	80.9	+1.9	+2.8	+2.7	+2.5	+3.2	+2.6	+3.7	+2.0	-0.3	-1.2	-2.7	-4.8	-4.8	-4.7	-4.6	-3.9	-1.5	+0.1	+1.4	+1.4	+0.9	+1.0	+0.7	+1.4
Nov.	83.5	+0.7	+0.4	+0.2	+0.4	-0.2	+1.1	+0.4	+1.8	+1.4	+0.8	-0.2	-1.6	-3.6	-2.3	-2.4	-0.9	-0.2	+1.0	+0.8	+1.3	+1.0	+0.7	-0.2	-0.2
Dec.	82.3	+0.7	+0.9	+1.1	-0.2	-0.2	-0.3	+1.8	+1.1	+1.8	+0.3	-1.1	-2.2	-2.8	-2.4	-1.8	-1.1	-0.1	+1.1	+1.4	+0.9	+1.0	+1.0	-0.7	-0.4
Year	80.9	+4.4	+4.8	+5.1	+5.1	+4.9	+4.1	+2.9	+0.8	-1.6	-3.4	-5.0	-5.6	-6.4	-6.2	-5.7	-4.5	-3.2	-1.6	-0.3	+0.7	+1.7	+2.5	+3.2	+3.5

† See page 21.

RAINFALL: ANNUAL TOTALS OF HOURLY VALUES.

Amounts, in millimetres; durations, in hours, for periods of sixty minutes between the exact hours, Greenwich Mean Time.

113. ABERDEEN:  $H_r$  = 11.4 metres + 0.6 metres. up to 31 March.  
24.1 metres + 0.6 metres from 1 April.

1933.

Hour G. M. T.	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to Noon	Noon to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	21 to 22	22 to 23	23 to 24	0 to 24
Amount.	mm. 33.1	mm. 29.9	mm. 27.9	mm. 35.9	mm. 29.2	mm. 24.0	mm. 29.7	mm. 28.8	mm. 32.7	mm. 23.8	mm. 26.9	mm. 20.7	mm. 19.8	mm. 24.3	mm. 34.4	mm. 33.9	mm. 29.3	mm. 27.0	mm. 30.6	mm. 24.9	mm. 22.9	mm. 22.2	mm. 31.0	mm. 29.1	mm. 672.9
Duration.	hr. 29.4	hr. 30.7	hr. 27.1	hr. 31.3	hr. 27.2	hr. 23.8	hr. 29.2	hr. 26.6	hr. 28.2	hr. 18.4	hr. 16.3	hr. 16.2	hr. 20.6	hr. 20.8	hr. 29.8	hr. 30.1	hr. 30.5	hr. 31.6	hr. 28.5	hr. 26.8	hr. 26.1	hr. 31.5	hr. 27.5	hr. 25.2	hr. 633.4

114. ABERDEEN.

NOTES ON RAINFALL.

1933.

Notable Falls of the Year.

There was no fall of outstanding character during 1933. The heaviest falls recorded were 29.5 mm. on March 3rd - 4th; 30.6 mm. on Oct. 8th, 25 mm. of which fell in rather less than 8 hours; and 31.9 mm. on Oct. 23rd, 25 mm. of which fell in 10 hours. The greatest intensities recorded were 5 mm. in 30 min. during a thunderstorm on 28th April, and a similar fall in the same time on 23rd August. The records of the Jardi rate-of-rainfall recorder show that during a fall of 4.9 mm. accompanying a thunderstorm on 11th July a momentary intensity of 123 mm. per hour was registered. The maximum intensity during the thunderstorm on the 28th April already referred to, was 55 mm. per hour.

Dry Periods.

(Periods of 7 days or over with no rainfall or with trifling falls.)

Jan. 20 - 28. 9 days with no rain.  
Mar. 22 - 30. 9 days with trace only.  
May 26 - June 7. 14 days with 0.3 mm.  
June 27 - July 5. 9 days with trace only.  
Sept. 1 - 12. 12 days with 0.2 mm.  
Sept. 27 - Oct. 6. 10 days with 0.2 mm.  
Dec. 15 - 22. 8 days with 0.1 mm.

There were no periods of either partial or absolute drought.

Wet Periods.

There was one rain spell, - from Feb. 16 - Mar. 6. In these 19 days 95.5 mm. were recorded, no day having less than 0.2 mm.  
The period from Oct. 21 to Nov. 3. though not continuously wet, yielded 98 mm.



## RAINFALL

Amounts in millimetres, for periods of sixty minutes, between the exact hours, Greenwich Mean Time.  
 115. ABERDEEN:  $H_r$  (height of receiving surface above M.S.L.) =  $H$  (height of station above M.S.L.) +  $h_r$  (height of receiving surface above ground) = 11.4 metres + 0.6 metres.

JANUARY, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	0-24	Dura- tion 0-24	
Day	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	hr.	
1	.8	.3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.1	1.5
2	...	...	.1	1.7	1.1	.4	...	...	...	...	...	...	...	...	.9	1.9	.1	...	.5	1.3	.3	1.0	1.0	.2	10.5	10.1	
3	.1	.2	.2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.5	2.3
4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.0	2.3
5	4.0	3.6	2.6	2.9	1.9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15.0	5.0
6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
8	...	...	...	...	...	...	...	...	...	...	...	...	1.0	.2	.2	...	...	...	...	...	.2	...	...	...	...	1.6	2.2
9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
11	...	...	...	...	...	...	.2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.2	0.6
12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.4	...	...	...	0.4	0.5
13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15	.2	.2	.6	1.2	.9	.8	.1	.1	.3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4.4	8.9
16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.6	1.0
17	.3	.2	.7	.1	.1	.1	.3	.4	.3	.2	...	...	1.1	...	...	...	...	.2	...	.2	.9	...	.2	...	5.3	12.3	
18	...	...	.1	.2	.2	.1	.8	.2	.1	1.0	.4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3.1	8.7
19	...	...	...	...	...	...	...	...	...	...	...	.6	.1	1.1	.3	...	...	...	...	...	...	...	...	...	...	2.1	3.4
20	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
21	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
28	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
29	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.6	2.7
30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.2	0.5
31	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.7	2.0
Sum.	5.4	4.5	4.3	3.1	4.2	1.4	1.4	0.7	0.7	1.2	0.4	0.6	2.6	1.9	1.6	2.0	0.4	0.4	0.7	2.0	1.4	1.4	1.2	0.8	47.3	64.0	
Total Duration.	hr. 5.0	hr. 3.8	hr. 5.1	hr. 5.0	hr. 5.0	hr. 3.5	hr. 3.4	hr. 2.6	hr. 2.9	hr. 1.4	hr. 0.7	hr. 0.9	hr. 3.0	hr. 2.6	hr. 3.0	hr. 2.0	hr. 1.5	hr. 0.9	hr. 1.6	hr. 3.0	hr. 1.9	hr. 1.2	hr. 2.0	hr. 2.0	hr. 64.0		

116. ABERDEEN:  $H_r$  = 11.4 metres + 0.6 metres.

FEBRUARY, 1933.

1	...	...	...	...	...	...	.1	.9	1.1	.5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2.6	4.0
2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.4	0.5
3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3.8	3.0
4	.2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9.1	5.9
5	1.7	...	.5	.2	...	...	...	...	...	...	...	...	...	1.1	.3	...	...	.2	.1	.1	...	...	...	...	4.2	4.1
6	...	...	...	...	...	...	...	...	...	...	...	...	.1	...	.1	.1	...	...	...	...	...	...	...	...	2.1	3.7
7	.5	.4	.4	.2	.7	...	...	...	...	...	.2	...	...	...	...	.1	.2	.2	.1	...	...	...	...	...	3.0	7.9
8	...	...	...	...	...	...	...	...	...	...	...	.2	.1	...	...	...	...	...	...	...	...	...	...	...	0.3	0.6
9	...	...	...	...	...	...	...	...	...	...	...	...	.5	.2	.4	.9	1.0	...	...	...	...	...	...	...	3.0	4.3
10	...	...	...	...	...	...	...	...	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(.4)	(*)	...	...	...	...	(.2)	(.2)	(.1)	0.9	1.5
11	(.1)	(*)	(*)	(*)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.1	0.1
12	...	(*)	(*)	(*)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14	.6	.3	(*)	...	1.7	...	.2	(*)	(*)	(*)	...	(*)	...	...	(*)	...	(*)	(*)	(*)	...	(*)	...	...	...	2.8	1.5
15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16	...	.1	.3	.5	.1	...	...	...	.1	...	...	...	...	...	.1	...	.1	...	(.1)	(*)	...	.1	...	...	1.4	4.3
17	(*)	(*)	...	(*)	(.1)	(*)	...	...	(*)	(*)	.2	...	.1	(*)	1.0	(*)	(*)	(*)	.2	(*)	.2	.3	.2	...	2.4	2.5
18	(*)	(*)	...	(*)	.7	1.3	1.3	.9	.5	(*)	.1	...	...	(*)	...	(*)	.2	...	...	...	...	.4	.5	...	6.0	5.0
19	.3	.4	(*)	(*)	.2	.3	.6	.2	(*)	.1	...	(*)	...	(*)	.8	(*)	.4	...	...	...	...	...	...	...	3.8	5.2
20	...	...	...	(*)	...	(*)	.5	.9	(*)	.7	...	...	...	...	...	...	.1	.4	.5	...	...	...	...	...	3.9	4.3
21	...	.2	.2	(*)	.1	.6	.7	.2	.1	(*)	.3	.2	.1	...	.7	.5	.2	.3	.1	.2	.2	.2	.1	(*)	5.0	4.7
22	.2	.4	(*)	(*)	.4	.5	.2	.3	.1	(*)	(*)	(*)	...	...	...	(*)	.6	.2	.2	.2	.3	.4	(*)	4.1	3.9	
23	(*)	.2	.5	.2	(*)	...	(*)	2.2	.9	.2	(*)	.4	.2	...	.2	...	...	.3	.5	.7	(*)	(*)	(*)	7.6	5.0	
24	(*)	...	.2	.1	...	...	(*)	(*)	(.1)	(.1)	(*)	...	...	...	.1	.1	.1	...	...	...	(*)	(*)	...	0.6	0.6	
25	...	...	...	...	...	(*)	(*)	(*)	(.1)	(.1)	(*)	...	...	...	...	...	...	...	...	...	...	...	...	...	0.2	0.5
26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.6	.9	1.4	2.0	2.3	7.2	4.4	
27	2.4	2.3	1.7	1.2	1.0	.8	1.0	1.0	.3	...	...	...	...	...	.9	1.0	1.5	2.1	.7	.4	...	...	...	...	18.3	14.5
28	...	...	...	...	...	...	...	...	...	...	...	.1	.1	...	.7	.1	...	...	...	...	...	...	...	...	1.2	3.8
Sum.	6.0	4.3	3.8	2.4	5.0	3.5	4.6	6.6	3.9	1.0	1.0	1.0	1.2	1.6	4.6	3.9	4.1	3.7	2.8	3.7	3.3	6.3	3.3	7.1	94.0	95.8
Total Duration	hr. 4.1	hr. 4.3	hr. 4.0	hr. 3.6	hr. 4.4	hr. 4.4	hr. 5.8	hr. 5.5	hr. 4.4	hr. 1.7	hr. 1.7	hr. 2.1	hr. 3.1	hr. 1.3	hr. 6.0	hr. 5.3	hr. 4.4	hr. 3.3	hr. 3.2	hr. 4.0	hr. 3.1	hr. 5.4	hr. 5.6	hr. 5.1	hr. 95.8	
Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	0-24	



117. **ABERDEEN:**  $H_r$  (height of receiving surface above M.S.L.) =  $H$  (height of station above M.S.L.) +  $h_r$  (height of receiving surface above ground) = 11.4 metres + 0.6 metres.

**MARCH, 1933.**

[illegible]

118. ABERDEEN:  $H_r = 24.1$  metres +  $0.6$  metres.

APRIL, 1933.

[illegible]



MAY, 1933.

**JUNE, 1933.**

[illegible]



121. ABERDEEN: H<sub>r</sub> (height of receiving surface above M.S.L.) = H (height of station above M.S.L.) + h<sub>r</sub> (height of receiving surface above ground) = 24.1 metres + 0.6 metres.

121. ABERDEEN:  $H_r$  (height of receiving surface above M.S.L.) =  $H$  (height of station above M.S.L.) +  $h_r$  (height of receiving surface above ground) = 24.1 metres + 0.6 metres.

122. ABERDEEN:  $H_r = 24.1$  metres +  $0.6$  metres.

**AUGUST, 1933.**

[illegible]



123. ABERDEEN:  $H_r$  (height of receiving surface above M.S.L.) =  $H$  (height of station above M.S.L.) +  $h_r$  (height of receiving surface above ground) = 24.1 metres + 0.6 metres.

[illegible]

OCTOBER, 1933.

[illegible]



125. **ABERDEEN:**  $H_r$  (height of receiving surface above M.S.L.) =  $H$  (height of station above M.S.L.) +  $h_r$  (height of receiving surface above ground) = 24.1 metres + 0.6 metres.

NOVEMBER, 1933.

126. ABERDEEN:  $H_r = 24.1$  metres +  $0.6$  metres.

DECEMBER, 1933.

[illegible]



## DURATION OF BRIGHT SUNSHINE.

For periods of sixty minutes, between the exact hours of Local Apparent Time.

127. ABERDEEN:  $h_s$  (height of recorder above ground) = 20.7 metres.

JANUARY, 1933.

Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day	Per cent. of Possible
Day	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%
1	---	---	---	---	---	---	---	1.0	1.0	.9	1.0	.2	---	---	---	---	---	---	4.1	61
2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0	0
3	---	---	---	---	---	---	2	1.0	1.0	.7	---	---	---	---	---	---	---	---	2.9	43
4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0	0
5	---	---	---	---	---	---	.5	1.0	1.0	1.0	.9	.2	---	---	---	---	---	---	4.6	68
6	---	---	---	---	---	---	.2	.3	.5	1.0	.9	.6	---	---	---	---	---	---	3.5	51
7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0	0
8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0	0
9	---	---	---	---	---	---	.8	1.0	1.0	1.0	.9	.6	---	---	---	---	---	---	5.3	76
10	---	---	---	---	---	---	---	1.0	1.0	.6	---	---	---	---	---	---	---	---	2.6	37
11	---	---	---	---	---	---	---	.2	.9	1.0	1.0	.9	---	---	---	---	---	---	4.0	56
12	---	---	---	---	---	---	.5	1.0	.9	.4	---	---	---	---	---	---	---	---	2.8	39
13	---	---	---	---	---	---	.1	.7	1.0	.8	.6	---	---	---	---	---	---	---	3.2	44
14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0	0
15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0	0
16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0	0
17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0	0
18	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0	0
19	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0	0
20	---	---	---	---	---	---	---	---	---	.7	.3	---	---	---	---	---	---	---	1.0	13
21	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0	0
22	---	---	---	---	---	---	---	---	1.0	1.0	1.0	.2	---	---	---	---	---	---	3.2	42
23	---	---	---	---	---	---	---	---	.5	.8	.2	---	---	---	---	---	---	---	1.5	19
24	---	---	---	---	---	---	.2	.9	1.0	.8	.8	.7	---	---	---	---	---	---	4.4	56
25	---	---	---	---	---	---	---	.2	.6	.6	.5	---	---	---	---	---	---	---	1.9	24
26	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0	0
27	---	---	---	---	---	---	---	---	.3	.8	1.0	.4	---	---	---	---	---	---	2.5	31
28	---	---	---	---	---	---	.2	1.0	1.0	1.0	.9	.3	---	---	---	---	---	---	4.4	54
29	---	---	---	---	---	---	---	---	---	---	.5	---	---	---	---	---	---	---	0.5	6
30	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0	0
31	---	---	---	---	---	---	---	.1	.5	.3	---	---	---	---	---	---	---	---	0.9	11
Sum	---	---	---	---	---	---	2.7	9.4	13.2	13.4	10.5	4.1	---	---	---	---	---	---	53.3	-
Mean	---	---	---	---	---	---	.00	.30	.43	.43	.34	.13	---	---	---	---	---	---	1.72	23

128. ABERDEEN:  $h_s$  = 20.7 metres.

FEBRUARY, 1933.

Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day	Per cent. of Possible
1	---	---	---	---	---	---	---	---	.8	1.0	.7	.6	.6	---	---	---	---	---	3.7	44
2	---	---	---	---	---	.4	1.0	1.0	.8	.7	.8	1.0	.1	---	---	---	---	---	5.8	69
3	---	---	---	---	---	---	.4	1.0	1.0	.9	.3	---	---	---	---	---	---	---	3.6	42
4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0	0
5	---	---	---	---	---	---	.4	.3	---	---	---	---	---	---	---	---	---	---	0.7	8
6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0	0
7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0	0
8	---	---	---	---	---	.3	.5	---	---	---	---	---	---	---	---	---	---	---	0.8	9
9	---	---	---	---	---	.3	1.0	.4	---	---	---	---	---	---	---	---	---	---	1.7	19
10	---	---	---	---	---	---	.1	.1	.4	.2	.7	.7	.6	---	---	---	---	---	2.8	22
11	---	---	---	---	---	---	.8	1.0	1.0	1.0	1.0	.8	.2	---	---	---	---	---	5.8	64
12	---	---	---	---	---	---	.5	1.0	1.0	.2	.4	.6	.4	---	---	---	---	---	4.1	45
13	---	---	---	---	---	.2	.4	.3	---	---	.4	.4	.1	---	---	---	---	---	2.2	24
14	---	---	---	---	---	---	.2	1.0	.2	---	---	---	---	---	---	---	---	---	1.4	15
15	---	---	---	---	---	.2	.3	.5	.5	.1	.8	.4	.4	---	---	---	---	---	3.2	34
16	---	---	---	---	---	---	---	---	---	.1	---	---	---	---	---	---	---	---	0.1	1
17	---	---	---	---	---	.2	.2	.6	.4	.8	.2	.4	.2	---	---	---	---	---	3.0	31
18	---	---	---	---	---	---	.4	.2	---	---	---	.4	---	---	---	---	---	---	1.0	10
19	---	---	---	---	---	.4	.3	1.0	1.0	.6	.7	.4	---	---	---	---	---	---	4.4	45
20	---	---	---	---	---	---	---	.1	.1	.1	1.0	.9	.8	.2	---	---	---	---	3.2	32
21	---	---	---	---	---	.5	.8	1.0	.6	1.0	1.0	.6	---	---	---	---	---	---	5.5	56
22	---	---	---	---	---	.8	.9	1.0	.8	1.0	.9	.6	.5	---	---	---	---	---	6.5	65
23	---	---	---	---	---	.1	---	.5	.7	.5	1.0	.9	1.0	.3	---	---	---	---	5.0	50
24	---	---	---	---	.4	.9	.9	.8	.9	1.0	.6	.3	---	---	---	---	---	---	5.8	57
25	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0	0
26	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0	0
27	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0	0
28	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0	0
Sum	---	---	---	---	.4	4.3	8.9	11.1	11.3	9.4	10.5	9.0	4.9	.5	---	---	---	---	70.3	-
Mean	---	---	---	---	.01	.15	.32	.40	.40	.34	.37	.32	.17	.02	---	---	---	---	2.51	27



## DURATION OF BRIGHT SUNSHINE.

125

129. ABERDEEN:  $h_s$  (height of recorder above ground) = 20.7 metres.

MARCH, 1933.

Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day	Per cent. of Possible
Day	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%
1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0	0
2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0	0
3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0	0
4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0	0
5	--	--	--	--	--	1.0	1.0	1.0	1.0	1.0	.9	.5	--	--	--	--	--	--	6.4	59
6	--	--	--	--	.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.8	.3	--	--	--	--	8.4	77
7	--	--	--	--	--	--	.5	.6	.2	--	.9	1.0	.9	.1	--	--	--	--	4.2	34
8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0	0
9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0	0
10	--	--	--	--	--	--	.5	.9	.4	.6	--	--	--	--	--	--	--	--	2.4	21
11	--	--	--	--	--	.4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.7	--	--	--	--	8.1	71
12	--	--	--	--	--	.1	.3	.4	1.0	1.0	1.0	.8	--	--	--	--	--	--	4.6	40
13	--	--	--	--	--	.1	1.0	1.0	1.0	1.0	1.0	.1	--	--	--	--	--	--	6.2	54
14	--	--	--	--	--	.7	.5	.6	.9	.6	1.0	.3	.1	--	--	--	--	--	5.7	49
15	--	--	--	--	--	.8	1.0	1.0	.9	1.0	.5	--	--	--	--	--	--	--	5.2	44
16	--	--	--	.3	1.0	1.0	1.0	.9	.6	.9	.2	.6	.7	.8	--	--	--	--	8.0	68
17	--	--	--	--	--	--	.2	.6	1.0	1.0	1.0	1.0	.1	--	--	--	--	--	4.9	42
18	--	--	--	--	--	.9	.6	.5	.2	.2	.8	.5	.8	.1	--	--	--	--	4.6	39
19	--	--	--	--	--	.9	1.0	1.0	1.0	.4	--	.6	.5	--	--	--	--	--	6.4	53
20	--	--	--	.4	1.0	1.0	1.0	1.0	.8	1.0	1.0	.8	.8	.8	--	--	--	--	9.6	79
21	--	--	--	--	.1	.1	.1	.7	.1	--	--	--	--	--	--	--	--	--	1.1	9
22	--	--	--	--	.2	.6	1.0	1.0	1.0	1.0	1.0	.9	.3	--	--	--	--	--	7.0	57
23	--	--	--	--	.1	1.0	1.0	.7	.8	1.0	1.0	.9	--	--	--	--	--	--	6.5	53
24	--	--	--	--	--	.4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.9	--	--	--	--	8.3	67
25	--	--	--	--	.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.6	--	--	--	--	8.7	69
26	--	--	--	--	.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.3	.1	--	--	--	--	8.1	64
27	--	--	--	--	.4	.9	.2	.1	1.0	1.0	.9	.1	--	--	--	--	--	--	4.6	36
28	--	--	--	.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.5	--	--	--	10.6	83
29	--	--	--	--	.1	.7	1.0	1.0	1.0	1.0	1.0	1.0	.7	.2	.1	--	--	--	7.8	61
30	--	--	--	--	.8	1.0	.7	.7	.2	.6	.3	.6	.5	.1	.2	--	--	--	5.7	44
31	--	--	--	--	.5	.7	1.0	.9	.3	--	--	--	--	--	.1	--	--	--	3.5	27
Sum	--	--	--	.8	8.1	17.5	19.6	20.5	19.5	18.8	18.0	16.4	10.7	5.8	.9	--	--	--	156.6	--
Mean	--	--	--	.03	.26	.56	.63	.66	.63	.61	.58	.53	.35	.19	.03	--	--	--	5.05	43

130. ABERDEEN:  $h_s$  = 20.7 metres.

APRIL, 1933.

Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day	Per Cent. of Possible
1	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%
1	--	--	--	--	.5	.9	.8	.5	.7	.8	.7	.8	.8	1.0	.7	--	--	--	8.2	63
2	--	--	--	--	--	--	--	--	--	.1	--	--	--	--	--	--	--	--	0.1	1
3	--	--	--	--	--	--	--	--	--	.3	.7	.3	.2	--	--	--	--	--	1.6	12
4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0	0
5	--	--	--	--	--	--	--	--	--	.1	.2	--	--	--	--	--	--	--	0.3	2
6	--	--	--	.7	.9	.7	.1	--	--	--	--	.2	.1	--	--	--	--	--	2.7	21
7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0	0
8	--	--	--	--	--	--	--	--	--	--	.8	1.0	.9	.5	--	--	--	--	3.2	24
9	--	--	--	.2	1.0	1.0	.9	.7	.8	.3	.8	.5	.9	1.0	--	--	--	--	8.1	50
10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0	0
11	--	--	--	--	.2	.7	.9	.9	.7	.2	.4	.3	--	--	--	--	--	--	4.3	31
12	--	--	--	.5	.9	1.0	.9	1.0	1.0	.8	.4	.7	.8	1.0	.7	.4	--	--	11.1	80
13	--	--	--	.1	.7	1.0	.9	.9	.7	.9	.2	.6	1.0	.1	--	--	--	--	7.1	51
14	--	--	--	--	--	--	--	.2	.7	.9	.6	.6	--	--	--	--	--	--	3.6	26
15	--	--	--	--	--	--	--	--	.4	--	--	--	--	--	--	--	--	--	0.4	3
16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0	0
17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0	0
18	--	--	--	.1	.7	.8	.7	.9	.6	1.0	.9	.8	.6	.7	.7	.5	--	--	10.0	69
19	--	--	--	--	--	--	--	--	--	.1	.2	.4	--	--	--	--	--	--	0.7	5
20	--	--	--	--	--	.1	--	.6	.3	.2	.1	.1	--	--	--	--	--	--	1.4	10
21	--	--	--	--	--	--	.2	.2	.1	--	--	--	--	--	--	--	--	--	0.5	3
22	--	--	--	--	.1	.1	--	.4	.3	--	--	--	--	--	.1	.2	--	--	1.2	8
23	--	--	--	.7	1.0	1.0	1.0	1.0	1.0	1.0	.8	1.0	1.0	1.0	.4	--	--	--	10.9	74
24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0	0
25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0	0
26	--	--	.1	.6	.9	1.0	1.0	1.0	1.0	1.0	1.0	.7	.6	--	--	--	--	--	8.9	59
27	--	--	--	--	--	.7	1.0	1.0	1.0	.9	.8	.8	.9	1.0	.9	.5	--	--	9.5	63
28	--	--	.4	.5	1.0	1.0	1.0	1.0	.9	.4	.2	--	.3	--	--	--	--	--	6.7	44
29	--	--	--	.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.4	--	--	--	--	--	8.9	58
30	--	--	--	--	--	--	--	--	.3	.2	.2	.5	.4	.6	.8	.6	--	--	3.6	23
Sum	--	--	1.2	5.5	9.4	10.7	10.9	11.2	12.3	8.9	10.1	11.1	8.1	7.1	4.3	2.2	--	--	113.0	--
Mean	--	--	.04	.18	.31	.36	.36	.37	.41	.30	.34	.37	.27	.24	.14	.07	--	--	3.77	26



## DURATION OF BRIGHT SUNSHINE.

For periods of sixty minutes, between the exact hours of Local Apparent Time.

131. ABERDEEN.  $h_s$  (height of recorder above ground) = 20.7 metres.

MAY, 1933.

Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day	Per cent of Possible
Day	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%
1	---	---	0.1	---	0.8	0.5	---	---	0.1	---	0.1	---	---	0.4	0.1	---	---	---	2.1	14
2	---	---	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.7	---	---	13.6	88
3	---	---	---	---	0.1	---	---	---	---	0.8	0.8	0.9	0.1	0.1	---	---	---	---	0.1	1
4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2.8	18
5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0	0
6	---	---	---	---	---	---	---	---	0.5	0.8	0.4	0.5	0.7	0.5	0.9	0.5	---	---	4.8	30
7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0	0
8	---	---	---	---	---	---	0.1	0.7	0.3	0.2	0.1	0.1	---	0.1	---	---	---	---	1.8	10
9	---	---	---	---	0.7	0.9	0.9	0.9	0.4	0.2	0.2	---	---	---	---	---	---	---	4.2	26
10	---	---	---	---	---	0.4	0.3	0.3	0.2	0.3	0.4	0.6	0.5	0.1	0.3	---	---	---	3.4	21
11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0	0
12	---	---	---	0.2	---	0.3	---	0.6	---	0.7	0.6	0.3	---	---	---	---	---	---	2.7	17
13	---	---	---	0.4	1.0	0.9	0.4	0.2	0.3	0.5	0.6	0.3	0.5	0.1	0.1	---	---	---	5.3	33
14	---	0.1	0.1	0.2	0.2	---	0.5	1.0	0.6	0.5	0.5	0.7	0.4	---	---	---	---	---	5.3	32
15	---	0.2	0.9	0.9	0.6	0.6	1.0	1.0	0.6	0.5	0.4	---	0.2	0.3	0.3	1.0	0.5	---	9.0	56
16	---	0.2	1.0	1.0	0.8	0.8	0.4	---	---	---	---	---	---	---	---	---	---	---	4.2	25
17	---	---	---	0.1	0.5	1.0	0.8	0.3	1.0	1.0	1.0	1.0	0.6	1.0	1.0	0.4	---	---	9.7	59
18	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0	0
19	---	---	0.4	0.2	0.6	0.3	1.0	1.0	1.0	0.9	---	0.4	0.9	0.9	0.2	---	---	---	7.7	46
20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0	0
21	---	---	---	0.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.7	---	---	11.8	70
22	---	---	---	---	---	---	---	0.8	0.9	0.9	1.0	0.8	0.3	0.1	---	---	---	---	4.8	28
23	---	---	---	0.2	0.7	0.9	0.1	---	---	---	---	0.1	---	---	---	---	---	---	2.0	12
24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0	0
25	---	---	---	---	---	---	---	---	0.1	---	---	---	---	---	---	---	---	---	0.1	1
26	---	0.2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.3	0.2	0.8	0.8	---	---	---	---	11.2	66
27	---	---	---	---	---	---	0.1	0.1	0.1	---	---	---	---	---	---	---	---	---	0.3	2
28	---	---	---	0.2	0.4	---	---	---	0.1	---	---	---	---	---	---	---	---	---	0.7	4
29	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2	0.4	0.3	---	0.9	5
30	---	0.7	0.6	---	---	---	---	0.5	0.8	0.9	1.0	1.0	1.0	1.0	1.0	0.9	0.6	---	10.0	58
31	---	---	0.2	---	---	---	---	---	0.6	0.9	1.0	1.0	1.0	1.0	1.0	0.4	---	---	7.1	41
Sum	---	1.4	5.2	5.5	9.3	9.6	8.6	9.6	10.6	12.1	10.9	10.0	9.2	9.0	8.0	5.0	1.4	---	125.4	--
Mean	---	0.05	0.17	0.18	0.30	0.31	0.28	0.31	0.34	0.39	0.35	0.32	0.30	0.29	0.26	0.16	0.05	---	4.05	25

132. ABERDEEN:  $h_s$  = 20.7 metres.

JUNE, 1933.

Hour	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%
1	---	---	---	---	---	---	---	---	---	---	0.6	1.0	1.0	1.0	0.7	---	---	---	4.3	25
2	---	---	---	---	---	---	---	0.2	0.5	---	---	---	0.1	---	---	---	---	---	0.8	5
3	---	---	---	---	0.2	1.0	1.0	0.3	---	0.4	0.4	0.4	---	0.2	0.3	0.3	---	---	4.5	26
4	---	---	0.4	0.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.7	---	13.8	79
5	---	0.1	1.0	1.0	0.9	0.8	0.5	0.6	0.9	0.9	0.5	0.6	0.7	0.2	0.1	---	0.2	---	9.0	51
6	---	0.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.1	15.7	89
7	---	0.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.6	---	15.3	87
8	---	---	0.7	0.8	1.0	1.0	1.0	1.0	0.7	0.5	0.6	0.3	---	---	---	---	---	---	7.6	43
9	---	---	0.9	0.6	0.3	---	0.1	---	---	---	---	---	---	---	0.1	0.4	0.4	0.1	2.8	16
10	---	0.8	0.9	1.0	0.6	0.5	---	---	---	---	---	---	---	---	---	---	---	---	3.8	21
11	---	---	---	0.2	0.4	---	---	---	0.1	0.5	0.2	0.1	---	---	0.1	1.0	1.0	0.3	3.9	22
12	0.2	1.0	1.0	1.0	0.2	---	---	---	---	---	---	---	---	0.2	---	---	---	---	3.6	20
13	---	0.1	0.7	0.8	1.0	1.0	1.0	1.0	0.6	0.8	0.6	1.0	1.0	1.0	1.0	1.0	0.4	0.1	12.1	68
14	---	---	---	---	0.9	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.8	---	12.5	70
15	---	---	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.6	0.7	0.5	0.1	---	---	---	10.7	60
16	---	---	0.2	1.0	0.6	0.9	1.0	0.9	0.4	0.6	0.4	---	---	---	---	---	---	---	6.0	34
17	0.3	0.9	0.2	0.1	0.4	0.3	---	1.0	0.9	0.8	0.1	---	1.0	0.1	---	---	0.1	---	6.2	35
18	---	---	0.5	1.0	0.9	0.7	---	0.5	1.0	0.8	1.0	0.8	0.8	0.5	0.2	---	---	---	8.9	50
19	---	---	---	1.0	0.6	1.0	0.8	1.0	1.0	1.0	1.0	1.0	0.8	1.0	0.6	0.3	---	---	11.1	62
20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0	0
21	---	0.3	1.0	1.0	1.0	1.0	0.5	0.5	0.8	0.5	0.7	0.6	0.6	0.1	0.7	0.5	0.2	---	10.0	56
22	---	---	---	0.1	0.3	---	0.3	0.3	0.8	0.9	1.0	1.0	0.9	1.0	1.0	0.7	---	---	8.8	48
23	---	---	---	---	---	0.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.3	---	9.4	53
24	---	---	---	0.4	0.2	0.1	0.6	0.9	1.0	1.0	1.0	0.7	---	---	---	0.7	0.4	0.3	7.3	41
25	---	---	---	0.3	0.1	0.9	0.7	0.2	0.1	0.8	0.9	1.0	1.0	1.0	1.0	0.7	---	---	8.7	49
26	---	---	---	---	---	---	---	---	0.1	0.4	0.6	1.0	1.0	1.0	1.0	0.7	0.1	---	5.9	33
27	---	---	---	---	---	0.2	---	---	0.5	0.2	---	---	---	---	---	0.5	---	---	1.4	8
28	---	1.0	1.0	0.5	0.6	1.0	1.0	1.0	1.0	0.9	1.0	1.0	1.0	0.6	0.7	0.7	0.2	0.4	13.6	76
29	---	1.0	1.0	0.7	---	0.4	0.2	0.4	1.0	1.0	1.0	1.0	0.8	0.5	1.0	0.7	---	---	11.4	64
30	---	---	---	---	---	0.2	0.8	0.7	0.9	1.0	1.0	1.0	1.0	0.9	---	---	---	---	7.5	42
Sum	0.5	6.5	12.3	15.1	14.9	15.9	15.5	16.5	18.5	19.2	18.6	18.1	17.4	14.8	13.6	11.9	5.8	1.2	236.3	--
Mean	0.02	0.22	0.41	0.50	0.50	0.53	0.52	0.55	0.62	0.64	0.62	0.60	0.58	0.49	0.45	0.40	0.19	0.04	7.88	45
Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day	Per cent. of Possible







## DURATION OF BRIGHT SUNSHINE.

For periods of sixty minutes, between the exact hours of Local Apparent Time.

135. ABERDEEN:  $h_s$  (height of recorder above ground) = 20.7 metres.

SEPTEMBER, 1933.

Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day	Per cent. of Possible
Day	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%
1	--	--	...	..6	..5	..4	...	..1	..5	..6	..6	..6	..2	..6	..5	..2	--	--	5.4	39
2	--	--	...	...	...	..9	..6	...	...	...	..2	..1	..7	..8	...	...	--	--	3.3	24
3	--	--	...	...	...	...	..3	..6	..8	..6	..6	..5	..5	..1	...	...	--	--	4.0	29
4	--	--	...	...	...	...	..6	1.0	..6	..5	...	..1	..9	1.0	..6	...	--	--	5.3	39
5	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	--	--	0.0	0
6	--	--	...	...	...	...	...	..7	..7	..4	..8	1.0	..5	...	...	...	--	--	4.1	30
7	--	--	...	...	...	...	...	...	...	...	...	..6	..8	..5	..2	...	--	--	2.1	16
8	--	--	...	...	...	..1	..9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	..3	...	--	--	8.3	62
9	--	--	...	..5	..7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	...	--	--	11.2	84
10	--	--	...	..9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	...	--	--	11.9	90
11	--	--	...	...	...	...	..1	..3	1.0	..6	...	..2	..8	..5	...	...	--	--	3.5	27
12	--	--	...	...	..3	1.0	1.0	..6	..8	..9	..8	..6	1.0	..9	..1	...	--	--	8.0	62
13	--	--	...	...	...	...	..2	..9	..8	..9	..8	..9	1.0	1.0	..3	...	--	--	6.8	53
14	--	--	...	...	..7	..5	1.0	..6	..6	..4	..2	..4	...	...	...	...	--	--	4.4	34
15	--	--	...	...	..1	..7	..4	1.0	1.0	..6	..4	..3	..3	...	..5	...	--	--	5.3	41
16	--	--	...	..5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	..5	...	--	--	11.0	87
17	--	--	...	..4	1.0	1.0	..9	1.0	1.0	..9	1.0	1.0	1.0	..6	...	...	--	--	9.8	78
18	--	--	...	...	..8	1.0	1.0	1.0	1.0	1.0	1.0	..9	..6	..2	...	...	--	--	8.5	68
19	--	--	...	...	...	...	...	...	...	..2	..7	..8	..9	..4	...	...	--	--	3.0	24
20	--	--	...	...	...	...	..2	...	...	...	...	...	...	...	...	...	--	--	0.2	2
21	--	--	...	...	...	..1	..1	..5	..1	...	..6	..9	..6	...	...	...	--	--	2.9	24
22	--	--	...	...	...	...	..1	..1	..3	..1	..4	..2	..1	..1	...	...	--	--	1.4	11
23	--	--	...	...	..2	..5	...	..1	..4	..9	..2	...	...	...	...	...	--	--	2.3	19
24	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	--	--	0.0	0
25	--	--	...	...	...	...	...	...	...	...	..9	..2	...	...	...	...	--	--	1.1	9
26	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	--	--	0.0	0
27	--	--	...	...	..1	..7	..1	..1	..2	1.0	1.0	1.0	1.0	1.0	...	--	--	6.2	53	
28	--	--	...	...	..7	..1	...	..1	..4	1.0	..4	..1	...	...	...	...	--	--	2.8	24
29	--	--	...	...	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	..8	...	--	--	9.6	84	
30	--	--	...	...	...	...	..1	..5	..5	..7	..6	..7	..9	..9	...	--	--	5.1	44	
Sum	--	--	...	2.9	8.1	11.0	11.6	14.2	15.7	16.3	16.4	16.1	16.8	13.4	5.0	..2	--	--	147.7	--
Mean	--	--	...	..10	..27	..37	..39	..47	..52	..54	..55	..54	..56	..45	..17	..01	--	--	4.92	39

136. ABERDEEN:  $h_s$  = 20.7 metres.

OCTOBER, 1933.

	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%
1	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	48
2	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	16
3	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11
4	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	16
5	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4
6	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0
7	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3
8	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8
9	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0
10	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	45
11	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	21
12	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	35
13	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12
14	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	40
15	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
16	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	18
17	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	49
18	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	29
19	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0
20	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	40
21	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0
22	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	21
23	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0
24	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0
25	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	39
26	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
27	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	38
28	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10
29	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	67
30	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
31	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	76
Sum	--	--	--	...	2.3	7.2	8.4	9.5	7.6	8.3	8.1	6.0	5.3	3.1	0.2	--	--	--	66.0	--
Mean	--	--	--	...	.07	.23	.27	.31	.25	.27	.26	.19	.17	.10	.01	--	--	--	2.13	21
Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day	Per cent. of Possible



## DURATION OF BRIGHT SUNSHINE.

129

For periods of sixty minutes, between the exact hours of Local Apparent Time.

137. ABERDEEN:  $h_s$  (height of recorder above ground) = 20.7 metres.

NOVEMBER, 1933.

Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day	Per Cent. of Possible
Day	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%
1	--	--	--	--	...	1.0	1.0	.9	.3	.2	...	...	...	...	--	--	--	--	3.4	37
2	--	--	--	--	...	.2	.4	...	...	...	...	...	...	...	--	--	--	--	0.6	7
3	--	--	--	--	...	.5	.7	.5	.4	.6	.6	.4	.5	...	--	--	--	--	4.2	47
4	--	--	--	--	...	...	...	...	...	...	.2	...	...	...	--	--	--	--	0.2	2
5	--	--	--	--	...	...	.2	...	...	...	...	...	...	...	--	--	--	--	0.2	2
6	--	--	--	--	...	...	.1	.7	.6	.1	.1	.1	.2	...	--	--	--	--	1.9	22
7	--	--	--	--	...	...	...	...	...	...	...	...	...	...	--	--	--	--	0.0	0
8	--	--	--	--	...	...	.1	1.0	1.0	.4	.1	...	...	...	--	--	--	--	2.6	31
9	--	--	--	--	...	.3	1.0	.1	...	...	...	...	...	...	--	--	--	--	1.4	16
10	--	--	--	--	...	.3	.6	.5	1.0	.7	.8	.4	.3	...	--	--	--	--	4.6	55
11	--	--	--	--	...	.7	.8	1.0	1.0	.8	.8	...	...	...	--	--	--	--	5.1	61
12	--	--	--	--	...	...	...	.4	1.0	1.0	1.0	.6	...	...	--	--	--	--	4.0	49
13	--	--	--	--	...	...	...	...	...	...	...	...	...	...	--	--	--	--	0.0	0
14	--	--	--	--	...	.3	1.0	1.0	1.0	1.0	1.0	1.0	.1	...	--	--	--	--	8.4	79
15	--	--	--	--	...	...	...	...	...	...	...	...	...	...	--	--	--	--	0.0	0
16	--	--	--	--	...	...	...	.1	.1	.2	.4	...	...	...	--	--	--	--	0.8	10
17	--	--	--	--	...	...	.1	.1	.6	.1	...	...	...	...	--	--	--	--	0.9	11
18	--	--	--	--	...	...	.1	...	.1	...	...	...	...	...	--	--	--	--	0.2	3
19	--	--	--	--	...	...	...	...	...	...	...	...	...	...	--	--	--	--	0.0	0
20	--	--	--	--	...	...	...	...	...	...	...	...	...	...	--	--	--	--	0.0	0
21	--	--	--	--	...	...	...	...	...	...	...	...	...	...	--	--	--	--	0.0	0
22	--	--	--	--	...	...	.1	1.0	1.0	1.0	1.0	1.0	.3	...	--	--	--	--	5.4	71
23	--	--	--	--	...	...	.4	.9	.3	.5	...	...	...	...	--	--	--	--	2.1	28
24	--	--	--	--	...	...	.1	...	...	...	...	...	...	...	--	--	--	--	0.1	1
25	--	--	--	--	...	...	...	...	...	...	...	.2	...	...	--	--	--	--	0.2	3
26	--	--	--	--	...	...	.1	.6	.6	.6	.4	...	...	...	--	--	--	--	2.3	32
27	--	--	--	--	...	...	...	...	...	...	.2	...	...	...	--	--	--	--	0.2	3
28	--	--	--	--	...	...	...	...	...	...	...	...	...	...	--	--	--	--	0.0	0
29	--	--	--	--	...	...	...	...	...	...	...	...	...	...	--	--	--	--	0.0	0
30	--	--	--	--	...	...	...	...	...	...	...	...	...	...	--	--	--	--	0.0	0
Sum	--	--	--	--	...	3.3	6.8	8.8	9.0	7.2	6.6	3.7	1.4	...	--	--	--	--	46.8	--
Mean	--	--	--	--	...	.11	.23	.29	.30	.24	.22	.12	.05	...	--	--	--	--	1.56	19

138. ABERDEEN:  $h_s$  = 20.7 metres.

DECEMBER, 1933.

	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%
1	--	--	--	--	--	...	...	...	...	...	...	...	...	...	--	--	--	--	0.0	0
2	--	--	--	--	--	...	...	...	...	...	...	...	...	...	--	--	--	--	0.0	0
3	--	--	--	--	--	...	...	...	...	...	...	...	...	...	--	--	--	--	0.0	0
4	--	--	--	--	--	...	...	...	...	...	...	...	...	...	--	--	--	--	0.0	0
5	--	--	--	--	--	...	...	...	...	...	...	...	...	...	--	--	--	--	0.0	0
6	--	--	--	--	--	...	...	.1	.1	...	...	...	...	...	--	--	--	--	0.2	3
7	--	--	--	--	--	...	...	.2	.1	.2	...	...	...	...	--	--	--	--	0.5	7
8	--	--	--	--	--	...	...	...	...	...	...	...	...	...	--	--	--	--	0.0	0
9	--	--	--	--	--	...	...	...	...	.1	...	...	...	...	--	--	--	--	0.1	1
10	--	--	--	--	--	...	...	.8	1.0	.1	.2	.2	...	...	--	--	--	--	2.3	34
11	--	--	--	--	--	...	...	...	...	...	...	...	...	...	--	--	--	--	0.0	0
12	--	--	--	--	--	...	...	...	...	...	...	...	...	...	--	--	--	--	0.0	0
13	--	--	--	--	--	...	...	...	...	...	...	.2	...	...	--	--	--	--	0.2	3
14	--	--	--	--	--	...	...	.3	.9	.1	.2	.1	...	...	--	--	--	--	1.6	24
15	--	--	--	--	--	...	...	.3	1.0	1.0	1.0	1.0	.2	...	--	--	--	--	4.5	68
16	--	--	--	--	--	...	...	.1	.1	.7	.1	...	...	...	--	--	--	--	1.0	15
17	--	--	--	--	--	...	...	...	...	...	.1	...	...	...	--	--	--	--	0.1	2
18	--	--	--	--	--	...	...	.1	1.0	1.0	1.0	.4	...	...	--	--	--	--	4.5	68
19	--	--	--	--	--	...	...	.4	1.0	1.0	1.0	.2	...	...	--	--	--	--	4.6	70
20	--	--	--	--	--	...	...	...	1.0	.9	.9	.1	...	...	--	--	--	--	3.7	56
21	--	--	--	--	--	...	...	.3	1.0	1.0	1.0	1.0	...	...	--	--	--	--	4.3	65
22	--	--	--	--	--	...	...	.6	1.0	1.0	1.0	.8	...	...	--	--	--	--	3.4	52
23	--	--	--	--	--	...	...	...	...	...	.3	.6	.1	...	--	--	--	--	1.0	15
24	--	--	--	--	--	...	...	...	...	.4	.3	...	...	...	--	--	--	--	0.7	11
25	--	--	--	--	--	...	...	...	.8	.2	.2	...	...	...	--	--	--	--	1.2	18
26	--	--	--	--	--	...	...	...	...	...	.1	...	...	...	--	--	--	--	0.1	2
27	--	--	--	--	--	...	...	...	...	...	...	...	...	...	--	--	--	--	0.0	0
28	--	--	--	--	--	...	...	...	...	...	...	...	...	...	--	--	--	--	0.0	0
29	--	--	--	--	--	...	...	...	...	...	...	...	...	...	--	--	--	--	0.0	0
30	--	--	--	--	--	...	...	.1	.9	1.0	.8	...	...	...	--	--	--	--	2.8	42
31	--	--	--	--	--	...	...	.1	1.0	.8	.2	...	...	...	--	--	--	--	2.1	32
Sum	--	--	--	--	--	...	1.8	9.5	10.4	8.8	6.9	1.5	...	...	--	--	--	--	38.9	--
Mean	--	--	--	--	--	...	.06	.31	.34	.28	.22	.05	...	...	--	--	--	--	1.25	32
Annual Totals	0.7	13.0	33.1	49.2	79.6	106.9	122.7	143.6	153.5	149.9	148.9	127.2	99.6	78.8	53.3	31.5	12.9	1.2	1405.6	--
Annual Mean	.00	.04	.09	.13	.22	.29	.34	.39	.42	.41	.41	.35	.27	.22	.15	.09	.04	.00	3.85	31
Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day	Per cent. of Possible



## 139. ABERDEEN: ROBINSON ANEMOGRAPH FROM JULY 1930.\*

H<sub>a</sub> (height of anemograph above M.S.L.) = Height of ground above

Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	
Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	170	10.5	180	7.9	190	7.2	190	4.6	200	2.6	200	2.6	200	6.4	220	6.5	240	4.7	240	3.3	230	2.9	200	6.0
2	170	8.3	170	7.9	170	7.9	160	11.5	170	9.6	170	12.3	170	11.3	180	10.0	180	9.2	170	9.2	170	11.3	170	13.6
3	220	6.8	230	6.8	200	5.1	200	5.6	200	6.4	200	7.3	210	7.0	200	6.8	200	6.0	200	8.6	200	10.3	210	10.3
4	220	9.3	230	8.3	220	10.5	220	9.0	220	8.7	220	7.3	240	7.6	240	4.7	190	3.6	190	8.3	200	6.8	200	6.0
5	150	10.7	170	9.2	190	9.2	230	6.5	280	6.5	280	6.5	250	4.7	220	3.6	210	3.7	200	4.7	220	4.7	190	6.9
6	180	7.9	190	8.3	200	5.6	200	5.1	220	3.6	220	4.3	220	4.0	200	3.4	190	2.8	220	3.3	230	3.3	240	3.6
7	230	3.3	230	2.9	230	3.6	210	2.9	190	2.8	190	3.6	190	3.6	200	4.3	190	5.5	190	7.8	200	7.7	190	6.9
8	290	3.3	300	2.0	210	2.0	220	2.5	220	2.9	220	4.0	220	2.9	220	2.5	220	2.9	220	4.0	220	2.9	200	3.0
9	290	9.0	300	8.5	300	8.5	290	5.1	290	6.8	300	5.9	300	7.2	290	9.3	300	6.9	280	5.4	260	4.0	270	6.0
10	220	2.5	160	2.8	210	3.7	190	2.2	---	1.1	---	1.4	---	1.1	---	0.4	---	0.4	200	1.7	220	3.6	220	3.3
11	270	5.1	290	4.3	290	3.3	290	4.7	310	4.3	320	6.2	320	6.2	300	4.3	310	4.6	300	4.9	310	5.6	310	5.2
12	270	1.7	270	2.1	250	1.8	240	1.8	---	1.1	240	2.2	230	2.2	200	1.7	200	2.6	200	2.6	220	3.3	220	4.0
13	230	2.2	260	1.8	---	1.4	---	1.1	260	1.8	270	1.7	250	1.8	270	2.6	---	0.8	---	1.1	---	1.4	350	2.8
14	200	3.9	210	5.7	200	6.8	200	5.6	200	6.4	200	9.4	200	7.7	200	7.3	190	5.0	200	7.3	190	6.9	200	8.1
15	180	9.2	190	9.7	190	9.2	200	7.7	300	3.9	---	0.9	---	0.4	---	0.9	160	2.2	---	0.4	200	1.7	210	2.0
16	280	2.5	280	3.3	280	4.1	290	3.6	290	3.6	290	3.3	290	3.6	300	3.3	300	2.6	300	4.3	290	4.0	290	4.0
17	300	5.9	290	6.5	290	6.2	290	6.2	270	4.3	240	1.8	---	0.4	---	0.9	280	2.0	---	1.3	90	1.8	100	5.7
18	100	8.3	90	6.8	990	6.8	100	7.0	110	4.7	110	3.1	190	3.2	210	1.6	---	0.8	320	2.2	280	2.5	280	1.6
19	---	0.8	---	1.4	---	0.3	---	1.4	---	0.8	---	0.9	---	0.8	280	2.0	300	1.6	---	1.3	---	1.4	---	1.1
20	280	2.9	280	2.9	300	2.3	300	2.3	290	3.6	300	2.0	---	1.4	---	1.0	---	1.0	---	1.0	220	1.8	180	4.3
21	200	6.8	200	6.0	190	6.0	190	6.9	200	5.6	200	4.7	200	5.6	200	5.6	200	6.0	200	7.7	200	8.1	200	7.3
22	210	4.9	190	5.5	200	6.0	200	5.6	200	6.8	210	7.4	210	7.7	210	7.0	210	6.1	210	5.7	210	6.1	210	7.7
23	---	1.4	---	1.4	---	1.4	---	0.3	---	0.9	---	1.1	290	2.2	290	1.8	290	2.5	290	3.3	290	2.2	---	0.8
24	200	3.9	200	3.4	210	3.7	210	2.9	220	3.3	230	2.2	210	1.6	200	3.0	220	1.8	200	3.9	210	3.3	200	3.9
25	210	4.9	200	5.1	210	5.7	220	4.3	210	3.7	220	2.9	220	2.5	---	1.4	---	1.4	---	1.4	220	2.2	200	3.0
26	---	1.1	---	1.1	---	1.1	---	1.4	---	1.3	---	0.9	---	0.4	---	0.0	---	0.9	---	0.8	---	0.8	---	0.8
27	---	0.4	280	1.6	---	0.3	---	1.1	---	1.2	---	0.0	---	1.1	---	1.1	---	1.4	---	0.8	240	2.2	230	1.8
28	290	2.5	280	2.0	---	1.4	290	3.3	280	2.9	280	3.3	280	4.1	280	3.7	280	2.5	280	2.0	280	1.6	270	1.7
29	---	1.4	---	1.4	---	0.0	---	0.0	---	0.0	---	0.8	---	1.1	---	1.4	220	1.8	---	1.3	200	1.7	200	1.7
30	---	1.1	180	2.1	170	6.1	170	4.8	160	6.0	170	6.1	190	5.5	180	5.2	180	5.2	190	6.0	210	4.1	200	4.3
31	220	4.7	200	2.1	---	1.3	18-	1.7	210	3.3	220	2.5	180	2.7	200	3.0	---	1.4	210	4.1	200	3.9	200	4.3
Mean	---	4.7	---	4.5	---	4.5	---	4.2	---	3.9	---	3.8	---	3.8	---	3.6	---	3.2	---	3.9	---	4.0	---	4.6

140. ABERDEEN: H<sub>a</sub> = 13 metres + 23 metres.

1	220	7.3	220	5.1	210	6.1	220	5.4	200	6.4	210	7.4	210	7.0	200	3.0	190	2.2	300	4.6	300	5.9	300	4.3
2	250	4.3	260	5.7	240	6.2	240	6.8	240	7.9	250	8.7	260	7.9	260	7.3	260	9.8	260	9.3	260	10.1	270	11.0
3	280	7.0	250	3.3	260	3.6	260	1.8	270	2.1	270	2.1	240	2.2	---	1.4	230	2.2	220	2.9	220	2.9	230	3.6
4	190	3.2	200	3.0	220	2.9	220	3.3	---	1.1	---	0.8	300	2.3	310	2.6	---	1.0	320	2.5	---	0.7	320	2.2
5	---	0.9	180	1.9	---	1.3	180	2.2	200	4.7	210	3.9	210	3.9	220	3.3	210	4.5	210	3.7	220	3.3	210	3.3
6	---	1.3	300	1.6	---	1.3	---	1.1	---	0.0	---	0.3	---	0.9	150	3.0	140	3.7	140	4.5	150	6.0	150	4.7
7	200	2.6	210	3.7	220	4.3	210	2.0	210	1.6	190	3.2	210	2.0	180	3.1	190	2.2	190	2.2	180	3.1	180	3.5
8	---	0.8	---	0.8	210	1.6	---	0.9	---	0.8	290	1.8	---	1.3	210	1.6	210	4.1	180	5.7	210	6.5	190	5.5
9	230	9.0	240	11.5	240	9.3	250	9.3	250	8.7	250	10.8	250	9.3	250	7.9	50	2.2	210	3.7	230	2.9	250	3.6
10	340	4.0	340	4.0	340	4.7	330	3.6	340	3.6	340	3.1	340	3.1	340	3.1	330	3.6	340	4.7	350	3.6	350	6.4
11	300	4.9	310	3.3	310	4.3	320	4.0	330	2.9	300	3.0	300	2.6	310	3.9	300	3.3	290	3.3	280	3.7	270	3.4
12	220	1.8	200	2.1	---	1.4	---	0.9	180	2.7	190	2.8	---	1.4	220	3.3	200	2.1	210	2.9	220	2.5	220	4.0
13	270	5.6	240	3.3	240	3.6	270	7.7	280	7.4	280	7.7	280	7.7	270	6.0	260	4.0	260	5.1	280	6.5	280	10.3
14	310	6.2	300	3.9	300	5.9	300	4.6	320	5.7	300	5.6	310	5.6	310	3.9	310	3.6	310	3.6	320	5.1	320	6.8
15	310	3.3	320	4.3	320	4.0	320	4.7	310	3.3	320	4.0	300	4.3	310	4.6	310	5.6	300	5.6	300	5.9	310	6.2
16	---	0.3	---	0.8	---	1.4	---	1.4	---	1.1	210	2.5	---	1.4	---	1.3	210	2.0	230	2.2	220	2.5	220	2.9
17	290	6.2	290	4.7	290	7.3	300	6.6	290	7.9	290	6.2	290	3.3	280	4.5	300	4.3	300	7.5	300	4.6	310	5.6
18	330	6.2	320	3.6	310	5.6	310	5.9	320	7.6	320	7.6	360	6.9	350	8.3	340	7.1	350	7.3	340	7.1	340	7.9
19	330	3.3	330	4.0	330	4.3	310	3.9	330	4.3	320	4.0	340	3.6	340	4.3	330	4.3	330	4.0	360	4.4	330	4.0
20	290	4.7	290	5.1	280	3.7	250	3.3	250	4.0	230	3.6	220	2.5	220	3.6	220	3.3	250	2.2	290	4.7	290	4.7
21	300	8.5	300	7.9	300	6.9	300	8.2	310	4.9	300	6.2	300	7.2	300	7.2	310	6.9	300	9.2	300	9.5	300	10.8
22	320	6.8	320	5.4	320	5.7	320	4.7	330	5.4	330	5.7	330	5.1	330	5.4	320	6.2	330	5.7	320	6.8	330	5.4
23	300	5.6	300	4.9	300	5.6	310	5.9	310	5.6	300	5.2	300	4.6	310	4.3	300	5.2	300	5.2	300	5.6	300	5.9
24	30	6.0	100	9.4	90	6.8	90	7.3	60	4.7	100	7.0	80	6.8	80	6.2	80	6.2	80	6.5	80	5.1	80	6.5
25	100	11.4	110	9.5	110	8.3	100	9.4	100	11.5	100	11.5	100	12.4	120	11.8	110	14.0	110	13.3	110	15.7	120	14.2
26	110	11.8	110	11.0	110	11.4	110	11.4	110	10.7	110	11.4	110	11.4	110	10.7	110	11.4	120	11.0	120	10.2	110	11.4
27	120	17.3	120	15.0	120	15.0	130	13.0	130	12.2	130	11.8	130	12.6	120	13.8	120	11.8	120	15.7	120	13.8	120	13.8
28	150	6.3	150	4.3	150	3.9	140	2.9	150	5.6	140	4.5	140	5.4	140	4.9	140	5.7	130	5.9	140	5.7	140	4.5
Mean	---	5.6	---	5.1	---	5.2	---	5.1	---	5.2	---	5.4	---	5.2	---	5.2	---	5.1	---	5.7	---	5.9	---	6.3
Hour G. M. T.	0 - 1	1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12		



**M.S.L. +  $h_a$**  (height of anemograph above ground) = 13 metres + 23 metres.

JANUARY, 1933.

12 - 13		13 - 14		14 - 15		15 - 16		16 - 17		17 - 18		18 - 19		19 - 20		20 - 21		21 - 22		22 - 23		23 - 24		Mean	Day.	
°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	m/s.		
210	6.1	200	5.6	190	5.5	190	5.5	200	3.4	200	3.0	190	5.5	190	5.0	180	5.7	180	5.2	170	6.1	180	7.9	5.4	1	
160	15.1	160	12.9	170	13.1	170	13.6	170	14.0	180	11.9	180	11.3	170	11.3	170	12.7	170	12.7	180	9.6	200	8.6	11.2	2	
210	9.9	210	9.4	210	8.6	210	11.1	210	9.4	210	11.5	210	9.4	210	9.0	210	10.3	220	9.3	220	8.7	220	6.8	8.3	3	
190	7.3	200	6.4	200	4.7	220	4.7	200	3.9	200	4.3	200	3.4	200	4.3	190	5.0	170	5.7	170	8.8	160	8.3	6.5	4	
210	5.4	220	5.1	200	4.7	190	4.2	200	3.4	190	5.5	190	3.2	180	3.5	180	4.8	180	5.2	190	6.4	190	6.4	5.6	5	
250	6.5	260	5.4	260	5.4	270	6.0	270	7.7	270	7.7	270	5.1	270	4.7	260	2.2	230	2.9	250	2.9	250	3.3	4.8	6	
180	6.5	190	6.0	200	8.1	210	9.9	210	10.0	200	8.6	210	8.6	210	8.3	210	5.7	200	5.1	200	3.0	210	1.6	5.7	7	
180	3.5	180	4.0	180	6.5	190	5.5	190	5.5	210	10.6	210	7.0	210	6.1	260	7.6	300	9.6	290	11.9	290	10.8	5.2	8	
280	5.4	270	6.4	280	7.0	290	5.4	280	4.1	220	2.2	250	1.8	200	2.6	240	3.3	230	2.2	210	2.5	220	2.9	5.3	9	
180	3.1	---	0.9	---	0.9	220	2.2	230	3.6	220	2.2	180	2.7	160	2.8	230	5.1	240	6.8	240	7.9	240	7.6	2.9	10	
300	6.2	310	5.6	310	4.9	300	3.5	300	3.3	290	4.0	300	3.3	290	3.3	290	3.3	290	3.6	270	3.4	---	1.4	4.4	11	
210	4.1	200	4.3	200	4.3	210	4.5	200	4.7	200	4.3	210	5.4	210	3.7	210	4.1	210	3.7	210	3.3	220	2.9	3.2	12	
---	0.9	---	1.3	190	1.8	210	2.0	210	2.5	220	2.5	220	2.2	250	1.8	---	1.1	---	1.1	---	1.4	220	3.3	1.8	13	
180	8.8	180	9.6	190	9.2	180	8.8	190	9.2	200	7.3	190	8.7	180	9.6	170	10.9	180	11.9	180	10.0	180	8.3	8.0	14	
---	1.1	---	1.1	---	0.7	---	0.8	---	1.4	290	2.2	290	1.8	---	0.8	---	0.9	290	3.3	290	3.6	290	2.9	2.9	15	
290	4.0	300	2.6	310	2.6	320	1.8	310	2.6	300	3.0	300	3.0	320	3.6	310	3.6	310	3.6	320	4.7	310	4.9	3.4	16	
110	7.4	120	7.1	110	6.2	100	7.4	100	8.6	100	5.7	100	8.6	110	7.1	120	7.1	110	7.1	100	9.0	100	8.6	5.5	17	
---	1.3	---	0.4	---	1.1	---	0.8	---	1.1	---	1.3	---	1.1	260	2.2	---	0.7	---	1.3	---	0.9	---	1.1	2.6	18	
---	0.9	---	0.8	---	0.8	---	0.3	---	1.1	---	1.1	---	1.1	290	2.2	290	2.0	280	3.7	280	3.3	280	4.1	1.5	19	
160	7.8	160	6.9	160	6.4	160	6.0	180	5.2	180	6.1	190	6.0	180	4.8	190	8.3	200	6.0	200	5.1	200	6.4	4.2	20	
200	6.8	200	6.8	190	6.0	190	5.5	200	6.8	200	6.4	190	6.9	190	6.4	210	5.4	220	4.0	210	5.4	200	4.3	6.1	21	
220	7.3	210	7.4	210	5.7	220	4.3	220	4.0	230	3.3	230	2.9	260	1.8	---	1.4	240	1.8	240	2.2	---	0.8	5.0	22	
240	1.8	240	1.8	270	1.7	---	1.0	---	1.4	270	1.7	280	2.0	290	2.5	---	0.9	---	0.9	---	0.9	210	2.9	1.6	23	
200	3.9	200	4.7	190	5.6	210	6.1	200	2.6	190	3.2	190	4.2	190	4.6	190	4.2	210	3.7	200	3.0	210	4.9	3.6	24	
200	4.3	210	4.1	200	3.4	230	2.5	240	2.2	---	0.9	---	1.4	---	0.8	---	1.4	---	0.0	---	0.3	---	0.3	2.5	25	
---	0.0	---	0.4	---	0.4	---	0.3	---	1.1	---	0.8	---	1.1	---	0.8	---	1.1	---	1.1	---	0.8	---	1.1	0.8	26	
240	2.2	240	2.2	220	1.8	230	2.5	230	1.8	240	2.2	250	2.2	250	1.8	---	1.3	---	1.4	---	280	1.8	280	2.2	1.5	27
---	1.1	---	0.8	---	1.4	---	0.9	200	2.6	---	1.3	210	2.9	230	2.5	---	1.4	---	1.4	---	240	1.8	---	1.1	2.1	28
210	1.6	200	2.1	180	3.5	190	2.8	---	0.9	210	2.0	190	2.8	210	2.0	230	1.8	200	2.1	180	3.5	200	3.0	1.7	29	
220	2.9	200	3.0	210	4.5	220	1.8	230	3.3	230	2.2	250	2.9	250	2.5	250	3.6	---	1.1	210	2.9	210	3.7	3.8	30	
200	5.6	200	6.0	190	5.0	200	8.1	200	9.0	190	10.5	180	9.6	190	9.2	200	9.7	200	8.1	210	7.4	220	9.3	5.5	31	
---	4.8	---	4.6	---	4.6	---	4.5	---	4.5	---	4.5	---	4.5	---	4.2	---	4.4	---	4.4	---	4.6	---	4.6	4.3		

FEBRUARY, 1933.

[illegible]



## WIND: DIRECTION AND SPEED.

Direction expressed in degrees from North (E = 90°, S = 180°, W = 270°, N = 360°): Speed in metres per second.

141. ABERDEEN: ROBINSON ANEMOGRAPH FROM JULY 1930.\*

H<sub>a</sub> (height of anemograph above M.S.L.) = Height of ground above

Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	
Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	140	6.1	150	7.3	150	4.6	150	4.7	160	7.3	160	5.5	150	6.0	160	7.3	150	7.7	140	5.7	140	6.5	150	7.7
2	130	5.2	130	5.9	130	5.9	130	5.9	130	6.2	130	8.0	120	8.3	110	8.6	120	5.9	110	6.2	110	7.1	110	5.9
3	100	7.7	100	8.3	100	6.1	120	5.9	120	6.2	120	7.4	100	8.6	100	9.0	100	11.5	100	10.9	110	11.0	110	11.8
4	90	7.3	90	7.6	90	8.3	80	5.7	80	5.7	80	4.7	110	3.6	120	4.7	120	2.8	120	4.7	130	4.0	120	2.4
5	180	2.1	180	1.7	---	1.0	---	1.1	250	2.5	260	4.0	240	2.2	240	3.6	230	2.9	240	4.0	240	6.2	220	7.3
6	150	11.1	160	12.5	170	9.6	170	8.8	160	8.7	170	7.9	180	6.5	190	2.8	180	2.7	200	4.7	210	4.9	200	3.9
7	150	6.4	170	7.5	170	6.7	190	5.5	190	6.9	190	6.0	170	9.6	170	10.7	180	9.2	200	6.8	190	8.3	190	5.5
8	---	1.4	---	1.3	270	3.9	260	3.6	---	0.9	---	1.3	---	0.4	---	0.9	---	1.3	200	2.6	200	3.0	190	5.5
9	180	6.1	200	5.1	200	4.7	200	4.3	190	5.5	200	4.7	210	6.1	220	6.2	220	6.8	210	6.5	190	4.5	220	3.3
10	200	2.6	200	3.4	190	5.5	190	5.5	190	6.0	180	5.7	180	3.0	210	3.3	160	1.8	170	3.5	180	6.1	200	6.4
11	190	2.8	180	4.0	180	4.0	180	4.0	200	4.6	200	3.2	210	3.3	190	5.5	200	3.4	190	6.0	200	5.1	200	5.1
12	180	2.7	---	1.3	180	2.7	200	2.1	210	1.7	---	1.3	190	3.2	200	3.0	200	2.6	190	3.6	190	3.2	190	4.6
13	---	0.4	---	1.0	---	1.3	---	1.3	---	0.3	290	1.8	290	2.2	280	1.6	290	1.8	280	2.0	---	1.1	120	1.6
14	---	0.8	---	0.0	---	1.4	---	1.2	---	0.4	---	0.3	---	1.0	310	2.0	290	2.2	270	3.9	280	4.9	260	3.6
15	200	6.4	210	5.4	210	4.1	260	4.3	220	3.3	220	6.2	220	8.3	230	9.8	240	10.1	250	9.3	260	8.3	270	8.6
16	180	4.8	170	8.8	150	9.4	160	8.7	160	9.2	200	6.8	220	5.1	220	4.0	220	5.1	220	4.7	230	6.8	220	6.2
17	220	2.9	220	2.5	---	0.8	---	0.8	---	0.3	---	0.8	---	1.4	---	1.3	---	1.0	---	0.0	---	1.1	100	3.7
18	300	3.0	300	3.6	300	3.9	300	3.9	300	3.9	320	4.7	320	2.9	300	2.6	310	3.0	360	3.5	30	3.4	60	2.5
19	150	4.3	280	3.3	290	5.1	300	3.6	320	2.5	---	1.0	---	1.1	260	2.5	280	5.4	290	7.3	290	7.6	300	7.2
20	40	8.6	30	5.1	340	3.6	340	4.7	330	3.3	330	3.3	320	3.3	310	3.3	310	3.6	310	4.9	310	6.9	310	7.5
21	290	1.8	290	3.3	290	2.2	---	1.3	290	1.8	280	2.0	---	0.9	---	0.4	130	2.4	140	6.5	150	8.1	160	7.3
22	200	5.6	200	4.7	190	4.6	190	3.8	200	2.6	210	4.1	200	5.1	190	3.2	190	3.2	200	3.9	200	5.1	190	7.3
23	180	4.4	170	5.2	190	6.0	180	5.7	180	6.1	170	5.2	170	6.5	170	7.9	180	6.5	170	11.3	160	11.5	170	8.3
24	160	10.5	160	10.5	170	8.3	170	8.8	180	6.9	190	6.9	180	7.9	180	7.5	190	6.9	180	10.0	180	8.8	170	9.2
25	190	6.4	200	4.7	220	3.3	200	3.0	200	3.4	200	3.4	190	3.6	200	2.6	190	5.0	180	6.5	180	6.5	180	6.5
26	210	2.5	200	2.6	180	3.1	170	1.7	190	1.8	190	2.2	---	1.1	---	0.8	---	0.9	200	1.7	200	4.3	190	5.5
27	290	2.9	290	2.2	290	2.5	290	2.2	---	1.3	290	1.8	---	1.3	---	1.1	190	1.8	190	4.2	200	3.0	200	2.6
28	---	1.3	240	2.2	230	2.5	230	1.8	230	1.8	230	1.8	240	2.2	---	0.8	---	1.1	---	1.1	160	3.2	150	3.0
29	200	3.0	---	1.4	---	1.0	---	1.0	---	1.4	190	3.6	190	3.6	190	3.6	190	3.2	200	3.9	170	4.0	200	6.8
30	210	3.3	200	1.7	210	2.9	200	3.9	190	3.2	180	3.1	200	2.1	190	3.6	200	3.9	240	4.3	250	3.6	300	3.0
31	240	4.7	240	4.7	240	4.0	240	5.1	230	4.0	220	3.6	210	2.9	220	3.6	240	5.7	260	5.7	280	7.7	290	6.5
Mean	---	4.5	---	4.5	---	4.3	---	4.0	---	3.9	---	3.9	---	4.0	---	4.1	---	4.2	---	5.2	---	5.7	---	5.7

142. ABERDEEN: H<sub>a</sub> = 13 metres + 23 metres.

1	290	3.6	290	3.6	250	3.3	---	1.1	250	3.6	270	4.3	260	3.6	270	6.0	280	9.4	300	12.5	320	10.8	320	9.8
2	240	2.5	220	2.2	---	0.9	210	1.6	220	4.7	210	4.5	200	4.3	200	5.1	200	5.1	200	6.4	190	6.2	200	8.1
3	190	2.8	200	5.1	180	2.7	240	6.4	240	5.1	230	5.1	230	4.0	240	3.3	250	4.3	280	7.0	300	4.3	90	2.9
4	250	4.3	270	6.0	280	2.5	290	4.7	300	3.0	310	3.0	300	3.0	290	2.2	310	1.6	300	2.6	300	1.6	---	1.3
5	---	1.3	---	0.9	---	1.1	---	1.1	240	2.5	260	1.8	270	1.7	250	2.5	260	2.5	---	1.4	260	2.5	300	3.0
6	290	2.2	250	2.9	280	2.9	310	3.9	310	2.6	300	3.3	300	1.6	320	3.6	340	3.1	70	3.6	60	3.3	70	3.6
7	170	3.1	170	2.7	170	4.0	180	3.5	180	2.7	190	2.2	200	3.0	200	2.6	---	1.4	---	1.3	200	1.7	220	1.8
8	---	0.0	---	0.3	---	0.0	---	0.3	---	0.0	---	0.0	---	0.0	---	0.3	---	1.3	140	2.0	150	3.9	140	4.1
9	170	4.4	160	5.3	180	4.8	180	6.5	200	4.3	210	8.3	220	4.3	250	4.0	260	4.3	260	4.0	270	4.3	260	4.7
10	240	4.7	220	3.6	200	3.0	190	2.8	210	4.1	230	4.7	170	2.1	220	2.2	230	1.8	210	3.3	210	3.3	220	4.0
11	170	4.8	170	2.7	180	5.2	200	5.1	210	3.7	140	4.1	130	4.7	150	6.4	200	5.1	170	5.7	210	4.9	290	8.7
12	210	2.5	220	3.6	240	2.2	300	8.2	290	6.8	280	3.3	240	2.9	260	5.1	260	6.2	270	9.7	260	7.6	280	10.3
13	300	7.2	260	3.6	250	2.9	280	4.1	290	3.3	270	3.9	260	4.0	270	7.3	290	7.6	290	9.3	300	7.9	290	7.9
14	290	1.8	---	1.4	310	2.3	---	1.3	260	1.8	300	1.6	---	0.7	---	1.4	170	2.7	170	4.0	170	6.5	160	7.3
15	200	4.3	210	7.0	210	6.5	190	4.6	210	7.0	210	6.1	220	4.7	240	4.3	260	5.1	280	8.3	300	7.2	310	5.9
16	160	1.8	360	2.1	---	0.4	---	0.9	---	0.4	---	0.9	---	0.9	---	1.1	120	1.9	110	2.8	70	3.6	90	2.1
17	---	1.4	---	1.4	---	0.8	330	1.8	330	1.8	---	1.4	30	1.7	120	3.6	120	3.6	130	3.1	130	3.1	150	3.4
18	350	4.2	350	4.2	320	3.6	360	4.0	340	3.6	330	2.9	330	3.3	350	5.0	40	4.7	50	6.8	50	6.2	50	6.5
19	320	4.3	340	4.7	340	4.0	340	5.5	340	5.2	350	6.4	360	6.5	50	6.2	360	7.5	40	6.7	50	7.9	50	6.8
20	330	3.6	340	4.3	340	4.0	350	5.5	350	4.6	340	5.2	340	4.0	350	5.0	360	5.2	40	6.7	60	7.6	60	6.8
21	320	2.2	310	3.0	310	3.0	320	2.9	320	2.5	320	2.9	330	2.2	330	2.5	350	3.2	360	3.5	320	3.3	350	5.5
22	320	2.2	320	2.2	300	3.3	300	2.3	310	2.6	310	2.0	310	2.0	310	2.6	310	2.6	320	2.5	---	0.7	100	3.7
23	---	1.3	---	0.4	---	0.0	---	0.9	---	0.9	---	1.3	---	0.8	---	0.3	150	1.7	130	2.8	130	4.0	140	4.9
24	---	1.3	130	2.8	130	2.4	120	4.3	120	5.5	120	5.2	120	5.5	120	5.2	120	5.2	120	5.9	130	6.2	130	7.1
25	140	7.7	140	8.3	140	8.3	140	7.7	140	8.6	140	7.7	140	8.3	140	6.1	140	7.0	150	7.7	160	5.0	160	4.6
26	---	0.9	170	2.7	170	3.1	170	2.1	170	1.7	170	2.9	180	2.9	160	4.2	170	4.4	170	6.1	170	7.5	160	7.3
27	170	5.2	170	4.8	160	5.5	170	4.0	180	4.0	180	3.4	180	3.1	190	2.2	210	4.5	210	6.5	200	7.3	210	7.7
28	190	2.8	190	3.2	170	3.1	170	3.1	170	2.1	190	3.2	200	3.4	210	3.3	210	3.7	200	3.9	160	6.0	160	6.4
29	---	0.9	---	1.4	310	2.0	---	1.1	---	0.8	---	1.1	---	1.3	---	1.4	20	1.7	90	2.9	100	4.9	90	4.0
30	360	3.5	360	3.5	360	2.7	360	4.8	350	4.6	350	5.5	340	4.3	340	5.2	340	4.0	340	4.7	340	5.2	340	5.2
Mean	---	3.1	---	3.3	---	3.0	---	3.5	---	3.5	---	3.6	---	3.2	---	3.7	---	4.1	---	5.1	---	5.1	---	5.5
Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	







## 143. ABERDEEN: ROBINSON ANEMOGRAPH FROM JULY 1930.\*

Ha (height of anemograph above M.S.L.) = Height of ground above

Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	
Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	40	6.2	30	6.8	30	6.8	350	5.0	350	5.5	350	4.2	360	4.0	10	3.9	60	5.7	70	3.6	60	4.0	70	5.2
2	320	2.9	320	2.6	320	2.9	310	3.0	310	2.3	310	1.6	310	1.6	---	1.4	80	1.8	100	4.1	110	4.0	110	4.0
3	110	4.3	100	5.8	110	5.5	120	5.2	120	4.3	110	4.0	110	5.2	90	4.7	80	5.1	80	6.8	80	5.7	80	5.7
4	90	6.5	90	5.4	90	4.7	80	5.1	90	5.4	90	4.7	90	4.3	90	4.3	90	4.0	90	4.7	100	6.1	100	4.9
5	120	4.3	140	4.9	160	4.3	160	3.2	---	1.3	160	2.8	150	3.0	160	3.2	160	3.6	150	3.0	140	2.0	120	2.8
6	---	1.4	---	1.2	120	1.6	130	1.6	130	1.6	140	1.6	---	1.3	140	1.6	120	1.9	120	3.1	110	2.8	110	2.8
7	---	1.4	70	1.9	60	2.5	70	2.4	70	2.4	---	1.4	60	3.3	60	4.0	60	3.6	40	3.6	30	3.9	20	3.4
8	330	5.4	320	4.7	330	3.6	330	4.3	320	2.9	330	3.6	330	2.5	340	3.1	350	2.8	80	3.6	90	2.9	100	4.5
9	160	2.1	---	1.3	290	1.8	300	2.3	300	2.3	---	1.3	280	2.1	290	4.7	300	4.9	310	4.6	330	4.0	330	3.3
10	40	2.8	360	2.7	350	3.6	350	3.2	330	3.3	320	3.6	320	4.0	340	4.7	340	5.2	340	6.2	340	7.1	350	6.0
11	340	3.6	340	2.4	340	2.4	330	1.8	350	2.8	340	2.4	340	1.9	340	1.6	330	2.2	330	1.8	60	2.2	110	2.4
12	---	0.4	---	0.9	---	0.9	---	0.9	---	1.0	---	0.4	---	0.9	---	0.8	---	1.1	110	2.8	170	3.1	110	4.0
13	270	2.6	270	1.7	300	2.6	310	2.6	300	2.6	300	2.3	300	3.0	310	3.9	320	4.3	300	3.9	310	2.3	280	3.3
14	320	1.8	300	2.3	300	3.3	310	4.3	300	4.9	310	5.2	310	4.3	310	5.6	320	5.1	340	4.7	340	5.5	340	5.9
15	310	4.9	300	5.6	310	3.9	300	4.3	310	4.6	310	4.9	300	6.9	320	8.7	330	8.3	330	10.5	330	7.9	320	6.5
16	330	2.9	320	2.5	320	2.9	320	2.7	320	2.9	320	1.8	---	1.4	10	1.7	90	2.9	110	3.6	120	3.1	120	3.6
17	160	1.7	150	1.7	150	1.7	150	2.6	150	3.0	140	2.0	120	3.1	120	3.6	120	4.7	120	4.3	130	5.2	120	5.2
18	170	3.5	190	2.8	180	2.7	180	2.7	170	2.1	170	4.0	150	3.4	160	5.5	160	6.0	150	5.1	160	4.2	160	4.6
19	170	4.8	180	2.1	190	2.8	180	1.7	190	1.8	200	3.4	200	2.1	200	2.1	210	2.9	200	3.0	190	4.2	170	3.5
20	---	0.8	150	3.0	150	4.3	160	3.6	160	5.5	160	5.0	160	2.8	170	4.0	160	5.0	160	4.6	160	5.0	160	6.0
21	---	1.3	---	0.4	---	0.4	180	3.5	---	1.4	---	1.2	---	0.3	---	1.1	130	1.6	130	3.1	120	4.7	140	3.7
22	320	1.8	310	1.6	310	2.3	310	2.0	330	1.8	---	1.1	320	2.2	330	3.3	330	3.3	330	3.3	340	2.8	20	3.4
23	---	0.8	320	1.8	310	2.0	310	2.6	310	3.0	320	4.3	320	4.3	320	3.6	330	1.8	100	2.9	70	2.8	90	2.2
24	330	1.8	---	0.9	---	0.9	360	2.2	---	1.1	---	0.4	---	1.4	130	1.6	130	1.6	140	2.9	150	4.3	160	3.6
25	310	3.0	300	3.6	310	5.2	310	4.3	310	4.3	310	4.3	310	4.3	320	6.2	320	5.4	330	5.1	330	3.3	340	4.0
26	330	2.9	320	2.9	320	2.5	310	2.6	310	1.6	---	1.0	310	2.0	310	3.0	330	4.0	340	4.3	340	4.3	20	3.9
27	310	2.0	---	1.1	320	1.8	310	2.0	310	2.0	320	2.9	320	3.6	310	3.9	330	4.0	310	4.3	310	4.6	310	3.6
28	300	2.6	310	3.0	300	3.0	300	2.3	300	2.6	300	3.0	310	4.6	310	4.6	320	4.7	330	5.7	320	4.3	330	5.1
29	320	3.3	330	2.9	330	3.6	310	3.0	330	2.9	330	3.3	330	3.6	330	3.3	350	4.2	330	2.9	310	3.6	310	3.3
30	330	2.9	320	2.9	310	2.0	310	2.0	310	2.3	310	1.6	310	2.0	---	0.3	100	2.5	130	4.0	130	3.6	130	5.2
31	160	1.8	160	3.2	150	3.0	150	2.9	140	3.7	140	3.7	140	3.7	140	3.7	140	4.1	140	4.9	140	5.4	140	5.8
Mean	---	2.9	---	2.8	---	3.0	---	3.0	---	2.9	---	2.8	---	3.1	---	3.5	---	3.8	---	4.2	---	4.2	---	4.2

## 144. ABERDEEN: Ha = 13 metres + 23 metres.

1	150	3.4	150	2.6	160	3.2	170	2.7	150	3.0	150	4.3	150	4.3	150	4.7	140	5.4	140	4.5	130	4.3	140	4.5
2	160	4.6	170	4.4	170	4.8	160	6.0	160	5.0	160	4.6	150	4.7	160	5.5	170	6.5	160	6.0	160	5.5	170	5.1
3	---	1.3	---	0.8	---	1.1	---	0.3	---	1.2	---	0.8	150	2.6	160	1.7	150	1.7	140	3.7	150	4.7	150	3.4
4	170	3.6	180	3.1	180	1.7	180	2.1	180	2.1	170	3.1	150	1.7	150	3.4	150	3.4	170	4.8	170	5.2	160	6.0
5	180	3.1	190	1.8	170	1.7	180	1.7	170	2.1	---	1.4	160	2.8	170	2.1	170	3.1	170	4.8	170	3.1	160	5.0
6	310	2.0	---	1.0	310	2.0	310	3.0	320	3.3	320	2.5	320	1.8	10	2.6	70	3.6	70	3.6	70	3.6	80	3.3
7	---	1.4	---	1.4	---	1.0	---	0.4	---	1.0	170	1.7	170	1.7	140	2.9	140	3.3	140	4.9	140	3.7	140	4.1
8	320	4.7	320	5.1	330	4.7	330	2.9	330	5.7	320	5.4	320	5.4	330	6.8	320	5.4	340	6.7	340	6.2	330	5.7
9	320	3.6	320	3.6	320	3.3	320	3.3	320	3.3	330	3.3	320	4.0	340	4.7	340	4.3	330	5.4	350	6.0	340	5.2
10	320	3.3	320	3.6	320	2.9	320	3.6	310	2.6	320	3.6	320	4.7	310	3.9	330	4.0	310	3.3	300	3.0	330	2.9
11	310	3.3	310	3.3	320	3.6	320	3.3	330	2.5	330	2.9	330	3.6	330	4.7	340	5.2	340	4.3	340	5.5	340	5.5
12	300	3.3	300	3.3	300	3.6	300	3.6	300	3.0	300	3.6	310	3.6	320	5.1	310	4.3	340	4.7	330	3.6	340	4.3
13	320	3.3	310	3.0	310	3.9	310	4.6	320	6.5	320	6.2	320	6.8	330	5.1	340	5.9	340	4.7	340	4.3	40	5.5
14	---	1.0	---	1.3	---	1.0	310	2.0	300	2.3	300	1.6	---	0.3	---	1.0	160	1.8	120	4.7	120	3.6	110	4.0
15	180	1.7	---	0.9	---	0.4	---	0.4	---	0.4	---	0.4	---	0.4	200	2.6	220	4.7	220	4.3	160	5.5	160	7.3
16	---	1.4	310	2.3	310	4.9	310	3.0	310	3.0	310	2.0	320	1.8	---	1.4	140	3.3	160	6.4	160	7.8	160	8.2
17	240	2.9	230	2.2	---	1.4	---	0.8	---	1.1	---	1.3	240	2.5	270	6.0	280	4.9	290	4.7	270	3.9	140	3.7
18	---	0.4	---	1.2	---	1.2	---	0.8	---	0.9	130	2.4	110	4.0	100	4.1	100	4.9	80	4.7	80	5.1	70	5.9
19	70	4.3	70	5.5	70	4.7	70	5.2	70	4.7	70	4.7	60	4.7	60	5.7	70	6.2	60	6.8	70	6.2	60	6.2
20	300	2.6	300	3.6	290	3.3	290	4.0	290	4.3	270	5.1	270	6.4	280	6.5	290	5.1	280	4.5	290	3.3	300	2.6
21	160	3.6	140	3.3	140	2.9	140	3.3	160	2.8	140	2.9	110	2.8	100	2.9	100	3.7	90	4.0	90	3.6	90	3.6
22	80	2.2	110	2.4	130	2.8	140	2.9	130	3.6	120	2.4	100	3.7	110	3.6	90	2.9	100	4.1	100	4.9	110	5.2
23	---	0.4	---	0.9	---	0.9	310	2.0	---	1.3	---	1.4	---	0.9	---	1.0	110	1.6	110	2.8	110	2.4	110	4.0
24	---	1.4	330	2.2	320	2.2	320	2.5	330	4.0	310	3.9	320	4.7	320	2.2	10	4.3	40	4.0	50	5.1	50	5.4
25	340	1.9	320	3.3	320	5.7	310	4.9	320	5.1	320	4.7	320	5.1	320	6.5	320	7.6	340	7.4	340	6.2	340	5.2
26	340	5.9	320	5.4	330	6.8	330	(6.7)	330	(6.8)	330	(6.5)	330	(6.8)	330	(6.5)	330	(7.6)	330	8.3	330	7.9	330	8.7
27	300	4.9	310	6.6	310	6.2	300	6.6	300	5.9	300	5.2	310	4.9	310	6.2	320	5.7	330	7.9	320	7.6	310	6.6
28	330	5.1	330	5.4	320	5.4	330	4.7	320	4.0	320	5.1	330	6.5	340	5.9	340	7.1	340	6.7	340	6.7	340	7.1
29	320	2.5	320	3.3	320	2.5	320	2.9	310	3.0	320	3.3	330	4.0	340	4.3	340	5.2	340	5.5	340	5.2	340	4.7
30	200	1.7	210	2.5	210	1.6	230	2.2	---	1.1	---	1.4	---	0.3	---	0.8	130	1.6	120	2.8	140	3.7	140	5.4
Mean	---	2.8	---	3.0	---	3.0	---	3.1	---	3.2	---	3.3	---	3.6	---	4.0	---	4.5	---	5.0	---	4.9	---	5.1
Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	



Averages for periods of sixty minutes, centred at the Half hours, Greenwich Mean Time.

M.S.L. +  $h_a$  (height of anemograph above ground) = 13 metres + 23 metres.

MAY, 1933.

12 - 13		13 - 14		14 - 15		15 - 16		16 - 17		17 - 18		18 - 19		19 - 20		20 - 21		21 - 22		22 - 23		23 - 24		Mean	Day.
o	m/s.	o	m/s.	o	m/s.	o	m/s.	o	m/s.	o	m/s.	o	m/s.	o	m/s.	o	m/s.	o	m/s.	o	m/s.	o	m/s.	m/s.	
80	4.0	80	4.0	90	4.0	90	2.9	80	3.3	90	3.3	100	3.3	70	1.9	70	1.6	---	1.3	330	1.8	320	2.5	3.9	1
110	4.0	110	4.3	110	3.6	100	4.1	100	4.5	110	2.8	110	2.8	110	2.4	100	3.3	100	3.7	90	4.0	100	4.1	3.2	2
90	7.3	80	5.4	90	5.1	90	7.3	100	5.7	100	8.3	90	7.9	90	6.5	80	5.4	90	6.5	80	6.2	90	6.2	5.8	3
100	6.1	100	4.9	100	5.4	100	5.4	100	4.5	110	4.0	110	3.6	110	2.8	110	3.1	100	2.9	100	2.9	110	4.0	4.6	4
110	2.4	140	2.5	110	1.6	100	2.0	100	2.5	120	2.4	150	2.1	150	2.1	170	2.1	---	1.0	---	1.4	---	0.4	2.6	5
130	4.0	160	5.1	130	3.6	130	3.1	140	4.1	150	4.7	150	4.7	140	3.3	---	---	0.8	---	---	1.1	---	0.3	2.4	6
20	3.9	20	5.1	10	4.3	360	5.7	350	6.0	360	5.2	330	4.7	330	6.5	330	6.2	330	4.3	330	4.7	330	3.6	3.9	7
110	4.3	120	5.2	150	5.6	150	6.0	150	6.4	140	6.1	150	6.0	140	6.5	150	6.0	150	3.9	150	3.0	150	3.9	4.5	8
340	3.1	70	5.5	110	2.8	100	2.0	100	2.9	100	2.5	---	0.0	---	1.1	60	2.2	50	2.9	50	2.0	50	2.9	2.8	9
330	5.4	330	5.1	340	5.5	340	7.1	340	5.9	330	5.1	340	4.7	340	4.7	340	2.9	320	2.9	340	4.0	350	2.8	4.5	10
120	2.4	170	2.1	150	2.1	170	2.7	170	2.1	170	1.7	180	2.1	130	2.8	140	2.9	160	2.2	160	2.2	---	0.9	2.2	11
160	2.2	110	2.8	170	4.0	190	2.8	220	1.8	---	0.8	270	2.6	240	2.9	270	3.4	290	3.3	290	3.3	310	3.0	2.1	12
130	3.6	150	4.7	170	3.5	170	2.7	---	1.1	---	1.3	---	1.1	---	1.3	---	0.4	---	0.9	---	1.3	330	1.8	2.5	13
340	5.6	340	5.2	340	5.2	340	5.9	340	5.2	350	6.4	340	5.5	340	4.3	340	2.4	320	2.2	300	3.9	320	5.1	4.6	14
330	5.4	340	6.2	340	5.2	340	5.9	340	4.7	340	5.2	340	4.7	350	2.8	350	2.2	330	2.2	---	1.4	330	2.2	5.2	15
120	3.1	120	4.7	130	4.0	140	4.5	140	4.9	140	2.9	140	4.1	150	3.0	140	2.5	150	2.1	150	2.1	150	1.7	3.0	16
130	5.2	140	5.7	140	4.9	150	4.7	150	4.7	160	4.6	160	4.6	170	4.0	170	3.1	170	3.5	180	3.1	180	3.5	3.8	17
160	5.5	160	6.0	160	6.0	160	6.0	160	5.0	160	5.5	160	5.0	160	4.2	170	4.8	170	3.1	160	4.6	160	5.0	4.5	18
160	6.0	160	6.0	170	6.5	170	6.5	170	6.1	180	4.4	180	4.8	170	4.0	170	3.5	160	3.2	180	2.1	---	1.4	3.7	19
170	4.4	160	5.5	160	6.4	170	5.7	170	5.2	170	4.0	180	3.3	180	5.2	170	1.7	160	4.6	190	2.8	180	1.7	4.2	20
120	4.0	130	4.0	130	4.0	130	4.3	140	4.1	110	3.6	100	2.9	---	1.4	---	1.1	---	0.0	310	1.6	320	2.5	2.3	21
80	3.3	70	4.3	70	4.3	70	3.1	80	2.5	80	1.8	---	1.4	---	0.3	---	0.3	---	0.3	30	1.7	340	1.9	2.3	22
---	1.1	330	4.3	330	4.7	330	4.7	340	4.0	50	1.8	60	1.8	350	3.6	330	2.5	330	2.9	330	2.5	340	2.8	2.9	23
170	4.4	170	4.0	160	5.0	170	4.4	170	4.4	180	4.0	180	3.5	240	4.3	240	3.6	260	4.3	260	2.5	---	0.0	2.8	24
60	4.0	70	4.0	70	4.0	70	4.3	60	5.1	60	3.3	60	2.5	30	1.7	---	1.4	30	2.1	50	2.2	350	2.8	3.8	25
140	4.9	140	4.9	120	4.0	110	3.1	120	2.4	120	1.9	110	2.4	---	1.3	340	2.8	340	3.6	360	1.7	330	1.8	2.9	26
320	3.3	320	4.3	320	4.0	330	3.6	330	4.0	330	3.3	330	3.3	330	3.6	330	3.6	310	2.6	300	2.0	310	2.6	3.2	27
330	4.7	340	4.3	330	5.4	330	5.4	330	5.4	330	4.7	330	4.3	330	4.0	330	3.6	320	4.0	330	2.9	330	2.9	4.0	28
330	2.9	330	2.5	350	3.6	100	2.9	10	2.1	10	2.1	350	4.2	350	2.8	350	2.2	---	0.9	360	2.1	330	2.2	2.9	29
140	5.8	140	6.1	140	6.1	140	6.1	140	6.1	140	6.1	150	6.0	150	6.0	150	3.9	160	3.2	160	2.8	160	2.2	3.8	30
140	7.7	150	9.0	140	6.1	150	6.7	140	6.5	140	4.9	150	5.1	150	4.3	150	3.1	150	4.7	150	3.9	150	4.7	4.7	31
---	4.3	---	4.8	---	4.5	---	4.6	---	4.3	---	3.8	---	3.7	---	3.4	---	2.9	---	2.8	---	2.7	---	2.7	3.5	

**JUNE, 1933.**

[illegible]



145. ABERDEEN: Robinson anemograph from July, 1930.\*

H<sub>a</sub> (height of anemograph above M.S.L.) = Height of ground above

Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	
Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	290	2.5	---	0.4	---	0.4	290	2.2	---	1.3	---	0.7	---	1.3	280	2.0	70	3.1	120	2.4	140	4.1	150	3.4
2	---	1.3	310	2.3	---	1.0	---	0.3	---	0.7	---	0.3	---	1.1	200	1.7	---	1.3	240	1.8	130	2.4	150	4.3
3	310	2.6	310	1.6	---	1.0	---	0.3	310	1.6	270	2.6	240	1.8	290	4.0	280	4.9	300	3.6	310	4.6	310	3.9
4	270	2.1	---	1.4	---	1.1	---	0.8	---	0.3	---	0.3	300	3.6	290	4.3	290	5.4	290	5.1	260	2.2	270	4.7
5	---	1.3	160	1.8	---	1.0	---	1.4	---	1.2	140	2.0	140	2.5	160	4.6	160	4.2	150	5.6	150	6.4	150	5.6
6	170	4.0	170	3.1	170	3.1	160	4.2	170	3.5	160	3.2	150	4.4	140	4.5	140	4.1	130	4.0	120	4.0	120	4.3
7	160	5.6	160	2.8	140	3.7	140	3.3	140	3.3	140	3.7	130	2.4	130	4.0	130	4.3	120	5.9	130	5.9	130	6.2
8	130	4.7	140	2.9	160	3.2	160	4.6	170	2.1	180	2.7	180	3.5	170	3.5	170	4.4	160	6.9	160	7.2	160	8.3
9	180	2.1	---	1.3	---	0.4	170	1.7	200	1.7	190	2.2	170	2.1	190	3.6	180	3.5	170	3.5	160	4.2	160	6.9
10	170	5.2	160	4.6	160	5.5	170	4.8	180	4.0	200	3.9	190	3.6	180	4.0	210	7.0	190	7.8	190	8.3	210	9.0
11	190	1.8	200	3.9	200	2.6	190	2.8	200	3.9	210	4.1	210	3.7	200	4.3	210	3.7	210	6.5	200	6.0	160	5.0
12	260	1.8	240	2.2	---	1.3	---	0.8	---	0.0	---	0.4	---	0.8	---	1.4	160	1.8	130	3.6	140	4.1	170	4.4
13	---	1.4	250	2.5	---	0.8	---	0.3	---	1.1	---	0.9	---	1.4	130	1.9	120	1.9	140	4.1	140	4.9	160	5.5
14	---	1.2	---	1.1	30	2.1	360	2.7	360	2.7	360	2.7	20	2.1	30	2.1	60	4.3	70	5.5	70	4.7	70	4.3
15	---	0.0	---	0.3	---	0.8	---	0.3	---	0.3	---	0.8	---	1.1	340	2.4	310	1.6	---	0.7	50	2.2	60	2.5
16	330	2.5	310	2.0	320	2.9	310	2.6	310	3.0	310	3.0	330	4.3	330	4.3	340	5.5	330	6.2	340	5.9	330	5.1
17	---	1.3	---	1.3	270	2.6	280	3.3	280	2.0	270	2.6	290	4.7	290	4.7	290	4.0	290	5.4	280	4.5	290	4.3
18	270	2.6	---	1.4	270	2.6	260	2.5	---	0.8	---	0.8	---	0.3	---	0.8	---	1.3	170	2.7	170	3.1	150	3.0
19	---	1.1	---	0.8	---	0.8	290	3.3	---	1.1	---	1.0	---	0.3	280	1.6	130	3.1	120	3.6	130	(4.8)	140	(5.4)
20	180	(3.3)	190	(2.8)	200	(2.3)	---	(0.8)	170	(2.0)	---	(0.7)	160	(1.6)	---	(1.5)	190	(2.5)	160	4.6	150	5.6	160	6.0
21	---	1.4	---	1.4	---	1.4	---	0.3	---	0.3	---	0.0	---	0.8	---	0.8	70	1.6	150	2.6	160	2.8	160	4.2
22	300	1.6	300	2.3	---	3.3	300	2.3	---	1.0	---	0.0	---	1.0	---	1.0	290	3.0	280	1.6	---	1.4	120	2.8
23	320	2.2	320	1.8	320	2.2	---	1.0	---	1.0	---	1.0	310	2.0	310	1.6	---	0.8	---	0.7	160	1.8	130	2.8
24	---	1.1	---	0.8	---	1.4	---	0.8	---	1.1	---	1.4	---	1.0	---	0.3	---	1.4	160	2.2	210	3.3	200	2.6
25	---	1.2	---	0.8	220	2.5	230	1.8	---	0.8	---	1.4	---	1.1	290	1.8	330	2.5	340	1.9	---	1.4	110	2.8
26	190	2.2	190	2.2	190	3.2	190	3.2	190	3.6	200	3.4	200	3.9	200	3.0	210	2.0	190	4.6	170	4.4	180	4.8
27	240	2.2	230	2.5	230	1.8	230	1.8	190	4.2	190	3.6	180	2.7	190	4.6	210	3.7	240	5.4	230	4.3	190	4.6
28	260	2.9	250	3.3	260	3.3	280	3.7	280	4.1	270	4.8	280	7.7	290	8.3	290	9.8	280	8.3	280	6.1	280	7.0
29	---	0.9	---	0.3	---	0.8	320	2.2	310	1.6	320	2.2	---	1.2	360	1.7	10	2.1	50	1.8	20	2.1	60	3.6
30	270	2.6	290	3.6	260	2.9	270	3.4	270	2.1	260	3.3	250	1.8	240	3.3	240	2.5	260	2.5	260	2.5	---	1.4
31	160	5.0	130	5.5	120	7.9	140	5.4	130	4.7	150	4.3	160	2.8	---	1.0	---	0.8	20	1.7	350	2.8	330	2.9
Mean	---	2.3	---	2.1	---	2.3	---	2.2	---	2.0	---	2.1	---	2.3	---	2.9	---	3.3	---	4.0	---	4.1	---	4.6

146. ABERDEEN: H<sub>a</sub> = 13 metres + 23 metres.

	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	320	5.4	320	6.8	310	4.6	310	4.6	310	5.2	310	6.6	300	6.6	300	7.2	320	7.9	300	5.2	300	5.9	320	5.1
2	200	2.6	200	3.0	---	1.3	---	1.3	210	1.6	---	1.3	---	1.4	190	1.8	---	1.0	160	2.8	150	2.1	130	4.3
3	240	3.3	---	1.4	230	2.5	220	2.2	240	3.3	220	2.5	---	1.4	210	2.5	240	1.8	---	1.4	260	2.9	270	3.9
4	260	4.0	280	6.1	280	4.9	280	3.7	290	4.7	300	5.6	290	6.2	300	4.6	300	4.3	340	1.9	120	4.0	130	3.1
5	170	4.0	170	4.0	170	3.5	170	2.7	180	1.7	---	0.9	---	0.4	---	0.4	---	0.4	90	1.8	100	2.5	100	2.9
6	180	1.7	180	2.1	---	0.4	---	1.3	240	1.8	---	1.4	200	2.1	240	2.5	240	2.9	280	4.9	280	3.7	280	4.5
7	250	2.2	250	2.2	250	2.2	250	2.2	---	1.4	280	1.6	250	1.8	230	1.8	---	1.4	190	3.6	200	5.6	180	4.0
8	250	1.8	250	2.5	---	1.1	260	2.2	240	5.1	250	4.3	260	5.1	250	6.8	260	7.3	280	11.1	280	9.9	260	5.4
9	---	0.8	200	3.4	200	2.6	---	1.4	190	1.8	180	2.1	---	1.4	---	1.4	270	2.1	310	4.9	310	5.2	300	6.6
10	250	5.4	240	4.3	250	2.9	---	1.4	240	2.2	230	1.8	240	2.5	270	5.6	290	6.5	300	6.6	300	5.2	290	6.5
11	310	1.6	310	1.6	---	0.7	---	1.0	---	1.3	310	1.6	310	2.3	---	1.3	---	1.0	---	0.9	100	2.5	100	2.5
12	320	1.8	320	2.9	320	3.3	310	3.0	310	3.0	310	2.6	300	2.3	280	2.0	---	0.8	100	3.7	130	4.3	140	5.4
13	190	3.2	200	3.0	210	2.5	210	2.9	210	2.0	200	3.4	220	2.2	190	1.8	190	2.8	200	3.9	160	4.6	160	4.6
14	---	0.4	190	2.2	180	1.7	---	1.3	180	1.7	190	1.8	---	1.3	200	2.6	210	3.7	200	3.0	170	3.5	160	6.0
15	---	1.3	---	1.0	180	1.7	---	1.3	200	2.6	200	2.6	190	2.8	170	4.0	160	4.2	160	5.0	150	6.0	160	7.3
16	270	3.4	250	2.5	---	0.8	---	1.1	---	1.1	240	1.8	260	2.5	270	2.1	260	2.9	220	4.0	170	2.1	150	2.6
17	220	2.5	220	2.2	170	1.7	180	2.7	170	3.5	170	4.0	160	5.0	170	5.7	160	6.9	160	8.3	170	7.5	180	8.3
18	210	5.7	210	4.9	220	3.6	250	4.0	270	6.8	270	4.3	250	4.3	240	3.6	250	4.3	250	5.1	280	4.5	280	7.0
19	---	0.3	---	0.0	---	0.0	---	1.4	300	1.6	---	1.0	310	1.6	---	0.7	10	2.1	100	3.3	110	3.1	120	4.3
20	200	3.4	190	2.2	190	2.2	190	1.8	---	1.3	200	3.9	210	3.3	210	2.5	210	4.1	220	4.7	240	3.6	210	4.1
21	220	1.8	210	3.3	210	3.7	220	2.9	220	2.5	210	2.5	210	2.0	220	2.2	230	2.2	260	4.0	260	3.6	260	3.6
22	290	2.9	280	2.9	260	2.5	250	2.9	250	2.9	260	2.5	260	3.3	250	2.9	240	2.5	230	2.5	230	3.3	250	3.3
23	270	2.1	---	1.4	---	1.4	260	1.8	---	0.8	---	0.8	290	2.2	320	3.3	340	4.0	330	3.3	340	3.6	340	3.6
24	310	3.9	290	4.3	300	4.9	300	3.0	300	3.0	290	2.9	300	3.3	300	4.3	310	3.0	310	3.0	340	1.9	110	2.8
25	190	4.2	190	4.2	190	2.8	180	3.1	200	1.7	---	0.9	---	0.9	210	1.6	210	3.3	210	4.9	180	3.5	170	4.8
26	---	0.3	---	0.8	---	1.1	270	1.7	270	2.1	---	1.1	---	1.4	---	1.3	210	2.5	200	5.6	180	4.4	180	4.8
27	---	1.3	---	0.9	---	0.9	170	3.1	170	2.7	170	2.7	170	3.5	170	4.0	170	4.8	170	4.8	170	4.0	170	6.1
28	180	3.1	170	4.4	170	5.7	160	5.0	190	5.0	160	5.5	160	7.3	160	8.7	170	6.5	190	4.6	170	4.4	170	4.0
29	20	2.1	---	1.3	---	1.2	300	2.3	---	1.1	---	0.7	---	0.9	---	0.8	---	0.3	---	0.3	---	0.3	130	2.4
30	---	0.8	---	1.1	---	1.1	---	1.1	---	1.0	---	1.1	210	1.6	210	3.7	200	2.6	230	3.3	280	5.4	280	6.5
31	---	0.8	---	1.4	---	1.4	310	1.6	---	1.3	250	2.9	230	2.9	220	3.3	190	4.6	200	4.7	210	5.7	210	5.4
Mean	---	2.5	---	2.7	---	2.3	---	2.3	---	2.5	---	2.5	---	2.8	---	3.1	---	3.4	---	4.1	---	4.2	---	4.7
Hour G. M. T.	0 - 1	1 - 2	2 - 3	3 - 4	4 - 5	5 - 6	6 - 7	7 - 8	8 - 9	9 - 10	10 - 11	11 - 12												



M.S.L. +  $h_a$  (height of anemograph above ground) = 13 metres + 23 metres.

JULY, 1933.

12 - 13		13 - 14		14 - 15		15 - 16		16 - 17		17 - 18		18 - 19		19 - 20		20 - 21		21 - 22		22 - 23		23 - 24		Mean	Day.
°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	m/s.	
160	4.2	150	4.7	160	4.2	170	3.1	110	2.8	70	1.9	---	0.8	---	1.2	---	0.8	---	0.8	---	0.4	---	1.0	2.1	1
160	5.1	160	5.5	180	5.7	170	4.0	160	3.9	170	1.7	70	4.0	40	4.0	20	2.6	---	1.3	---	1.4	320	2.2	2.5	2
330	3.3	330	4.0	320	3.6	290	4.0	330	3.3	340	2.8	40	3.6	---	1.3	---	0.4	160	1.7	---	1.3	270	1.7	2.6	3
180	6.1	180	5.2	170	4.4	150	3.9	140	3.6	150	2.6	110	2.8	110	2.8	90	2.9	100	2.0	120	2.6	130	1.6	2.9	4
160	5.6	160	7.7	160	6.9	160	6.9	160	6.9	170	6.5	170	6.5	170	7.9	170	5.7	160	4.6	170	2.7	150	3.4	4.5	5
120	4.7	130	4.3	120	4.3	140	4.5	140	6.1	140	5.4	140	4.9	150	5.1	140	4.1	150	4.7	150	5.6	160	5.1	4.4	6
130	5.5	130	6.2	130	7.9	130	5.9	130	7.1	130	4.7	130	4.0	130	3.1	130	3.6	130	4.0	120	4.3	130	4.7	4.7	7
160	7.8	160	6.4	160	7.2	160	7.2	160	6.9	160	6.4	160	5.6	170	3.5	160	2.2	180	3.1	190	2.2	---	1.4	4.7	8
160	7.8	160	8.3	160	6.9	160	6.9	160	6.9	160	6.4	160	6.4	160	6.0	180	4.0	190	2.8	190	4.6	190	4.6	4.4	9
210	8.3	210	7.7	160	6.9	160	6.9	180	5.2	180	5.2	180	6.1	200	3.9	210	4.9	190	5.0	210	3.7	210	3.7	5.6	10
160	6.4	160	6.4	160	6.9	250	2.6	190	3.2	210	4.1	320	1.8	---	1.4	---	0.3	230	1.8	240	2.2	---	1.1	3.6	11
---	1.4	140	1.6	350	1.8	---	0.8	260	1.8	330	2.9	290	2.5	280	2.9	280	2.5	---	1.3	---	1.3	290	1.8	1.9	12
160	7.8	160	6.9	160	5.5	160	4.2	130	3.1	140	3.3	150	3.9	130	2.4	110	2.8	100	2.9	70	2.4	---	1.4	3.1	13
---	0.9	30	1.7	---	0.9	---	0.9	---	0.4	30	1.7	---	1.3	---	1.3	---	1.2	---	1.2	---	0.0	---	0.0	2.0	14
70	4.3	60	5.4	60	4.7	60	5.1	60	5.1	60	2.9	50	2.2	20	2.1	350	1.8	330	2.2	320	2.6	330	2.9	2.3	15
300	4.6	300	4.6	320	3.6	320	3.3	320	3.3	310	2.3	320	2.5	---	0.8	310	2.0	---	1.3	---	0.7	---	1.0	3.2	16
320	4.7	300	3.9	320	2.9	120	2.8	130	2.4	130	1.6	---	1.1	---	0.8	---	1.2	300	2.3	290	2.2	280	2.9	2.9	17
180	2.1	170	3.1	170	3.1	130	2.4	110	2.4	---	0.8	---	1.3	---	0.3	---	0.4	---	0.8	---	0.4	---	1.3	1.7	18

AUGUST, 1933.

[illegible]



Direction expressed in degrees from North (E = 90°, S = 180°, W = 270°, N = 360°): Speed in metres per second.

147. ABERDEEN: Robinson anemograph from July, 1930.\*

H<sub>a</sub> (height of anemograph above M.S.L.) = Height of ground above

Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	
Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	290	2.9	280	5.7	250	4.3	260	3.6	260	3.6	280	4.5	280	6.5	290	5.7	300	8.5	320	7.3	320	7.3	320	8.2
2	310	2.0	310	2.0	---	1.3	---	1.3	---	1.0	---	1.0	240	1.8	220	1.8	230	1.8	190	2.2	180	3.1	180	2.1
3	---	0.9	---	0.4	---	0.8	---	0.0	---	0.8	---	1.2	70	1.6	190	1.8	---	1.3	170	2.7	160	4.2	110	3.1
4	330	4.3	330	2.9	330	2.2	320	2.2	320	1.8	330	2.2	---	1.4	310	3.0	310	2.0	---	0.9	100	2.9	100	3.3
5	180	2.1	---	1.0	---	0.9	---	1.3	170	1.7	170	2.1	140	2.0	150	2.1	150	2.6	160	3.2	150	2.6	140	3.3
6	190	2.8	180	2.1	180	3.5	180	4.4	180	4.8	180	3.5	170	4.8	170	4.8	160	5.5	170	4.0	180	5.7	170	6.9
7	320	3.6	330	3.3	330	2.9	330	3.3	330	3.3	330	2.2	320	2.9	320	3.3	330	2.9	330	3.6	340	3.6	340	3.6
8	310	3.3	310	3.3	310	2.3	320	3.3	320	3.6	320	3.6	320	2.5	320	2.2	---	1.4	---	1.4	90	2.2	100	4.1
9	320	2.5	320	2.5	320	1.8	310	2.0	310	3.0	310	2.3	310	2.3	---	1.3	---	1.4	160	3.6	150	4.3	140	4.5
10	210	2.0	210	2.5	210	2.0	250	1.8	270	1.7	280	2.0	300	1.6	---	1.0	---	1.1	170	3.1	170	4.0	160	5.0
11	280	1.6	280	2.0	290	2.5	310	2.6	310	3.3	310	3.3	300	3.3	310	2.3	---	1.0	---	0.7	20	2.1	100	2.9
12	---	0.9	240	2.2	300	3.6	300	3.3	300	4.3	310	2.6	310	2.3	310	1.6	310	3.0	---	1.3	---	1.2	100	2.9
13	---	1.3	280	2.0	290	3.3	280	3.3	280	2.5	270	1.7	300	6.2	320	6.5	330	5.4	330	7.3	330	9.4	320	9.0
14	330	6.8	330	5.7	330	5.7	320	5.7	310	3.9	310	4.6	310	4.6	310	4.9	310	4.6	310	(5.6)	310	(6.5)	330	(5.3)
15	---	(1.4)	---	(1.1)	---	(0.7)	---	(0.4)	---	(0.4)	---	(0.7)	---	(1.1)	220	(2.1)	200	(2.9)	210	4.1	200	3.9	200	3.4
16	290	1.8	---	0.8	270	1.7	300	1.6	300	2.0	---	1.0	310	1.6	---	1.4	190	1.8	200	5.6	200	5.6	200	4.7
17	200	3.9	210	2.5	210	1.6	180	3.1	190	3.2	200	3.0	210	2.5	190	3.6	210	2.9	180	4.8	180	5.7	160	6.9
18	170	6.5	170	6.5	160	6.0	160	8.3	180	6.5	200	4.7	220	5.1	230	4.0	260	3.3	250	4.3	290	3.6	300	5.2
19	310	2.0	---	1.0	---	0.0	---	0.3	---	0.3	---	0.3	---	0.8	---	0.8	70	2.4	110	4.3	110	4.0	110	3.6
20	130	5.9	130	5.2	130	7.9	130	8.3	130	7.9	130	6.7	130	6.2	120	6.2	110	5.9	100	7.0	100	7.7	110	7.4
21	90	9.0	90	6.8	90	7.3	80	5.4	70	5.9	70	5.9	80	6.2	80	5.4	80	4.3	80	4.7	70	5.9	70	5.9
22	310	3.3	310	3.0	310	2.6	300	3.3	310	2.3	310	3.0	300	3.0	300	3.9	310	4.3	320	2.2	340	1.9	10	3.4
23	---	1.4	---	1.4	---	1.0	160	1.8	240	1.8	300	1.6	---	1.0	---	1.3	---	0.7	---	1.0	190	1.8	140	3.7
24	310	2.0	310	2.3	340	2.4	330	2.9	320	3.3	320	3.6	330	2.2	350	6.0	350	6.4	10	6.4	30	6.0	40	7.4
25	50	8.2	50	6.8	60	4.0	70	5.5	60	5.1	60	4.0	80	5.4	90	8.2	90	6.8	70	5.9	70	6.7	70	7.4
26	320	3.3	320	3.6	320	3.6	310	3.6	310	3.6	320	3.6	320	4.3	320	2.9	330	3.3	350	4.2	360	4.8	360	5.2
27	300	2.3	---	1.0	---	0.7	---	0.3	---	1.3	---	0.3	---	0.0	---	0.7	---	1.3	---	0.3	---	1.4	110	2.4
28	300	2.6	300	2.6	310	3.0	310	3.3	310	3.9	310	3.3	310	3.9	310	2.3	300	1.6	---	1.3	310	1.6	20	1.7
29	170	3.1	180	3.5	180	3.1	190	3.2	180	2.1	190	2.2	200	2.6	---	1.4	200	1.7	---	1.3	---	1.4	140	2.5
	340	2.8	340	2.8	340	2.8	320	2.5	320	3.3	320	2.5	320	2.2	330	2.5	350	3.2	360	3.1	360	3.1	50	4.0
Mean	---	3.2	---	2.9	---	2.9	---	3.1	---	3.1	---	2.8	---	3.1	---	3.2	---	3.2	---	3.6	---	4.1	---	4.6

148. ABERDEEN: H<sub>a</sub> = 13 metres + 23 metres.

	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	---	1.0	---	0.7	---	1.3	310	2.0	---	1.3	310	2.3	310	1.6	---	1.3	---	1.3	310	1.6	---	1.0	---	1.0
2	320	5.1	310	2.6	340	4.3	340	2.8	340	3.1	340	4.7	340	4.3	340	3.1	330	3.6	360	4.4	360	4.8	360	4.4
3	---	1.1	---	1.4	320	2.5	320	2.2	310	1.6	310	1.6	---	1.0	---	1.3	250	1.8	---	1.4	240	1.8	---	1.1
4	220	1.8	---	1.4	230	1.8	---	1.1	260	1.8	260	1.8	270	3.0	290	5.7	290	8.3	280	6.5	260	3.6	280	6.5
5	230	1.8	250	2.2	270	3.0	300	2.6	310	3.3	---	0.7	300	2.0	310	2.6	---	1.4	300	3.3	300	3.9	310	3.0
6	---	0.4	---	0.0	---	0.9	---	0.4	---	1.3	---	1.1	---	1.1	---	1.1	230	2.5	230	2.2	---	1.4	210	2.9
7	---	0.9	280	1.6	280	1.6	---	1.4	290	1.8	300	2.6	300	2.3	310	2.6	310	2.6	310	2.3	50	4.3	80	5.1
8	100	10.6	100	11.5	100	12.7	90	11.2	100	14.4	100	13.9	90	13.8	90	14.4	90	11.9	90	14.4	90	13.8	90	13.8
9	210	2.9	---	1.4	190	1.8	200	2.1	170	2.7	180	3.1	180	2.1	170	2.1	160	4.2	150	6.8	160	9.2	150	7.8
10	200	5.6	200	9.4	200	7.7	200	6.0	200	7.7	200	8.1	200	6.4	200	7.3	210	7.7	190	5.0	210	7.4	230	7.6
11	190	4.2	210	4.9	220	2.9	260	2.9	270	3.0	---	1.3	---	1.4	250	2.2	270	1.7	290	5.4	300	6.6	300	7.2
12	270	3.4	230	1.8	250	2.9	---	1.4	270	3.0	260	2.2	250	1.8	---	1.1	250	1.8	280	2.9	310	3.9	320	3.3
13	230	2.9	220	2.2	210	2.9	210	2.5	200	2.1	200	3.0	200	4.3	190	3.2	180	4.0	200	4.7	190	5.5	180	5.7
14	210	4.1	210	4.5	210	4.1	230	2.9	240	3.6	---	1.1	---	1.4	---	1.4	---	1.1	---	1.1	250	2.2	280	2.5
15	220	2.9	220	3.3	220	3.6	210	5.4	210	4.1	200	5.6	210	7.4	210	7.0	210	7.4	190	6.4	200	5.6	210	7.4
16	190	4.6	190	3.6	210	3.3	210	4.9	200	3.0	210	3.7	200	3.4	220	2.5	240	4.3	230	4.3	260	4.7	270	6.4
17	290	8.2	290	7.6	270	7.7	280	7.4	290	6.5	290	6.8	290	6.8	290	6.8	300	7.5	300	6.9	310	6.6	310	7.5
18	---	0.9	---	0.9	---	0.3	---	0.8	---	0.9	---	1.4	180	3.1	170	1.8	180	3.5	170	4.8	170	5.7	160	6.0
19	140	9.4	140	9.0	140	10.3	140	11.1	140	10.3	150	10.3	140	8.3	140	10.3	140	9.9	150	(9.4)	150	(9.4)	150	(9.0)
20	120	(6.7)	130	(6.7)	130	(5.9)	120	(5.9)	120	(6.7)	120	(6.7)	120	(5.9)	130	6.2	130	5.2	130	6.7	130	7.1	130	4.7
21	90	4.0	90	5.1	90	5.7	100	7.7	110	7.4	100	9.4	100	11.1	100	11.1	90	12.6	90	11.2	90	10.4	90	10.4
22	80	5.7	80	6.2	100	5.4	110	2.4	70	1.6	---	1.4	---	1.4	---	1.1	---	1.1	---	0.9	---	0.8	150	3.0
23	310	3.0	310	3.0	320	4.3	330	4.3	340	3.6	40	3.6	60	6.2	40	4.3	40	3.1	360	4.4	330	3.3	340	3.6
24	30	6.0	40	7.1	50	6.6	60	6.8	60	7.6	70	8.6	70	7.1	60	7.3	60	5.4	40	6.2	40	5.5	30	4.3
25	330	4.3	330	4.0	330	4.3	330	5.4	330	4.0	340	4.7	330	3.6	320	4.3	310	4.9	330	4.7	330	6.5	330	7.9
26	340	7.1	340	8.6	340	8.6	340	8.6	330	6.5	340	6.7	340	7.9	330	7.3	330	8.2	330	8.7	330	8.2	330	6.5
27	240	3.9	300	6.9	290	7.8	300	7.6	310	7.4	300	6.5	310	7.5	320	9.2	320	10.0	330	6.8	330	8.7	330	8.2
28	330	6.2	330	5.4	330	6.2	10	12.0	60	10.1	20	8.6	60	13.7	70	16.9	60	17.3	60	14.4	60	14.1	60	14.1
29	320	4.3	320	4.0	320	3.6	320	4.0	320	3.6	320	4.3	320	3.6	320	4.3	320	4.0	330	4.7	350	6.4	360	7.5
30	310	3.6	310	3.3	320	4.0	310	3.6	320	3.6	320	4.7	310	4.9	310	5.6	310	5.6	300	7.2	290	7.9	300	6.9
31	200	4.3	200	3.0	240	4.3	270	6.8	300	6.6	290	8.2	300	9.2	280	8.3	280	8.3	280	7.7	290	10.4	290	8.7
Mean	---	4.2	---	4.3	---	4.6	---	4.7	---	4.7	---	4.8	---	5.1	---	5.3	---	5.6	---	5.7	---	6.2	---	6.2
Hour G. M. T.	0 - 1	1 - 2	2 - 3	3 - 4	4 - 5	5 - 6	6 - 7	7 - 8	8 - 9	9 - 10	10 - 11	11 - 12												



Averages for periods of sixty minutes centred at the Half hours, Greenwich Mean Time.

M.S.L. +  $h_a$  (height of anemograph above ground) = 13 metres + 23 metres.

SEPTEMBER, 1933.

12 - 13		13 - 14		14 - 15		15 - 16		16 - 17		17 - 18		18 - 19		19 - 20		20 - 21		21 - 22		22 - 23		23 - 24		Mean	Day.
°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	m/s.	
330	6.8	310	6.8	320	7.3	330	5.4	340	5.5	340	4.3	340	3.1	330	3.3	330	2.2	290	2.2	300	1.6	310	2.3	5.0	1
170	1.7	160	4.2	160	3.2	170	3.1	160	2.1	120	3.1	130	1.6	---	0.8	---	0.4	---	1.3	---	1.0	---	1.0	1.9	2
90	2.5	100	2.5	80	1.8	70	1.6	60	2.5	---	1.3	---	0.8	---	0.9	360	1.7	340	1.6	320	2.2	320	2.5	1.7	3
120	3.6	150	3.9	160	3.9	160	4.2	160	3.6	150	2.6	160	2.8	170	4.0	170	2.1	170	2.1	170	2.7	170	1.7	2.8	4
120	2.8	110	2.4	120	2.8	130	2.4	140	2.5	160	3.2	160	2.8	150	1.7	160	2.2	170	4.0	160	4.6	170	4.0	2.5	5
170	6.9	170	5.7	170	6.1	170	5.7	190	2.8	190	2.8	310	3.0	310	3.6	330	3.3	340	3.6	330	3.6	330	3.3	4.3	6
340	3.9	330	3.6	40	5.1	60	5.4	60	5.1	50	3.3	10	3.0	350	2.8	330	2.5	320	2.2	320	3.6	320	3.6	3.4	7
100	3.3	110	3.1	110	2.8	110	2.8	110	2.4	100	3.3	100	2.9	120	1.6	---	1.2	---	0.0	40	1.6	---	1.4	2.5	8
140	4.9	150	5.1	150	5.1	150	5.1	160	5.5	170	3.4	170	3.4	170	2.1	170	2.1	170	2.1	190	2.8	190	2.2	3.1	9
170	5.2	170	3.5	160	4.2	160	5.0	160	4.6	160	4.2	170	2.7	170	2.7	170	1.7	180	1.7	---	1.0	190	1.8	2.8	10
110	4.0	120	4.0	140	3.7	150	3.0	150	3.9	150	2.6	160	2.8	180	2.1	---	1.3	---	0.9	180	1.7	---	0.4	2.4	11
110	3.1	110	3.6	110	2.4	100	2.5	90	2.5	80	2.2	---	0.8	---	0.8	350	1.8	---	1.4	---	1.4	---	0.8	2.2	12
320	8.2	320	11.6	320	8.2	320	11.2	320	11.6	320	10.8	320	10.8	320	11.6	320	10.1	320	9.4	330	7.3	330	6.2	7.3	13
320	(5.0)	330	(4.3)	340	(3.7)	330	(3.6)	330	(2.4)	---	(0.8)	---	(0.8)	200	(2.0)	---	(1.2)	210	(2.4)	230	(2.4)	230	(1.9)	(3.9)	14
140	4.1	150	3.0	170	4.8	180	4.4	200	5.1	210	4.1	210	3.3	200	2.6	---	1.4	280	2.0	---	1.0	280	2.0	(2.5)	15
180	5.2	150	5.6	150	8.1	170	9.2	170	8.3	190	5.5	200	2.1	190	3.6	200	4.3	200	2.1	200	1.7	180	2.7	3.7	16
170	5.7	160	6.9	160	5.0	160	4.6	160	6.9	160	6.9	160	4.6	160	6.9	170	6.1	170	6.9	200	3.4	170	5.2	4.7	17
290	4.3	310	4.0	280	2.0	110	5.2	130	4.0	120	2.4	120	1.6	130	1.6	---	1.2	---	1.4	310	1.6	310	2.3	4.0	18
120	4.0	130	4.0	130	3.1	140	4.1	120	2.8	130	4.0	140	4.1	180	4.2	150	3.9	150	3.9	140	5.4	130	5.2	2.9	19
110	7.2	110	8.6	110	8.6	110	7.9	110	8.6	100	10.7	100	9.0	100	10.6	90	9.8	90	8.2	90	8.2	90	7.6	7.8	20
70	5.9	70	5.2	60	5.4	50	3.6	50	3.6	40	2.4	20	1.7	340	2.8	320	2.5	320	2.5	320	2.2	310	3.0	4.7	21
80	3.3	100	3.7	110	2.4	100	2.5	110	1.9	---	1.2	120	1.6	130	1.6	140	3.3	---	1.3	---	1.4	---	1.4	2.6	22
120	4.0	130	4.0	140	3.3	150	3.4	160	3.7	160	1.8	160	1.8	---	1.4	---	1.3	310	1.6	310	2.0	310	2.3	2.0	23
50	8.2	50	9.8	50	8.2	50	8.7	50	9.0	50	6.5	60	8.2	60	9.4	70	9.0	70	6.7	60	5.4	40	5.9	6.1	24
60	6.5	70	7.4	60	6.2	60	5.7	40	4.7	30	3.0	360	4.0	350	4.2	350	4.2	330	2.5	330	2.9	330	2.5	5.3	25
360	3.1	360	3.1	320	2.9	320	3.6	320	3.3	330	2.9	320	2.5	310	2.6	310	2.0	310	2.3	310	3.0	300	3.0	3.3	26
120	2.8	120	2.8	120	2.8	130	2.4	130	3.1	130	1.6	---	0.8	---	1.2	210	2.5	310	2.3	310	3.0	310	3.0	1.7	27
100	2.0	110	1.9	110	2.4	110	2.4	120	1.9	140	2.0	170	1.7	170	2.1	180	2.1	190	2.8	---	1.3	---	1.4	2.3	28
160	3.6	140	2.0	---	1.2	110	1.6	---	0.8	---	0.9	330	1.8	320	1.8	320	1.8	340	4.0	320	1.8	320	2.5	2.2	29
80	4.3	70	4.7	70	4.3	80	3.6	90	2.5	80	1.8	70	1.6	---	0.8	10	1.7	300	2.0	310	1.6	---	1.3	2.7	30
---	4.5	---	4.7	---	4.4	---	4.5	---	4.3	---	3.5	---	3.0	---	3.2	---	3.0	---	2.9	---	2.8	---	2.8	3.5	

OCTOBER, 1933.

°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.</
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149. ABERDEEN: Robinson anemograph from July, 1930.\*

H<sub>a</sub> (height of anemograph above M.S.L.) = Height of ground above

Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	
Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	290	9.0	300	8.2	300	7.5	300	6.6	290	5.7	290	6.5	300	6.6	300	6.2	280	7.0	300	7.5	300	5.9	280	3.3
2	270	9.0	290	13.3	310	13.4	310	12.8	320	11.9	310	9.5	310	9.8	310	9.2	300	9.5	300	8.5	310	8.5	320	9.8
3	320	5.1	320	4.7	320	5.4	320	4.7	330	4.7	330	6.2	320	6.2	330	5.7	330	6.5	340	7.4	340	7.9	350	8.7
4	320	5.7	310	4.3	310	4.6	310	5.9	310	7.5	300	8.2	300	5.9	300	4.9	300	5.9	310	4.9	300	4.9	300	3.9
5	210	2.0	---	1.1	---	1.4	---	1.4	280	2.0	300	3.6	300	2.0	---	1.4	---	1.1	270	2.6	270	2.6	280	3.7
6	250	2.2	260	2.9	230	3.6	260	3.3	280	4.5	290	7.3	290	9.0	300	9.8	310	10.2	300	11.5	300	10.8	300	11.1
7	300	10.5	300	8.2	310	5.9	310	6.6	310	6.6	310	6.2	310	4.3	310	3.3	310	3.3	330	4.3	50	1.8	---	1.1
8	---	0.4	---	0.4	---	0.9	---	0.4	---	0.0	---	0.4	---	0.9	---	1.1	---	0.0	---	0.4	---	0.4	---	0.9
9	---	0.4	---	1.4	200	2.1	200	2.1	---	1.3	180	1.7	200	2.1	200	2.6	210	2.9	210	4.5	200	3.4	200	3.4
10	280	2.9	280	3.3	280	2.9	270	3.0	260	1.8	---	1.4	260	1.8	280	3.7	290	2.9	290	4.7	290	5.1	300	5.6
11	300	3.9	300	4.6	300	3.9	290	4.3	290	4.3	300	3.3	300	3.6	300	2.3	---	1.1	290	2.2	---	0.8	---	0.3
12	---	1.1	270	2.6	---	1.0	300	1.6	---	1.3	300	1.6	---	1.0	---	0.7	---	1.0	---	1.0	310	1.6	---	1.3
13	---	1.3	200	1.7	200	2.1	200	2.1	210	2.0	200	2.6	210	2.5	200	2.1	180	2.1	180	2.1	170	4.0	170	6.9
14	270	4.7	---	1.1	190	1.8	210	1.6	210	2.5	220	1.8	230	2.9	---	0.8	---	1.4	---	1.4	230	1.8	---	1.1
15	150	10.3	140	10.3	140	9.0	140	10.6	140	10.6	140	12.3	140	11.5	140	11.9	140	11.9	130	11.0	130	11.4	130	13.3
16	100	12.3	90	10.4	100	8.6	90	9.0	100	11.1	80	8.7	80	7.6	80	8.2	80	10.8	90	8.2	80	9.4	70	7.1
17	300	3.0	300	3.6	300	2.6	300	2.3	300	2.6	310	2.0	310	2.0	320	2.2	330	2.5	290	2.5	310	2.3	310	2.3
18	100	10.6	100	8.6	110	10.7	100	11.5	100	10.3	100	11.9	110	10.7	100	13.1	90	6.5	100	11.9	90	11.2	90	11.2
19	110	10.7	130	10.2	140	9.4	130	9.5	140	9.4	140	8.6	130	8.3	130	9.8	130	10.7	130	9.8	130	8.6	130	9.8
20	130	7.1	130	7.1	130	6.7	130	7.4	130	7.4	130	8.6	140	9.4	140	8.6	140	8.3	140	9.0	140	8.3	140	7.4
21	170	1.7	160	1.8	150	1.7	150	2.1	150	3.4	150	3.0	140	3.7	140	3.7	150	3.4	150	3.0	150	1.7	150	2.1
22	360	1.7	310	2.3	300	4.6	310	3.9	310	3.6	310	3.6	310	2.6	310	3.9	300	3.3	290	3.6	300	3.6	300	3.6
23	270	1.7	300	2.6	310	2.0	---	1.3	300	1.6	280	2.5	290	2.5	---	1.4	300	2.3	300	4.9	290	3.6	310	3.6
24	310	3.9	320	4.7	350	4.2	340	4.0	340	3.6	330	4.0	340	2.8	340	3.6	340	4.0	330	4.7	320	4.0	330	3.3
25	340	2.8	340	3.1	340	2.8	340	2.4	330	2.5	330	2.5	310	2.3	320	2.5	320	2.9	310	2.0	---	1.0	---	1.0
26	210	2.0	---	1.3	---	1.3	---	1.3	210	1.6	---	1.3	---	1.4	210	1.6	210	1.6	220	2.2	---	1.4	200	1.7
27	130	4.7	130	4.3	140	5.7	130	5.5	130	4.3	130	4.0	150	3.9	130	5.9	160	4.2	140	5.7	150	5.6	170	4.0
28	140	7.0	130	7.9	130	6.7	130	9.0	130	8.6	130	9.0	130	10.2	130	9.0	130	7.1	120	7.9	130	7.9	140	7.4
29	140	8.3	140	7.7	150	8.6	150	6.0	150	6.4	160	5.5	180	4.0	190	4.2	190	4.6	180	3.5	180	3.1	170	4.0
30	150	3.4	150	8.6	150	7.7	170	5.7	190	4.6	200	3.0	210	3.3	190	3.2	200	2.6	190	3.6	150	7.3	150	7.3
Mean	---	5.0	---	5.1	---	5.0	---	4.9	---	4.9	---	5.0	---	4.8	---	4.9	---	4.7	---	5.2	---	5.0	---	5.0

150. ABERDEEN: H<sub>a</sub> = 13 metres + 23 metres.

	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	180	2.7	190	3.2	160	5.5	160	5.6	150	7.7	150	8.6	150	9.8	150	11.6	150	11.6	140	11.5	140	11.5	150	11.0
2	150	10.3	140	9.0	140	9.4	140	9.0	150	9.0	140	9.4	140	9.4	150	9.0	140	7.4	140	9.9	130	7.9	140	9.4
3	140	6.1	140	5.7	150	6.4	150	6.4	140	5.7	130	6.2	130	4.0	140	4.5	130	5.2	130	5.2	140	6.5	140	7.0
4	140	5.4	150	5.1	140	2.9	140	4.5	130	4.7	140	4.5	130	4.7	130	4.0	120	5.5	120	4.3	120	4.3	110	5.2
5	100	3.3	---	1.4	330	2.5	60	3.6	70	3.1	80	2.9	330	2.5	310	2.6	320	3.3	310	2.6	300	2.6	310	3.0
6	310	3.0	310	3.6	310	2.6	320	3.3	320	2.9	320	3.3	320	3.3	320	3.3	220	2.5	320	2.5	340	3.1	360	3.5
7	60	4.0	40	3.1	330	2.6	320	1.8	330	2.5	210	4.1	130	6.7	130	5.9	130	5.9	130	6.7	130	7.1	130	6.7
8	140	4.9	140	4.9	140	5.4	140	2.0	130	3.1	130	2.8	220	1.8	300	2.3	300	2.6	320	4.0	310	2.3	310	2.6
9	310	3.3	310	4.3	310	6.2	310	6.9	310	8.2	310	4.6	---	1.3	---	1.0	320	1.8	310	2.3	310	3.3	300	3.6
10	320	3.6	310	3.3	310	2.3	310	3.9	310	2.6	310	3.3	310	3.3	310	2.3	310	3.3	310	3.6	310	3.0	300	3.3
11	300	2.6	300	2.6	280	3.3	280	4.1	290	3.6	290	3.6	280	3.3	260	1.8	280	3.3	290	2.9	300	2.3	270	3.0
12	180	1.7	170	1.7	170	2.7	170	2.1	---	0.9	---	1.4	---	0.8	160	1.8	130	5.9	130	7.1	140	6.1	140	5.7
13	110	10.7	100	9.0	100	8.3	100	10.3	100	10.6	100	9.9	90	6.8	100	9.4	100	9.4	90	7.9	100	5.4	20	2.1
14	300	3.6	290	2.2	---	1.4	280	4.5	270	3.4	290	4.3	300	5.9	300	5.9	310	4.6	300	5.9	300	5.6	300	5.9
15	310	4.9	310	5.6	310	4.9	310	5.6	310	4.9	300	5.9	300	5.2	300	5.6	300	3.0	---	0.3	---	0.7	300	2.0
16	---	1.3	220	2.6	---	1.1	290	1.8	---	0.8	---	1.3	290	3.6	290	3.3	300	2.6	300	3.0	290	2.5	300	3.3
17	220	1.8	220	1.8	230	2.2	220	3.6	---	1.4	250	1.8	---	0.8	---	0.3	---	0.4	---	0.8	---	0.8	---	1.4
18	220	2.2	210	4.1	210	5.7	230	2.9	210	3.3	220	1.8	220	1.8	220	1.8	---	1.1	240	1.8	210	2.5	210	3.7
19	310	3.0	310	2.3	310	3.0	310	1.6	310	2.6	310	2.6	310	2.3	310	1.6	---	1.3	---	0.8	300	3.6	300	3.0
20	240	2.5	230	1.8	240	2.2	280	2.0	---	1.4	---	0.9	---	1.1	---	0.8	---	0.0	---	0.8	---	0.8	240	1.8
21	310	1.6	---	1.1	230	2.2	230	1.8	230	1.8	230	2.2	---	1.4	---	0.8	220	2.2	220	3.6	210	2.5	200	2.1
22	210	5.4	220	6.5	210	4.9	200	4.7	240	2.2	200	7.3	190	2.2	---	0.9	210	2.9	230	2.2	210	4.1	190	6.0
23	150	2.6	220	2.2	170	2.1	210	2.5	---	0.3	---	0.8	---	1.4	220	2.2	---	1.1	---	1.3	---	0.8	300	2.0
24	290	1.8	---	0.8	---	1.1	---	1.4	240	2.2	---	1.1	---	1.0	---	1.0	---	1.0	---	0.7	290	2.5	310	1.6
25	---	0.8	---	1.0	180	1.7	---	0.9	180	2.1	200	2.1	200	3.9	200	3.0	190	3.2	200	3.4	200	2.1	200	3.9
26	---	0.8	190	2.2	180	2.1	170	4.0	170	3.1	170	3.1	180	3.2	180	2.2	170	2.1	180	2.1	200	2.1	190	3.2
27	---	0.7	310	1.6	---	1.4	180	1.7	170	3.1	150	4.7	140	5.7	150	5.6	140	6.1	150	6.4	170	4.0	140	3.7
28	130	9.0	130	8.6	130	9.8	140	9.9	130	9.8	130	10.7	120	9.8	120	9.8	110	10.2	110	11.0	100	12.3	110	9.8
29	120	8.6	130	7.1	150	5.1	160	2.8	150	4.3	170	3.5	---	1.0	140	4.9	140	6.1	150	5.6	150	5.6	180	2.7
30	200	3.9	180	4.4	170	6.1	180	5.7	170	6.5	180	6.9	200	3.9	210	2.5	230	1.8	200	2.6	210	2.0	210	2.5
31	300	3.9	300	3.9	290	2.9	260	2.9	---	1.4	280	2.0	---	1.4	---	1.4	---	1.3	---	1.0	210	1.6	---	1.1
Mean	---	3.9	---	3.8	---	3.9	---	4.0	---	3.8	---	4.1	---	3.7	---	3.6	---	3.8	---	4.0	---	3.9	---	4.1
Annual Mean	---	3.7	---	3.7	---	3.6	---	3.7	---	3.6	---	3.7	---	3.7	---	3.9	---	4.1	---	4.6	---	4.8	---	5.0







151. ABERDEEN: Ha = 24 metres + 13 metres

1933.

	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
Day.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.
1	m/s. 16	h. m. 00 20	m/s. 13	h. m. 00 05	m/s. 12	h. m. 11 15	†	---	m/s. 13	h. m. 01 05	m/s. 13	h. m. 19 05	m/s. 8	h. m. 14 10	m/s. 13	h. m. 05 40	m/s. 15	h. m. 11 25	m/s. 11	h. m. 23 35	m/s. 21	h. m. 01 15	m/s. 21	h. m. 15 50
2	21	16 05	23	12 15	14	05 55	†	---	9	22 30	12	11 20	10	14 45	7	13 55	7	15 20	10	10 25	28	02 35	18	02 15
3	17	15 15	11	00 05	20	14 15	†	---	11	19 00	15	14 00	10	15 50	13	12 50	7	10 25	7	15 05	21	08 55	13	02 05
4	14	11 10	6	02 30	12	00 05	†	---	9	00 40	14	15 25	11	13 20	13	06 10	8	00 05	13	08 45	19	04 10	11	08 35
5	17	02 05	9	17 20	15	23 05	†	---	8	01 50	10	11 25	14	19 05	8	00 30	9	21 20	11	03 55	9	04 25	8	18 30
6	13	00 30	8	21 15	16	01 35	10	21 05	9	17 40	11	20 55	10	23 50	12	14 40	13	12 30	5	16 10	21	12 50	9	22 20
7	15	15 15	6	02 15	16	08 50	9	00 30	11	20 00	14	14 20	13	14 05	14	19 15	8	13 40	14	22 50	17	00 20	14	08 35
8	18	23 05	17	21 55	14	19 15	9	23 30	12	17 40	13	00 20	13	15 20	18	09 00	6	11 30	20	09 30	3	12 40	11	01 45
9	15	07 30	18	01 25	13	08 55	15	05 20	9	08 35	13	10 35	12	16 25	14	14 45	8	14 30	21	18 15	9	15 00	11	03 20
10	14	22 55	11	13 50	11	10 30	12	00 35	13	14 35	11	12 30	16	11 35	12	15 00	9	12 25	22	14 45	11	12 30	7	18 30
11	11	10 30	8	00 50	10	14 20	16	11 05	6	00 40	13	12 30	13	15 00	5	12 55	6	13 40	17	18 55	8	00 20	7	02 35
12	10	18 45	14	16 55	7	16 20	22	14 50	9	14 35	9	16 25	8	10 55	13	16 50	6	04 30	8	05 15	3	13 30	19	23 40
13	5	23 45	19	14 20	5	13 35	16	11 20	9	12 30	12	06 55	11	13 10	13	14 05	24	18 15	15	21 40	15	12 40	18	00 30
14	18	21 30	14	11 55	11	13 55	16	15 15	14	17 00	8	19 30	7	10 15	10	12 55	13	00 10	9	00 15	17	23 40	14	20 50
15	15	01 10	11	11 45	17	08 40	14	10 25	16	09 40	14	13 35	8	16 20	16	16 25	11	14 50	16	11 55	20	15 05	12	03 20
16	8	23 40	16	16 50	4	05 10	7	20 05	7	16 40	18	20 05	11	09 20	8	00 35	15	18 05	20	16 15	16	08 40	6	03 25
17	14	16 55	15	09 50	7	14 35	9	20 25	9	17 10	11	16 10	10	09 10	19	11 55	13	21 35	19	02 00	14	22 35	7	14 25
18	12	00 15	15	16 20	11	21 10	17	14 10	11	15 50	10	19 20	7	02 50	14	04 30	13	02 45	20	20 45	19	15 05	8	02 05
19	5	21 30	11	04 25	11	09 35	15	07 40	13	14 55	10	12 00	9	11 45	11	17 25	9	23 15	20	01 00	17	07 50	5	10 35
20	12	21 35	19	23 50	15	12 10	13	08 25	14	15 10	10	07 20	12	14 45	11	09 05	13	04 30	13	01 45	17	07 40	4	02 00
21	13	10 05	19	12 00	13	13 40	12	14 35	8	13 05	8	16 10	8	11 50	12	12 10	13	00 05	16	11 55	7	15 45	9	23 10
22	11	05 05	13	08 00	11	11 20	7	17 05	7	15 00	9	13 10	7	16 10	13	11 45	6	07 05	9	00 05	9	03 10	20	18 30
23	6	23 15	11	03 50	16	10 30	10	16 20	9	13 00	7	13 15	6	14 20	12	16 30	7	13 15	13	15 05	10	17 00	9	16 55
24	9	12 25	16	23 20	16	09 25	12	17 30	10	21 25	9	10 50	11	16 10	10	17 35	14	16 40	14	13 35	12	09 30	9	19 45
25	8	12 45	24	10 05	11	11 25	13	04 05	11	07 40	16	18 00	7	18 45	10	09 45	13	00 20	21	12 50	9	00 50	8	21 35
26	4	09 45	25	22 30	9	12 35	15	14 35	9	08 25	17	14 10	13	15 10	11	14 05	9	10 40	21	01 25	11	23 25	7	05 30
27	5	12 35	26	01 05	†	---	14	12 00	11	10 05	15	17 45	12	09 35	15	12 05	5	16 10	21	10 40	17	16 25	14	20 00
28	5	03 55	9	19 25	†	---	11	11 55	11	11 25	16	14 10	17	08 10	18	07 30	6	23 55	23	08 35	16	19 35	18	04 45
29	8	22 50	---	---	†	---	9	21 10	9	09 15	10	07 55	7	17 25	10	21 50	8	01 50	17	12 45	15	01 50	13	00 05
30	10	09 35	---	---	†	---	11	06 20	11	13 45	10	14 40	12	18 45	13	14 55	7	10 30	12	14 20	16	01 45	15	05 05
31	17	20 55	---	---	†	---	---	---	12	12 30	---	---	17	18 30	13	14 10	---	---	19	21 10	---	---	14	23 20

† March 27th to April 5th. Instrument being transferred to new site.

## DISTRIBUTION OF WIND SPEED: EXTREME VELOCITIES AS RECORDED BY THE DINES TUBE AND ROBINSON CUP ANEMOGRAPHS.

152. ABERDEEN: Ha = (24metres + 13 metres. Tube Anemograph  
13metres + 23 metres. Cup Anemograph)

1933.

MONTH.	DISTRIBUTION OF WIND SPEED.								EXTREME VELOCITIES.				
	More than 17.1 m/s.		10.8 to 17.1 m/s.		5.5 to 10.7 m/s.	1.8 to 5.4 m/s.	less than 1.6 m/s.	No Record	Highest Hourly Wind.			Highest Gust.	
	Dates of Occurrence.	Duration.	No. of Days.	Duration.	Duration.	Duration.	Duration.	Duration.	Veer from N.	Speed.	Mid Time.	Speed.	Date.
Jan. ...	--	hr. -	4	21	222	353	148	0	170	15	2 12 30	21	2 16 05
Feb. ...	26;27	2	8	76	222	328	44	0	120	17	27 00 30	26	27 01 05
Mar. ...	--	-	5	25	257	373	89	0	110	13	3 14 30	20	3 14 15
Apr. ...	--	-	2	6	156	473	85	0	300	13	1 09 30	22	12 14 50
May ...	--	-	-	-	91	583	70	0	330	11	15 09 30	16	15 09 40
June ...	--	-	-	-	155	484	81	0	160	9	16 19 30	18	16 20 05
July ...	--	-	-	-	94	475	175	0	290	10	28 08 30	17	28 08 10
Aug. ...	--	-	1	1	109	519	115	0	280	11	8 09 30	19	17 11 55
Sept. ...	--	-	1	6	117	489	108	0	320	12	13 19 30	24	13 18 15
Oct. ...	28	1	7	35	298	323	87	0	60	17	28 08 30	23	28 08 35
Nov. ...	--	-	5	43	210	363	104	0	100	16	18 14 30	28	2 02 35
Dec. ...	--	-	3	18	154	447	125	0	140	12	1 16 30	21	1 15 50
Year ...	3 days.	3	36	231	2085	5210	1231	0	60	17	28 08 30 Oct.	28	2 02 35 Nov.

\*See note in introduction page 90.



TEMPERATURE IN THE GROUND AT DEPTHS OF 30 CM. (1 Foot) AND 122 CM. (4 Feet.)  
Readings, in degrees absolute, at 9h Greenwich Mean Time.

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153. ABERDEEN.

1933.

	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
Day.	30cm	122cm	30cm	122cm	30cm	122cm	30cm	122cm	30cm	122cm	30cm	122cm	30cm	122cm	30cm	122cm	30cm	122cm	30cm	122cm	30cm	122cm	30cm	122cm
	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	77.6	79.5	73.8	77.6	76.8	77.1	79.1*	82.0	80.0	84.2	82.9	88.3	85.7	88.4	87.2	86.9	86.9	86.0	86.0	80.3	83.0	79.0	80.3	
2	77.7	79.4	73.8	77.5	77.0	77.2	78.8	82.0	80.1	84.5	82.9	88.9	85.7	88.9	87.2	86.8	86.9	85.7	86.0	80.3	82.9	79.0	80.3	
3	78.7	79.3	73.8	77.5	77.0	77.2	79.3	82.2	80.3	84.9	82.9	89.4	85.9	89.9	87.2	87.5	86.9	85.0	85.9	80.0	82.7	79.0	80.2	
4	77.6	79.3	73.8	77.4	77.2	77.4	80.0	82.0	80.5	85.2	83.0	89.8	85.9	90.4	87.1	88.0	86.8	85.0	85.9	80.0	82.5	78.9	80.2	
5	77.4	79.3	73.9	77.3	77.8	77.7	79.8	82.2	80.6	86.0	83.0	90.1	86.0	90.9	87.2	88.2	86.8	85.1	85.8	80.0	82.4	78.6	80.2	
6	76.4	79.2	75.1	77.2	78.1	77.8	80.0	82.1	80.6	86.7	83.0	90.0	86.0	91.0	87.3	88.0	86.8	85.3	85.7	80.3	82.1	78.6	80.1	
7	76.8	79.2	76.7	77.2	78.0	77.9	80.0	82.6	80.7	87.2	83.2	89.8	86.1	90.1	87.5	88.0	86.8	85.5	85.7	81.0	82.0	78.8	80.1	
8	76.9	79.1	76.9	77.2	77.3	78.0	80.5	82.5	80.8	87.6	83.4	89.9	86.3	89.2	87.6	87.8	86.9	85.4	85.7	81.4	82.0	78.5	80.0	
9	77.1	79.1	77.8	77.2	78.0	78.1	81.0	82.7	80.9	87.2	83.7	90.1	86.4	88.9	87.7	87.7	86.8	84.9	85.4	81.5	82.0	78.0	80.0	
10	76.0	79.0	77.0	77.4	78.3	78.1	81.4	83.0	81.0	86.8	83.9	90.0	86.6	88.6	87.7	87.2	86.8	84.9	85.4	81.0	82.1	77.6	80.0	
11	76.1	79.0	75.8	77.6	78.4	78.2	81.4	83.0	81.0	86.0	84.0	90.0	86.7	88.2	87.6	86.9	86.8	84.3	85.5	80.2	82.0	77.0	79.8	
12	75.5	79.0	75.4	77.8	78.2	78.3	81.6	83.0	81.0	85.8	84.1	89.9	86.8	88.2	87.6	86.8	86.8	83.9	85.3	79.7	82.0	76.9	79.7	
13	75.0	79.0	75.6	77.8	77.7	78.4	81.0	83.0	81.1	85.7	84.1	89.4	86.9	88.4	87.5	86.9	86.7	83.2	85.1	78.5	82.0	77.0	79.5	
14	74.9	78.9	76.0	77.8	78.3	78.6	80.6	82.7	80.6	86.9	84.1	89.2	86.9	88.9	87.5	86.1	86.7	83.6	85.0	78.4	81.8	77.0	79.5	
15	76.0	78.9	75.6	77.8	78.9	78.6	80.3	82.7	80.7	87.5	84.2	89.2	86.9	89.0	87.4	86.2	86.6	83.6	85.0	78.6	81.7	77.0	79.3	
16	75.1	78.8	75.7	77.7	79.2	78.7	80.6	82.6	81.5	87.7	84.3	89.2	87.0	88.9	87.4	86.2	86.5	83.1	84.9	78.9	81.2	76.8	79.1	
17	75.1	78.8	75.6	77.7	78.3	78.8	80.5	82.7	81.6	87.2	84.5	89.1	87.0	88.2	87.4	86.2	86.5	82.8	84.8	79.0	81.1	76.5	79.0	
18	75.5	78.6	74.8	77.6	78.0	78.9	80.1	82.7	81.6	87.0	84.6	89.0	87.0	88.2	87.4	86.8	86.4	82.5	84.6	79.0	81.2	76.6	79.0	
19	75.0	78.5	74.8	77.7	78.0	78.9	79.9	82.3	81.7	87.6	84.8	89.1	87.0	88.1	87.3	86.9	86.3	83.0	84.5	79.1	81.1	76.3	79.0	
20	74.8	78.4	74.7	77.6	77.9	78.9	79.7	84.1	81.7	87.9	84.9	89.8	87.0	88.1	87.3	86.9	86.3	83.1	84.2	79.9	80.9	76.0	78.9	
21	74.7	78.3	74.6	77.6	77.2	78.8	79.8	84.1	81.8	87.6	84.9	89.8	87.0	87.6	87.2	86.9	86.2	83.2	84.1	80.3	80.9	75.8	78.7	
22	74.6	78.2	74.6	77.6	77.6	78.8	80.0	85.0	81.9	87.5	84.9	89.7	87.0	87.2	87.2	86.7	86.2	83.5	84.1	80.6	80.9	75.7	78.6	
23	74.4	78.1	74.5	77.5	78.2	78.8	80.0	85.2	82.0	88.1	85.0	89.7	87.0	87.0	87.2	86.3	86.2	83.7	84.1	79.7	80.9	76.1	78.3	
24	74.4	78.0	74.4	77.4	78.6	78.8	80.3	85.1	82.0	88.7	85.0	89.4	87.1	87.2	87.2	86.0	86.2	83.9	84.1	79.3	80.9	76.2	78.4	
25	74.2	78.0	74.3	77.2	78.5	78.9	80.2	84.8	82.2	88.8	85.2	89.7	87.1	87.6	87.0	86.0	86.1	83.6	84.1	79.2	80.9	76.0	78.4	
26	74.0	78.0	74.5	77.2	78.4	78.9	80.6	84.5	82.4	88.7	85.3	90.0	87.2	88.2	87.0	85.9	86.0	82.2	84.0	78.8	80.9	76.3	78.3	
27	73.8	77.9	75.1	77.1	79.5	78.9	81.1	85.0	82.6	87.7	85.5	89.8	87.2	88.6	86.9	85.9	86.0	81.6	84.0	78.3	80.7	76.5	78.3	
28	73.7	77.9	76.0	77.1	81.0	79.0	81.6	84.6	82.7	87.4	85.6	89.0	87.3	88.5	86.9	85.7	86.0	80.9	83.9	78.7	80.6	76.7	78.1	
29	73.7	77.8	---	---	81.0	79.0	81.9	84.5	82.7	87.2	85.7	89.1	87.3	88.2	86.9	86.0	86.0	80.8	83.6	78.9	80.4	76.7	78.0	
30	73.8	77.8	---	---	80.1	79.1	82.4	84.0	82.8	87.7	85.7	88.6	87.3	88.2	87.0	86.3	86.0	80.7	83.3	79.0	80.3	76.7	78.0	
31	73.8	77.6	---	---	79.6	79.3	---	---	84.1	82.8	---	---	88.4	87.3	87.7	87.0	---	---	80.7	83.1	---	---	76.2	78.0
Mean	75.5	78.6	75.2	77.5	78.3	78.4	80.5	83.4	81.5	87.0	84.3	89.5	86.7	88.6	87.3	86.8	86.5	83.6	84.8	79.7	81.5	77.2	79.2	
The initial 2 or 3 of the readings is omitted; i.e., 275.0 degrees absolute is written 75.0																				Year		82.1	82.2	

The initial 2 or 3 of the readings is omitted; i.e., 275.0 degrees absolute is written 75.0

\*Thermometers removed from Athletic Ground Site to Glebe Site as from 1st. April. See note in Sectional Introduction.

†Apr 1-3. Instrument being installed at new site; mean for 27 days only.

MINIMUM TEMPERATURE "ON THE GRASS" DURING THE INTERVAL 18h. to 7h. G.M.T.

Readings, in degrees absolute.

154. ABERDEEN.

1933.

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Day.	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	78.9	78.2	77.5	74.1	73.8	81.2	82.9	84.1	80.7	76.7	74.2	77.2
2	77.0	70.8	76.9	75.0	<u>69.0</u>	82.9	84.3	83.9	77.9	78.4	74.1	77.4
3	77.3	67.9	76.6	77.6	77.6	78.7	80.7	89.0	83.7	74.2	74.5	77.1
4	75.6	73.6	76.4	74.7	78.2	80.9	83.0	86.8	85.3	81.4	76.2	75.7
5	74.0	75.1	77.4	77.0	78.9	80.8	84.2	88.0	84.3	80.6	75.8	72.1
6	73.4	73.6	78.1	76.2	77.3	82.1	86.2	87.3	84.2	83.3	80.2	76.4
7	70.2	78.2	76.2	77.4	77.9	81.3	86.4	78.9	85.4	82.4	81.5	75.6
8	72.5	70.3	68.5	79.8	79.8	82.4	86.2	80.3	80.1	83.6	80.6	70.8
9	74.5	80.0	78.0	77.3	79.2	82.6	82.4	84.0	75.9	78.5	77.3	73.7
10	68.1	73.5	76.5	82.3	80.3	76.9	85.2	<u>76.8</u>	75.2	78.5	72.0	69.4
11	74.0	70.7	75.4	79.7	77.6	77.5	85.8	78.0	75.7	74.3	73.6	72.4
12	64.9	69.1	73.5	75.6	78.4	<u>75.3</u>	81.4	78.1	78.8	75.7	<u>67.8</u>	70.7
13	68.1	71.5	68.7	71.4	78.3	80.7	84.1	83.3	79.1	<u>72.3</u>	69.3	74.2
14	67.5	74.1	72.9	<u>68.1</u>	76.1	82.5	85.6	87.8	78.6	76.1	72.3	71.0
15	74.9	73.5	74.6	78.2	75.4	79.2	85.9	85.0	79.1	78.2	77.9	75.6
16	70.4	72.4	76.6	77.8	72.0	83.8	80.4	77.8	<u>73.9</u>	76.6	77.4	72.5
17	72.6	71.2	68.6	72.8	79.1	75.6	80.9	79.0	79.0	76.4	73.8	69.8
18	74.2	<u>65.6</u>	72.1	71.4	78.4	77.2	<u>79.0</u>	83.8	86.4	76.2	76.4	71.8
19	63.7	68.1	69.6	71.5	80.6	82.3	84.3	80.4	79.3	83.2	78.0	71.3
20	66.5	69.8	70.9	74.0	81.7	82.5	79.5	79.1	84.8	83.1	81.5	70.3
21	72.5	68.1	<u>68.2</u>	74.0	81.9	83.3	82.1	79.6	85.1	81.7	81.7	69.0
22	71.9	68.6	74.2	73.4	78.7	84.3	82.5	79.0	79.6	82.5	76.8	75.6
23	65.3	67.8	76.2	70.1	77.3	82.4	81.2	80.0	76.8	78.6	70.4	73.3
24	65.8	66.7	76.3	73.2	82.3	83.2	81.9	79.7	78.3	82.6	76.2	<u>68.9</u>
25	69.3	71.0	73.7	78.4	80.7	80.7	84.6	83.9	85.7	74.1	75.4	71.7
26	67.0	74.6	71.1	78.2	74.3	83.4	85.6	82.4	79.2	74.5	72.3	76.9
27	62.5	75.3	72.1	79.6	80.1	78.5	82.0	82.5	78.9	73.2	73.3	72.1
28	<u>62.1</u>	76.7	77.8	75.3	79.1	80.2	84.1	87.3	77.2	73.1	77.8	73.6
29	65.4	---	68.4	74.8	79.7	76.4	84.7	84.9	83.1	74.0	78.0	74.7
30	74.2	---	71.9	79.9	73.1	80.6	80.0	80.5	83.5	73.6	78.0	73.6
31	68.7	---	73.6	---	76.6	---	84.7	77.9	---	74.1	---	70.3
	70.4	72.0	73.8	75.6	77.9	80.6	83.3	82.2	80.5	77.8	75.8	73.1
											Annual Mean.	76.9



155. ABERDEEN.

JANUARY, 1933.

Day.	Cloud Forms.			Cloud Amount (All Forms).						Visibility.					Precipitation.						Remarks on the Weather of the Day.	
	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h		21h
1	Stcu.	Cu.	Stcu: Acus Ast.	4	4	2	1	2	4	J	J	i	i	i	i	...	...	...	...	...	...	●, bc a: bc, b p: b bcq n.
2	Stcu: Acus Ast.	Nb: Ast.	Frnb: Ast.	9	7	10	10	10	5	i	i	H	H	H	H	...	...	...	...	...	...	● bcq a: ● q p: ● q n.
3	Stcu.	Cu: Stcu.	Cu: Stcu.	2	2	2	8	7	5	J	J	J	J	J	J	...	...	...	...	...	...	bq, ● a: bcq, p: bcb n.
4	Acu.	Nb: Acus Ast.	Stcu.	2	7	10	9	1	8	J	J	i	i	H	i	...	●	●	●	...	...	b, c, ● a: bc, c ● p: bc, p ● n.
5	Stcu: Acus Ast.	Stcu: Acu.	Stcu: Cieu.	2	1	0	1	1	3	J	H	J	i	H	H	...	...	...	...	...	...	●, bc, p ●, a: b, p: b, bc, n.
6	Acus Ast.	Cumb: Stcu: Acu.	Acu.	1	3	3	3	0	0	H	G	k	J	J	J	...	...	...	...	...	...	bc, b, a: b, bc p: b, wn.
7	Stcu: Ast.	Nb: Acus Ast.	Frnb: Acus Ast.	8	9	9	8	9	9	H	H	H	H	J	i	...	...	...	...	...	...	b, bc, c, a: c, ● q, p: c, q, ●, c, n.
8	Acus Ast.	Nb: Acus Ast.	Frnb: Acus Ast.	6	7	10	8	6	8	i	i	G	H	H	H	...	...	...	...	...	...	bc, bc, ● a: bc, c, ● p: bc, c ● bc n.
9	Acu.	Stcu.	---	0	0	0	0	0	2	k	k	l	l	H	H	...	...	...	...	...	...	b, a: b, p: b, n.
10	Stcu.	Acus Ci: Cist.	Acu.	9	10	4	5	5	8	J	E	H	H	H	H	...	...	...	...	...	...	b, cff, bc, a: bc, p: bc, c, n.
11	Nb.	---	---	9	8	0	0	0	0	J	k	l	k	J	k	...	...	...	...	...	...	c ●, bc a: b, p: b, n.
12	Ci.	Acu.	Stcu: Acu.	0	4	6	8	9	9	m	G	H	G	G	G	...	...	...	...	...	...	b, bc, n a: bc, c p: c, p ●, n.
13	Acu.	---	---	1	4	0	0	0	6	k	G	F	F	F	H	...	...	...	...	...	...	bc, b, a: b, n, p: b, bc, n
14	Stcu.	Frnb: Ast.	Stcu.	9	8	10	10	10	10	J	J	k	J	J	k	...	...	...	...	...	...	bc, c, a: c, p: c, o, d ● n.
15	Nb.	Stcu: Acus Ast.	Acus Ast.	10	10	10	9	8	9	i	i	i	i	H	k	...	...	...	...	...	...	o, ●, c, a: c, p: c, n.
16	Cist.	Stcu: Acus Ast.	Stcu: Acus Ast.	10	10	9	10	9	10	k	J	J	k	J	H	...	...	...	...	...	...	c, n, c a: c, p ●, p: c, o, ●, n.
17	Nb.	Nb: Cumb.	Nb: Cumb: Ast.	10	10	9	9	9	10	i	E	H	J	J	J	...	...	...	...	...	...	o, ●, f, p ●, a: c, p ●, p: c, o ●, n.
18	Nb.	Nb: Acus Ast: Cist.	St.	10	10	8	5	10	0	H	F	G	F	E	E	...	...	...	...	...	...	o, ●, ●, a: c, bc, ff, p: b, ff, n.
19	---	Frnb: Acus Ast.	Acus Ast.	0	1	9	8	5	6	J	F	F	E	F	G	...	...	...	...	...	...	b, bc, c ●, a: c ●, bcff, p: bc n.
20	St: Stcu.	Cu: Stcu: Acu.	Stcu.	7	3	5	7	9	9	G	G	H	H	H	H	...	...	...	...	...	...	bc, n, a: bc, c, p: c, n.
21	Stcu: Cist.	Stcu: Acus Ast.	Acus Ast.	9	9	9	8	9	9	J	i	H	H	H	H	...	...	...	...	...	...	c, a: c, p: c, n.
22	Acus Ast.	Acu.	Acu.	5	7	4	1	1	0	H	H	H	H	H	G	...	...	...	...	...	...	c, bc, a: bc, b, p: b n.
23	Acu.	Ci: Cist.	Ci: Cist.	0	5	5	6	6	3	H	F	i	H	G	G	...	...	...	...	...	...	b, bc a: bc, n, p: bc, n.
24	Cist.	Ci.	Acus Ci.	2	2	5	3	6	3	G	E	H	H	H	G	...	...	...	...	...	...	b, f, bc, a: bc, p: bc, b, n.
25	Ci.	Acus Ci.	Ci.	1	2	6	4	1	9	H	F	H	H	G	G	...	...	...	...	...	...	b, n, bcf, a: bc, p: bc, c, bc, n.
26	Acus Ast.	Acu.	---	10	9	9	9	0	0	G	G	F	G	F	H	...	...	...	...	...	...	c, ff, c a: c, f, b, p: b, n.
27	---	Ci.	Acu.	0	2	6	3	8	0	J	H	i	G	J	H	...	...	...	...	...	...	b, n, bc, a: bc, c, p: c, b, n.
28	---	---	---	0	0	0	0	0	0	J	G	J	i	G	G	...	...	...	...	...	...	b, a: b, n, p: b, n.
29	St: Stcu.	St: Stcu.	Frnb: Acus Ast.	10	9	10	8	10	9	J	H	F	G	G	J	...	...	...	...	...	...	c, g, a: ci ●, p: c, ●, n.
30	Stcu.	Nb.	Stcu.	10	10	10	9	1	0	J	J	H	i	J	J	...	...	...	...	...	...	c, i ●, a: c, ●, b, p: b, n.
31	---	Cu: Stcu: Acus Ast: Cist.	Frnb: Acus Ast.	0	9	7	9	9	10	J	i	J	H	H	J	...	...	...	...	...	...	b, bc, a: bc, c, ●, p: c, ●, c, n.
Mean Cloud Am't.				5.05	9.6	0.5	8.5	2.5	3													

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FEBRUARY, 1933.

1	Nb.	Steu: Acus Cist.	Steu: Ci.	10	10	4	7	1	0	J	H	k	k	J	J	...	...	...	...	...	...	c, o, ●, bc a: bcp ●▲b, p: b, ▬, n.
2	Steu.	Cunb: Ci.	Cunb: Steu.	1	0	8	6	1	1	k	l	k	k	J	J	...	...	...	...	...	...	b, ▬, bc, p★°, a: cq, bc, p ●, p: b, n.
3	Steu.	Acus Ci.	Acus Ast.	1	8	2	8	9	0	J	H	J	H	i	H	...	...	...	...	...	...	b, bc, a: bc, c, p: c, ★°, o, ●, n.
4	Frnb: Acus Ast.	St: Steu: Acus Ast.	St: Ast.	10	9	9	10	10	10	G	F	J	i	i	H	...	...	...	...	...	...	o, i●°, f, c, a: c, p: c, o, ●, n.
5	Cu: Steu: Acus.	Cu: Steu: Acus Ast.	Nbs Ast.	8	8	9	8	10	10	J	J	J	i	i	H	...	...	...	...	...	...	o, ●, cp●° a: c, ●, p: c, ●°, o, n.
6	St.	Nb.	St.	10	10	10	10	10	10	H	G	H	E	F	F	...	...	...	...	...	...	o, d ●°, a: o, ●°, fe fe, p: o, ●°, n.
7	Nb.	St.	Nb.	10	10	10	10	10	0	G	E	E	G	G	G	...	...	...	...	...	...	o, ●°, ff, a: o, d ●°, p: o ●°, b, ▬, n.
8	Acu.	Nb: Acus Ast.	St.	9	8	10	10	9	1	H	H	H	H	H	J	...	...	...	...	...	...	b▬, cp●°, a: c, ●°, c, p: c, bq, n.
9	Frnu.	Nb: Cunb: Acus Ast.	St: Steu: Ast.	0	2	9	10	10	9	m	J	i	J	J	J	...	...	...	...	...	...	b, q, c, ●° a: c, o, ●, c p: c, n.
10	Steu.	Nb: Cunb.	Cunb: Steu.	9	9	9	4	9	1	J	J	G	m	k	k	...	...	...	...	...	...	c, p★°, a: c, bcp★° p: c, bc, b, c, ★° n.
11	Cunb: Steu: Acus Cieu.	Ci.	Acu.	7	3	5	4	1	9	k	J	k	k	J	i	...	...	...	...	...	...	c, p★°, bcy, a: bcy, b, p: b, bc, c, n.
12	Steu: Acus Ast.	Cu: Steu: Acus.	Cu: Acus.	8	5	5	8	6	1	J	H	J	J	J	J	...	...	...	...	...	...	c, bc, a: bc, cp●° p: bc, b, n.
13	Steu.	Cunb: Steu.	Cunb: Steu.	0	7	9	4	9	5	k	k	k	k	k	J	...	...	...	...	...	...	b, bc, cy, a: cy, bc, p●°, p: cp●°, bc, b, n.
14	Nb: Cunb.	Cunb.	Steu.	9	9	8	9	9	9	k	J	l	k	k	k	...	...	...	...	...	...	bc, c, i●▲★ a: cp★° p: c★°●°, n.
15	Cu: Steu.	Cu: Steu.	Steu.	9	7	6	6	8	10	k	J	l	k	k	i	...	...	...	...	...	...	c, bcy, a: bcy, c, p: c, o●°, n.
16	Nb: Ast.	Steu: Acus Ast.	Cunb: Steu: Acus.	10	10	9	8	2	2	H	G	H	k	k	k	...	...	...	...	...	...	o●°, f, c●°, a: c, p●°, bc, p: bcp●°★° n.
17	Cunb: Steu.	Cunb.	Cunb.	3	4	7	10	3	9	k	k	k	G	k	H	...	...	...	...	...	...	bc, cp★° a: bcp★° p: bc, ci★° n.
18	Nb: Cunb.	Steu.	Cunb: Acus.	10	8	10	5	5	4	F	k	k	k	k	J	...	...	...	...	...	...	bc, i★° c, a: bc, p★°, p: bc, p★°, c★° n.
19	Cunb.	Cunb: Acus.	Cunb.	7	4	1	6	1	0	k	k	k	k	k	k	...	...	...	...	...	...	c, bc, p★°, a: bc, p★°, b, p: b, bc, n.
20	Nb.	Steu.	Cunb: Steu: Acus.	10	10	9	4	4	1	H	G	k	k	k	k	...	...	...	...	...	...	bc, o★°, c a: bc, p★°, p: bc, cp★° n.
21	Cunb.	Cunb.	Nb: Cunb: Acus Ci.	7	1	2	5	8	4	J	k	k	k	G	J	...	...	...	...	...	...	c, p★°, b, a: bc, c★° p: bc, cp★°▲, n.
22	Cunb	Cunb.	Cunb: Ci.	8	4	5	3	6	7	H	k	k	k	J	k	...	...	...	...	...	...	bc, p★°▲, a: bc, cp★° p: c, p★°, bc, n.
23	Cunb.	Cunb	Nb: Cunb.	8	7	7	4	7	10	k	J	i	k	J	H	...	...	...	...	...	...	bc, p★° a: bc, p★°, p: c, i★°▲, n.
24	Cunb.	Cu: Cunb.	Cu: Cunb.	4	4	4	6	6	6	k	J	k	k	k	k	...	...	...	...	...	...	c★°, bc, a: bc, p★° p: bc, cp★°▲°, n.
25	Nb.	Cu: Steu: Acus Ast.	Cu: Steu: Ast.	10	10	9	9	10	5	k	k	J	J	J	J	...	...	...	...	...	...	ci★°, q, a: cq, p: c, bc, q, n.
26	Cu: Cunb.	Frnb: Ast.	Nb: Ast.	9	10	10	10	10	10	J	J	J	J	J	H	...	...	...	...	...	...	c, ●° q a: c, ●°, q, p: o, ●° q, n.
27	Nb.	Nb.	Nb.	10	10	10	10	10	10	i	H	i	i	H	H	...	...	...	...	...	...	o●° q, a: o, ●° q, p: o, ●° q, o, n.
28	St.	Nb.	St.	10	10	10	10	10	10	H	H	H	G	H	H	...	...	...	...	...	...	o, ●°, a: o, ●°, p: o, ●°, n.
Mean Cloud Am'nt.				7.4	7.0	7.4	7.3	6.9	5.6													
Day	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	Remarks on the Weather of the Day.
	Cloud Forms.			Cloud Amount (All Forms)						Visibility.					Precipitation.							



157. ABERDEEN.

MARCH, 1933.

Day.	Cloud Forms.			Cloud Amount (All Forms).						Visibility.						Precipitation.						Remarks on the Weather of the Day.
	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	
1	St.	Nb.	St.	10	10	10	10	10	10	H	H	H	1	G	G	...	...	...	...	...	...	o, o, a: o, d, o, p: o, o, n.
2	St.	St.	Sts Ast.	10	10	10	10	9	10	H	1	H	H	H	H	...	...	...	...	...	...	o, a: o, o, p: o, o, n.
3	Nb.	Nb.	Nb.	10	10	10	10	10	10	H	H	H	H	H	H	...	...	...	...	...	...	o, a: o, q, p: o, o, n.
4	Nb.	Nb.	Nb.	10	10	10	10	10	10	D	F	D	E	E	E	...	...	...	...	...	...	od, ff a: o, ff, p: off, n.
5	Nb: Ast.	Cu.	Stous Acus Ast.	9	1	1	4	9	10	J	J	k	J	1	1	...	...	...	...	...	...	off, a: c, bc, b, p: ci, n.
6	Nb: Acus Ast.	Cus Acus Ast: Ci.	Stous Ci.	10	1	4	1	4	3	H	1	1	k	J	J	...	...	...	...	...	...	cbe, a: bc, b, p: bc, n.
7	Stous Acus Ast.	Cus Stous Acus Ast	Cumbs Stous Acus Ci.	3	9	9	3	7	0	J	1	1	k	J	J	...	...	...	...	...	...	bc, c, a: c, bc, p: bc, b, n.
8	Ci.	Acus Ast: Cist.	Nb: Ast.	1	1	10	10	10	10	1	1	1	1	1	1	...	...	...	...	...	...	b, c, a: c, p: c, o, n.
9	Frmb: Acus Ast.	Sts Acus Ast.	Frmb: Ast.	9	9	9	10	10	7	J	J	J	J	1	J	...	...	...	...	...	...	o, c, a: c, p: c, bc, n.
10	Acus.	Acus Cist.	Acus Ast.	8	9	6	9	9	8	k	J	1	1	1	k	...	...	...	...	...	...	bc, c, a: bc, c, p: c, n.
11	Acus Ci: Cieu.	Ci.	---	2	5	1	1	0	0	1	H	1	1	1	1	...	...	...	...	...	...	c, bc, b, a: b, p: b, n.
12	St.	---	St.	10	8	0	6	10	0	H	1	1	H	D	F	...	...	...	...	...	...	b, c, b, a: b, bc, ff p: bff, b, n.
13	---	Acu.	Cus Stou.	0	0	2	6	9	6	H	F	H	H	H	H	...	...	...	...	...	...	b, bc, a: bc, p: c, bc, n.
14	Cumbs Stous Acus Ci.	Cus Acus.	Acus Ci: Cist.	7	6	7	5	8	10	1	k	k	k	J	k	...	...	...	...	...	...	bey, a: bey, p: bey, c, n.
15	Acus Ci.	Acus Cieu.	Cus Acus Ci: Cist.	1	1	4	9	8	10	k	k	k	k	J	k	...	...	...	...	...	...	b, bey, a: bc, cy, p: cy, c, o, n.
16	Cum.	Cus Acus.	Cumbs Stous Acus.	0	2	6	8	7	0	k	1	k	1	k	k	...	...	...	...	...	...	c, bc, bey, a: bey, c, p: bc, b, n.
17	Acus Ast.	Cus Acus.	Stous Cumbs Acus Ci.	6	8	2	6	3	0	1	H	J	k	J	J	...	...	...	...	...	...	bc, b, a: b, bc, p: bc, b, n.
18	Nb.	Cumbs Stous Acus.	Stous Acus Ci.	10	4	8	6	6	10	H	k	k	m	J	J	...	...	...	...	...	...	bc, o, p, bc, a: c, bc, p: bc, o, n.
19	Cus Acus Ci.	Cus Acus Ci.	Cumbs Stous Acus Ci.	4	2	6	6	8	8	k	1	m	1	k	J	...	...	...	...	...	...	o, bc, a: bc, c, p: c, p, c, n.
20	Front Ci.	Cus Cum.	Cus Acus Ci.	3	1	6	3	4	0	1	1	1	1	k	H	...	...	...	...	...	...	c, bcq, a: bcq, bc p: bc, b, n.
21	Acus Ci.	Stous Ast.	Frmb: Ast.	4	6	9	10	10	9	1	H	k	k	H	H	...	...	...	...	...	...	bc, c, a: c, c, p: c, q, bc, n.
22	Acus Ci: Cist.	Acus.	Acus Ast.	7	5	5	4	8	8	J	H	J	H	H	G	...	...	...	...	...	...	bey, a: bey, c, p: c, n.
23	Acus Cieu.	Cist: Cieu.	Acus Ast.	8	3	2	5	8	3	H	H	1	1	H	H	...	...	...	...	...	...	c, bc, a: bc, cy, p: c, bcq, n.
24	Acus Ci.	Ci.	Acus.	7	6	6	1	0	4	J	J	J	J	J	J	...	...	...	...	...	...	bcq, bc, a: bc, b, p: b, bc, n.
25	Stou.	---	Acus Ast.	8	0	0	0	1	0	1	1	1	1	1	1	...	...	...	...	...	...	c, b, a: b, p: b, n.
26	---	---	Stou.	0	0	0	2	7	0	1	G	H	H	H	G	...	...	...	...	...	...	b, b, a: b, bc, p: bc, b, n.
27	Ci.	Acus Ci.	Acus.	2	3	5	8	9	9	G	G	J	k	H	G	...	...	...	...	...	...	b, bc, a: bc, cy, p: c, c, n.
28	Stout Ci.	Cus Acus Ci: Cieu.	Ci.	2	1	3	0	0	0	J	1	J	1	k	J	...	...	...	...	...	...	b, bey, a: bey, b, p: by, b, n.
29	Acus Ast.	---	Cumbs Stou.	4	1	0	4	2	1	1	H	1	H	1	J	...	...	...	...	...	...	b, by, a: bey, b, p: b, n.
30	Stous Acus.	Cus Stous Acus.	Cumbs Acus Ci: Cieu.	2	2	6	7	6	1	J	J	1	1	1	k	...	...	...	...	...	...	b, a: bcp, b, p: bc, b, n.
31	Stou.	Cus Stous Acus.	Cumbs Stous Acus.	9	4	8	9	9	8	k	1	1	J	J	J	...	...	...	...	...	...	b, bc, c, a: cy, cp, p, p: cp, n.
Mean Cloud Am't.				5.74	5.5	3.5	9.6	7.5	3													

158. ABERDEEN.

APRIL, 1933.

1	Cunb: Steu: Cieu.	Cunb: Steu.	Cu.	8	4	4	3	1	7	k	k	1	1	1	k	...	...	...	...	...	...	cp <sup>0</sup> , bcp <sup>0</sup> ▲, a: bcy, p: bcy, c, n			
2	Steu.	Steu: Acus Ast.	Steu: Acus Ast.	9	10	8	10	9	6	k	J	k	J	k	k	...	...	...	...	...	...	c <sup>0</sup> , ca: o <sup>0</sup> , c, p: c, bc, b, n.			
3	Cunb: Steu: Acu.	Cunb: Steu.	Cunb: Steu: Acu.	7	7	9	9	8	5	k	k	J	k	k	k	...	...	...	...	...	...	bc, cp <sup>0</sup> a: c, p: c, b, n.			
4	St: Steu: Acus Ast.	Nb.	Nb: Cunb: Acus Ast.	9	9	10	10	9	10	k	k	1	H	H	H	...	...	...	...	...	...	c, o <sup>0</sup> , a: o <sup>0</sup> , p: cd <sup>0</sup> , bc, n.			
5	Steu.	Cus Steu:Acus Cist.	Cus Steu: Acus Cist.	9	9	9	9	9	4	k	k	k	k	J	k	...	...	...	...	...	...	bc, c, a: c, ⊕ p: c, bc, b, n.			
6	Cunb: Steu.	St.	St.	2	6	10	8	9	10	1	1	1	J	G	G	...	...	...	...	...	...	bc, c <sup>0</sup> , a: cd <sup>0</sup> , p: o, n.			
7	Nb: Ast.	Nb: Acus Ast.	Nb: Acus Ast.	10	10	9	10	10	9	1	H	H	1	H	H	...	...	...	...	...	...	c <sup>0</sup> , a: c <sup>0</sup> , p: c <sup>0</sup> , c, n.			
8	Steu: Acus Ast.	Cus Steu.	Steu.	10	9	8	1	9	3	1	H	1	H	H	G	...	...	...	...	...	...	c, a: c, bc, p: c, bc, c, n.			
9	Nb: Cunb: Acu.	Cus Ci.	Cus Steu: Acus Ci.	3	4	7	6	8	1	1	k	k	1	J	J	...	...	...	...	...	...	bcy, a: bcy, p: bcy, c, n.			
10	Acus Ast.	Cus Acus Ast.	Acus Ast.	8	9	9	9	10	10	k	k	J	k	k	J	...	...	...	...	...	...	c, a: c, p: c, n.			
11	Cus Steu: Acu: Ci: Cieu.	Cus Steu.	Cunb: Steu.	8	5	7	8	8	8	H	1	k	k	k	J	...	...	...	...	...	...	c, bcy, a: bcy, cp <sup>0</sup> , p: c <sup>0</sup> , c, n			
12	Cus Steu.	Cus Cum.	Cus Cum.	2	0	6	4	0	0	k	1	1	1	1	k	...	...	...	...	...	...	bcy, a: bc, cp*▲q, p: byq, b, n.			
13	Cus Steu: Acu: Ci.	Cus Cum.	Cunb: Steu.	1	5	7	7	9	3	1	1	1	k	k	J	...	...	...	...	...	...	bcy, p*▲, a: bc, c, p: c, bc, n.			
14	Steu.	Cus Steu: Ci.	Acus Ast.	9	9	8	8	9	9	1	1	J	J	1	1	...	...	...	...	...	...	bc, c, a: c, p: c, n.			
15	Nb: Acus Ast.	Nb.	Nb.	9	8	9	10	10	10	J	k	H	J	1	H	...	...	...	...	...	...	c <sup>0</sup> , a: c <sup>0</sup> , p: o <sup>0</sup> , n.			
16	Nb.	Nb.	Nb: Acus Ast.	10	10	9	9	8	8	H	1	1	J	J	J	...	...	...	...	...	...	oi <sup>0</sup> , c, a: ci <sup>0</sup> , p: ci <sup>0</sup> , c, n.			
17	Nb: Cum.	Cus Steu: Acus Ast.	Nb.	9	9	10	10	10	10	H	J	J	J	H	H	...	...	...	...	...	...	cp <sup>0</sup> , c <sup>0</sup> , a: c <sup>0</sup> , p: o <sup>0</sup> , c, n.			
18	Cum.	Cus Cumbs Ci.	Cum.	4	7	5	4	4	0	k	k	k	1	k	k	...	...	...	...	...	...	bcp*, p▲, a: bcp▲, p: bc, b, n.			
19	Cum.	Cus Steu: Acu.	Cus Steu:	7	8	8	8	9	9	k	k	k	k	k	k	...	...	...	...	...	...	bcp*, p▲, a: cy, c, p: c, n.			
20	Cunb: Steu.	Cunb: Steu.	Cus Steu.	9	9	8	8	9	9	k	k	J	J	J	J	...	...	...	...	...	...	cp▲, c, a: c, p: c, n.			
21	Steu.	Cunb: Steu.	Cus Steu.	9	9	9	9	9	6	k	k	k	k	k	k	...	...	...	...	...	...	cp <sup>0</sup> , a: cp <sup>0</sup> , c, p: c, bc, b, n.			
22	Cus Steu.	Steu.	Steu: Acu.	9	8	9	9	7	5	k	k	k	k	J	J	...	...	...	...	...	...	cy, c, a: c, bc, p: bc, b, n.			
23	Acu	---	Acus Ci: Cist.	0	0	0	0	2	0	J	J	J	J	J	J	...	...	...	...	...	...	b, b, a: by, b, p: b, ⊕ n.			
24	St.	St.	St.	10	10	10	10	10	10	H	H	H	H	H	H	...	...	...	...	...	...	bc, o, a: o, p: o, n.			
25	Nb.	St.	Nb.	10	10	10	10	10	10	F	G	G	G	F	G	...	...	...	...	...	...	o <sup>0</sup> , o <sup>0</sup> , a: o <sup>0</sup> , p: oi <sup>0</sup> , n.			
26	Acu.	Cus Acu.	Cunb: Steu: Acu.	0	1	2	5	8	3	H	H	H	H	H	H	...	...	...	...	...	...	o, c, b, a: b, bcp <sup>0</sup> , p: c, bc, b, n.			
27	Nb.	Cus Steu.	Cus Acus Ci.	10	3	7	1	2	1	G	J	J	k	J	k	...	...	...	...	...	...	bc, o <sup>0</sup> , bcy, a: b, p: b, bcp <sup>0</sup> n.			
28	Cus Steu: Acu.	Cunb: Steu: Acu: Ci.	Cus Cunb: Ci.	5	2	7	8	9	8	k	k	k	H	J	J	...	...	...	...	...	...	bc, p <sup>0</sup> , a: bc K, c, p: cp <sup>0</sup> , c, n.			
29	Acu.	Cunb: Acus Ci.	Cus Steu: Ci.	3	2	6	3	5	8	H	J	J	J	J	J	...	...	...	...	...	...	bc, a: bc, p: bc, c, n.			
30	Steu.	Steu.	Cus Steu: Ci.	9	9	9	7	5	9	k	k	k	k	k	k	...	...	...	...	...	...	c, a: c, bc, p: bc, c, n.			
Mean Cloud Am'nt.				6.9	6.7	7.7	6.7	1.7	4.6	6															
Day	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h				
	Cloud Forms.			Cloud Amount (All Forms).						Visibility.					Precipitation.					Remarks on the Weather of the Day.					



1	Stou.	St.	Acut Ci.	9	9	10	1	2	9	H	1	1	1	J	J					c, o, a : o, b, p : b, bc, c, n.		
2	Cumb: Stout Acut Cist.	Acu.	Acut Ast.	9	9	9	9	10	6	H	1	1	1	1	H					cp <sup>o</sup> , c, a : c, p : cp <sup>o</sup> , bc, n.		
3	Acu.	Acu.	Acu.	4	2	6	5	7	6	G	H	1	1	J	J					bc <sup>n</sup> , a : bc, p : bc <sup>n</sup> .		
4	Acu.	Acu.	Ci.	5	0	1	0	0	0	1	J	J	J	J	J					bc, b, a : by, p : by, b, n.		
5	Cists Ci.	Acut Ci.	Acut Ci.	2	4	7	5	6	6	J	1	1	1	H	1	1				b, bcy, a : bc, p : bc, n.		
6																						
6	Acu.	---	---	0	0	0	0	0	0	J	J	J	H	k	J					bc, b, a : b, p : b, n.		
7	---	Acut Ci.	Ci.	0	0	1	3	3	3	J	J	J	J	J	J					b <sup>n</sup> , b, a : b, bc, p : bc, n.		
8	Cut Stout Acut Cist.	Cut Acut Cist.	Cumb: Nbs Acu.	6	4	7	8	8	9	k	1	1	k	k	k					bcy, a : bc, ci <sup>o</sup> , p : c <sup>o</sup> , c, n.		
9	Cumb: Nbs Acut Ci.	Cut Stou.	Cumb: Stout Acu.	7	8	8	9	9	4	k	1	1	k	1	1					cp <sup>o</sup> , bc, c, a : cy, c, p : bc, n.		
10	Cumb: Ci.	Nbs Cumb.	Cumb: Nbs Acut Ast.	4	8	9	10	9	8	1	1	1	1	J	J					bc, cp <sup>o</sup> , a : cp <sup>o</sup> , c <sup>o</sup> , p : c <sup>o</sup> , bc, n.		
11	Cut Stout Acu.	Cut Stout Acu.	Cut Stout Acu.	8	9	8	9	8	2	k	k	1	1	1	1					bcp <sup>o</sup> , c, a : c, bc, c, p : c, bc, b, n.		
12	Cut Acu.	Frbst Cut Acut Ast.	Nbs Acu.	4	8	9	9	7	5	1	1	1	k	k	k					bc <sup>n</sup> , c <sup>o</sup> , a : c <sup>o</sup> , bc, p : c <sup>o</sup> , bc, c.		
13	Frbst Acu.	Cut Acu.	---	5	2	4	0	0	5	k	k	k	k	G	J					bc, a : bc, b, p : b, bc, ff, n.		
14	St.	---	---	8	2	0	0	0	0	F	G	H	H	k	J					ffe, c, b, a : b, p : b, n.		
15	---	Cu.	Cut Acu.	0	0	3	7	6	9	H	J	J	H	H	H					b, bcy, a : bcy, p : bc, c <sup>o</sup> , n.		
16	Cut Cumb: Acu.	Cut Cumb: Acut Ci.	Nb.	7	6	8	10	10	10	k	k	k	k	H	H					c <sup>o</sup> , bc, cq, a : cq, o <sup>o</sup> , p : o <sup>o</sup> , c <sup>o</sup> , n.		
17	Cut Acu.	Cut Cumb: Acu.	Cumb: Acu.	7	7	6	8	9	9	k	k	k	k	J	J					c, bcy, a : bcy, cp <sup>o</sup> , p : cp <sup>o</sup> , bc, n.		
18	Stout Cumb: Acu.	Cumb: Acu.	Cumb: Stout Acu.	4	7	4	7	7	9	k	k	k	k	k	k					bc, a : bc, p : cp <sup>o</sup> , n.		
19	Cumb: Acu.	Cumb: Cist.	Cumb: Acut Cist.	3	3	3	6	7	9	k	1	k	k	k	J					c, bc, a : bc, p : n bc, c, n.		
20	Stout Acu.	Nbs Ast.	Nbs Ast.	9	9	10	10	10	10	k	k	H	1	1	1					cp <sup>o</sup> , a : cd <sup>o</sup> , p : cd <sup>o</sup> , c, n.		
21	Cut Cumb.	Cumb: Ci.	Cut Cumb: Ci.	3	3	5	7	4	9	J	J	k	k	k	H					bc <sup>n</sup> , bc, a : bc, p : bc, c, K, c, n.		
22	Cumb: Stout.	Stout Cumb: Acut Gd.	Cut Cumb: Ci.	9	8	6	4	7	9	H	1	J	J	J	H					cp <sup>o</sup> , a : bc, p : bc, cm, n.		
23	St.	Acut Ci.	St: Acut Ci.	10	10	2	0	4	9	O	H	k	J	J	H					o, c, bc, a : b, bc, p : bc, c, n.		
24	Acu.	Cumb: Acut Cieu.	Cumb: Acut Ci.	6	7	2	5	5	0	k	k	k	k	k	k					cp <sup>o</sup> , bc, b, a : b, bc, p : bc, b, n.		
25	Cut Stou.	Cut Stou Acu.	Cut Stou.	9	7	9	2	3	5	k	k	k	k	k	k					bc; c, a : c, bc, q, p : bcq, c, n.		
26	Nb.	Cut Stout Acu.	Ci.	9	10	9	1	4	6	J	1	J	k	m	1					ci <sup>o</sup> q, a : c, bcy, q, p : bcq, n.		
27	Cut Stout Acut Ci.	Stout Acu.	Cut Acut Cieu.	8	9	10	9	7	9	k	k	k	k	k	J					c, a : c, bcy, p : bcy, ci <sup>o</sup> , n.		
28	Cumb: Cieu.	Cu.	Cut Stou.	6	5	6	4	4	6	1	1	1	k	1	k					bc, a : bcy, p : bcy, c, n.		
29	Cut Stou.	Cu.	Cut Ci.	4	8	4	1	7	k	k	1	1	k	k	k					bc, a : bc, b, p : b, bc, c, n.		
30	Stou.	Cu.	Stout Acu.	9	8	2	1	5	7	J	J	k	J	J	J					c, bc, a : by, bcy, p : bcy, bc, n.		
Mean Cloud Am'nt.				5	8	5	7	5	6	5	1	5	4	6	2							
Day	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	Remarks on the Weather of the Day.
	Cloud Forms.			Cloud Amount (All Forms).						Visibility.			Precipitation.									



JULY, 1933.

**AUGUST, 1933.**

1	Cus Stous Acus Cus Cion.	Cus Stous Acus Ci.	Cus Stous Acus Art.	4	2	7	7	9	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
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163. ABERDEEN.

SEPTEMBER, 1933.

Day.	Cloud Forms.			Cloud Amount (All Forms).						Visibility.						Precipitation.						Remarks on the Weather of the Day.
	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	
1	Stou.	Cus Stou: Ci.	Cus Stou: Acu.	7	8	8	8	7	2	k	k	1	1	1	k	...	...	...	...	...	...	b, c, a: c, bc, p: bc, b, n.
2	Stou.	Stou: Ast.	Cus Stou: Acu.	9	3	10	6	9	7	k	k	k	k	j	j	...	...	...	...	...	...	bc, c, a: c, bc, c, p: c, bc, n.
3	Nbs: Acu: Ast.	Cus Stou: Acu.	Stou: Acu.	9	8	5	6	8	8	1	1	k	k	j	k	...	...	...	...	...	...	c, a: c, bc, a: bc, c, p: c, bc, c, n.
4	Nbs: Ast.	Cus: Cumb: Acu: Cist.	Cus: Stou: Acu: Cist.	10	7	8	8	4	7	1	k	1	1	j	0	...	...	...	...	...	...	cd, c, a: c, bc, p: bc, cf, n.
5	St.	St.	St.	10	10	10	10	10	5	D	E	G	F	F	j	...	...	...	...	...	...	offe, od, a: om, p: om, bc, n.
6	Stou: Acu.	Cus Acu: Ci.	Cus Stou: Acu.	9	7	6	6	9	9	j	1	1	j	1	j	...	...	...	...	...	...	bc, a: bc, c, p: c, n.
7	Stou: Acu.	Stou: Acu.	Cus Stou: Acu: Cist.	10	10	10	6	5	5	1	j	k	k	j	j	...	...	...	...	...	...	c, a: c, bc, p: bc, U, n.
8	Stou.	Cus Ci: Cist.	Cus Ci: Cist.	9	4	3	4	6	7	j	1	1	1	k	1	...	...	...	...	...	...	c, bc, a: bc, p: bc, n.
9	Stou: Ci.	Cus Ci: Cist.	Cist.	1	1	1	1	1	1	H	1	1	1	k	k	...	...	...	...	...	...	bc, b, a: b, p: b, n.
10	Ci: Cist.	Ci: Cist.	Cist.	1	2	2	1	1	2	j	j	1	1	j	j	...	...	...	...	...	...	b, a: b, p: b, n.
11	Stou.	Cus Ast: Ci.	Acu: Ci.	9	9	9	7	6	2	G	H	j	j	j	j	...	...	...	...	...	...	b, bc, c, a: c, bc, p: bc, b, n.
12	Stou: Cist: Cist.	Cus Stou.	Stou.	9	2	3	2	8	8	F	H	k	j	1	1	...	...	...	...	...	...	bc, a: bc, b, p: c, n.
13	St: Stou: Acu.	Cus Stou.	Cus Stou.	8	7	4	4	4	3	j	k	1	1	k	k	...	...	...	...	...	...	c, bc, cp, a: bcp, q, p: bcq, c, n.
14	Cumb: Stou: Acu.	Cumb: Stou: Acu: Ci.	Stou: Acu: Ast.	5	1	7	8	9	9	j	k	k	k	k	k	...	...	...	...	...	...	c, bc, a: bc, c, p: c, bc, b, n.
15	Stou: Acu: Ci.	Acu: Cist.	Acu: Ci: Cist.	9	8	7	8	7	2	j	j	k	k	j	j	...	...	...	...	...	...	b, bc, a: bc, c, p: bc, b, n.
16	Ci: Cist.	Ci.	Ci.	2	2	1	1	1	1	F	j	k	j	j	j	...	...	...	...	...	...	bm, by, a: by, b, p: b, n.
17	Acu: Ci.	Cus Stou: Acu: Ci.	Acu: Ast: Ci.	1	3	3	3	5	1	j	j	j	j	1	j	...	...	...	...	...	...	b, bc, a: bc, p: bc, b, n.
18	Frout: Acu: Ci: Cist.	Cus Stou: Acu: Cist.	Cus Stou.	6	1	4	7	4	0	j	k	1	1	k	j	...	...	...	...	...	...	bc, bcy, a: bcy, p: bc, b, n.
19	Stou: Ast.	Cus Stou: Ast.	Stou: Acu.	8	9	8	4	8	7	H	j	j	k	j	j	...	...	...	...	...	...	bc, c, a: c, bc, p: bc, n.
20	Frout: Stou: Ast.	Frout: Stou.	Frout: Stou.	9	7	9	10	10	9	j	1	1	1	1	1	...	...	...	...	...	...	bc, c, a: c, p: c, n.
21	Stou: Cumb: Acu: Cist.	Stou: Cumb: Acu.	Cus Stou.	2	9	8	6	6	5	j	j	j	k	j	j	...	...	...	...	...	...	bc, c, a: c, bc, p: bcp, bc, n.
22	Frout: Stou.	Cus Stou: Acu.	Cus Stou: Acu.	8	9	8	8	8	5	1	j	j	j	j	1	...	...	...	...	...	...	bc, c, a: c, bc, p: c, bc, n.
23	St: Cus: Stou: Acu: Cist.	Cus Cumb: Acu: Cist.	Cus Acu: Ast.	8	9	5	6	9	10	1	1	k	j	1	1	...	...	...	...	...	...	c, a: bc, p: c, bc, n.
24	Cus: Stou: Acu.	Nbs: Cumb: Acu: Ast.	Nb.	8	8	9	10	10	10	k	1	j	1	H	G	...	...	...	...	...	...	c, cp, q, a: c, bc, p: o, bc, n.
25	Nb.	St: Cus: Stou: Acu.	Acu.	10	10	8	9	5	4	G	H	j	1	H	j	...	...	...	...	...	...	c, bc, a: c, bc, p: bc, n.
26	Cus: Stou: Acu: Cist.	Nbs: Stou.	St.	8	8	10	10	10	10	j	j	j	H	H	G	...	...	...	...	...	...	bc, c, o, a: o, bc, p: od, o, n.
27	St.	Cus Cumb.	Cus Cist.	9	8	2	1	1	0	H	1	j	1	1	F	...	...	...	...	...	...	o, c, b, a: b, p: b, m, n.
28	---	Frout.	St.	0	10	5	9	10	10	E	F	1	1	H	G	...	...	...	...	...	...	bm, b, f, om, a: bc, c, p: o, n.
29	Stou: Acu.	Cu.	Stou: Acu: Ast: Ci.	1	1	1	1	5	3	1	1	1	1	H	H	...	...	...	...	...	...	c, bc, b, a: b, bc, p: bc, n.
30	Stou: Acu.	Stou: Ci: Cist.	Acu: Cist.	9	8	8	4	2	8	j	j	j	k	j	j	...	...	...	...	...	...	bc, c, a: c, bc, p: bc, c, n.
Mean Cloud Am't.				6.8	6.3	6.1	5.8	6.3	5.3													

164. ABERDEEN.

OCTOBER, 1933.

Day.	Cloud Forms.			Cloud Amount (All Forms).						Visibility.						Precipitation.						Remarks on the Weather of the Day.
	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	
1	Acu: Ci.	Stou.	Stou: Acu: Ci: Cist.	2	4	10	6	3	10	j	j	j	j	j	1	...	...	...	...	...	...	c, b, c, a: c, bc, p: bc, c, n.
2	Stou.	Frout: Stou: Ci.	Cus Stou: Ci: Cist.	9	9	8	7	9	9	j	k	k	k	j	1	...	...	...	...	...	...	c, cy, a: c, bc, c, p: c, n.
3	Ast: Acu.	Cus: Acu: Ast.	Acu: Ast.	5	10	7	8	9	9	G	H	1	j	H	1	...	...	...	...	...	...	c, bc, c, bc, a: bc, c, bc, n.
4	Frout: Ast.	Cus: Acu: Ast.	Acu: Ci.	9	9	7	4	3	5	j	k	k	1	j	j	...	...	...	...	...	...	c, bc, a: bc, p: bc, n.
5	Stou.	Stou.	Frout: Acu: Ast.	9	9	9	10	10	10	j	j	j	j	H	H	...	...	...	...	...	...	bc, c, a: c, p: c, o, n.
6	Stou.	Stou.	Stou.	9	9	9	9	9	9	1	j	j	k	1	1	...	...	...	...	...	...	o, c, a: c, p: c, n.
7	Stou: Acu.	St: Stou.	Nbs: Ast.	9	9	9	10	10	10	j	j	j	H	H	H	...	...	...	...	...	...	c, a: c, o, bc, p: c, o, n.
8	Nb.	Nb.	Stou: Acu.	10	10	9	9	2	1	H	H	H	1	j	j	...	...	...	...	...	...	oq, c, a: c, bc, p: b, n.
9	St: Ast: Acu.	Frout: Ast: Acu.	Nb.	10	10	10	10	10	1	H	1	H	H	H	j	...	...	...	...	...	...	b, bc, c, a: c, bc, p: o, bc, b, a.
10	St: Acu: Ast.	Cus Cist.	Stou: Acu: Ast: Cist.	1	7	9	9	5	8	k	j	j	j	j	j	...	...	...	...	...	...	bq, bc, c, a: cq, bc, p: bcq, c, n.
11	Cus: Stou: Acu.	Cumb: Stou: Acu: Ast.	Nbs: Cumb: Acu: Cist.	4	5	9	8	9	6	j	k	j	j	j	H	...	...	...	...	...	...	c, bc, cq, a: cqp, p: cp, q, bc, n.
12	Cus: Stou: Acu.	Cumb: Stou.	Cumb: Stou: Acu.	5	8	4	5	1	0	H	j	1	1	H	0	...	...	...	...	...	...	bc, c, bc, a: bc, b, p: b, n.
13	Acu: Ast.	St: Ast.	Frout: Stou: Acu: Ast.	9	7	10	9	7	8	j	H	1	1	1	1	...	...	...	...	...	...	b, c, bc, a: bc, a: cq, bc, p: bcq, cp, n.
14	Acu: Ci: Cist.	Cus: Stou: Acu.	Cus Stou.	1	3	7	6	5	j	k	k	k	1	g	...	...	...	...	...	...	...	cp, b, c, cy, a: cp, bc, p: bc, n.
15	Cus: Stou: Ast: Acu.	St: Acu: Ast.	Cumb: Stou: Acu: Ast.	9	9	9	9	8	0	j	j	j	j	k	j	...	...	...	...	...	...	bc, cq, a: cq, cp, p: c, bc, b, n.
16	Stou: Acu.	Cumb: Stou: Acu: Ci.	Cumb: Stou: Acu: Cist.	8	9	8	6	3	1	k	k	k	1	k	k	...	...	...	...	...	...	b, bc, cp, a: c, bcq, p: bcq, bq, n.
17	Stou: Acu: Cist: Cist.	Cumb: Stou: Acu: Cist.	Cus Stou: Acu: Cist.	1	1	7	8	9	8	k	k	m	k	H	H	...	...	...	...	...	...	bq, bc, a: bc, c, p: c, n.
18	Frout: Stou: Cist.	Cus: Stou: Acu: Ci.	Frout: Stou: Acu: Ast.	8	6	6	9	9	9	G	G	j	1	H	1	...	...	...	...	...	...	c, bc, a: bc, c, p: cq, n.
19	Frout: Stou: Acu: Ast.	Nbs: Acu: Ast.	Nbs: Ast.	8	10	10	10	10	9	1	j	j	1	j	j	...	...	...	...	...	...	cq, a: cq, c, bc, p: c, bc, n.
20	Frout: Stou: Acu: Ast.	Cumb: Stou: Cist.	Cumb: Stou.	9	9	7	8	8	1	j	j	k	j	j	j	...	...	...	...	...	...	c, bc, a: bc, c, p: c, bc, b, n.
21	Nb.	Nb.	Nb.	10	10	10	10	10	10	H	1	j	1	1	1	...	...	...	...	...	...	bc, o, q, a: od, q, p: o, o, n.
22	Nbs: Stou: Acu: Ast.	Cumb: Stou: Ast.	Cus Stou: Cist.	9	7	7	6	9	10	1	1	H	j	G	G	...	...	...	...	...	...	o, o, c, bc, a: bc, c, p: c, n.
23	Nb.	Nb.	Nb.	10	10	10	10	10	9	G	H	F	F	G	H	...	...	...	...	...	...	c, o, if, a: o, m, p: o, ci, n.
24	Nbs: Ast.	Nbs: Cus: Acu: Ast.	Nbs: Stou.	10	10	9	10	10	2	j	j	j	j	j	j	...	...	...	...	...	...	c, c, a: c, bc, p: c, bc, b, n.
25	Cumb: Ci.	Cumb: Stou.	Nbs: Cumb.	3	6	7	8	6	7	k	1	k	1	k	j	...	...	...	...	...	...	bcp, q, a: p, bc, p: cp, q, c, n.
26	Nbs: Cumb.	Nbs: Cumb.	Stou: Acu: Ast.	8	9	9	9	9	10	j	j	k	k	j	H	...	...	...	...	...	...	cp, q, a: cp, q, c, p: c, o, c, n.
27	Nbs: Cumb: Acu: Ast.	Nbs: Cumb: Acu: Ast.	Cumb: Ci.	9	9	3	2	2	6	j	H	k	k	j	j	...	...	...	...	...	...	cp, p, p, bc, a: bcp, b, p: bcp, n.
28	Nb.	Nbs: Cumb: Acu: Ast.	Cumb: Stou: Acu: Ast.	9	9	8	7	7	7	1	j	j	j	j	j	...	...	...	...	...	...	bcp, cq, a: cqp, p: cp, bc, n.
29	Cumb: Stou: Acu.	Cus: Stou: Acu.	Cumb: Stou: Acu.	6	2	4	8	9	0	k	k	k	k	j	j	...	...	...	...	...	...	bey, a: bc, cp, p: c, bc, b, n.
30	Cumb: Acu: Cist.	Nbs: Acu: Ast.	Cus: Stou: Acu.	3	7	10	8	9	7	j	j	j	j	1	1	...	...	...	...	...	...	bc, c, bc, a: c, bc, p: c, bc, c, n.
31	Frout: Cumb: Acu.	Cumb: Stou: Acu.	Cumb: Stou: Acu.	2	1	5	2	1	9	k	k	k	1	k	j	...	...	...	...	...	...	c, bcq, a: bc, bq, p: cp, bc, n.
Mean Cloud Am't.				6.9	7.5	8.0	7.8	7.6	6.3													
Day.	Cloud Forms.			Cloud Amount (All Forms).						Visibility.						Precipitation.						Remarks on the Weather of the Day.
	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	



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Day.	Cloud Forms.			Cloud Amount (All Forms).						Visibility.						Precipitation.						Remarks on the Weather of the Day.
	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	
1	Cumuli. Acu.	Cumuli. Acu.	Nb.	1	1	9	10	10	8	K	J	1	1	H	J	...	...	...	...	...	...	bc, c, p, p <sup>0</sup> bc, a: c <sup>0</sup> , p: c <sup>0</sup> , c, n.
2	Cumuli.	Nb: Cumuli. Acu.	Nb: Cumuli. Acu.	1	6	8	9	5	3	J	J	1	J	J	J	...	...	...	...	...	...	c, p, p <sup>0</sup> , bc, a: cp <sup>0</sup> , p <sup>0</sup> bc, p: bc, n.
3	Nb: Cumuli. Acu.	Nb: Cumuli. Ci.	Cumuli. Acu. Ci.	6	6	6	5	4	6	J	J	J	J	J	J	...	...	...	...	...	...	bc, p, p <sup>0</sup> bc, a: bcp <sup>0</sup> bc, p: bc, c, n.
4	St: Acu.	Stou: Acu.	Cumuli. Acu.	9	9	9	8	8	10	J	J	J	J	J	J	...	...	...	...	...	...	cp <sup>0</sup> , c, a: c, p: c <sup>0</sup> , c, n.
5	Cumuli. Acu. Ci.	Stou: Ast.	Stou.	9	7	10	10	10	10	1	1	1	1	1	1	...	...	...	...	...	...	c, bc, c, a: c, p: c, n.
6	Stou: Ast.	Stou: Ast.	Stou: Acu.	10	10	6	6	2	5	k	k	k	k	k	J	...	...	...	...	...	...	c, bcq, a: bcq, b: p: b, bc, q, n.
7	St.	Nb.	Stou: Acu. Ast.	10	9	10	9	7	7	F	G	1	k	J	J	...	...	...	...	...	...	bcq, od, d <sub>1</sub> , a: od <sup>0</sup> , bc: p: bc, d <sup>0</sup> , n.
8	Stou: Acu.	Acu.	Stou.	9	6	4	8	8	10	G	E	1	1	1	F	...	...	...	...	...	...	c <sup>0</sup> f, bc, a: bc, c, p: c, om, n.
9	Stou: Acu. Ci.	Nb.	Nb.	6	2	10	10	10	7	J	H	G	F	F	J	...	...	...	...	...	...	om, c, bcf, o <sup>0</sup> , a: o <sup>0</sup> om, p: o <sup>0</sup> o <sup>0</sup> , c, bc, n
10	Acu.	Nb: Cumuli.	Cumuli.	3	4	6	5	3	0	J	k	J	k	J	J	...	...	...	...	...	...	bc, cp <sup>0</sup> , a: cp <sup>0</sup> , bcp <sup>0</sup> p: bc, b, n.
11	Stou.	Cumuli. Ci.	Cumuli. Stou.	1	1	2	5	1	0	J	H	J	1	F	F	...	...	...	...	...	...	b, a: bcb, p: b, n.
12	Stou: Cumuli.	Acu.	Stou.	1	0	1	1	1	0	1	E	G	D	F	F	...	...	...	...	...	...	b, bf, a: bf, bm, p: bm, n.
13	Cumuli.	Nb: Ast.	Nb.	1	7	10	10	10	10	G	H	H	H	H	H	...	...	...	...	...	...	b, bcf, c, a: c, o <sup>0</sup> , p: o <sup>0</sup> o <sup>0</sup> , o, n.
14	St.	St.	Cu.	1	0	1	1	1	4	1	G	H	H	H	J	...	...	...	...	...	...	o, bc, b, a: by, b, p: b, bc, n.
15	Cumuli. Acu.	Nb: Cumuli. Acu. Ast.	Nb: Cumuli. Acu. Ast.	5	8	9	9	3	8	J	J	1	1	J	J	...	...	...	...	...	...	bc, cqp <sup>0</sup> bc, a: cp <sup>0</sup> q, bc: p: bc, cp <sup>0</sup> , n.
16	Nb: Cumuli.	Cumuli. Stou: Acu.	Stou: Cumuli.	8	9	6	4	9	9	J	1	k	k	J	1	...	...	...	...	...	...	cp <sup>0</sup> bc, a: bcp <sup>0</sup> bc, p: c <sup>0</sup> , n.
17	Nb: Stou.	Nb: Cumuli. Acu. Ci.	Stou: Cumuli.	9	8	6	7	8	8	1	H	J	J	J	J	...	...	...	...	...	...	cp <sup>0</sup> , bc, a: bcp <sup>0</sup> p: cp <sup>0</sup> , bc, n.
18	Nb: Cumuli.	Nb: Cumuli. Acu.	Nb: Stou.	9	9	8	10	10	10	J	J	J	J	J	1	...	...	...	...	...	...	cp <sup>0</sup> bc, a: c <sup>0</sup> , c, p: c, oi <sup>0</sup> , n.
19	Nb.	Nb.	Nb.	10	10	10	10	10	10	H	G	H	H	H	H	...	...	...	...	...	...	o <sup>0</sup> q, a: o <sup>0</sup> o <sup>0</sup> , p: o <sup>0</sup> o <sup>0</sup> , n.
20	St.	St.	St.	10	10	10	10	10	10	H	G	G	G	G	G	...	...	...	...	...	...	o <sup>0</sup> o <sup>0</sup> , a: od <sup>0</sup> , p: oid <sup>0</sup> , n.
21	St.	St.	St.	10	10	10	10	10	10	G	G	G	H	H	H	...	...	...	...	...	...	od <sup>0</sup> , a: od <sup>0</sup> , p: od <sup>0</sup> , c <sup>0</sup> , n.
22	Cumuli. Acu.	Cumuli. Ci.	Acu.	8	7	1	1	1	1	J	1	k	H	G	G	...	...	...	...	...	...	c <sup>0</sup> o <sup>0</sup> , bc, b, a: b, b, p: b, n.
23	Acu. Ci.	Stou.	Stou.	1	6	7	9	9	9	H	G	J	J	J	J	...	...	...	...	...	...	b, bc, a: bc, c, p: c <sup>0</sup> , c, n.
24	Stou.	Stou.	Stou.	9	8	10	9	9	9	J	J	k	J	J	J	...	...	...	...	...	...	cp <sup>0</sup> , c, a: c, p: c, n.
25	Stou.	Stou.	Acu. Ci.	8	8	8	5	1	5	J	H	H	H	G	F	...	...	...	...	...	...	c, a: c, bc, b, p: b, bc, n.
26	Stou.	Cumuli. Stou: Acu.	Stou.	9	8	4	9	7	9	J	J	J	1	H	1	...	...	...	...	...	...	bc, cp <sup>0</sup> , a: cd <sup>0</sup> , bc: p: bc, c <sup>0</sup> , c, n.
27	St: Stou.	Nb: Cumuli. Acu.	Nb: Cumuli.	9	8	8	9	9	9	J	1	J	J	J	J	...	...	...	...	...	...	ci <sup>0</sup> , cp <sup>0</sup> , a: cp <sup>0</sup> , ci <sup>0</sup> , p: c <sup>0</sup> ci <sup>0</sup> , c, n.
28	Cumuli. Stou.	Nb: Cumuli. Acu.	Cumuli. Stou.	9	9	8	8	4	9	J	J	J	J	J	J	...	...	...	...	...	...	c <sup>0</sup> , cp <sup>0</sup> , a: cp <sup>0</sup> bc, p: bc, c <sup>0</sup> , c, n.
29	Nb.	Nb.	Fract. Ast.	9	9	10	10	9	10	1	G	G	G	1	1	...	...	...	...	...	...	c <sup>0</sup> o <sup>0</sup> , a: o <sup>0</sup> o <sup>0</sup> , c, p: c, n.
30	St.	Stou.	St.	10	9	10	10	10	10	J	G	1	1	H	1	...	...	...	...	...	...	c, o, c, a: c, o, p: o, n.
Mean Cloud Am't.				6.7	6.8	7.2	7.6	6.6	7.2													

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1	Nb.	Nb.	Nbs: Cus: Acu.	10	10	10	10	8	8	1	J	J	1	1	1	...	...	...	...	...	...	oi <sup>0</sup> , a: o, c <sup>0</sup> , bcq, p: cq <sup>0</sup> , c, n.
2	Stou.	Cus: Stou.	Nbs: Cus: Acu.	9	9	9	10	8	7	J	1	J	H	1	1	...	...	...	...	...	...	cq <sup>0</sup> , p <sup>0</sup> , a: ci <sup>0</sup> , p: ci <sup>0</sup> , bc, c <sup>0</sup> , c, n.
3	Stous: Acu.	Stou.	St.	9	9	10	10	10	10	k	1	1	1	1	H	...	...	...	...	...	...	ci <sup>0</sup> , cyc, a: c, o, p: od <sup>0</sup> , n.
4	St.	Nb.	St.	10	9	10	10	10	10	H	H	J	J	J	1	...	...	...	...	...	...	o <sup>0</sup> , c, a: o, c, o, p: oi <sup>0</sup> , n.
5	Stou.	Nb.	Nb.	10	10	9	10	10	10	1	1	G	G	G	G	...	...	...	...	...	...	oi <sup>0</sup> c, a: c <sup>0</sup> d <sub>1</sub> , o, p: o <sup>0</sup> , o <sup>0</sup> , n.
6	Frmb: Acu: Ast.	Nb.	Nb.	8	10	10	10	10	10	H	G	G	H	H	H	...	...	...	...	...	...	o <sup>0</sup> , c, a: oid <sup>0</sup> , p: od <sup>0</sup> , n.
7	Nb.	Cumb: Stou.	Stou.	10	7	9	4	7	5	1	H	J	J	J	J	...	...	...	...	...	...	oi <sup>0</sup> , cp <sup>0</sup> , a: cp <sup>0</sup> , bcq p: bcq bc n.
8	Stou.	Stou.	Stou.	1	3	9	9	9	9	1	G	1	1	H	H	...	...	...	...	...	...	bc, b <sub>1</sub> , c, a: c, p: c, n.
9	Stou.	Stou.	Stou.	9	9	9	9	6	8	J	1	J	J	J	1	...	...	...	...	...	...	c, ci <sup>0</sup> , a: c, bc, p: bc, c, bc, n.
10	Stou.	Stou.	Stou.	1	3	8	5	1	9	J	1	H	H	H	F	...	...	...	...	...	...	bc, b <sub>1</sub> , c, a: c, bc, b, p: b, bc, c, n
11	Stou.	Stou.	Stou.	8	8	8	7	9	9	J	H	H	D	F	G	...	...	...	...	...	...	c, a: c, bcf, c, p: c, n.
12	Nb.	Nbs: Cumb: Acu: Ast.	Nbs: Cumb.	10	10	10	10	10	3	G	G	H	H	G	H	...	...	...	...	...	...	c, oi <sup>0</sup> ▲, a: ci <sup>0</sup> , p: bc, i <sup>0</sup> ▲, n.
13	Nb.	Cumb: Stou.	Nbs: Cumb.	9	9	8	8	9	9	H	1	1	1	1	1	...	...	...	...	...	...	cp <sup>0</sup> ▲, a: bc, cp <sup>0</sup> ▲, p: cp <sup>0</sup> ▲, c, n.
14	St.	Stous: Acu: Ast.	Cumb: Stous: Acu: Ast.	4	3	9	7	5	9	J	J	J	J	J	J	...	...	...	...	...	...	c, bc, cp <sup>0</sup> , a: cp <sup>0</sup> , bc, p: bc, c <sup>0</sup> , n.
15	St: Acu: Ast.	Stou: Ci.	Stou: Acu: Ast.	8	1	1	1	9	1	J	J	k	1	H	1	...	...	...	...	...	...	c, bc, b, a: b, bc, p: bc, b <sub>1</sub> n.
16	Stou.	Ci: Cist.	Ci: Cist.	1	3	3	4	2	3	1	H	1	H	G	H	...	...	...	...	...	...	b <sub>1</sub> , bc, a: bc, b <sub>1</sub> , p: b <sub>1</sub> n.
17	Stou.	Stou.	Stou.	9	9	9	9	9	8	1	G	1	1	H	1	...	...	...	...	...	...	c, cf, c, a: c, p: c, bc, b, n.
18	Stous:	Acu: Ci.	Acu: Ci.	1	0	1	1	1	1	H	1	G	H	H	1	...	...	...	...	...	...	b <sub>1</sub> f, a: b, p: b, n.
19	Stou: Cist.	Acu: Ci.	Acu: Ci.	3	2	1	1	3	9	H	H	1	H	H	1	...	...	...	...	...	...	b <sub>1</sub> n, a: b, bc <sub>1</sub> , p: b <sub>1</sub> c, b, n.
20	Stou.	Stou.	Stou.	1	0	1	2	1	0	J	E	H	G	G	F	...	...	...	...	...	...	b <sub>1</sub> , bf, a: b, p: b <sub>1</sub> , n.
21	Stou.	Cist.	Ast.	1	1	1	5	9	8	J	E	1	H	G	G	...	...	...	...	...	...	b <sub>1</sub> f, a: b, bc, c, p: c <sub>1</sub> , n.
22	Acu: Ast.	Acu: Cist.	Stous: Acu: Cist.	4	2	4	4	6	4	H	1	H	H	1	H	...	...	...	...	...	...	bc, b, a: bc, p: bc, n.
23	Stou.	Nbs: Acu.	Acu.	1	1	8	7	4	4	1	G	H	H	H	H	...	...	...	...	...	...	bc, bf, cp <sup>0</sup> , a: cp <sup>0</sup> , bc, p: bc, n.
24	Acu: Ast.	Acu: Ast: Cist.	Stou.	1	2	3	4	9	7	H	H	F	G	F	G	...	...	...	...	...	...	bc ⊕, a: bc, c, p: c, bc, n.
25	St.	St: Acu: Ci.	Nb.	4	5	3	8	10	9	H	F	H	G	G	G	...	...	...	...	...	...	bcme, a: bc, ci <sup>0</sup> , p: ci <sup>0</sup> , n.
26	Nbs: Ast.	Stou.	Stou.	10	10	8	1	2	9	H	G	G	G	F	F	...	...	...	...	...	...	ci <sup>0</sup> , a: c, bc, b, p: bc, ci <sup>0</sup> , n.
27	Nbs: Ast.	Cus: Stou.	Nb.	10	10	9	9	9	9	1	H	G	E	G	H	...	...	...	...	...	...	ci <sup>0</sup> , c, a: cf, cp <sup>0</sup> ▲, p: cp <sup>0</sup> ▲, cp <sup>0</sup> , n.
28	Nb.	Nbs: Cumb: Acu.	Nbs: Cumb.	9	9	8	9	9	10	1	J	J	J	J	1	...	...	...	...	...	...	cp <sup>0</sup> q, a: cqp <sup>0</sup> , p: cqi <sup>0</sup> ▲, n.
29	Nb.	Frmb: Acu: Ast.	Acu: Ast: Ci: Cist.	10	10	9	8	7	8	H	H	H	F	G	1	...	...	...	...	...	...	c, oi <sup>0</sup> , a: c, bc, p: bc, c, o, n.
30	Nb.	Cus: Stous: Acu: Ast.	St: Stous: Acu: Ast.	10	6	2	6	8	5	1	F	H	G	G	H	...	...	...	...	...	...	o <sup>0</sup> , c, bc, a: bc, c, p: c, bc, b, n.
31	Stou.	Cist.	Acu: Ast: Cist: Cist.	1	1	6	8	9	10	J	E	G	H	H	H	...	...	...	...	...	...	b, b <sub>1</sub> f, bc, a: bc, c, p: c, n.
Mean Cloud Am't.				6.2	6.5	6.6	6.6	6.7	7.1													
Mean Annual Cloud Am't.				6.6	6.5	6.6	6.6	6.6	6.2													
Day	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	Remarks on the Weather of the Day.
	Cloud Forms.			Cloud Amount (All Forms).						Visibility.			Precipitation.									







M.O. 370  
(Eskdalemuir)

Air Ministry  
METEOROLOGICAL OFFICE

THE  
OBSERVATORIES' YEAR BOOK  
1933

Comprising the meteorological and geophysical results obtained from autographic records and eye observations at the observatories at Lerwick, Aberdeen, Eskdalemuir, Cahirciveen (Valentia Observatory), and Richmond (Kew Observatory), and the results of soundings of the upper atmosphere by means of registering balloons.

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ESKDALEMUIR

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Published by the authority of the  
METEOROLOGICAL COMMITTEE



LONDON  
HIS MAJESTY'S STATIONERY OFFICE  
1935



## ESKDALEMUIR OBSERVATORY.

Latitude	..	..	..	..	55° 19 N.
Longitude	..	..	..	..	3° 12 W.
G.M.T. of local Mean Noon	..			..	12h. 13m.

## "Heights in metres above Sea-Level"

Barometer	..	..	..	..	237.3
Rain-gauge	..	..	..	..	242.0
Dines Tube Anemograph	..			..	250

## "Heights in metres above ground"

Thermometer Bulbs	..	..	..	..	0.9
Sunshine Recorder	..	..	..	..	1.5
Dines Tube Anemograph	..			..	15
Beckley Rain-gauge Rim	..			..	0.4

## INTRODUCTION.

## HISTORICAL.

Early in the twentieth century the increasing artificial magnetic disturbance at Kew Observatory, Richmond, due to the westward extension of the electric tramway system from London, made desirable the establishment of a magnetic observatory in a locality unlikely to be affected, at least for a number of years, by electric power or traction system. A committee of the Royal Society of London selected a site in the parish of Eskdalemuir, Dumfries-shire, for the new observatory. The nearest towns or industrial centres are Langholm and Lockerbie, distant approximately 16 and 18 miles (26 and 29 km.) by road, and there is no point of railroad within 9 miles (14km.) of the Observatory. Installation of the instrumental apparatus commenced in the summer of 1908, the Observatory at that time forming a part of the then recently established National Physical Laboratory.

Although the Observatory was established primarily in the interests of the study of terrestrial magnetism the field of geophysical work undertaken has been considerably wider and has included, almost from the beginning, meteorology, atmospheric electricity (mainly atmospheric potential gradient), and seismology. In the earliest years Milne, Wiechert, Omori, and Galitzin seismographs were in operation at Eskdalemuir, but seismological observations ceased in October, 1925, when the three-component installation of Galitzin seismographs was transferred to Kew Observatory. In 1910, when the majority of the various initial difficulties had been overcome, Eskdalemuir passed from the control of the National Physical Laboratory to that of the Meteorological Office. In consequence of this change the meteorological work assumed increased importance, and from the beginning of 1914 the Observatory has served as a telegraphic reporting station of the Meteorological Office.

Summaries of the results of observations made in 1909-10 were published in the Report of the Observatory Department of the National Physical Labora-



tory, 1909-10. The results for subsequent years are included in the publications mentioned in the Preface to the present volume.

#### SITE.

Eskdalemuir Observatory, some  $3\frac{1}{2}$  miles ( $5\frac{1}{2}$  kilometres) north-north-west of Eskdalemuir Parish Church in the county of Dumfries-shire, is situated on a rising shoulder of moorland which is bounded on the east by the road leading north to Ettrick and Selkirk, on the west by the small Davington Burn, and at the southern extremity by the small hamlet of Davington.

The hillside in the immediate vicinity of the Observatory slopes generally from the north-west to south-east. The mean height above sea level of the Observatory site is about 800 feet (244 metres). Cassock Hill, slightly more than a mile distant to the north-west is 1,205 feet (367 metres), while the bench mark at Davington School,  $\frac{1}{4}$  mile (0.4 km.) to south-east, is 699 feet (213 metres) above M.S.L. To the east the ground slopes fairly rapidly to the valley bottom, the level of the Ettrick road at a point about  $\frac{1}{4}$  mile (0.4 km.) east of the underground magnet house being 682 feet (208 metres). The River White Esk is rather less than  $\frac{1}{2}$  mile (0.8 km.) to the east. Immediately beyond the river, and almost due east of the Observatory, Dumfedling Hill rises to a height of nearly 1,200 feet (366 metres) above M.S.L. Some 4 or 5 miles (8 km.) to the north is a high ridge, following approximately the boundary between Dumfries-shire and Selkirkshire, the highest point of which is Ettrick Pen (north-north-west) 2,200 feet (670 metres) above M.S.L. Rather more than half a mile (0.8 km.) to the west, and beyond Davington Burn, the ground rises to 1,040 feet (317 m.), and reaches nearly 1,200 feet (366 m.) half a mile (0.8 km.) further on. To the south and south-south-east the Observatory commands a view of the White Esk Valley as far as Hart Manor, 4 miles ( $6\frac{1}{2}$  km.) distant, and beyond that the upper slope of Cauldkine Hill, about 10 miles (16 km.) distant, is visible. The surrounding country is bare and wild and there are but few trees to relieve the monotony of the grass-covered hills and moorland.

Within the Observatory grounds the soil is peaty and in many places is more or less boggy at all seasons. Some two feet, or less, below the surface a clay-like substance containing soft rock is encountered. The local geological formation is described as "rock of the Tarannon Llandovery series traversed by igneous dykes."

Photographs, site plan, and a brief description of the Observatory will be found in the Introduction to "The Observatories' Year Book," 1928.

#### METEOROLOGY.

The elements dealt with in the following tables are:-Atmospheric pressure, air temperature, humidity, rainfall, sunshine, solar radiation, wind speed and direction, earth temperature and minimum temperature on the grass. There is also a diary of cloud and weather.

#### Notes on Instruments.

Brief description of the recording instruments and of the methods of tabulating the records, with notes on the information contained in the Tables are given in the General Introduction to the Tables. The following particulars, which refer specially to Eskdalemuir, are to be regarded as ampli-



fying the information contained therein. References to full accounts of other instruments used at Eskdalemuir appear below.

In January the former standard Kew pattern barometer, which was used as standard throughout 1932, was superseded by the standard Fortin barometer. The two barometers are close together in the north-west ground floor room, which has a small daily range of temperature.

The photographic mercurial barograph is situated in the east room of the underground magnet house. The daily range of temperature to which the instrument is subject is normally less than  $0.05^{\circ}\text{C}$ ., the annual range being about  $4^{\circ}\text{C}$ .. The scale value of the records is 1 millimetre on the paper = 0.85 millibar, and the time scale is 9.1 millimetres on the paper = 1 hour.

As in former years, records of pressure were also obtained from (a) a Dines float barograph<sup>1</sup>, and (b) a Richard barograph, pen recording, the records of which are changed weekly.

"Temperature."-The photographic thermograph and the standard mercurial thermometers, dry bulb and wet bulb, are situated in a wooden hut, provided with louvred sides and double roof, which is some 200 feet (60 m.) north-north-east of the main building. The installation is similar to that described on p.10, except that a special enclosure is provided inside the hut to accommodate the optical and photographic arrangements.

The scale values of the thermograph records are  $1^{\circ}\text{A.} = 3.064\text{ mm.}$  and  $2.438\text{ mm.}$  on the paper for the dry and wet bulb records respectively, while the time scale is 1 hour =  $9.250\text{ mm.}$

Auxiliary records of temperature are obtained from one or more instruments of the bimetallic type described in the "Meteorological Observers' Handbook". These instruments are situated in the hut which contains the photographic thermograph.

"Humidity." - In addition to the dry and wet bulb thermograph described above there is a Richard hair hygograph which is situated in the louvred hut.

As is stated in the General Introduction, the records from this instrument are utilised when the wet bulb reading does not exceed  $273^{\circ}\text{A.}$  On the records obtained in 1932 a change of 10 per cent. in relative humidity is represented by about 0.8 centimetre, the time scale being 1 hour =  $11.4\text{ mm.}$

"Rainfall."-The recording instrument is a Beckley self-registering rain-gauge, which is described on page 11. The time scale of the record is 1 hour =  $9.24\text{ millimetres}$  on the paper and the rain scale has a magnification of 3.35. The instrument has been in use at Eskdalemuir since 1908 and was originally installed at Fort William in July, 1890.

The conical part of the gauge funnel is surrounded by a cylindrical copper casing lined with asbestos on the inner side and of diameter equal to that of the funnel, viz.  $11.27\text{ inches}$  ( $28.6\text{ cm.}$ ). Within the enclosure so formed is a gas jet, and a flame of suitable dimensions is maintained, as circumstances dictate, to melt snow which may be collected.

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<sup>1</sup>Q.J.R. Meteor. Soc., Vol. LV, pp. 37-53, 1929.



The gauge is surrounded by a circular turf wall or dyke, the top of which is on a level with the rim of the gauge; the external and internal diameters of the dyke being 11.5 feet (3.5 m.) and 7 feet (2 m.) respectively.

A standard 8-inch (20.3 cm.) rain-gauge is situated some 24.5 feet (7.5m) to the east of the Beckley gauge and is surrounded by a turf dyke of similar dimensions. Readings of amounts of rain received in the 8-inch gauge are made at 7h and 18h G.M.T. It is customary to adjust the indications of the recording gauge to agree with the readings of the standard check gauge.

Auxiliary autographic records of precipitation were obtained by means of a Hellman-Fuess snow-gauge which is situated in a pit 8 feet (2.4 m.) wide and almost due north of the 8 - inch standard gauge, the pit being surrounded by a low wall of earth and turf, the top of the wall being approximately level with the rim of the gauge. The records so obtained are used only in the event of failure or uncertainty of the Beckley autographic record.

"Sunshine."-The record of sunshine is obtained from a Campbell-Stokes recorder described on p. 11.

The recorder is fixed on a stone pillar and has a reasonably free exposure, the chief obstacle being hills to east and west. The elevation of hills between 70° and 110° east of south varies from 2.5° to 5°, while between 50° and 135° west of south the high ground varies in elevation from 3° to 4.4°, being generally about 3.5°. As sunshine can be recorded when the sun is 3° above the horizon only in the most favourable circumstances, it appears that the loss of record occasioned by the neighbouring high ground is of relatively small extent and is confined mainly to a possible defect of record at the beginning of the day during a few weeks centred about the equinoxes.

"Solar Radiation."-Measurements of the intensity of radiation received from the sun by a surface which is normal to the line drawn from the instrument to the sun are affected by means of an Ångström compensating pyrheliometer<sup>1</sup>. The intensity of radiation is expressed in milliwatts per square centimetre (lmw. per sq. cm. = 0.01435 gramme calorie per sq. cm. per minute). In addition, the value is given of the function  $(p/p_0) \sec Z$ , in which  $p$  is the barometric pressure at the observatory in millibars at the time of the observation,  $p_0$  is 1000 millibars, and  $Z$  is the zenith distance of the sun. This affords a measure of the mass of atmosphere which the solar radiation has had to penetrate before reaching the earth. Entries in the column headed "Sky" are intended to show the presence or absence of haze, mist or cloud in the direct path of the solar radiation recorded.

"Wind."-A Dines tube anemograph, furnished with direction recorder, is situated in the main building. The vane-head is 15 metres above a tangent plane to the slope of the hillside and approximately 7 metres above the general level of the roof of the building.

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<sup>1</sup>For descriptions see "The Observer's Handbook", 1921 ed., Meteorological Office, London; "Astrophysical Journal", Vol IX, 1899; "Actes de la societe royale des Sciences d'Upsal", 1893; also "Geophysical Memoirs", No. 21 (1923), Meteorological Office, London.

Following some structural repairs to the observatory building, the pyrheliometer was re-erected in an embrasure of the tower in June 1930.



In August 1933, the anemograph was replaced by another of similar pattern, except that the suction and pressure effects are now transmitted to the speed recorder by means of copper pipes of 2.5 cm. internal diameter, instead of by "compo" tube of 1.3 cm. internal diameter. During the period of transition (Aug. 9-11) the hourly wind speed and direction were estimated.

Apart from the surrounding hills, the exposure of the vane-head is tolerably free in all directions save to the west where at a distance of some 130 feet (40 m.) is a rather large building, of which the height is somewhat greater than that of the main building. With winds from nearly due west the direction records show markedly greater turbulence than with other winds.

"Earth Temperature."- Readings have been made at 9h G.M.T. of the earth temperature at nominal depths of one foot and four feet below the surface of the grass lawn a few yards south of the thermometer hut. The thermometers and the method of exposure are of the standard type described in the "Meteorological Observers' Handbook." The depths of the thermometer bulbs below the grass-covered surface of the ground are 30 cm. (1 foot) and 122 cm. (4 feet). In December, 1930, two more thermometers, graduated in degrees absolute, were installed at 1 foot and 4 feet respectively alongside the other two thermometers graduated in degrees Fahrenheit, the former being retained as spares. The Fahrenheit pair were replaced as standards by the absolute pair at the beginning of 1931.

"Minimum Temperature on the Grass."- The thermometer used for readings of grass minimum temperature is of the spirit type with index, and when exposed, between 18h and 7h G.M.T., is supported at a height of one or two inches (4 cm.) above close-cropped grass a few metres from the louvred thermometer hut.

"Visibility."- The descriptions of the selected visibility objects, together with the distances and bearings from the point of observation, are given in the subjoined table. Auxiliary objects and guide criteria are given in brackets. Certain of the nearer objects may be identified by reference to the photographs and site plan. Unless otherwise stated, the distances and bearings are with reference to certain of the windows on the upper floor of the main building.

The situation of the Observatory and the nature of the immediate surroundings allow of only a very limited choice of objects. The objects A to D are situated mainly to the north, while the more distant objects are towards south to south-east, i.e., down valley. Four miles or so to the north of the Observatory the hills rise in places to rather more than 2,000 feet above sea level and at times visibility in this direction is distinctly less than towards south. On other occasions the hills to the north are visible but nearer objects down the valley are invisible owing to valley mist. With the exception of the cottage at Finglandshiel, and Cauldkine Hill, the objects more distant than D are below the level of the Observatory. There are no objects at distances which approximate sufficiently closely to the standard distances for objects H, J, and K. When it is estimated that the range of visibility is such that objects at these standard distances would be visible the corresponding small letter entries are made in the Diary of Cloud and Weather. The estimates of visibility in the dark depend largely on the judgment of the observer. There are no lights other than those in the Observatory buildings and in two cottages within a radius of one mile.



## VISIBILITY OBJECTS AT ESKDALEMUIR.

Object		Distance	Bearing
A	(i) White wooden post .. .. .	25 yards	NE.
	(ii) Twigs on trees nearest the boundary wall in front of the main building .. .. .	25 "	S.
	(iii) Small thermometer screen viewed from steps facing the back entrance to the main building .. .. .	26 "	NNE.
B	(i) Theodolite pillar .. .. .	55 "	N.
	(ii) Chimney (or cowl) on the large thermometer screen .. .. .	60 "	NE.
C	Posts and shafts on underground magnetograph house .. .. .	107 "	N.
D	Standards on Observatory reservoir .. .. .	217 "	NNW.
E	(i) Church and Manse, Davington .. .. .	550 "	SE.
	(ii) (Davington Farm House) .. .. .	470 "	SSE.
F	(i) Chimneys at Burncleuch .. .. .	1180 "	SSE.
	(ii) (Cottage at Finglandshiel) .. .. .	1550 "	NE.
G	Trees at Garwaldwaterfoot .. .. .	2160 "	SSE.
H (h)	(Lower slope of Raeburn Hill) .. .. .	2½ miles	SSE.
I	Hart Manor .. .. .	4 "	SSE.
J (j)	(Cauldkine Hill, 1,478 feet, near Westerkirk; not clearly visible) .. .. .	10½ "	SSE.
K (k)	(Cauldkine Hill, 1,478 feet, near Westerkirk; plainly visible) .. .. .		
L (l)	No objects available .. .. .		
M (m)			

Notes:-The descriptions of auxiliary objects and guide criteria are given in brackets.

## IDENTIFICATION NUMBERS OF INSTRUMENTS IN USE IN 1933.

Standard Barometer:-

January 1 - January 14 - (Kew pattern Barometer)	1320
January 15 - December 31 -(Fortin Barometer)	1716/27
Standard Dry Bulb Thermometer .. .. . M.O.	19123
Standard Wet Bulb Thermometer .. .. . M.O.	1695
Hair Hygrometer .. .. . M.O.	59
Recording Beckley Rain-gauge .. .. .	4
Control Rain-gauge .. .. . M.O.	336/30
Control Rain-gauge, glass for .. .. . M.O.	1568
Campbell-Stokes Sunshine Recorder .. .. . M.O.	99
Ångström compensating Pyrheliometer .. .. .	116

Dines Tube Anemograph:-

January 1 - August 9 .. .. .	1032
August 11 - December 31 .. .. .	1019, 1081
Grass Minimum Thermometer .. .. . M.O.	23002
Earth Thermometer, 1 Ft. .. .. . M.O.	24009
" " 4 Ft. .. .. . M.O.	4

## CORRECTIONS TO INSTRUMENTS IN USE IN 1933

The corrections to the instruments in use during 1933 are given below. In all cases the corrections are those given in the certificate of examination issued by the National Physical Laboratory. The corrections here given have been applied. The date on which each of the instruments mentioned was brought into use is given for purposes of reference.

Kew pattern Barometer, M.O. 1320, July 14, 1931.\*

at	920	940	960	980	1000	1020	1040	1060	mb.
	-0.4	-0.3	-0.2	-0.1	-0.1	-0.0	+0.1	+0.1	

Attached thermometer: + 0.1 at 290°A.

\*These corrections, if applied to readings of the barometer, would bring the readings into agreement with the atmospheric pressure, provided the instrument were at a temperature of 273°A. (0°C.) and in latitude 45°.



Fortin Barometer, M.O. 1716/27, Jan. 15, 1933.

at	880	910	940	970	1000	1030	1050	mb.
	-0.10	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	

Attached thermometer, No. 5592, Jan. 15, 1933.

at	273	278	283	288	293	298	303	°A.
	-0.1	-0.2	-0.2	-0.4	-0.3	-0.2	-0.2	

Dry Bulb Thermometer, M.O. 19123. January 27th, 1919.

at	263	268	273	278	283	288	293	298	303°A.
	+0.2	+0.1	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1

Wet Bulb thermometer, M.O. 1695. May 17th, 1930.

at	253	263	273	283	293	303	313°A.
	0.0	0.0	-0.1	0.0	0.0	0.0	0.0

Grass Minimum Thermometer, M.O. 23002 at	253	263	273	283	293	303°A.
	-0.1	-0.1	0.0	0.0	0.0	-0.1

Earth Thermometer 1 Ft. M.O. 24009 - No corrections.  
4 Ft. M.O. 4, from 260 to 310°A., + 0.1.

#### NOTE ON THE REDUCTION OF BAROMETER READINGS.

The Fortin barometer, M.O. 1716/27 by Casella, London, has been used as the standard since 1st January, 1929. Before this date a Kew pattern mercury barometer M.O. 1320 by J. Hicks, London, was the standard instrument from 16th December, 1913. The latter was re-introduced on July 14, 1931 when the Fortin barometer developed a leak and was sent away for repair and remained in use until January 14, 1933; the repaired Fortin barometer was then re-introduced.

1. "Reduction to Pressure at Station Level".- The corrections for index error (including those for capacity and capillarity) as given in the N.P.L. certificates are reproduced above. The corrections for temperature for the barometer are those given in the "International Meteorological Tables" as appropriate to a Fortin barometer. The adoption of such corrections for a Kew pattern barometer, although technically incorrect, would not lead to appreciable systematic error in actual practice. The table of corrections to the barometer readings on this account for various readings of the attached thermometer is as set out in "The Observatories' Year Book," 1928.



The corrections for the variation of gravity as obtained from the expression

$$g = 980.617 (1 - 0.00259 \cos 2\lambda) (1 - 5z/4E)$$

where  $\lambda$  = latitude

$z$  = height of the station.

$E$  = earth's radius

are as follow:-

at reading of	900	920	940	960	980	1000	1020	1040	mb.
Correction	+0.78	+0.80	+0.81	+0.83	+0.85	+0.87	+0.88	+0.90	mb.

2. "Reduction to Mean Sea Level".- The correction to reduce pressure at station level to pressure at sea level is calculated according to the usage of the "International Meteorological Tables" with certain minor modifications which are set out in "The Observatories' Year Book", 1928. In the same volume is given a copy of the Table actually in use.

#### NOTES ON THE METEOROLOGICAL SUMMARIES.

The number of years for which meteorological results are available is insufficient as yet to yield a completely representative set of normal values. Although certain meteorological data are available for 1909 and 1910 it is only since 1911 that the reductions have been made in accordance with an approximately uniform plan. In the following notes the normal or average values referred to are for the period 1911 to 1926, unless otherwise stated.

"Pressure".-As was the case throughout the British Isles the mean pressure for the year was above normal, the excess being 3.1 mb. In the months, March, June, and October, the mean pressure was sub-normal; in each of the other months it was above the average, the greatest excess being in December viz. 14.2 mb. The extreme instantaneous values recorded were 1013.3 mb. on December 3, and 950.3 mb. on March 17. The greatest and least mean daily values were 1012.4 mb. on December 3, and 953.3 mb. on March 17. The largest value of the range during a calendar day was 33.2 mb. on March 20. The mean value of the absolute daily range of pressure varied between 9.8 mb. in January, and 3.9 mb. in May. The annual mean value of the daily range was a little below normal.

"Pressure (Diurnal Variation)".-In the mean diurnal inequality for each month there are two maxima, in the late forenoon and usually an hour or two before midnight, and two minima, in the early morning and afternoon. In all months, except January, February and November, the night maximum of the representative inequalities for the years 1911-20 is the larger. In 1933 the principal maximum occurred at night in February, April, July, August and October. The principal minimum in the representative inequalities is in the afternoon except in February, March, August and November, but in 1933 the principal minimum falls in the early morning in January, March, April, July and October. Compared with the mean diurnal inequality for 1911-20<sup>(1)</sup>,

(1) "On the Diurnal Variation of Atmospheric Pressure at Eskdalemuir and Castle O'er, Dumfries-shire," by A. Crichton Mitchell, D.Sc., "Quarterly Journal of the Royal Meteorological Society. Vol. L, No. 210, April, 1924.



in 1933 the early morning and afternoon troughs are slightly enhanced, while the late afternoon crest is increased and the night crest diminished.

The results of the harmonic analysis of the monthly and seasonal mean diurnal inequalities for 1933 are given in the accompanying table. For purposes of comparison the corresponding data <sup>(1)</sup> derived from the mean inequalities for the period 1911-20 are also given. In computing the Fourier coefficients for 1933 the unit employed was .001 mb. Although for 1933, as for recent years, the phase angles are given to the nearest 1°, this course is scarcely justified, at least for the third and fourth components, by the character of the data from which the harmonic coefficients for the months and seasons of a single year are computed. The phase angles  $\alpha_1$  etc, given in the table below refer to Local Mean Time, whereas in the corresponding tables for 1922 and 1923 the phase angles refer to Greenwich Mean Time.

As is usually the case the amplitude and phase of the 24-hour term fluctuate irregularly from month to month. The ratio of the mean of the twelve monthly values of  $c_1$  to the value of  $c_1$  for the year as a whole considerably exceeds unity.  $c_1$  is noticeably high for January, February, and October, and low for December. The value of  $c_2$  for the summer was below the corresponding normal, those for year, winter and equinox being higher. The variation in the 8-hour term from month to month is fairly normal, the amplitude being largest in winter months and least at the time of equinoctial phase transition.

#### HARMONIC COEFFICIENTS OF THE DIURNAL INEQUALITY OF ATMOSPHERIC PRESSURE

ESKDALEMUIR, LONGITUDE 3° 12' W.

Values of  $c_n, \alpha_n$  in the series  $c_n \sin (15nt + \alpha_n)$ ,  $t$  being Local Mean Time reckoned in hours from midnight.

Month and Season	$C_1$		$\alpha_1$		$C_2$		$\alpha_2$		$C_3$		$\alpha_3$		$C_4$		$\alpha_4$	
	1933	1911-20	1933	1911-20	1933	1911-20	1933	1911-20	1933	1911-20	1933	1911-20	1933	1911-20	1933	1911-20
Jan. ..	mb. .53	.094	275	346.4	.29	.235	187	151.6	.15	.125	347	345.3	.06	.046	232	213.9
Feb. ..	.40	.118	80	215.1	.25	.273	127	138.1	.11	.083	346	341.2	.06	.042	82	67.7
Mar. ..	.15	.128	279	185.3	.33	.304	161	145.3	.03	.053	318	335.0	.06	.051	24	24.5
Apr. ..	.10	.205	165	92.3	.26	.299	149	154.8	.09	.022	175	156.3	.03	.045	1	355.7
May ..	.17	.225	1	52.7	.20	.270	158	147.4	.06	.075	160	160.1	.02	.035	323	330.1
June ..	.24	.152	22	53.9	.19	.234	159	146.1	.07	.084	141	160.6	.01	.018	322	325.7
July ..	.09	.171	110	69.4	.22	.211	158	141.2	.06	.077	120	155.8	.02	.023	300	300.0
Aug. ..	.07	.114	78	114.6	.23	.239	146	147.7	.03	.057	149	157.2	.04	.047	309	330.8
Sept. ..	.11	.121	29	87.7	.35	.313	166	151.6	.03	.012	241	110.7	.06	.050	349	344.7
Oct. ..	.32	.110	149	76.0	.47	.315	161	159.5	.06	.060	3	8.2	.01	.041	340	32.9
Nov. ..	.11	.125	29	183.5	.37	.242	168	168.1	.09	.101	2	9.2	.03	.015	214	146.2
Dec. ..	.03	.137	164	87.1	.27	.213	156	146.9	.13	.124	10	4.2	.06	.067	209	212.8
Arithmetic Mean	.19	.142	...	...	...	.262	...	...	.08	.073	...	...	.04	.040	...	...
Year ..	.031	.085	40	90.8	.279	.260	159	150.1	.024	.020	13	41.7	.012	.016	319	341.9
Winter ..	.052	.038	326	165.4	.278	.236	162	150.9	.120	.106	356	355.5	.029	.023	200	189.1
Equinox ..	.069	.108	159	103.9	.351	.306	160	152.8	.009	.021	244	4.4	.040	.044	4	8.9
Summer ..	.112	.153	34	67.2	.209	.238	155	145.8	.053	.074	142	158.5	.023	.030	313	324.3

NOTE.—"Winter" comprises the four months January, February, November, December.

"Equinox" the months March, April, September, October.

"Summer" the months May to August.

(1) "On the Diurnal Variation of Atmospheric Pressure at Eskdalemuir and Castle O'er, Dumfries-shire," by A. Crichton Mitchell, D.Sc., "Quarterly Journal of the Royal Meteorological Society. Vol. L, No. 210, April, 1924.



"Temperature".-The mean temperature,  $280.79^{\circ}\text{A.}$  ( $46^{\circ}\text{OF.}$ ), for the year 1933 is nearly  $1^{\circ}\text{A}$  above the normal value. The extreme temperatures recorded during the year were  $302.2^{\circ}\text{A.}$  ( $84^{\circ}\text{OF.}$ ) on July 5 and  $263.9^{\circ}\text{A.}$  ( $15^{\circ}\text{OF.}$ ) on January 25, the former being the highest ever recorded at the Observatory. January 24 with a mean daily temperature of  $268.9^{\circ}\text{A.}$  ( $24^{\circ}\text{OF.}$ ) was the coldest day of the year and July 5 with  $293.6^{\circ}\text{A.}$  ( $69^{\circ}\text{OF.}$ ) was the hottest. From March to November, both months inclusive, the mean monthly temperatures were continuously above the normal, the greatest excess occurring in July and September, when it was in each case  $2.4^{\circ}\text{A.}$  Another noteworthy feature was that the mean monthly temperature for March, June, July, August and September was in each case the highest mean monthly temperature since records commenced for months of the same name. The minimum temperature was  $273.0^{\circ}\text{A.}$  ( $32^{\circ}\text{OF.}$ ), or less, on 93 days, 59 being in the first four months of the year. There were 6 "ice-days", i.e. days with maximum temperature below  $273.0^{\circ}\text{A.}$  ( $32^{\circ}\text{OF.}$ ).

The values of the absolute range of temperature within a calendar month vary between  $26.2^{\circ}\text{A.}$  ( $47^{\circ}\text{OF.}$ ) in August and  $13.8^{\circ}\text{A.}$  ( $24^{\circ}\text{OF.}$ ) in December.

"Humidity".- As is mentioned in the General Introduction, owing to a change in the hygrometric tables used, the results from 1926 onward are not strictly comparable with those of earlier years. Compared with the mean values for 1911-25 the chief departures of the values of mean relative humidity in 1933 are - 5 in March, and - 4 in February, June and October. The mean relative humidity,  $82.0$  per cent. for the year, is less than that for the years 1911-25, whilst the mean vapour pressure,  $9.0\text{mb.}$  is slightly greater than the mean for the years 1922-30. The extreme daily mean values of relative humidity and vapour pressure were  $98.2$  per cent. on December 25,  $39.9$  per cent. on March 23,  $18.9\text{mb.}$  on August 3,  $3.6\text{mb.}$  on February 18 and 22. The lowest hourly reading of relative humidity was  $19$  per cent. on March 23.

"Precipitation".-1933 was the driest year experienced since records commenced, the total amount of rainfall,  $1117.6\text{mm.}$  ( $44.00\text{in.}$ ) being  $28.8$  per cent. less than the mean for the period 1911-30. The wettest months were January with  $196.9\text{mm.}$  ( $7.75\text{in.}$ ) February with  $177.7\text{mm.}$  ( $7.00\text{in.}$ ) and July with  $173.9\text{mm.}$  ( $6.85\text{in.}$ ) September with  $26.4\text{mm.}$  ( $1.04\text{in.}$ ) and December with  $33.2\text{mm.}$  ( $1.31\text{in.}$ ) were the driest months, the former being the driest September since 1910 and the latter the driest December on record. The greatest amount recorded during a calendar day was  $45.1\text{mm.}$  ( $1.78\text{in.}$ ) on February 1. There were 170 days on which precipitation was nil or amounted to less than  $0.2\text{mm.}$  Precipitation amounting to  $0.2\text{mm.}$  or more was recorded on 195 days; to  $1.0\text{mm.}$  or more on 147 days; to  $20.0\text{mm.}$  or more on 9 days.

Snow or sleet fell on 43 days, but on no day from April 21 to October 25 inclusive. Observations of "snow lying" at 7h number 13, 5 of which were in February, and 4 in December. There were no large falls of snow.

"Sunshine".- The year's total duration of bright sunshine,  $1332.4\text{hr.}$  represents  $30$  per cent. of the theoretically "possible" duration; whereas the average percentage of "possible" for the years 1911-30 is  $26.9$ . As regards the percentage of "possible" June was the sunniest and December the least sunny month of 1933. In all, there were 82 days without sunshine, 13 of these being in January, and 16 in December, and 87 days with  $50$  per cent. or more of the "possible" sunshine. The day with the most sunshine was July 3, with  $15.6\text{hr.}$  ( $90$  per cent.) this day having also the highest value of the percentage of "possible" sunshine. September with  $152.7\text{hr.}$  was the sunniest September since sunshine records commenced in 1909.



"Wind".- The mean wind speed for the year, 4.0 m/s (8.9 mi/hr), was 1.1 m/s (2.5 mi/hr) less than the normal value and was the lowest yearly mean since records commenced. In comparison with the normal monthly values, all months, except February and October, showed a deficiency, amounting in December to as much as 2.8 m/s (6.3 mi/hr) and in November to 2.2 m/s (4.9 mi/hr). There were only 8 hours of gale force (mean speed greater than 17.1 m/s), all occurring in January. The highest gust of the year, 32 m/s (72 mi/hr) together with the highest hourly speed 22 m/s (49 mi/hr) and the highest mean daily speed 14.6 m/s (32.7 mi/hr) occurred on January 2. The quietest day was December 17, with a mean wind speed of 0.0 m/s.

The distribution of wind directions throughout the year differed little from normal, there being a slight decrease in the frequency of winds from between south and west. Winds from between south and west predominated in January, February, March, April, July, August and October, while in the remaining months the prevailing winds were from between north and east, the decrease in the frequency of southwesterly winds during November and the persistence of northeasterlies in December being very marked.

"Grass Minimum Temperature".- There were 103 occasions of ground frost (i.e., grass minimum temperature not greater than 272.1°A. or 30°·4 F.), but none of these occurred between June 13 and September 14. The lowest grass minimum temperature was 261.9°A. (12°·0 F.) on January 25. The mean grass minimum temperature for each of the months January, February, March, November and December is less than 273.0°A. (32°·0 F.).

"Cloud and Weather".- (A) The mean amount of cloud observed at the six hours of observation is 7.3, which is below the normal. April and May, each with 8.3, have the largest mean amount, and September has the smallest, 6.1. The largest mean amount for an observational hour is 8.8 at 9h in April; the least is 3.7 at 21h in September. For the year as a whole there was most cloud at 9h and 13h and least at 21h. In seven months the mean cloud amount was least at 21h, and in six months it was greatest at 9h. There were two days, March 12 and March 26 on which no cloud was seen at the normal hours of observation. On 31 days the amount 10 was recorded at every hour of observation.

(B) Thunder was heard on 18 days, while there were observations of solar halo on 21 days, of lunar halo on 6 days, and of aurora or auroral glow on 7 days.

(C) The numbers of occasions on which the range of visibility was estimated to be (1) not greater than 500 metres (550 yards), corresponding with the entries X to E, and (2) at least 20 kilometres (12½ miles), corresponding with the entries k, l, m, are summarized below. The limitations to which the estimates of visibility are subject are mentioned on p. 157. It is to be noted that the group (1) above consists of the occasions which are held to merit the description "fog, moderate, thick, or dense", while the entries k, l, m, denote "very good or excellent visibility".

There were more occasions of fog and fewer of estimates k, l, and m than in 1932. Fog was most frequent in December, but entirely absent (at the standard hours of observation) in June, July and October. There were 162 estimates of m, visibility 50 km. (31 mi) or more, distributed among 71 days. 84 of the occasions were associated with increasing barometric pressure, and 108 with winds from west-south-west through north to north-east.



1933	NUMBER OF OCCASIONS OF-													
	VISIBILITY X to E							VISIBILITY, k, l, m.						
	7h	9h	13h	15h	18h	21h	Total	7h	9h	13h	15h	18h	21h	Total
Jan.	-	3	1	2	1	-	7	9	12	10	10	9	6	56
Feb.	-	1	-	-	-	2	3	9	10	10	14	15	16	74
Mar.	4	3	1	1	1	-	10	7	12	15	16	9	7	66
Apr.	1	-	-	-	-	2	3	12	11	13	16	12	11	75
May	-	-	-	-	-	1	1	15	15	19	20	17	13	99
June	-	-	-	-	-	-	-	15	18	22	22	24	16	117
July	-	-	-	-	-	-	-	17	20	24	26	23	18	128
Aug.	1	-	-	-	-	-	1	14	16	23	23	22	16	114
Sept.	2	-	-	-	-	1	3	11	17	19	20	18	13	98
Oct.	-	-	-	-	-	-	-	15	13	21	22	18	19	108
Nov.	1	1	-	-	-	-	2	13	11	8	13	14	15	74
Dec.	7	5	5	6	5	4	32	11	8	5	10	9	11	54
Year	16	13	7	9	7	10	62	148	163	189	212	190	161	1063

## ATMOSPHERIC ELECTRICITY.

## Notes on the Instruments.

Autographic records of atmospheric electrical potential gradient were obtained by means of an electrograph of the Kelvin water-dropper type, the potential at the water-jet being registered by a Dolezalek quadrant electrometer. On January 4th, the double nozzle of the water jet was altered to a single nozzle; otherwise in all essential details the electrograph arrangements, the method of making scale tests and the method of reducing the autographic curve readings to potential gradient in the open were as described in "The Observatories' Year Book," 1928, pp. 160-161. Insulation tests were carried out each day, using an eye-reading method. The system was charged, and the fall in potential during a two minutes interval was measured by noting the change in position of the spot of light on a scale placed in front of the recording drum.

The scale value of the photographic record obtained by means of the Dolezalek electrometer used in conjunction with the water-dropper remained at about 2.0 volts per mm. until the end of September. In October and November it was about 1.9 and in December about 2.1 volts per mm. The number of determinations of the reduction factor (i.e., the ratio of the potential at one metre above the ground in the open to the potential at the water-jet) was about six per month, each determination being based on fifteen or more readings (at intervals of half a minute) of the potential in the open. The values of the monthly reduction factor finally adopted for 1932 were obtained by a smoothing process, the adopted value for a given month being  $\frac{a + 2b + c}{4}$  where a, b, c, are the unsmoothed monthly mean factors for the three successive months centred in the given month.

All determinations of scale value and reduction factor were obtained with a particular Wulf quartz-thread electrometer. This instrument was calibrated



by means of a high tension battery, the potentials of which were measured by a potentiometer and standard cell. According to the scale value adopted for the Wulf electrometer in 1933, the instrument was about 2 per cent. less sensitive than in 1932.

#### INDENTIFICATION NUMBER OF INSTRUMENT USED IN 1933.

Wulf bifilar electrometer    ..    ..    ..    ..    ..    3040

#### Notes on the Tables and Results.

As far as possible an electrical character figure is assigned to each day and values of potential gradient are assigned for 2-3h, 8-9h, 14-15h and 20-21h G.M.T. of all days, while values for all hours are assigned on days classified as 0a, 1a, or 2a. The character figures are given in Table 268, the significance of these symbols being as follows:-

- 0, denotes a day during which from midnight to midnight no negative potential was recorded.
- 1, denotes the existence of negative potential at one or more times during the same period, but with a total duration of less than three hours.
- 2, denotes negative potential extending in the aggregate over three hours or more during the same period.
- a, denotes that within the 24 periods of 60 minutes for which an estimate of the mean potential gradient has to be made in the process of tabulation there was in no case a range of potential gradient in the open exceeding 1,000 volts per metre.
- b, denotes that, during the same period, a range of 1,000 volts or more per metre was reached in one hour at least but in fewer than six hours.
- c, denotes that, during the same period, a range of 1,000 volts or more per metre was reached in at least six hours.

Table 265 contains the values of electrical potential gradient at 2-3h, 8-9h, 14-15h and 20-21h G.M.T.; the value for a given hour represents the mean for the period of 60 minutes between exact hours, instead of centering at the exact hour, as was done in years prior to 1932. Blanks indicate that the trace was in some way defective. If it is possible to assign an approximate value of the potential gradient on such days, this value is given in brackets. The reduction factors used in converting the potential at the water-jet to potential gradient in volts per metre, in the open, are also given.

In Table 266 are given, for 0a days, (1) the mean diurnal inequalities for the months, seasons and year, (2) particulars of the number of days and of the non-cyclic changes and (3) the corresponding mean values of potential gradient. The inequalities, or the mean values, for the year and seasons are the means of the inequalities or means respectively, for the appropriate months.



Corresponding data for 1a and 2a days combined appear in Table 267.

It should be noted that, in these tables, "Winter" denotes the four months January, February, November, December; "Equinox" the four months March, April, September, October; and "Summer" the four months May to August.

In addition to the electrical character for each day, Table 268 contains the daily, monthly and annual values of duration (in hours and tenths) of negative potential gradient. On 6 days of defective record when negative potential may have occurred dashes are entered; the sign of the gradient has been assumed positive during periods of defective record in which no precipitation was observed. If precipitation was recorded for less than an hour during such defective periods an approximate value of the duration of negative potential for that hour has been assigned, and the total for the day given in brackets. When, during highly oscillatory gradients, there was uncertainty as to the times of changes of sign, half of the total duration of doubtful sign was accounted negative. The total duration of negative potential gradient in each month and the average daily duration are entered in the lower part of the table. For the 359 days of assignable duration of negative potential gradient the total number of hours was 572.8 as compared with 809.8 in 1932; an average of 1.60 hours per day, as against 2.26 hours per day in 1932.

Following the practice adopted in 1923 the mean values of potential gradient given in Table 265 are of two kinds, viz., (a) the mean of all the positive values of potential in the column and (b) the algebraic mean derived from all days on which all four hours were represented. The mean values for the month, as derived from the (a) and (b) values respectively, are shown in the last line, and the means for the year are given at the foot of the December table. It is to be expected that the mean derived from the values at 2-3h, 8-9h, 14-15h, 20-21h, on a sufficiently large number of days, will approximate closely to the mean value derived from all hourly values of all the days.

The (a) mean exceeds or is equal to the (b) mean in May, July, August, September, October and December and is exceeded by the mean value on 0a days, in all months excepting May, August and December. The general tendency is for the 1933 values to be higher than those of 1932, this being the case in seven months for both the (a) mean and the (b) mean.

Annual mean values for recent years, derived by giving equal weight to the twelve monthly means, of the (a) and the (b) means and of the means for 0a days are as follows:-

					0a	(a)	(b)
					v/m.	v/m.	v/m.
1922	..	..	..	..	257	225	182
1923	..	..	..	..	278	235	159
1924	..	..	..	..	236	214	157
1925	..	..	..	..	284	243	209
1926	..	..	..	..	249	201	177
1927	..	..	..	..	259	223	193
1928	..	..	..	..	237	219	150
1929	..	..	..	..	276	240	216
1930	..	..	..	..	247	211	194
1931	..	..	..	..	243	205	197
1932	..	..	..	..	223	198	190
1933	..	..	..	..	237	218	218



The highest values of the (a) and (b) means occur in January. The mean value of 0a days is also highest in January, being 355 volts per metre.

Noteworthy occasions of high potential gradient were as follows:-

- (i) January 19d 12h 13m to 20h 57m. Associated with fog, the potential gradient remained above 650 v/m, the upper limit of registration (1100 v/m) being exceeded at times.
- (ii) December 10d 18h 47m to 21h 23m. The potential gradient remained above 600 v/m, exceeding 970 v/m at times. The sky was overcast and previously there had been a period during which sleet fell intermittently, associated with mainly negative potential gradient, but with some excursions to the positive side.
- (iii) December 11d 15h 33m to 19h 21m. The sky was almost cloudless during the period. Potential gradient remained above 600v/m, the average for the whole period being about 800 v/m.
- (iv) December 14d 18h 20m to 20h 10m. The potential gradient was above 800 v/m and exceeded 1050 v/m continuously for 30 minutes. The sky was partly clouded.
- (v) December 19d 11h 12m to 14h 13m. During fog, the potential gradient remained above 800 v/m and the upper limit of registration (1050 v/m) was exceeded frequently.
- (iv) December 20d 12h 20m to 19h 7m. Associated with fog, 600v/m was exceeded continuously, the mean for the whole period being about 800 v/m.

The following were noteworthy occasions of continuous negative potential gradient:-

- (i) January 2d 18h 27m to 3d 2h 38m. During continuous rain the potential gradient remained negative and was less than -1000v/m for an aggregate time of more than 5 hours.
- (ii) January 31d 18h 17m to February 1d 10h 13m. Nearly 16 hours of continuous negative potential gradient, associated with continuous rain. The lower limit of registration at the time (-950 v/m) was exceeded for long periods amounting to more than 10 hours in the aggregate.
- (iii) March 5d 17h 38m to 6d 3h 2m. During continuous rain, the potential gradient remained negative. There were three separate periods each lasting for more than one hour, during which the lower limit of registration (-950 v/m) was exceeded.
- (iv) July 25d 2h 16m to 7h 10m. The potential gradient although negative was not very low and the lower limit of registration (-1050 v/m) was only exceeded once. Rain fell throughout.

On the following occasions long periods of negative potential gradient were broken by short excursions to the positive side:-



- (i) February 4d 20h 3m to 5d 4h 0m. This was a period of continuous rain. The potential gradient remained negative except for some short excursions to +60 v/m. Early and late in the period the potential gradient, although negative, was not very low but in the middle of the period the lower limit of registration (-950 v/m) was exceeded frequently.
- (ii) March 8d 15h 30m to 9d 2h 3m. Rain fell continuously throughout. There were several excursions to the positive side, during one of which the potential gradient reached +610 v/m. For one period lasting nearly two hours, potential gradient was less than -950 v/m.
- (iii) April 30d 4h 3m to 16h 8m. Apart from four excursions to the positive side the potential gradient remained negative throughout, the lower limit of registration (-1000 v/m) being exceeded at times. During two short excursions the potential gradient rose to +100 v/m. Rain fell continuously during the period.
- (iv) May 7d 4h 52m to 10h 52m. During this period of continuous rain, the potential gradient remained below -1000 v/m for long periods. There were two short excursions to the positive side and in one of these the upper limit of registration (+1000 v/m) was exceeded.
- (v) July 31d 0h 13m to 6h 39m. During continuous rain the potential gradient remained negative, apart from an interval, of fifteen minutes duration, when a potential gradient of +100 v/m was reached.

There are considerable irregularities in the mean diurnal inequalities of potential gradient on 0a days for individual months, although in most months the principal maximum occurs in the late evening. When compared with normal values for 1911-21 the mean inequalities for the seasons, summer and equinox, correspond fairly closely to normal, excepting that the secondary maximum about 6-7h is more prominent. In the mean diurnal inequality for the winter season, the chief difference is that the principal minimum occurs some hours late at 6-7h., and is almost equalled by the minimum occurring about noon.

#### TERRESTRIAL MAGNETISM.

##### Notes on the Instruments.

The standard magnetographs,<sup>1</sup> which have been in regular use since 1909, are situated in the east chamber of the underground magnet house and until December 31, 1931 they were arranged so as to record changes of the three geographical components of terrestrial magnetic force, viz., the north component, N (or + X), west component, W (or - Y), and the vertically downward component, V (or + Z). From January 1, 1932, the instruments recording changes in the north component, N, and the west component, W, were altered so as to record changes in the horizontal component, H, and the magnetic declination, D, respectively.

The instruments for the north and west components were of the Adie bifilar type, in which torsion of the bifilar suspension, of fine tungsten or steel wire, is utilised to bring the magnets into an azimuth approximately

<sup>1</sup>For a general description of magnetograph arrangements see "A Dictionary of Applied Physics," Vol. II, Macmillan, London.



perpendicular to the directions of the components whose changes they respectively record. The alteration to the north component instrument consisted in turning the torsion head of the suspension until the magnet was in the azimuth perpendicular to the magnetic meridian. The alteration to the west component instrument consisted in replacing the bifilar tungsten wire suspension with a unifilar suspension of eight strands of unspun silk. In each of these instruments the magnet is about 13.8 cm. in length and is suspended within a copper shell, or frame, of suitable dimensions to ensure that the movements of the magnet are sufficiently damped. To the magnet is rigidly attached a semi-circular plane mirror, immediately beneath which is a fixed mirror of similar form and dimensions. Each magnet and mirror system is contained within a brass cylindrical case, cemented on to a pier and surmounted by a tall bell-jar of glass. Light from a brightly illuminated slit passes through a collimator, is incident upon the two mirrors and after reflection passes along a wooden channel and thence, through a horizontal hemi-cylindrical lens, to photographic paper wound on a clock-driven cylinder. The hemi-cylindrical lens is set in the side of the case containing the recording drums, and matters are so arranged that the beams of light reflected from the two mirrors are brought to a focus by the lens which condenses the two vertical images to two sharply focussed dots on the paper. Hence the record obtained consists of two traces, the one straight and known as the base line, the other curved and representing the angular movements of the suspended magnet, and therefore the changes in the component of terrestrial magnetic force.

The standard instrument for the vertical component is a Watson multiple-magnet balance.<sup>2</sup> In this instrument the magnet system consists of eight magnetised steel rods, each 10 cm. long and 0.2 cm. in diameter, carried by an aluminium frame to the centre of which are attached the moving mirror and also the knife-edge, which bears upon an agate plane and about which the system balances. Copper damping plates and a temperature-compensating device are provided. The recording arrangements are similar to those described above, save that the hemi-cylindrical condensing lens and the recording drum are vertical.

One clock serves to operate the three drums and also makes the time marks at two-hourly intervals.

To the containing case of each instrument is fitted a drying tube containing calcium chloride.

A determination of the azimuth of the magnet of the horizontal component magnetograph is carried out each year by comparing the deflections produced by an auxiliary magnet with its axis (a) magnetic east-west and (b) inclined at a known small angle to this azimuth. Drift of the magnet system of the Watson balance has been compensated from time to time in the past by adjusting the position of a small control magnet which was fixed vertically to the lower part of the pier on which the balance stands. This control magnet was removed during October 1932 and has not since been replaced.

The azimuth lines in use in the east chamber are those which were determined in 1914 and of which particulars are given on p. 70 of "Hourly Values from Autographic Records, Geophysical Section", 1913.

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<sup>2</sup>Terrestrial Magnetism, Vol. VI.



The diurnal range of temperature in the east chamber of the magnet house is normally negligible. Temperature is ascertained daily at 9h 30m by the thermometers within the instrument cases. The daily values appear in Tables 272, 276, etc. ; the monthly means of the readings so obtained during 1933, together with the mean values for the years 1911-1932, were as follows:-

## EXCESS OF MEAN TEMPERATURE ABOVE 280°A.

Month.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Mean 1933	3.1	1.9	1.4	1.8	2.5	3.8	5.1	6.1	6.6	6.3	5.1	4.0
Mean 1911-32.	3.5	2.9	2.5	2.4	2.8	3.6	4.7	5.7	6.3	6.1	5.5	4.4

The annual range of temperature during 1933 was 5°·4 C., the mean range for the previous twenty years being 4°·2 C.

The constants of the standard magnetographs were as follows:-

	Horizontal Force	Declination	Vertical Force
Time scale .. .. 1 hour =	15.5 mm.	15.5 mm.	15.5 mm.
Time marks .. .. .	Every two hours, beginning at exact hour.		
Error of time mark .. .. .	Not more than $\pm 1$ min.		
Period of vibration, seconds ..	14.3	10.9	7.5
Logarithmic decrement <sup>1</sup> .. ..	.385	.626	-
Angular equivalent of 1 mm. on paper, radians .. .. .	.00032	.00029	.0003
Twist of bifilar suspension ..	33°	-	-
length of bifilar suspension			
Ratio $\frac{\text{mean breadth of suspension}}{\text{length of bifilar suspension}}$	73	-	-
Temperature coefficient, per 1° C.	- 9 $\gamma$	-	+13 $\gamma$
Direction of marked pole .. ..	West.	North	-
Mean Azimuth of magnet .. ..	256	346	346°

The temperature coefficient of the Horizontal Force variometer (formerly the N component variometer) has remained sensibly constant for many years.

In former issues of the Observatories' Year Book the temperature coefficient of the Vertical Force magnetograph has been given as +26 $\gamma$  per 1° C. A recent re-examination of the question shows that this was approximately the value until early in 1929. During that year however several adjustments were made to the instrument and as a result of these the temperature coefficient apparently was considerably reduced. The trend of base line values in relation to temperature variations in the magnetic chamber shows that in 1930

<sup>1</sup>Log. decr. =  $\log_e a_n - \log_e a_{n+1}$  ; where  $a_n$ ,  $a_{n+1}$  are the amplitudes of two successive swings on the same side of the zero position.



and 1931 the temperature coefficient of the vertical force variometer was about  $+10\gamma$  and that in 1932 and 1933 the coefficient was approximately  $+13\gamma$  per  $1^\circ\text{C}$ .

Determinations of scale value of the standard magnetographs are carried out at intervals of two weeks. The method adopted is that due to Broun. It consists essentially in measuring the photographically recorded deflection of the suspended or pivoted magnet produced by an auxiliary or test magnet situated at a known distance from the deflected magnet. Two sets of relative positions of the deflecting and deflected magnets are used. For the H and D instruments they may be termed the "end on" and "broadside on" positions, the magnet axes being in one plane. In the case of the V instrument the deflecting magnet is vertical; in one position the line joining its centre to that of the deflected magnet is collinear with the axis of the latter, but in the other position it is perpendicular thereto. On a given occasion deflections are produced with the test magnet first on one side of the deflected magnet and then, at the same distance, on the other side, two deflections being produced at each side by reversal of the test magnet. Thus four deflection dots are obtained on the record. The two sets of relative positions of the magnets are employed on alternate occasions. The distance between the deflected and deflecting magnets is 90 cm., and approximate values of the double deflections produced are 47 and 93 mm. for the H instrument, 45 and 89 mm. for the D, and 58 mm. for the V. In deducing the scale values the force producing the deflections on the H and V instruments is determined from the deflection on the D instrument of which the scale value is known from its dimensions. The advantage of the method lies in the fact that by using the same deflecting distance in all cases, the magnetic moment of the test magnet is eliminated.

In the following table are given the scale values, obtained by overlapping means, which were employed in reducing the curve readings for 1933.

SCALE VALUES OF THE MAGNETOGRAPHS ( $\gamma$  per mm. on the paper).

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Horizontal Force	4.60	4.60	4.56	4.57	4.56	4.56	4.56	4.56	4.56	4.58	4.57	4.55
Vertical Force	3.75	3.75	3.73	3.65	3.67	3.70	3.74	3.74	3.74	3.76	3.76	3.75
Declination	1 mm. = $1'.00$ , or $4.82\gamma$											

In addition to the standard magnetographs there are in the west chamber of the underground magnet house auxiliary instruments of the Adie pattern (formerly the standard instruments at Kew Observatory) which also record changes in declination, D, horizontal force, H and vertically downward force, V. Declination records have been obtained since August, 1927, while the vertical force (Adie) and horizontal force records commenced in March and December, 1928. The general arrangements of these instruments are similar to those of the instruments in the east chamber. The declination magnet



is suspended by a bundle of silk fibres (the torsion effect of which is negligible) and the scale value of the record is 1.17 to 1 mm. The vertical force balance consists of a single magnet, of which the dimensions are approximately 13.5 cm. x 2 cm. x 0.2 cm. With the object of reducing loss of record during magnetic storms the scale values of the auxiliary H and V records are arranged to be considerably greater than those of the standard H and V records. Thus, in 1933 the scale values of the Adie H and V records were approximately 10γ and 5γ per mm. respectively. Determinations of scale value are made by the method due to Broun. To facilitate the necessary adjustment, from time to time, of the azimuth of the horizontal force magnet, magnetic meridian lines (and lines perpendicular thereto) representing a sufficient range of values of declination were laid down in the west chamber in December, 1928, on the basis of simultaneous observations of declination in the chamber and in the east magnetic hut.

The routine absolute observations of the magnetic elements are made in the east magnetic hut; as a rule two complete sets of observations are made every week, but a determination of declination is made on nearly every weekday. Declination and horizontal force were determined by means of the Kew pattern unifilar magnetometer (which was employed by Rücker and Thorpe in their magnetic surveys of the British Isles, 1886-1892) placed on Pier No. 5. Determinations of inclination (dip) are made by means of the Schulze inductor placed on Pier No. 6.

For a detailed description of the method of observation with the Kew pattern magnetometer reference should be made elsewhere.<sup>1</sup>

In determining declination four readings are taken, two with the magnet erect, two with the magnet inverted. A correction is applied to the mean of the observations for the observed torsion in the silk suspending fibre. The fixed mark is about one half-mile (0.8 km.) distant from Pier No. 5, and its bearing is taken as 8° 12' 30" west of south.

Determination of the horizontal intensity comprises observations of (a) the time of vibration of the collimator magnet, and (b) the deflection of a mirror magnet by the collimator magnet. Usually deflection observations have been made for three distances of the collimator magnet, the order of the positions of the latter being: on east arm at 35 cm., 30 cm., 25 cm.; on west arm at 25 cm., 30 cm., 35 cm. Thus the mean times for the deflections at the three distances are very nearly, if not exactly, identical and the observations are concentrated at the 25 cm. distance. Commencing on April 28, 1931, deflections were observed at 25 cm. only, except on one occasion per month when deflections were observed at the three distances 35cm., 30cm. and 25 cm. By observing deflections at 25 cm. only the time of observation is reduced by about 16 minutes. The time interval between the mean times of the vibration and deflection experiments is usually about half an hour. The horizontal intensity, H, is calculated from  $H = \sqrt{mH_v \times H_r/m}$  where  $mH_v$  is obtained from the vibration experiment and  $H_r/m$  from the deflections made at the 25 cm. distance, m being the moment of the collimator magnet.  $H_r/m$  is corrected for the distribution of magnetism in the magnets. From the latter part of 1913 until the end of 1923 the value of this correction, viz.,  $\log_{10}(1 + P/25^2 + Q/25^4)$ , applied to the observations of a given month was a mean

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<sup>1</sup>Dict. of Applied Physics, Vol. II, p. 532 or Stewart and Gee's "Practical Physics."



value derived from the observations obtained during the seven months including the given month as fourth of the seven. The monthly values so derived show considerable fluctuations, and it is improbable that P and Q actually varied to the extent implied. Commencing in 1924 the value of the correction used in reducing the horizontal intensity observations has been the mean of the mean values for each of the years 1917-24, 1917-25, etc. The value employed for 1933 was the mean for the years 1917-31, viz. .00542. The mean value of the logarithm for the years 1917-33 is .00544. If this value had been employed in 1933 instead of .00542, the published values of H and V would be increased by 0.4 and 1.0 $\gamma$  respectively. A variation of .00020 in the value of  $\log_{10}(1 + P/25^2 + Q/25^4)$  corresponds with a variation of about 4 $\gamma$  in the derived value of H.

The values of P, Q, and  $\log_{10}(1 + P/25^2 + Q/25^4)$  for individual years are as follows:-

Year.	P.	Q.	$\log_{10}(1 + P/25^2 + Q/25^4)$ .
1917	+ 6.862	+ 418.9	.00520
1918	+ 7.604	+ 68.6	.00533
1919	+ 9.126	- 603.5	.00563
1920	+ 8.224	- 216.6	.00544
1921	+ 7.978	+ 25.3	.00554
1922	+ 6.607	+ 513.1	.00513
1923	+ 6.371	+ 614.3	.00508
1924	+ 7.899	- 128.6	.00531
1925	+ 8.214	- 261.7	.00538
1926	+ 9.675	- 938.4	.00564
1927	+10.422	-1265.0	.00580
1928	+ 8.713	- 547.2	.00541
1929	+ 9.741	- 917.4	.00571
1930	+ 8.683	- 536.5	.00540
1931	+ 8.765	- 684.6	.00530
1932	+10.445	-1315.5	.00576
1933	+ 8.626	- 499.2	.00541

The Schulze inductor<sup>1</sup> consists essentially of a coil of insulated wire which can be rotated continuously and rapidly about an axis which coincides with a diameter of the coil. This axis is capable of rotation about a horizontal and vertical axis. The inclination and azimuth of the coil axis are read off on a vertical and horizontal scale respectively. The windings of the coil are led off from a commutator to a Broca galvanometer. To effect a determination of magnetic inclination, the coil is then rotated steadily at the rate of about 360 revolutions per minute and the inclination of the axis of rotation is adjusted until the galvanometer deflection is the same in magnitude and sign whether the sense of rotation is positive or negative. In this position the rotation axis of the coil coincides with the direction of

<sup>1</sup>For description of, and discussion of method of observation with, earth inductors see papers by-

H. Wild. Met. Zeit., 1895, p. 41.

O. Venske. Ber. uber die Tat. des Preuss. Met. Inst. in 1924, p. 91 (and references given therein).

N.E. Dorsey. Terr. Mag., Vol. 18, p. 1, 1913.



the earth's field and the inclination to the horizontal may be read off from the vertical circle. Two series of settings are made, one with the vertical circle facing east, the other with the circle facing west.

The base line values of the magnetograph records are deduced from the results of the absolute observations, any of the latter obtained during times of considerable disturbances being excluded.

In the case of horizontal force and declination, the equivalent value of the mean curve ordinate, corresponding to the period of observation, is subtracted from the observed value of the element to give the deduced base line value of the record. Similarly, by the combined use of the curve ordinates at the times of the inclination and horizontal force observations the value of  $H$  corresponding to the inclination observations is obtained and thence the base value for  $V$ . The base line values finally adopted are obtained from a curve drawn smoothly through points given by the deduced values, due allowance being made for discontinuities in the records.

Some of the absolute determinations of  $D$ ,  $I$  and  $H$  are summarized in the subjoined table, and the values of  $m$ , the moment of collimator magnet 60a, are also given. Considerations of space make it necessary to limit the observations printed to about two per week, but, as indicated above, absolute observations of some of the elements are made more frequently. For each set of absolute observations are shown the deduced base line values of  $H$ ,  $D$ , and  $V$  and, in brackets, the adopted base line values. Thus, an entry 15823 (18) signifies:-deduced base line value 15823, adopted base line value 15818. The adopted values were obtained as described in the foregoing, and therefore the base line values corresponding to dates between those given in the table may be obtained by interpolation.



## ABSOLUTE DETERMINATIONS OF D, I AND H, AND BASE LINE VALUES OF H, D, AND V.

Eskdalemuir

1933.

Date	Declination			Inclination			Horizontal Force			Base Line Values (deduced and adopted).		
	Mean Time.	D.		Mean Time.	I.		Mean Time.	H.	m.	H.	D.	V.
	h. m.	°	'	h. m.	°	'	h. m.	Y		16,000 Y +	13° 0' +	44,000 Y +
Jan. 5	13 4	14	20 30	16 22	69	45.9	11 59	16566	905.8	249 (50)	31.8 (32.7)	813 (783)
17	-	-	-	15 13	69	46.4	-	-	-	-	-	812 (784)
24	14 23	14	00 43	11 53	69	48.7	11 26	16550	905.9	248 (44)	32.8 (32.6)	838 (788)
25	14 26	14	21 30	11 49	69	46.7	11 25	16563	905.2	257 (43)	32.8 (32.6)	805 (788)
26	14 23	14	24 15	12 25	69	46.0	12 1	16564	904.6	252 (43)	32.5 (32.6)	801 (789)
28	12 11	14	21 5	-	-	-	11 45	16537	905.4	235 (42)	32.6 (32.6)	-
Feb. 1	15 47	14	18 15	-	-	-	14 49	16563	905.3	241 (40)	32.5 (32.5)	-
3	12 37	14	20 5	-	-	-	11 54	16551	905.6	240 (39)	32.4 (32.5)	-
8	12 37	14	20 15	-	-	-	12 9	16563	904.9	240 (37)	32.4 (32.4)	-
10	9 39	14	16 20	-	-	-	12 21	16560	905.5	242 (37)	32.1 (32.4)	-
17	11 43	14	18 15	11 58	69	45.8	-	-	-	-	31.9 (32.4)	784 (95)
18	9 51	14	15 30	9 39	69	44.9	-	-	-	-	32.5 (32.4)	773 (95)
21	-	-	-	9 52	69	45.2	-	-	-	-	-	769 (96)
22	13 57	14	19 5	-	-	-	15 15	16534	904.7	227 (34)	32.3 (32.4)	-
25	9 39	14	18 25	9 17	69	46.3	-	-	-	-	32.4 (32.4)	788 (99)
28	9 45	14	13 30	9 15	69	47.2	11 51	16546	905.5	238 (34)	31.8 (32.4)	835 (01)
Mar. 7	12 21	14	20 5	11 52	69	45.5	11 24	16552	905.8	231 (35)	32.3 (32.5)	822 (01)
10	9 57	14	14 33	9 40	69	45.7	12 13	16556	905.5	232 (35)	32.5 (32.5)	826 (00)
14	9 53	14	14 17	9 17	69	45.0	12 19	16538	905.6	236 (35)	32.4 (32.4)	770 (801)
17	9 45	14	13 10	9 15	69	45.0	11 55	16552	905.8	240 (35)	31.8 (32.4)	795 (801)
21	10 5	14	16 30	-	-	-	12 27	16530	905.8	231 (36)	32.3 (32.3)	-
24	9 57	14	16 25	-	-	-	11 27	16527	906.0	237 (36)	32.2 (32.3)	-
27	14 43	14	26 0	14 11	69	47.9	-	-	-	-	32.0 (32.3)	837 (00)
28	11 57	14	18 25	-	-	-	11 13	16540	905.8	242 (36)	32.4 (32.3)	-
30	14 39	14	22 0	14 16	69	46.3	-	-	-	-	32.2 (32.3)	824 (00)
Apr. 4	12 35	14	19 25	12 7	69	46.3	-	-	-	-	32.4 (32.3)	806 (01)
5	14 45	14	21 10	-	-	-	14 24	16547	905.8	235 (36)	32.3 (32.3)	-
7	12 51	14	20 47	15 51	69	46.6	12 18	16550	905.3	239 (36)	31.9 (32.3)	802 (02)
10	8 39	14	12 55	8 12	69	45.8	-	-	-	-	31.9 (32.3)	803 (02)
12	8 41	14	11 20	11 47	69	46.7	11 21	16528	905.9	229 (37)	32.4 (32.3)	807 (01)
14	13 31	14	24 40	-	-	-	14 11	16543	905.7	235 (38)	32.4 (32.3)	-
19	14 3	14	20 25	11 11	69	48.0	13 23	16540	905.1	237 (38)	31.6 (32.2)	797 (99)
24	9 37	14	11 57	10 48	69	47.0	11 29	16543	905.9	240 (39)	31.9 (32.1)	811 (798)
26	13 37	14	24 30	8 13	69	46.1	11 11	16536	905.5	237 (40)	31.6 (32.1)	797 (97)
28	8 47	14	10 5	8 15	69	45.3	-	-	-	-	31.8 (32.1)	784 (96)
May 3	8 47	14	10 5	8 17	69	45.1	11 21	16520	906.2	246 (42)	31.6 (32.1)	756 (97)
5	8 43	14	10 20	8 11	69	46.1	11 19	16544	905.5	249 (42)	32.1 (32.1)	828 (798)
9	8 49	14	9 40	8 23	69	45.4	11 19	16540	905.8	244 (43)	32.4 (32.2)	766 (97)
12	8 43	14	8 50	8 11	69	45.4	11 10	16541	906.2	242 (43)	31.8 (32.2)	780 (97)
17	8 53	14	9 55	8 21	69	44.4	11 1	16539	906.2	239 (44)	31.8 (32.1)	747 (95)
19	8 43	14	8 33	8 17	69	45.1	11 10	16532	905.5	245 (45)	32.3 (32.1)	754 (95)
23	8 35	14	9 5	8 8	69	46.3	11 22	16546	905.8	244 (47)	32.1 (32.0)	817 (794)
27	8 47	14	8 35	8 14	69	46.3	8 16	16552	905.7	247 (49)	31.6 (32.0)	849 (792)
30	8 39	14	9 45	8 13	69	47.0	13 35	16561	906.0	254 (51)	31.8 (31.9)	823 (791)
June 1	8 51	14	8 17	8 25	69	45.6	11 7	16554	905.4	262 (53)	32.0 (31.9)	807 (790)
7	11 31	14	17 5	-	-	-	11 1	16566	906.0	267 (54)	31.7 (32.0)	-
9	8 41	14	11 30	8 25	69	46.0	11 21	16536	905.8	257 (55)	31.7 (32.0)	809 (786)
13	8 47	14	10 5	8 21	69	47.0	-	-	-	-	32.1 (32.0)	809 (784)
14	8 27	14	8 20	-	-	-	11 20	16542	907.0	265 (56)	32.2 (32.0)	-
15	8 43	14	8 25	8 19	69	45.5	-	-	-	-	32.1 (32.0)	804 (783)
21	8 27	14	11 25	8 11	69	46.4	11 15	16547	908.3	260 (57)	31.7 (31.9)	810 (779)
23	8 33	14	6 35	8 19	69	46.1	11 19	16554	908.5	261 (58)	31.8 (31.9)	782 (78)
27	8 31	14	7 40	8 16	69	45.7	-	-	-	-	31.8 (31.9)	784 (75)
29	8 37	14	8 5	8 22	69	46.6	11 12	16556	905.4	273 (59)	31.9 (31.9)	782 (74)



## ABSOLUTE DETERMINATIONS-continued.

Date	Declination			Inclination		Horizontal Force			Base Line Values (deduced and adopted)		
	Mean Time	D		Mean Time	I	Mean Time	H	m	H	D	V
	h. m.	°	'	h. m.	°	h. m.	γ		16000γ+	13° 0' +	44000γ+
July 5	8 57	14	7 55	8 40	69 45.3	-	-	-	-	31.9 (31.8)	780 (71)
7	8 43	14	4 57	8 28	69 45.6	11 12	16550	907.2	271 (60)	31.8 (31.8)	764 (70)
11	8 31	14	6 13	8 15	69 45.9	10 51	16538	907.1	275 (60)	31.8 (31.7)	759 (67)
14	8 43	14	6 40	8 27	69 46.0	11 27	16542	906.0	267 (60)	31.7 (31.7)	773 (66)
18	8 33	14	7 10	8 15	69 46.4	-	-	-	-	31.8 (31.7)	772 (64)
19	11 17	14	11 35	-	-	10 43	16549	906.6	270 (61)	31.6 (31.7)	-
21	8 45	14	7 5	8 29	69 46.3	10 55	16531	905.9	264 (61)	31.9 (31.7)	765 (62)
25	11 12	14	12 0	10 41	69 47.2	9 25	16532	904.7	263 (61)	30.8 (31.7)	754 (59)
28	10 26	14	9 5	13 49	69 45.6	11 19	16531	905.2	264 (61)	31.0 (31.7)	758 (58)
Aug. 2	10 25	14	11 15	11 36	69 45.8	10 55	16532	905.5	256 (61)	31.0 (31.7)	734 (55)
4	11 43	14	12 3	15 9	69 44.1	14 0	16571	904.6	254 (56)	31.1 (31.7)	779 (54)
8	14 33	14	15 17	15 44	69 44.5	15 2	16563	905.0	248 (56)	31.2 (31.7)	758 (52)
12	-	-	-	11 19	69 47.0	10 35	16535	905.2	254 (57)	-	783 (50)
16	14 8	14	13 57	15 37	69 45.4	14 42	16551	904.8	250 (58)	30.9 (31.6)	772 (47)
23	8 11	14	7 35	-	-	11 0	16553	906.1	263 (59)	31.0 (31.5)	-
25	8 33	14	7 3	-	-	11 10	16522	905.9	260 (59)	31.3 (31.5)	-
30	8 43	14	5 30	8 25	69 44.5	10 48	16554	905.3	258 (60)	31.5 (31.5)	698 (741)
Sept. 1	8 35	14	8 3	8 17	69 44.5	11 21	16546	906.2	262 (60)	31.5 (31.5)	697 (741)
6	8 33	14	6 45	8 15	69 45.9	10 51	16543	906.0	264 (60)	34.7 (35.4)	740 (40)
8	11 13	14	16 25	8 17	69 45.1	10 57	16536	905.9	257 (60)	35.5 (35.4)	699 (740)
12	13 15	14	14 53	8 17	69 46.0	-	-	-	-	35.7 (35.4)	706 (40)
13	11 21	14	14 23	-	-	10 57	16528	906.8	264 (59)	35.2 (35.4)	-
15	8 43	14	9 0	8 23	69 44.7	10 42	16519	905.5	264 (59)	35.1 (35.4)	695 (740)
19	8 37	14	9 40	8 18	69 45.5	11 2	16544	905.8	259 (58)	35.4 (35.4)	727 (39)
22	8 35	14	7 45	8 15	69 46.1	10 35	16523	906.0	255 (57)	35.4 (35.4)	728 (39)
26	8 33	14	7 30	8 15	69 46.5	-	-	-	-	35.5 (35.4)	750 (39)
27	13 57	14	12 40	-	-	13 35	16546	905.8	250 (55)	35.3 (35.4)	-
29	11 3	14	10 55	8 19	69 45.0	10 39	16536	906.1	253 (54)	35.3 (35.4)	737 (39)
Oct. 6	8 37	14	7 40	8 18	69 45.7	11 35	16529	906.2	253 (51)	35.5 (35.4)	725 (39)
10	9 47	14	10 5	-	-	12 21	16535	906.2	247 (51)	35.2 (35.4)	-
13	9 35	14	6 45	9 17	69 44.8	12 31	16528	907.0	251 (50)	35.3 (35.4)	686 (739)
17	15 21	14	11 0	15 41	69 46.1	-	-	-	-	35.5 (35.5)	732 (40)
18	11 53	14	12 25	-	-	11 18	16538	905.3	257 (49)	35.5 (35.5)	-
20	9 45	14	6 55	9 25	69 45.9	10 51	16535	906.4	254 (48)	35.5 (35.5)	722 (41)
24	9 41	14	6 37	9 21	69 45.5	-	-	-	-	35.6 (35.6)	722 (42)
27	9 9	14	6 33	9 26	69 45.1	11 12	16542	906.2	245 (48)	35.6 (35.6)	712 (43)
31	9 33	14	6 27	9 13	69 45.5	12 0	16554	905.7	247 (47)	35.6 (35.6)	729 (43)
Nov. 3	9 35	14	8 0	9 17	69 44.9	11 24	16556	905.8	250 (47)	35.7 (35.6)	710 (45)
8	9 45	14	13 43	9 27	69 48.7	-	-	-	-	35.5 (35.6)	741 (48)
12	14 37	14	7 57	12 37	69 46.6	11 35	16536	905.4	243 (46)	35.1 (35.5)	774 (51)
15	9 45	14	6 53	9 19	69 45.7	-	-	-	-	35.8 (35.5)	767 (53)
17	9 41	14	6 50	9 15	69 45.4	11 38	16557	905.7	243 (46)	35.3 (35.5)	764 (54)
21	14 31	14	11 3	14 11	69 44.9	-	-	-	-	35.5 (35.4)	745 (57)
22	11 51	14	9 25	-	-	11 27	16560	906.0	252 (45)	35.4 (35.4)	-
24	8 31	14	6 13	9 16	69 45.1	-	-	-	-	35.1 (35.4)	754 (59)
25	9 51	14	7 5	-	-	9 24	16560	905.6	247 (44)	35.2 (35.4)	-
29	9 37	14	8 13	9 18	69 45.2	11 16	16558	905.1	240 (43)	35.6 (35.4)	753 (63)
Dec. 1	9 39	14	7 7	9 19	69 45.2	11 10	16555	905.7	242 (42)	35.2 (35.4)	775 (65)
6	12 7	14	10 33	10 56	69 46.4	11 30	16557	905.7	249 (40)	35.5 (35.5)	792 (69)
8	9 37	14	7 35	9 18	69 46.3	11 35	16548	905.7	257 (39)	35.6 (35.5)	775 (71)
12	9 37	14	6 48	9 18	69 45.9	11 28	16552	906.1	239 (38)	35.4 (35.6)	771 (75)
15	9 43	14	7 45	9 23	69 45.9	11 23	16551	905.8	235 (37)	35.7 (35.6)	806 (777)
19	12 53	14	8 30	9 25	69 45.3	12 36	16544	906.0	227 (36)	35.6 (35.6)	803 (779)
21	9 38	14	6 20	9 21	69 45.6	12 4	16560	905.4	232 (36)	35.5 (35.6)	797 (81)
29	14 19	14	6 27	14 53	69 45.2	12 35	16561	905.7	241 (35)	25.6 (26.1)	787 (84)



The hourly readings are obtained from the magnetograms, standardized as described in the foregoing, by means of a ruled glass scale. The reading for any given hour G.M.T. is that ordinate estimated to be the mean reading for 60 minutes between exact hours. The product of this ordinate and the scale value is added to the adopted base line value, and the sum so obtained is the hourly value printed in the tables.

#### IDENTIFICATION NUMBERS OF INSTRUMENTS IN USE IN 1933.

Unifilar Magnetometer, Kew pattern .. Elliott, No. 60.  
(with collimator magnet, 60a, and  
mirror magnet, 60c).

Dip Inductor .. .. Schulze, No. 103.

#### Notes on Tables.

The hourly values of H, D, and V, obtained as described above, appear in three of the four monthly tables. The mean value for the day is computed as the mean of the twenty-four hourly values.

The letters "Q" and "D" denote the five quiet and the five most disturbed days as selected at De Bilt.

In the fourth table for each month are given:-

- (a) the values and times of the daily maximum and minimum and the values of the absolute daily range for each of the elements H, D and V.
- (b) the value of  $HR_H + VR_V$  for each day, where  $R_H$ ,  $R_V$  denote the absolute ranges for a calendar day of the horizontal and vertical components, (This measure of magnetic activity was adopted in 1932 by the International Commission for Terrestrial Magnetism and Atmospheric Electricity. In volumes of The Observatories' Year Book prior to that of 1932 the values of the quantity  $R_N^2 + R_W^2 + R_V^2$  were used as a measure of activity).
- (c) the daily magnetic character figures, assigned according to the international scheme, wherein "0", "1", "2", respectively, denote quiet, moderately disturbed, and highly disturbed conditions.
- (d) the daily values of temperature in the underground magnetograph chamber.

Mean diurnal inequalities of the components N, W, V, H, D, and I on all days and on international quiet and disturbed days are given, for the months, seasons and year, in Tables 317 to 334. In calculating diurnal inequalities the non-cyclic change has been eliminated on the assumption that its time-rate is linear. The inequalities of N, W, and I have been computed from those of H, D, and V, by means of the formulæ:



$$\begin{aligned}\delta N &= \cos D. \quad H - \left( \frac{180 \times 60}{\pi} \right) H \sin D. \delta D \\ \delta W &= \sin D. \quad H + \left( \frac{180 \times 60}{\pi} \right) H \cos D. \delta D \\ \delta I &= \frac{180 \times 60}{\pi} \cos I \quad \left( \frac{\delta V \cos I - \delta H \sin I}{H} \right)\end{aligned}$$

in which  $\delta D$  and  $\delta I$  are expressed in minutes of arc, and where  $H$ ,  $D$ , and  $I$  for any given month are the respective mean values for that month as published in Table 338. The values of the mean diurnal inequalities of the several elements on the three different types of day are brought together in Table 335, and the values of the non-cyclic change of  $H$ ,  $D$ , and  $V$  are given in Table 336.

The results of harmonic analysis of the mean diurnal inequalities of  $N$ ,  $W$ , and  $V$  for the months, seasons<sup>1</sup> and year are to be found in Tables 339 and 340, in which are given the values of  $a_n$ ,  $b_n$ ,  $c_n$ , and  $\alpha_n$ , in the two equivalent series  $\Sigma(a_n \cos 15nt^\circ + b_n \sin 15nt^\circ)$  and  $\Sigma c_n \sin (15nt^\circ + \alpha_n)$ . In the former series  $t$  is reckoned in hours from midnight G.M.T., whilst the published values of  $\alpha_n$  refer to Local Mean Time. The values of the harmonic coefficients have been computed from the inequalities as given in the tables and have been corrected, where necessary, on account of the fact that the hourly values are not instantaneous but mean values. The factors by which the coefficients have to be multiplied (vide Report of the British Association, 1883, p. 98) are 1.00286 for  $a_1$ ,  $b_1$ ,  $c_1$ ; 1.01152 for  $a_2$ ,  $b_2$ ,  $c_2$ ; 1.02617 for  $a_3$ ,  $b_3$ ,  $c_3$ ; and 1.04720 for  $a_4$ ,  $b_4$ ,  $c_4$ . The values were obtained to two decimal places and finally were rounded off to 0.1γ.

The mean values of  $HR_H + VR_V$  are summarized in Table 337.

In Table 338 appear for the months and year the mean values of  $N$ ,  $W$ ,  $V$ ,  $D$ ,  $I$ ,  $H$  and Total Force,  $T$ . The means of  $N$ ,  $W$ ,  $I$  and  $T$  are derived from the corresponding mean values of  $H$ ,  $D$  and  $V$ , which are the means of hourly values on all days in the month or year. Tables 341 and 342 contain mean values of the magnetic elements for 1933 and recent years at a number of observatories.

#### Review of Results of Magnetic Observations.

"Mean and Extreme Values of the Magnetic Elements", 1933.-The mean values† are given on p. 178 in Table 1 along with the corresponding values for the previous year. The values of  $H$ ,  $D$ , and  $V$  have been computed from the hourly values derived from the autographic records of all days, standardized by

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<sup>1</sup>The seasons are defined for this purpose as follows:- "Winter", January, February, November, December; "Equinox," March, April, September, October; "Summer", May, June, July, August.

†See remarks on p. 176.



means of the absolute observations; those of N, W, I, and T have been deduced from the values of H, D, and V.

TABLE 1.

Year.	H.	D. (West).	I.	N.	W.	V.	T.
	γ	°   '   ''	°   '   ''	γ	γ	γ	γ
1932 ..	16571	14   23·7	69   45·0	16050	4120	44916	47875
1933 ..	16558	14   12·1	69   45·2	16052	4062	44890	47847

Westerly declination was on the average 11·6 less in 1933 than in 1932. The rate of decrease is practically the average rate of recent years. Between 1913 and 1920 the average rate of decrease was 9·3. As compared with the 1932 value horizontal force shows a fall of 13γ, which is less than the average annual rate of decrease between 1912 and 1927 (14·3γ). Practically no change in the average value of the north component has occurred since 1925, but as in recent years the west component decreased by some 60γ. Inclination has increased by 0·2. The values of vertical and total force have decreased somewhat.

Mean values derived from (a) international quiet days and (b) international disturbed days are as follows: (a) H, 16561γ; D, 14° 12'2"; N, 16055γ; W, 4063γ; V, 44890γ; (b) H, 16552γ; D, 14° 11'9"; N, 16047γ; W, 4060γ; V, 44890γ.

The differences between the mean annual values of N, W, and V, derived from all, international quiet, and international disturbed days in the years 1926-33 inclusive, are given below, together with the mean differences for the years 1915-1925. In every year of the series quoted the mean value of N and of W on quiet days exceeded the mean value on all and on disturbed days. The only years in the period 1915-25, for which either the all or the disturbed day mean value of V exceeded the quiet day value were 1917, 1919, 1921

	Quiet day mean-All day mean.			Quiet day mean-Disturbed day mean		
	N	W	V	N	W	V
	γ	γ	γ	γ	γ	γ
1933 ..	+2·9	+1·2	+0·1	+ 7·7	+3·4	+0·2
1932 ..	+3·5	+0·9	+1·9	+ 9·4	+3·9	+1·8
1931 ..	+2·5	+1·2	-0·5	+ 7·4	+3·1	-0·9
1930 ..	+7·0	+2·3	+1·6	+16·1	+5·6	+3·7
1929 ..	+3·8	+1·4	+0·2	+11·1	+2·8	+1·9
1928 ..	+4·5	+1·4	-1·6	+ 7·7	+2·6	-3·4
1927 ..	+2·9	+1·1	-0·3	+ 9·1	+2·4	-2·7
1926 ..	+4·8	+2·0	-0·7	+16·1	+5·7	-1·4
1915-1925	+2·7	+1·2	+0·7	+ 8·5	+3·3	+1·5



The resultant vector representing the average excess of the mean values on quiet days over the mean values on all days, for the years 1915-1925, has a magnitude of  $3\gamma$ ; its azimuth is  $336^\circ$ , measured from true north through east, and it is inclined at about  $77^\circ$  to the downwardly directed vertical. The vertical plane which contains this vector approximates very closely in azimuth to the vertical plane passing through Eskdalemuir and the pole (taken as  $78^\circ\text{N}$   $68^\circ\text{W}$ ) of the axis of magnetization of the earth. (cf. S. Chapman, "On certain average characteristics of world-wide magnetic disturbance". Lond. Proc. Roy. Soc. Series A. Vol. 115, p.242.)

The extreme values of H, D, and V actually recorded during 1933 are given in Table II.

TABLE II.

Component.	Maximum		Minimum		Absolute Annual Range
	Value	Date, 1933	Value	Date, 1933	
Horizontal Force	16916 $\gamma$	d h m May 1 16 8	16306 $\gamma$	d h m May 2 0 43	610 $\gamma$
Declination	$15^\circ 3'2$	May 1 17 33	$13^\circ 26'3$	Sept. 13 19 42	$1^\circ 36'9$
Vertical Force	45222 $\gamma$	May 1 16 18	44619 $\gamma$	May 1 21 32	603 $\gamma$

The range of  $1^\circ 36'9$  in declination is equivalent to a range of 408 $\gamma$  in the component of force perpendicular to the magnetic meridian.

"Magnetic Character of the Year".-The Eskdalemuir practice of tabulating for each day the value of  $\Sigma R^2$  has been discontinued in favour of the now internationally-accepted formula for magnetic activity viz.,  $HR_H + VR_V$ . The magnetic character figures on the scale 0, 1, 2 which were assigned in accordance with the international scheme are summarized in Table III. This table contains also the monthly mean values of the international character figures, which for 1933 are based on the estimates made at 41 observatories, and the mean monthly values of  $HR_H + VR_V$  for all, international quiet (Q), and international disturbed (D) days.

The Eskdalemuir mean value of  $HR_H + VR_V$  for the year, like the mean character figure, is less than for 1932. The mean sunspot numbers for the years 1923-33, are, in order, 5.8, 16.7, 44.3, 63.9, 69.0, 76.8, 64.2, 38.9, 20.9, 11.2 and 5.5.

The mean values of  $HR_H + VR_V$  for all days suggest that May was the most disturbed month.



In Table III the annual mean values are the means of the monthly values entered in the corresponding columns.

TABLE III.

Month.	Magnetic Character Figures. Number of			Mean Character Figure		Mean Value of $\frac{HR_H + VR_V^*}{10,000\gamma^2}$		
	"0" days	"1" days	"2" days	Eskdale-muir	Inter-national	All days	Q days	D days
1933								
January	12	18	1	•65	•65	220	62	410
February	14	9	5	•68	•65	288	76	788
March	10	16	5	•84	•71	330	102	744
April	5	22	3	•93	•76	353	178	575
May	10	19	2	•74	•62	485	184	1154
June	14	14	2	•60	•55	296	170	612
July	17	13	1	•48	•54	277	202	476
August	15	13	3	•61	•60	303	179	660
September	6	20	4	•93	•77	351	201	872
October	15	13	3	•61	•65	291	118	580
November	17	10	3	•53	•63	226	85	535
December	21	8	2	•39	•53	182	66	490
Year, 1933	156	175	34	•67	•64	300	135	658
Year, 1932	126	208	32	•74	•71	327	139	701
Year, 1931	137	208	20	•68	•66	345	185	679
Year, 1930	94	230	41	•85	•83	556	195	1246
Year, 1929	118	213	34	•75	•67	-	-	-
Year, 1928	96	246	24	•80	•63	-	-	-
Year, 1927	95	231	39	•85	•63	-	-	-
Year, 1926	90	227	48	•89	•65	-	-	-
Year, 1925	145	191	29	•69	•56	-	-	-
Year, 1924	191	153	22	•54	•55	-	-	-
Year, 1923	235	111	19	•41	•48	-	-	-
Year, 1922	174	145	46	•65	•65	-	-	-

"Diurnal Inequalities".-The mean diurnal inequalities for all days, and international quiet and disturbed days, for the months, seasons and the year, are given in Tables 317-334, and the corresponding inequality ranges in Table 335.

The inequalities of H, D and V for international quiet and disturbed days are shown graphically in Plate III, while in Plate IV are given vector diagrams illustrating the diurnal variation of magnetic force in the horizontal, the prime vertical and the meridian planes.

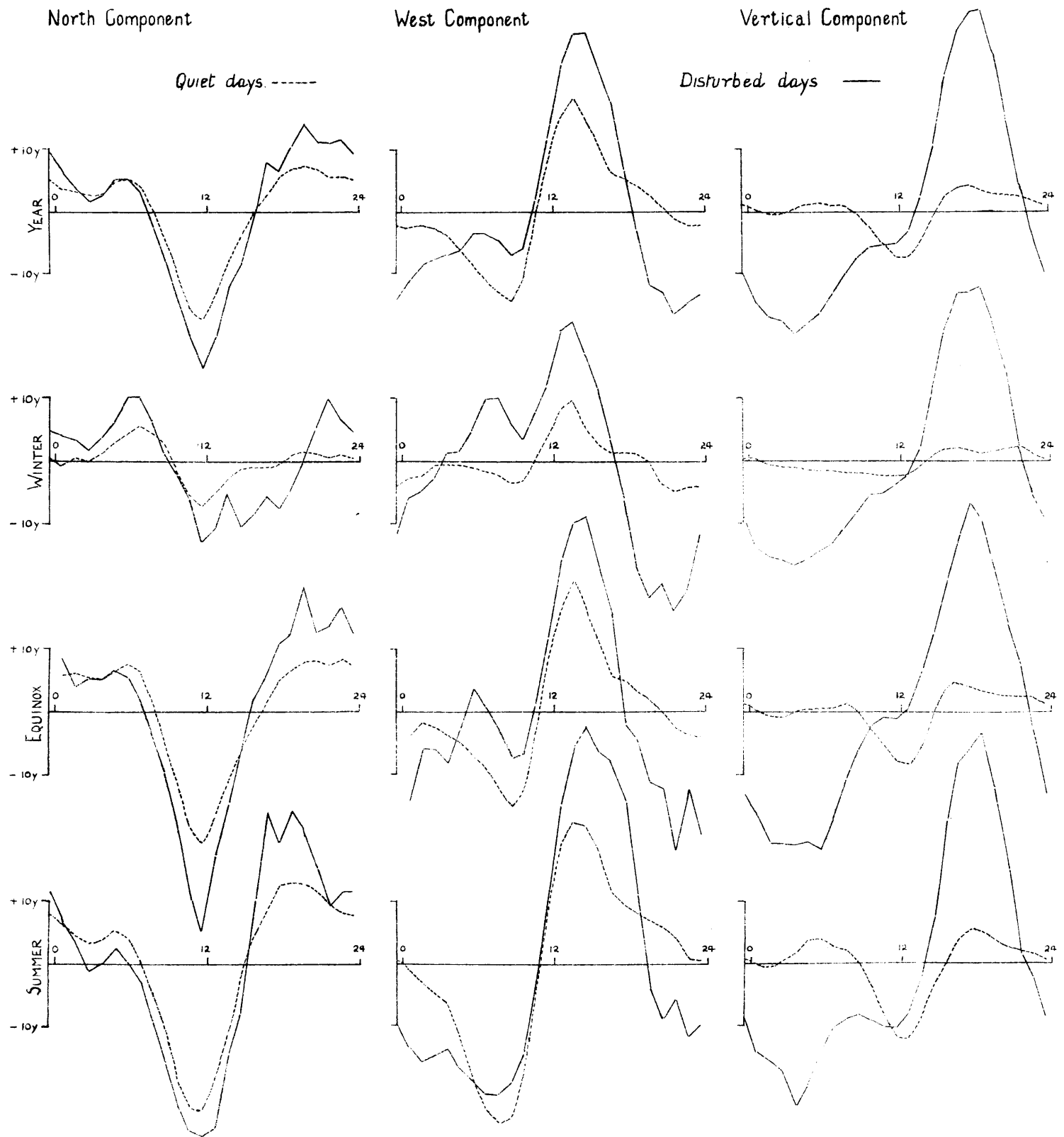
The ranges of the annual mean inequalities of H, D and V for all days and for quiet and disturbed days are the smallest (or about equal to the smallest) since 1924, except that in V the Q-day range is not so small as the very low value of 1932.

$$\frac{*NR_N + WR_W + VR_V}{10,000\gamma^2} \text{ in 1930 and 1931}$$



# DIURNAL VARIATION OF MAGNETIC FORCE

ESKDALEMUIR 1933





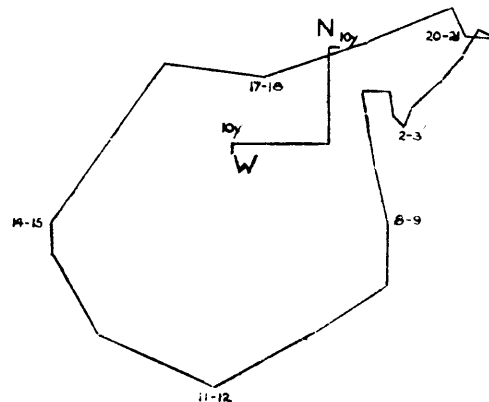
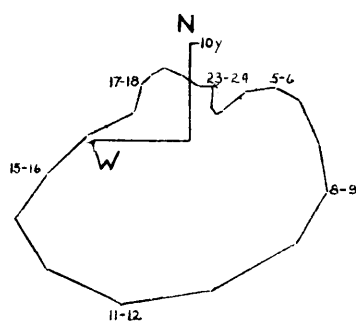
# VECTOR DIAGRAMS ILLUSTRATING DIURNAL VARIATION OF MAGNETIC FORCE

ESKDALEMUIR 1933

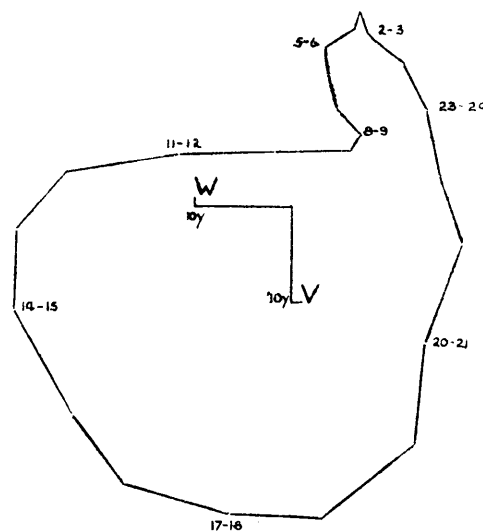
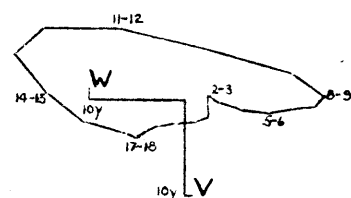
Quiet days

Disturbed days

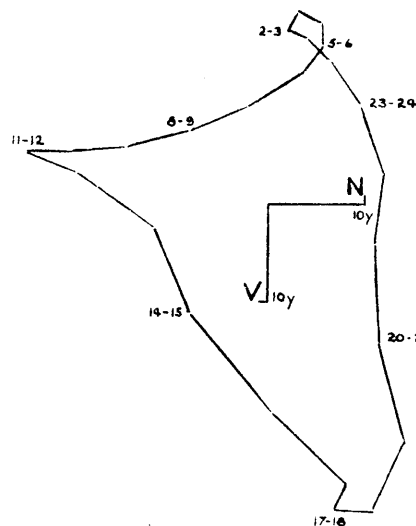
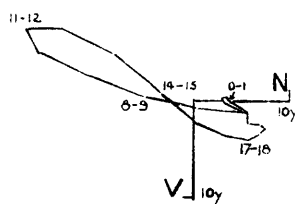
HORIZONTAL  
Components



Prime  
Vertical  
Components



Meridian  
Components





The average values of the diurnal inequality ranges for the year and seasons for the period 1916-26 (not the values of the range of the representative mean diurnal inequalities for this period) are given below, along with the 1933 values expressed as a percentage of the average values. The units employed are  $1\gamma$  for force and  $1'$  for declination. The mean sun spot number for 1916-26 is 46.7; that for 1933 is 5.5.

The 1933 ranges are all below the average.

		All days					International quiet days.					International disturbed days.				
		N.	W.	V.	H.	D.	N.	W.	V.	H.	D.	N.	W.	V.	H.	D.
Year,	1916-26 ..	36.6	38.7	21.9	35.6	8.26	32.7	37.0	12.1	32.4	8.00	48.3	53.7	65.6	49.7	11.14
	1933% ..	77	86	83	71	84	76	87	93	74	84	81	85	80	68	93
Winter,	1916-26 ..	22.1	27.7	15.9	18.3	6.31	19.0	19.4	5.2	15.9	4.42	30.1	49.5	53.8	27.5	10.50
	1933% ..	68	95	89	73	90	69	75	87	71	70	79	93	83	82	96
Equinox,	1916-26 ..	41.5	44.2	27.2	39.0	9.57	37.8	42.0	13.1	37.2	9.04	56.0	65.3	82.0	55.4	13.76
	1933% ..	85	86	82	81	86	78	87	97	85	90	98	82	68	86	88
Summer,	1916-26 ..	54.0	55.6	26.5	56.1	11.33	45.6	53.4	19.8	46.7	11.12	78.3	87.9	70.2	85.5	12.80
	1933% ..	77	87	94	76	90	81	90	89	91	91	66	88	86	68	96

"Daily Range".-The values of mean absolute daily range for the months and seasons of the year, together with the corresponding means for 1916-26 are given in Table IV; the ranges are also expressed as percentages of the mean absolute daily range for the year. The declination ranges, measured in minutes of arc have been multiplied by 4.82 to convert them to units of force of the component perpendicular to the magnetic meridian.

TABLE IV.-ABSOLUTE DAILY RANGE. MEAN MONTHLY VALUES.

Month	Mean Absolute Daily Range						Mean Daily Range expressed as Percentage of Yearly Mean..					
	1933			Mean 1916-26			1933			Mean 1916-26		
	H	D	V	N	W	V	H	D	V	N	W	V
January ..	56	61	29	69	73	39	78	84	73	80	88	81
February..	64	75	40	69	76	38	89	103	100	80	92	80
March... ..	81	76	43	95	94	57	113	104	107	110	113	119
April... ..	85	90	47	98	88	54	118	123	117	114	106	113
May .. ..	99	84	71	102	88	59	138	115	177	119	106	123
June .. ..	72	71	39	92	85	46	100	97	97	107	102	96
July .. ..	73	66	35	86	82	43	101	90	87	100	99	90
August ..	75	80	39	98	88	55	104	110	97	114	106	115
September.	86	83	47	100	92	63	120	104	117	116	111	131
October ..	74	71	37	94	93	57	103	97	93	109	112	119
November .	57	67	30	62	66	34	79	92	75	72	80	71
December .	44	56	25	60	64	33	61	77	63	70	77	69
Winter ..	55	65	31	65	70	36	76	89	77	76	84	75
Equinox ..	81	80	43	97	92	58	113	110	107	113	111	121
Summer ..	80	75	46	95	86	51	111	103	115	110	104	106
Year .. ..	72	73	40	86	83	48	-	-	-	-	-	-



The mean daily ranges of H, D and V are smaller than those for any other year since 1925.

The frequency distribution of absolute daily ranges recorded in 1933 is shown in Table V, which also contains the percentage distribution for the period 1916-1926.

TABLE V.-FREQUENCY DISTRIBUTION OF ABSOLUTE DAILY RANGE

Range	Number of Cases 1933			Percentage Distribution					
				H	N	D	W	V	
Y	H.	D.	V.	1933	1916-26	1933	1916-26	1933	1916-26
0-9	0	0	26	0.0	0.0	0.0	0.0	7.1	6.3
10-19	12	5	78	3.3	1.7	1.4	0.9	21.4	20.2
20-29	32	21	93	8.8	4.9	5.8	4.5	25.5	24.8
30-39	33	30	43	9.0	7.8	8.2	7.5	11.8	14.3
40-49	39	43	34	10.7	9.9	11.8	10.6	9.3	8.1
50-59	50	58	21	13.7	12.2	15.9	12.0	5.8	4.8
60-69	51	61	21	14.0	12.9	16.7	13.1	5.8	4.2
70-79	36	29	6	9.9	10.3	7.9	12.4	1.6	3.1
80-89	23	24	10	6.3	8.1	6.6	8.6	2.7	2.3
90-99	18	26	14	4.9	6.5	7.1	7.5	3.8	2.1
100-109	11	14	5	3.0	5.3	3.8	4.7	1.4	1.1
110-119	18	15	4	4.9	4.0	4.1	3.5	1.1	1.2
120-129	11	8	1	3.0	3.5	2.2	2.7	0.3	0.8
130-139	6	9	3	1.6	2.6	2.5	2.2	0.8	0.8
140-149	10	8	1	2.7	1.7	2.2	2.2	0.3	0.5
150-159	4	4	1	1.1	1.3	1.1	1.2	0.3	0.7
160-169	1	2	1	0.3	1.2	0.5	0.9	0.3	0.5
170-179	2	3	0	0.5	0.8	0.8	1.0	0.0	0.4
180-189	1	0	1	0.3	0.6	0.0	0.7	0.3	0.5
190-199	0	2	0	0.0	0.5	0.5	0.6	0.0	0.3
200+	7	3	2	1.9	4.4	0.8	3.1	0.5	3.1
Days omitted	0	0	0	..	..	..	..	..	..



TABLE VI. PRINCIPAL MAGNETIC DISTURBANCES RECORDED AT ESKDALEMUIR 1933.

Where the beginning of a disturbance has been marked by a "sudden commencement," the serial number is followed by an asterisk (\*), and the time entered in the second column is that of the sudden commencement, estimated to the nearest minute. In other cases, the exact hour nearest the time at which disturbance may be regarded as having begun is entered in the second column. To the tabulated values of maximum and minimum the following have to be added: H, 16000Y; D, 14°; V, 44000Y.

			Horizontal Force					Declination					Vertical Force				
			Max.	Time	Min.	Time	Range	Max.	Time	Min.	Time	Range	Max.	Time	Min.	Time	Range
	d h m	d h	Y	d h m	Y	d h m	Y		d h m		d h m		Y	d h m	Y	d h m	Y
1	Jan. 19 4	Jan. 20 10	597	20 5 42	504	19 15 39	93	28.2	20 4 43	8.4	19 15 54	19.8	972	19 16 4	889	20 5 15	103
2	Jan. 22 3	Jan. 30 24	636	22 21 13	502	24 1 1	134	26.6	24 1 38 and 27 21 20	1.5	22 21 9	25.1	986	22 18 28	860	24 1 39	126
3	Feb. 18 14	Feb. 28 4	681	21 22 8	472	20 0 35	209	32.4	19 14 42	-10.6	23 19 36	43.0	1024	21 16 13	829	20 1 33	195
4	Mar. 18 2	Mar. 25 24	701	18 22 26	409	18 23 21	292	31.0	20 1 48	-15.7	19 21 16	46.7	945	24 17 18	807	20 1 58	138
5	Mar. 27 5	Mar. 30 6	616	28 23 0	510	29 10 50	106	30.3	27 13 58	8.2	27 19 40	22.1	927	27 17 58	870	28 23 18	57
6	Apr. 2 8	Apr. 9 24	599	8 17 17	501	3 11 58	98	24.9	7 14 14	-2.8	7 20 25	27.7	922	7 16 19	846	4 2 32	76
7	Apr. 15 12	Apr. 26 24	674	21 22 19	475	17 11 28	199	29.2	17 12 55	-6.8	16 19 25	36.0	968	15 20 42	823	18 1 30	145
8*	Apr. 30 16 28	May 7 16	916	1 16 8	306	2 0 43	610	63.2	1 17 33	-7.9	4 19 9	71.1	1222	1 16 18	619	1 21 32	603
9	May 13 4	May 19 22	637	19 18 58	495	18 9 50	142	22.2	14 16 10	0.8	14 21 7	21.4	911	17 19 50	814	18 4 55	97
10	May 27 12	May 28 4	623	27 18 6	550	27 9 50	73	20.2	27 15 52	0.5	28 2 52	19.7	901	27 19 0	828	28 1 40	73
11*	May 29 6 25	June 1 22	631	30 16 31	492	31 17 29	139	25.4	30 16 30	-0.9	29 20 43	26.3	917	30 17 30	809	1 3 46	108
12	June 8 4	June 9 22	620	8 18 23	516	9 12 11	104	21.9	8 11 42	4.1	9 6 29	17.8	901	8 19 44 and 9 17 28	841	9 1 38	60
13	June 12 20	June 16 4	621	13 18 44	463	13 22 50	158	22.0	13 14 36	-5.0	13 23 12	27.0	913	13 16 20	769	13 3 40	144
14	June 19 8	June 22 4	613	20 16 33	514	20 9 30	99	23.8	20 15 2	-0.7	20 4 52	24.5	899	19 20 25	836	20 4 5	63
15	June 27 8	July 3 4	619	28 18 24	510	27 9 57	109	24.9	27 15 12	3.9	29 4 30 and 2 5 50	21.0	919	28 17 10	852	28 1 20	67
16	July 23 10	July 24 17	614	24 16 0	473	24 7 58	141	21.8	23 13 56	-7.3	23 22 18	29.1	930	24 15 39	814	24 3 50	116
17	July 27 22	July 27 24	612	27 22 50	534	27 22 30	78	19.7	27 22 34	4.2	27 22 49	15.5	892	27 22 0	833	27 22 59	59
18	Aug. 5 4	Aug. 6 21	685	5 18 22	467	5 18 40	218	36.4	5 14 36	-11.5	5 19 0	47.9	1026	5 18 39	848	6 3 22	178
19	Aug. 13 8	Aug. 14 24	609	13 19 40	514	14 7 50	95	20.9	13 15 20	-12.4	13 19 34	33.3	928	13 19 38	838	13 22 58	90
20	Aug. 17 8	Aug. 25 9	664	18 16 54	482	24 8 42	182	21.4	23 14 30	-9.3	18 19 55	30.7	934	18 18 22	844	19 0 1	90
21	Sept. 9 4	Sept. 11 2	665	9 5 23	333	9 8 22	332	31.3	9 5 9	1.6	9 0 4	29.7	946	9 17 58	788	9 5 48	158
22	Sept. 13 12	Sept. 18 12	660	13 19 46	459	13 20 30	201	24.0	15 4 11	-33.7	13 19 42	57.7	984	13 16 12	831	14 0 32	153
23	Oct. 3 23	Oct. 11 4	623	5 21 14	458	5 11 42	165	19.3	5 11 50	-11.1	7 17 30	30.4	945	7 17 29	818	5 1 11	127
24	Oct. 11 22	Oct. 12 14	584	11 23 7	479	12 0 28	105	20.2	12 1 0	-7.7	11 23 40	27.9	897	11 19 20	801	12 1 18	96
25	Oct. 13 9	Oct. 14 24	635	13 23 50	486	13 14 46	149	21.3	13 14 8	-11.3	14 20 17	32.6	939	13 15 5	844	14 0 10	95
26	Nov. 5 17	Nov. 12 4	633	7 20 37	466	8 14 22	167	21.6	8 7 52	18.9	7 20 30	40.5	957	6 17 46	839	7 1 12	116
27	Dec. 3 10	Dec. 6 4	581	5 5 37	468	4 11 56	113	17.6	4 6 50	-8.6	3 19 28	26.2	939	5 17 34	865	4 7 4	74
28	Dec. 9 13	Dec. 10 24	598	10 22 8	456	9 21 6	142	13.0	9 15 22	-16.9	9 22 16	29.9	985	9 18 33	867	10 22 46	118



The intervals of maximum frequency in 1933 lie between 60 and 69 $\gamma$  for H and D, and 20-29 $\gamma$  for V. These differ only slightly from the run of recent years. In 1923, the year of the last sunspot minimum, the intervals were 40-49 $\gamma$  for N and W, 10-19 $\gamma$  for V.

On 17 days in 1933 the absolute range in either H or D was 160 $\gamma$  or more. The numbers of such days for N and W in the years 1915 to 1931 were, in order, 30, 47, 35, 56, 58, 36, 27, 32, 11, 10, 24, 46, 41, 48, 50, 88, 17, whilst in 1932 for H and D the number was 31. The frequency of occurrence in 1933 of ranges in excess of 199 $\gamma$  is conspicuously low. There were only two days in 1932 and one day in 1933 on which the range in each of H, D, and V was 200 $\gamma$  or more as compared with 18 such days for N, W and V in 1926, seven in 1927, five in 1928, nine in 1929, 16 in 1930, and one in 1931.

"Irregular changes in Declination".-In connexion with the supply of declination data to mine surveyors it has been the practice to classify the hourly periods between the exact hours G.M.T. into four groups according to the range in declination within each period. The range limits, which were adopted in consultation with representative mine surveyors, are:- less than 5', between 5' and 15', between 15' and 30', and greater than 30'. This method of classification has been applied to the declination records obtained in the year 1933, and the actual frequencies of occurrence of hourly ranges in the last three of the four divisions mentioned are set out below. A range of 30' is equivalent to a change of 145 $\gamma$  in the component of horizontal force perpendicular to the magnetic meridian.

		Number of cases per month												Year.
Range Interval	..	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
5' to 15'	..	69	75	84	78	52	38	26	47	77	63	63	46	718
15' to 30'	..	3	13	10	5	11	4	1	4	5	4	8	5	73
> 30'	..	0	0	2	0	3	0	0	1	2	0	0	0	8

		Hourly Distribution. 1933 Hour ending at (G.M.T.)																							
Range Interval		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
5' to 15'		47	49	52	36	23	17	15	14	7	4	4	8	6	12	13	30	27	31	51	54	53	58	51	56
15' to 30'		5	5	1	3	1	0	0	0	1	0	0	0	0	0	3	1	3	2	6	13	10	5	8	6
> 30'		0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	2	1	0	1	0	0

On the average quiet day the most conspicuous change in declination is that from the most easterly value at about 8h or 9h to the most westerly value at about 13h or 14h, the rate of change being greatest between 10h and 12h. The hourly range due to the regular diurnal variation at this time of day is less than 5', but doubtless it happens at times that the occurrence of slight disturbance results in the hourly range exceeding 5', whereas the occurrence of the same degree of irregularity at another hour of the day would not cause the hourly range to exceed 5'. Thus the figures given above for the range interval 5'-15' tend to exaggerate somewhat the incidence of irregular changes between 9h and 13h. The hourly distributions of the frequency of occurrence of ranges between 5' and 15' and between 15' and 30' exhibit the well known tendency for irregular changes to occur predominantly during the "night" hours-at least in Europe.



"Principal Magnetic Disturbances during" 1933.--Particulars of the principal magnetic disturbances recorded during the year are given in Table VI. Corresponding information for the same disturbances is given in the Lerwick Section. The magnetograms for the most highly disturbed days are not reproduced in this volume, but photographic copies may be obtained on application to the Director, Meteorological Office, Air Ministry, Kingsway, London, W.C.2.

#### Remarks on Magnetic and Allied Phenomena, 1933.

##### January.--(Average character figure 0.65).

The first fourteen days were quiet, apart from slight activity on the evenings of the 1st and 2nd and on the 6th and 7th following a very small movement of the "sudden commencement" type at 6d 0h 34m.

Disturbance began with small and rapid oscillations in H and D at 14d 19h 40m and lasted throughout the 14th and 15th. The 19th and early hours of 20th were also slightly disturbed.

The largest disturbance of the month began early on the 22nd and lasted till the end of the 30th. The most noticeable features are an irregular hump in V between 17h and 20h on the 22nd and a dip of  $45\gamma$  between 0h and 4h on the 24th, the movements in H and D being rapid and irregular throughout. We have noted before the occurrence of characteristic small movements in H, even on quiet days, during the four hours preceding midnight. These consist of very small and rapid oscillations, superposed on a sharp rise followed by a more gradual fall. Such movement was very well marked on the 27th between 20h 50m and 21h 30m.

##### February.--(Average character figure 0.68).

Conditions were quiet for the first half of the month and again, after slight activity on the 14th and 15th, until the afternoon of 18th. Disturbance then began and, developing during the next 24 hours, reached a moderate degree of intensity during the night of the 19th-20th. The disturbance continued at about the same intensity till the end of 24th, diminished somewhat during the next two days and died away towards the end of 27th. The most regular feature of the disturbance was the enhancement of the afternoon maxima and morning minima of V. Large multiple dips occurred between 22h and 6h on the first three nights, and on the 21st a sharp peak of  $60\gamma$  was superimposed on the usual hump at about 16h. There were many irregular fluctuations in H and D, notably at 19d 18h-20h, 19d 23h - 20d 3h, 21d 21h - 22d 2h and 24d 21h-23h, those in D being chiefly in the direction of diminished value; there was also a sharp dip in D of about  $29\gamma$  coinciding with the peak in V at 21d 16h and other dips or bays too numerous to specify.

##### March.--(Average character figure 0.84).

There was almost continuous activity of a very small order throughout the first seventeen days. During the early hours of the 18th there was an increase of activity in H, accompanied by a shallow dip in V and oscillations in D. At 18d 22h 18m there were very abrupt movements in all three elements. H rose by  $140\gamma$  in 8 minutes, fell by  $292\gamma$  in the next 55 minutes and returned



rapidly to near its normal value. V fell rapidly to a minimum 70% below its former value at about 23h 30m, while in D there were two dips of about 18' with minima at 22h 50m and 0h 15m. After 19d 2h there was only a slight activity but disturbance was renewed soon after 18h and continued until 20d 4h. The succeeding days were considerably disturbed up till the end of the 24th. The general characteristics of this disturbance were of normal type with maxima of V in the afternoons and minima in the early morning, the movements of H and D being very rapid from 15h to 22h while V was above its mean value, and much slower between 22h and 6h while V was below its mean value.

The disturbance died away during the 25th, but conditions did not become entirely calm, and there was further slight disturbance on the 27th-29th.

April.--(Average character figure 0.93).

After continuous activity throughout the first nine days conditions became quiet towards the end of the 10th. The afternoon of 14th was slightly disturbed and from that time until the end of 26th, although movements were not large, there was great activity in H and D except during the early hours of 25th and 26th.

A well-marked "sudden commencement" at 30d 16h 28m was followed by very rapid oscillations in H for some hours, but it was not until the following afternoon that large disturbance developed.

A sunspot, 30 millionths of the hemisphere in area, passed the central meridian at 20.0d and another (area 15 millionths) at 27.5.\*

May.--(Average character figure 0.74).

The storm of May 1st was the largest of the year. V rose very rapidly after 15h, and from that time until 18h there were violent oscillations in all three elements. After 17h V and H fell rapidly but irregularly to simultaneous sharp minima at about 21h 31m; these were followed by an abrupt rise in both components and a period of comparative quiet from 22h till 24h. After another sharp dip in both components, with minima at 0h 43m, there was a rapid rise and the disturbance came to an end shortly before 2h. The 2nd was quiet until 22h, but after this there was minor activity in H and D and a somewhat enhanced diurnal oscillation of V until the afternoon of 7th.

Slight disturbance took place from 13th to 19th; the succeeding days, though free from disturbance, were not entirely quiet until about 26d 2h when conditions became very calm. At noon on 27th there was a renewal of activity. A small "sudden commencement" at 29h 6h 25m, following another 24 hours of quiet conditions, marked another slight increase of activity; This developed into a disturbance of small intensity which lasted until the end of June 1st.

June.--(Average character figure 0.60).

Apart from slight disturbance on the 8th and 9th conditions were fairly quiet for the first twelve days, especially from 5d 2h till 7d 12h.

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\*"The Observatory", Feb. 1934.



Disturbance began to develop at the end of the 12th. On the 13th between 0h and 8h there was a dip of 100 $\gamma$  in V, but movements were small after this, the most disturbed period being 13d 22h - 14d 1h. By the 16th conditions were again quiet.

Further slight disturbance took place on the 19th-21st, the night of 25th-26th and from the morning of 27th till the end of the month.

July.--(Average character figure 0.48).

There was slight activity on the 8th-12th and 17th-18th; otherwise conditions were quiet until about noon of the 23rd. After this there was some disturbance until 24d 17h, when the oscillations in H and D ceased rather suddenly. The rest of the month was moderately quiet apart from a small outburst between 22h and 24h on the 27th.

August.--(Average character figure 0.61).

The first four days of the month were quiet. Disturbance began to develop early on the 5th and reached its greatest intensity between 18h and 20h, during which interval the maximum of V and the minima of H and D for the storm occurred. After 20h the disturbance consisted of activity of only a small order and it died away during the evening of the 6th.

The succeeding days became progressively quieter until the afternoon of 12th. There was then an increase of activity which developed into a small disturbance on the night of the 13th-14th. Conditions continued to be slightly disturbed until the morning of the 25th, especially during the afternoon of 18th.

September.--(Average character figure 0.93).

There was minor activity throughout the first eight days. On the 9th there occurred a disturbance which was unusual in that greatest intensity was in the morning from about 5h till 10h, during which time V and H were below their undisturbed values and D above. Movements were small and irregular throughout the 9th and most of the 10th. Disturbance was renewed on the 13th, continued with moderate intensity till the morning of 15th and thereafter decreased until the afternoon of 18th. There is a well-marked example of an apparent repetition during this disturbance, very similar groups of movements occurring at about 20h on both the 13th and 14th.

There was minor activity throughout most of the rest of the month until 29d 20h, after which conditions were quiet.

A sunspot, 70 millionths of the hemisphere in area, passed the central meridian at 5.4d.\*

October.--(Average character figure 0.61).

Slight disturbance took place during the early hours of the 5th and was almost continuous thereafter until the end of the 14th with the exception of a comparatively quiet period during most of the 11th and again from the afternoon of 12th till the morning of the 13th. A considerable amount of minor

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\*"The Observatory", Feb. 1934.



activity followed, but conditions became quiet during the 27th and so remained until the afternoon of November 2nd.

November.--(Average character figure 0.53).

From the 5th to 11th inclusive there was disturbance of small intensity. Conditions were then quiet until the end of the month, apart from slight activity on the nights of 20th-21st, 21st-22nd and 27th-28th.

December.--(Average character figure 0.39).

A quiet month, with only slight disturbance from the 3rd to 6th inclusive and on the afternoons and evenings of the 9th and 10th. During the latter two days there were enhanced afternoon maxima in V, but these were followed by only very small dips shortly before midnight.



Readings in millibars at exact hours, Greenwich Mean Time

167. ESKDALEUIR:  $H_b$  (height of barometer cistern above M.S.L.) = 237.3 metres.

JANUARY, 1933.

Hour G. M. T.		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	
Station Level ↑ Day. ↓	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	
	1	969.1	969.6	970.2	971.1	972.2	973.5	974.6	975.8	977.1	978.2	978.9	979.2	979.3	979.2	979.3	979.3	979.5	980.1	979.3	978.6	978.0	977.3	976.1	975.2	976.1	
	2	974.1	972.4	970.5	970.5	970.7	969.9	970.0	969.2	969.1	967.7	966.7	965.0	964.1	962.5	960.9	959.4	958.1	957.0	955.8	954.7	954.0	953.6	953.7	954.6	954.6	
	3	955.3	957.2	958.1	958.7	959.2	960.1	960.3	961.8	963.1	964.3	964.6	965.6	966.3	967.3	968.5	969.2	970.2	970.7	971.9	972.9	973.4	974.3	975.1	976.0	976.1	
	4	976.6	977.1	977.7	977.8	977.2	976.9	977.7	977.4	977.6	977.2	975.9	975.4	975.6	975.7	976.4	976.5	976.7	976.7	976.1	975.0	973.0	971.1	969.1	967.0	975.7	
	5	965.2	968.9	968.6	970.1	971.9	973.1	974.5	976.1	977.8	978.5	979.5	980.1	980.4	980.7	981.1	981.4	981.3	981.3	981.1	980.9	980.5	980.3	979.6	978.8	976.8	
	6	978.6	978.7	979.8	980.6	981.5	982.1	983.3	984.2	985.0	985.9	986.3	986.8	987.4	988.3	989.2	990.1	991.2	991.9	993.3	993.7	994.8	994.9	995.5	996.2	987.1	
	7	996.4	996.6	996.6	996.1	995.4	995.8	995.8	995.7	995.0	994.8	994.3	993.5	992.3	991.2	990.2	989.6	989.6	988.9	989.1	988.6	988.7	988.7	988.9	988.9	992.7	
	8	989.6	990.2	991.2	991.6	992.2	992.3	992.4	992.5	992.8	993.3	993.9	990.9	990.0	989.5	989.1	988.5	988.4	988.3	989.0	989.1	989.1	989.3	990.6	992.2	990.5	
	9	993.5	996.7	998.0	999.3	1000.3	1001.6	1002.7	1004.0	1005.3	1006.3	1007.0	1006.9	1007.3	1007.4	1007.6	1007.9	1008.3	1008.7	1008.9	1008.9	1008.7	1008.4	1008.0	1007.8	1004.7	1004.7
	10	1007.3	1008.5	1008.9	1009.1	1009.4	1009.9	1010.3	1010.7	1011.1	1011.5	1011.9	1012.2	1012.5	1012.8	1013.1	1013.4	1013.7	1014.0	1014.3	1014.6	1014.9	1015.2	1015.5	1015.8	1016.1	1016.4
	11	989.2	989.0	988.9	989.3	989.4	989.4	990.1	990.9	992.4	993.1	994.0	994.2	994.3	995.1	995.8	996.7	996.9	997.9	998.0	997.6	998.4	998.1	998.0	997.9	993.8	993.8
	12	997.7	997.8	997.3	996.9	996.6	996.2	996.0	996.1	995.8	995.2	995.0	994.1	993.6	993.3	992.8	992.3	992.3	992.0	991.4	991.4	991.4	991.4	991.4	991.4	991.4	991.4
	13	991.4	991.4	991.8	991.8	991.8	992.0	992.3	992.3	992.3	992.3	992.3	992.3	992.3	992.3	992.3	992.3	992.3	992.3	992.3	992.3	992.3	992.3	992.3	992.3	992.3	992.3
	14	995.2	994.6	994.5	993.1	993.0	992.3	991.7	991.1	990.4	990.1	989.8	989.7	989.5	989.4	989.3	989.2	989.1	989.0	988.9	988.8	988.7	988.6	988.5	988.4	988.3	988.2
	15	969.7	969.0	968.3	967.9	968.0	968.1	968.3	968.3	968.3	968.3	968.3	968.3	968.3	968.3	968.3	968.3	968.3	968.3	968.3	968.3	968.3	968.3	968.3	968.3	968.3	968.3
	16	968.8	968.7	968.7	968.7	968.5	968.4	968.3	968.4	968.8	969.1	969.0	968.8	968.7	968.7	968.9	969.4	969.8	970.2	970.5	970.7	970.8	970.9	971.0	971.0	969.3	969.3
	17	970.9	970.9	970.9	970.8	970.7	970.9	970.7	970.9	970.9	970.7	970.3	969.8	969.0	968.3	967.7	967.0	966.4	965.8	965.2	964.6	964.0	963.4	962.8	962.2	961.6	961.0
	18	968.0	967.8	967.7	967.7	967.7	967.8	967.9	968.0	968.2	968.7	968.9	969.1	969.0	968.9	968.7	968.5	968.3	968.1	967.9	967.7	967.5	967.3	967.2	967.0	966.8	966.6
	19	975.2	976.1	977.0	977.6	978.0	978.7	979.7	980.4	981.4	982.2	983.2	983.5	984.0	984.2	984.9	985.3	985.8	986.4	987.3	988.0	988.2	989.0	989.5	990.0	982.8	982.8
	20	990.3	991.2	992.1	992.7	993.5	994.0	995.1	996.4	997.4	998.1	998.9	999.1	999.3	999.9	1000.6	1001.4	1002.3	1002.8	1003.3	1004.1	1004.5	1004.6	1004.8	1005.0	1005.0	1005.0
	21	1004.8	1004.9	1005.1	1005.2	1005.9	1006.9	1007.2	1007.8	1008.8	1009.7	1010.7	1011.7	1012.7	1013.7	1014.7	1015.7	1016.7	1017.7	1018.7	1019.7	1020.7	1021.7	1022.7	1023.7	1024.7	1025.7
	22	1007.9	1007.8	1007.9	1007.7	1007.6	1007.5	1007.8	1008.0	1008.4	1008.8	1009.2	1009.6	1010.0	1010.4	1010.8	1011.2	1011.6	1012.0	1012.4	1012.8	1013.2	1013.6	1014.0	1014.4	1014.8	1015.2
	23	1008.9	1009.0	1009.0	1008.8	1008.4	1008.2	1008.5	1008.9	1009.3	1009.7	1010.1	1010.5	1010.9	1011.3	1011.7	1012.1	1012.5	1012.9	1013.3	1013.7	1014.1	1014.5	1014.9	1015.3	1015.7	1016.1
	24	1010.9	1010.9	1010.9	1010.9	1010.6	1010.6	1011.1	1011.4	1011.8	1012.2	1012.6	1013.0	1013.4	1013.8	1014.2	1014.6	1015.0	1015.4	1015.8	1016.2	1016.6	1017.0	1017.4	1017.8	1018.2	1018.6
	25	1010.3	1010.1	1009.9	1009.9	1009.9	1009.9	1009.9	1009.9	1009.9	1009.9	1009.9	1009.9	1009.9	1009.9	1009.9	1009.9	1009.9	1009.9	1009.9	1009.9	1009.9	1009.9	1009.9	1009.9	1009.9	1009.9
	26	1006.7	1006.3	1006.2	1006.0	1005.7	1005.3	1005.0	1004.8	1004.5	1004.2	1003.9	1003.6	1003.3	1003.0	1002.7	1002.4	1002.1	1001.8	1001.5	1001.2	1000.9	1000.6	1000.3	1000.0	999.7	999.4
	27	1002.9	1002.4	1002.5	1002.6	1002.5	1002.7	1002.7	1002.5	1002.9	1003.3	1003.7	1004.1	1004.5	1004.9	1005.3	1005.7	1006.1	1006.5	1006.9	1007.3	1007.7	1008.1	1008.5	1008.9	1009.3	1009.7
	28	1000.3	999.9	999.6	999.2	998.9	998.4	998.3	998.3	998.3	998.2	997.9	997.0	996.1	995.2	994.8	994.5	994.2	994.0	993.9	993.4	993.0	992.4	991.9	991.2	990.6	990.0
	29	990.4	989.7	989.0	988.1	987.4	986.8	986.1	985.8	985.3	984.9	984.0	982.9	982.1	981.2	980.5	979.9	979.2	978.3	977.9	977.4	976.8	976.0	975.1	974.0	973.0	972.0
	30	974.1	973.3	972.8	971.7	971.3	970.2	969.9	969.8	969.4	968.9	968.3	967.9	967.5	967.1	966.6	966.1	965.6	965.1	964.6	964.1	963.6	963.1	962.6	962.1	961.6	961.1
31	971.6	971.5	971.5	971.5	972.0	972.5	973.4	973.9	974.0	974.1	974.7	974.3	973.1	971.9	971.4	969.8	968.6	967.6	966.7	965.4	964.3	963.9	963.4	962.7	970.3	970.3	
Mean (Station Level)	987.45	987.55	987.68	987.70	987.83	987.93	988.21	988.52	988.85	989.27	989.94	989.58	988.27	986.05	983.07	980.02	977.07	974.07	971.12	968.01	964.89	961.65	958.49	955.32	952.16	949.00	
Mean (Sea Level)	1017.01	1017.15	1017.30	1017.32	1017.47	1017.61	1017.90	1018.21	1018.52	1018.83	1019.14	1019.45	1019.76	1020.07	1020.38	1020.69	1021.00	1021.31	1021.62	1021.93	1022.24	1022.55	1022.86	1023.17	1023.48	1023.79	

168. ESKDALEUIR:  $H_b$  = 237.3 metres.

FEBRUARY, 1933.

Station Level	Day	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
	1	961.7	960.9	959.7	958.4	956.9	955.5	953.9	953.4	953.0	953.6	955.6	957.4	958.8	960.8	962.0	962.1	962.4	962.8	962.8	963.3	963.6	964.0	964.8	964.8	963.9
	2	964.9	965.1	965.8	966.2	966.6	967.2	967.9	968.8	969.7	970.4	970.6	970.9	971.6	972.0	972.7	973.4	974.9	976.2	976.9	977.8	979.6	980.6	981.8	983.4	971.9
	3	984.0	984.1	984.8	984.9	985.1	985.1	985.5	986.3	987.0	987.1	986.5	985.3	984.7	983.8	983.1	982.6	981.7	980.6	979.4	978.8	978.1	977.3	976.5	975.1	982.1
	4	970.5	970.6	970.2	969.8	969.8	969.8	969.8	970.5	971.0	971.7	971.9	971.9	972.3	972.5	972.5	972.5	972.3	972.6	972.5	972.1	971.9	971.4	971.0	970.3	971.3
	5	969.3	967.8	967.1	966.5	965.5	965.3	964.6	964.6	964.9	965.1	965.8	966.5	966.8	967.5	968.0	968.9	970.3	971.8	973.4	974.4	975.5	977.0	979.0	979.5	969.2
	6	980.7	981.0	981.2	981.4	981.8	982.0	982.4	982.7	982.7	982.7	982.7	982.1	982.0	981.3	980.7	980.0	979.7	979.4	979.0	978.0	976.9	976.2	975.4	974.3	973.3
	7	972.2	971.5	970.1	969.1	968.7	967.9	967.7	967.5	967.3	967.3	967.3	967.7	967.9	967.9	968.2	969.1	969.9	970.5	971.5	971.8	972.4	973.0	973.7	974.5	969.8
	8	974.9	975.1	975.1	975.0	975.0	975.0	975.6	975.8	976.1	976.3	976.4	976.0	975.0	973.4	973.3	973.2	974.4	974.7	975.6	975.6	975.8	976.0	976.1	976.7	975.2
	9	977.3	978.0	978.2	978.3	978.8	979.2	979.0	978.8	977.2	976.4	975.4	974.9	974.2	973.5	974.4	975.9	976.2	978.9	980.0	980.9	981.7	983.1	984.4	985.1	978.1
	10	986.0	986.4	986.8	987.5	988.4	989.1	989.8	991.0	991.9	993.0	993.7	994.8	995.6	996.3	996.9	997.6	998.6	999.7	1001.0	1002.0	1002.6	1003.3	1003.9	1004.0	994.6
	11	004.6	005.2	005.2	005.2	006.9	006.5	006.9	007.4	007.6	008.2	009.3	009.1	008.6	008.0	007.4	007.2	007.0	007.1	008.9	006.7	006.6	006.1	005.3	005.2	006.8
	12	005.0	004.7	004.2	004.0	004.0	003.9	003.8	003.7	003.8	003.7	003.6	003.1	002.9	002.3	002.1	001.9	001.7	001.7	001.8	001.9	002.7	003.0	003.4	003.9	003.2
	13	003.9	003.9	004.4	004.2	004.7	004.4	004.1	004.2	004.6	004.9	005.3	004.9	004.3	003.1	003.2	003.2	003.3	003.6	003.8	003.5	003.6	003.3	003.3	002.9	004.0
	14	002.3	002.1	002.1	002.0	001.9	001.4	001.0	001.0	001.0	000.7	000.6	000.5	000.1	999.6	999.3	998.4	998.1	998.3	998.3	998.1	997.9	997.3	997.3	997.3	000.0
	15	997.2	998.9	996.4	995.6	995.3	995.3	995.1	995.1	995.1	995.1	994.4	993.9	993.7	992.9	992.9	993.0	993.0	993.1	993.2	993.2	993.2	993.5	993.6	994.4	
	16	993.7	993.7	993.7	993.7	993.7	993.7	993.6	993.6	993.6	993.6	993.6	993.1	992.6	991.9	991.7	991.6	991.6	991.4	992.5	993.0	993.6	993.9	994.4	994.8	993.2
	17	995.0	995.2	995.0	995.4	995.3	995.3	995.0	994.9	994.6	994.3	994.0	993.1	992.7	991.9	991.1	991.2	990.5	990.3	989.8	989.7	989.0	988.9	988.9	989.0	992.6
	18	989.0	988.9	988.6	988.4	988.4	988.4	988.7	988.9	988.8	989.1	989.1	989.0	989.0	988.9	989.1	989.3	989.2	988.9	988.2	987.9	987.7	987.3	986.8	988.1	988.6
	19	988.8	988.9	988.8	988.8	988.9	989.4	989.9	990.1	990.5	990.9	991.3	992.3	992.3	992.8	992.9	993.1	993.9	994.0	994.4	994.5	994.7	994.9	995.0	995.2	991.8
	20	995.1	994.8	994.4	993.9	993.5	993.1	992.7	992.0	991.5	991.1	990.7	990.1	989.7	989.2	988.6	988.2	988.0	988.2	988.4	988.9	988.5	988.5	988.2	988.0	990.8
	21	988.0	987.9	987.9	987.7	987.8	987.3	987.3	987.2	987.3	987.5	987.6	987.3	987.1	986.8	986.6	986.3	986.4	986.7	986.9	987.4	988.0	988.5	988.9	988.9	987.4
	22	989.1	989.3	989.4	989.3	989.4	989.5	989.9	990.1	990.6	990.9	990.8	991.0	991.0	990.5	990.5	990.5	991.0	991.0	990.8	990.5	990.5	990.7	989.4	990.2	
	23	989.0	988.1	988.4	988.7	988.6	988.4	988.7	988.1	988.4	988.1	983.8	983.2	982.4	981.8	981.3	980.7	980.4	980.3	980.0	979.9	979.7	979.1	979.0	979.1	983.3
	24	979.0	978.7	977.9	977.7	977.4	977.6	977.5	977.8	977.9	977.9	978.0	977.8	977.2	976.5	976.3	976.0	975.6	975.6	975.1	974.8	975.0	975.0	975.0	974.2	976.8
	25	974.0	973.8	972.8	972.0	971.5	971.1	971.1	971.3	971.7	972.1	972.1	972.7	973.0	973.1	973.2	973.6	974.6	974.7	975.1	975.2	975.6	975.8	976.0	976.1	973.4
	26	976.1	976.0	975.8	975.6	975.2	974.8	974.8	974.0	973.3	972.9	972.9	972.4	971.9	971.1	970.2	968.9	968.7	968.4	968.3	968.5	968.7	969.4	970.3	970.9	972.2
	27	971.3	971.3	971.2	970.7	970.7	970.1	969.9	969.8	969.7	969.6	969.4	969.6	969.8	969.7	970.5	971.8	972.8	973.9	975.2	976.2	976.9	977.3	977.7	978.0	972.1
28	978.2	978.8	979.0	979.0	979.1	979.4	980.1	980.4	980.7	981.2	981.3	981.5	981.7	981.8	981.9	982.2	982.6	983.2	983.0	983.8	983.8	984.0	984.0	984.2	981.3	
Mean (Station Level)	984.31	984.24	984.04	983.83	983.79	983.70	983.69	983.79	983.88	983.99	984.04	984.00	983.86	983.58	983.57	983.61	983.81	984.14	984.33	984.45	984.62	984.73	984.92	985.06	984.07	
Mean (Sea Level)	1013.69	1013.63	1013.41	1013.20	1013.18	1013.10	1013.07	1013.15	1013.15	1013.20	1013.19	1013.10	1012.96	1012.65	1012.63	1012.70	1012.97	1013.38	1013.60	1013.73	1013.92	1014.08	1014.29	1014.46	1013.33	
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	



169. ESKDALEUIR:  $H_b$  (height of barometer cistern above M.S.L.) = 237.3 metres.

MARCH, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
1	984.0	983.9	983.8	983.4	983.2	983.0	983.0	983.2	983.1	983.2	982.6	982.1	982.0	981.7	981.5	981.1	981.0	980.7	979.8	979.8	979.1	978.6	977.9	977.9	981.8
2	977.2	976.8	976.1	975.5	974.9	974.5	974.0	973.4	973.2	972.9	972.8	972.1	971.3	970.8	969.7	969.0	968.8	968.4	967.8	967.2	966.3	965.4	964.9	964.2	971.4
3	983.8	982.5	981.6	981.0	980.4	959.7	959.1	958.8	958.9	958.2	957.7	957.0	957.0	956.5	956.2	956.0	956.2	956.4	956.2	956.0	955.9	955.9	955.9	955.8	956.4
4	955.8	955.7	955.3	954.9	954.9	954.9	954.9	955.0	955.1	955.4	955.4	955.6	955.7	956.1	956.4	956.6	957.0	957.2	957.7	958.0	958.7	959.6	960.1	960.9	956.2
5	961.5	962.2	962.9	963.5	964.2	965.3	966.0	966.8	967.2	967.3	967.3	968.0	967.9	968.0	967.5	966.8	966.4	966.1	965.8	964.7	963.7	963.6	961.9	961.2	965.2
6	960.9	960.8	960.9	961.1	961.4	962.2	962.8	963.1	963.3	963.5	963.8	963.9	963.9	964.0	964.1	964.2	965.1	966.4	967.0	967.1	967.2	967.3	967.8	967.9	964.0
7	968.3	969.0	969.8	970.2	971.0	971.8	972.3	973.0	974.7	975.3	976.4	977.6	978.8	979.8	980.8	981.9	983.1	984.3	985.6	987.8	989.3	990.0	991.6	992.2	978.4
8	993.0	993.9	994.5	994.9	995.4	995.9	996.2	996.8	996.8	996.8	996.8	996.0	995.2	994.8	994.4	994.1	993.9	993.8	994.0	993.9	993.2	993.0	992.9	992.5	994.7
9	992.0	991.5	990.8	990.8	991.1	991.7	991.7	991.6	991.9	992.2	992.8	992.8	993.2	993.1	993.5	993.8	993.2	993.8	994.2	993.2	993.0	993.2	993.1	993.2	992.4
10	993.1	993.0	993.0	993.0	992.7	992.6	992.9	993.0	993.3	993.5	993.2	993.0	992.8	991.7	991.3	991.0	990.8	990.8	990.9	991.0	990.9	990.8	990.5	990.1	992.1
11	989.9	989.4	989.0	989.0	988.9	988.9	988.9	988.9	988.8	988.7	988.8	988.6	988.2	987.9	987.6	987.5	987.8	988.0	988.6	988.8	988.9	989.2	989.2	989.6	988.7
12	989.6	989.5	989.6	989.3	989.7	989.9	990.2	990.3	990.3	990.3	990.2	990.1	989.8	989.6	989.5	989.6	989.6	990.0	990.1	990.2	990.2	990.2	990.2	990.3	989.9
13	990.2	990.3	990.2	990.0	990.1	990.6	990.8	990.8	990.8	990.8	990.3	990.0	989.8	989.4	989.3	989.2	989.2	989.4	989.8	989.8	989.8	989.8	989.1	988.9	988.9
14	988.7	987.9	987.4	987.1	987.1	987.2	987.4	987.8	988.1	987.8	988.0	988.3	988.7	988.8	988.3	988.1	988.2	988.2	987.9	986.2	985.4	983.9	982.8	982.1	987.3
15	981.1	981.2	981.2	981.7	982.2	981.7	981.2	981.8	981.8	981.5	981.0	980.9	980.7	980.2	979.3	978.5	977.7	977.2	976.0	975.2	974.0	972.6	970.9	969.6	979.0
16	967.2	965.3	963.7	963.7	964.0	964.6	965.0	965.0	964.6	963.8	962.8	962.1	961.8	960.9	960.8	960.7	960.4	960.8	961.0	960.2	959.9	960.0	959.8	959.3	962.6
17	958.7	957.7	956.7	955.9	954.9	954.6	954.3	954.3	953.7	953.6	952.7	952.5	952.0	951.5	951.1	950.6	950.5	950.7	951.0	951.2	951.6	951.7	952.1	952.6	953.3
18	952.8	953.5	954.1	955.1	955.7	956.3	957.1	957.9	958.5	958.7	959.2	959.5	959.7	959.6	959.5	959.4	959.3	959.0	958.7	958.5	958.5	958.1	957.7	957.2	957.6
19	956.9	956.7	956.6	956.3	956.7	956.8	956.9	957.1	957.3	957.3	957.5	957.5	957.0	956.9	956.6	956.1	955.8	955.3	955.8	956.7	957.5	958.7	960.0	961.8	956.9
20	963.5	965.0	966.7	968.0	969.8	971.7	973.4	975.4	977.3	979.6	981.3	983.3	984.9	986.5	987.1	988.1	989.7	990.9	992.2	992.9	993.8	994.4	994.8	995.0	981.2
21	995.2	996.1	996.2	996.6	996.8	997.0	997.2	997.4	997.4	997.3	997.2	997.1	996.7	996.2	995.9	995.4	995.3	995.3	995.1	995.2	995.1	995.0	994.9	994.7	996.1
22	994.7	994.8	994.7	994.3	994.3	994.3	994.6	994.7	994.7	994.5	994.3	994.2	993.8	993.2	992.8	992.8	992.8	993.0	993.5	994.0	994.4	994.6	994.7	995.0	994.1
23	994.9	994.8	994.4	994.2	994.5	994.9	995.2	995.3	995.2	995.5	995.2	995.1	995.0	994.6	994.3	994.0	994.6	995.2	995.7	996.0	996.4	997.0	997.1	997.1	996.2
24	997.0	996.9	996.9	997.4	997.8	998.0	998.0	998.1	997.8	997.8	997.6	997.2	996.8	996.1	995.9	995.4	995.4	995.5	996.0	996.2	996.6	996.3	996.2	996.2	996.8
25	996.1	996.0	995.8	995.6	995.3	995.4	995.6	995.5	995.5	995.2	994.9	994.7	994.3	994.0	993.6	993.6	993.5	993.9	994.1	994.3	994.9	995.2	995.5	995.8	994.9
26	996.1	996.2	996.2	997.0	997.3	997.7	998.2	998.6	998.9	999.0	999.0	998.9	999.1	999.2	999.2	999.1	999.4	999.9	000.4	001.0	001.2	000.9	001.0	001.1	998.8
27	001.0	000.8	000.5	000.5	000.4	000.4	000.6	000.4	000.4	000.4	000.0	999.7	999.2	998.6	998.3	997.9	997.4	997.7	997.7	997.4	997.3	997.2	996.8	996.5	992.1
28	996.3	995.9	995.4	995.0	994.6	994.3	994.6	994.8	994.3	994.0	993.7	993.3	992.9	992.2	991.5	990.9	990.3	990.0	989.7	989.3	989.4	989.3	988.9	988.3	992.3
29	987.1	986.5	985.9	985.0	984.3	984.0	983.9	983.6	983.3	982.9	982.3	982.0	981.9	981.6	981.4	981.1	981.2	981.6	981.9	982.0	982.1	981.9	981.6	981.4	983.1
30	981.0	980.9	980.4	979.9	979.6	979.3	979.3	979.6	980.1	980.0	980.1	980.0	980.2	980.2	980.7	980.8	981.2	981.6	982.5	983.2	983.8	984.0	984.5	984.6	981.1
31	984.6	984.6	984.6	984.2	984.2	984.3	984.3	984.8	984.9	984.8	984.6	984.1	983.9	984.1	984.0	983.8	983.8	983.9	984.1	984.2	984.4	984.9	985.2	985.5	984.4
Mean (Station Level)	981 .04	980 .95	980 .80	980 .77	980 .86	981 .07	981 .25	981 .49	981 .63	981 .62	981 .55	981 .51	981 .40	981 .17	981 .00	980 .82	980 .88	981 .12	981 .30	981 .33	981 .37	981 .35	981 .26	981 .23	981 .20
Mean (Sea Level)	1010 .19	1010 .12	1010 .01	1010 .01	1010 .12	1010 .34	1010 .50	1010 .63	1010 .59	1010 .43	1010 .20	1010 .08	1009 .94	1009 .66	1009 .49	1009 .33	1009 .48	1009 .86	1010 .19	1010 .31	1010 .41	1010 .44	1010 .38	1010 .37	1010 .12

170. ESKDALEUIR:  $H_b$  = 237.3 metres.

APRIL, 1933

Station Level	Day	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.			
	1	985.9	985.9	986.2	986.7	986.9	987.4	988.1	989.0	989.0	989.6	990.1	990.8	990.8	988.6	988.2	987.9	987.0	986.2	985.9	985.6	986.0	986.1	986.2	986.6	986.7	989.9	
	2	995.4	994.4	993.9	994.2	993.4	993.0	993.1	992.5	991.8	990.8	990.3	989.4	988.6	988.2	987.9	987.0	986.2	985.9	985.6	986.0	986.1	986.2	986.6	986.7	989.9	989.9	
	3	987.1	987.0	986.2	986.3	986.9	987.1	987.1	986.9	987.3	987.0	986.4	987.2	988.1	988.3	988.6	988.7	988.6	988.7	988.6	988.9	990.4	990.9	991.2	991.8	988.0	988.0	
	4	991.8	991.8	991.9	992.0	992.2	992.6	992.6	992.9	993.2	993.2	993.2	993.6	994.0	993.1	993.0	993.3	993.6	993.8	994.1	994.5	994.8	994.9	994.9	994.8	993.2	993.2	
	5	994.8	994.8	994.8	994.8	994.8	995.0	995.0	995.2	995.4	995.3	995.6	995.3	995.4	995.3	995.1	995.0	995.1	995.6	995.9	995.9	995.9	995.9	995.8	995.0	995.3	995.3	
	6	996.0	995.9	995.8	995.6	995.9	995.9	995.9	995.9	996.2	996.1	996.1	996.0	996.0	995.5	995.4	995.3	995.2	995.4	995.7	995.9	996.0	996.0	995.9	995.7	995.8	995.8	
	7	995.4	995.0	994.3	994.0	994.0	994.0	993.9	993.8	993.8	993.6	993.2	993.2	992.9	992.9	992.4	992.0	991.8	991.4	991.5	991.2	991.8	991.9	992.0	992.0	991.7	993.0	
	8	991.4	991.1	990.9	990.8	991.0	991.2	991.2	991.5	991.6	991.8	991.8	991.8	991.7	991.5	991.5	991.1	990.8	990.8	990.9	990.9	990.4	989.6	989.2	988.2	991.0	991.0	
	9	987.1	986.1	985.1	983.9	983.8	983.6	982.8	983.2	983.6	984.0	984.7	985.0	985.1	985.3	985.5	985.7	986.0	986.6	986.8	987.0	987.1	987.1	986.9	986.8	985.4	985.4	
	10	986.8	986.4	986.6	986.7	986.9	986.8	987.0	987.1	987.1	986.8	987.3	987.8	987.3	987.3	987.2	986.8	986.9	986.6	986.6	986.6	986.5	986.3	985.7	985.0	986.7	986.7	
	11	984.5	984.1	983.7	983.2	983.4	983.5	983.7	983.9	983.8	984.3	984.1	984.1	984.1	983.9	983.9	983.9	983.8	983.8	983.9	984.1	984.0	983.9	983.9	983.1	983.1	983.9	983.9
	12	982.8	982.5	982.5	982.6	983.1	983.9	984.5	984.9	985.6	985.8	986.0	986.4	986.8	987.0	987.8	988.1	988.4	989.2	990.3	991.5	992.0	992.2	993.0	993.9	986.9	986.9	
	13	994.0	994.0	994.3	995.2	995.8	996.7	997.2	997.6	998.1	998.4	998.8	998.8	998.9	999.2	999.5	999.8	000.0	000.2	000.6	000.8	001.3	001.8	002.1	002.8	998.4	998.4	
	14	003.0	002.9	002.9	003.1	003.5	003.9	004.1	004.1	004.0	003.6	003.0	002.6	002.0	001.8	001.0	000.1	999.9	999.0	998.9	998.4	997.9	997.2	996.7	996.0	001.4	001.4	
	15	995.0	994.2	993.6	993.2	993.4	993.2	992.6	992.2	992.0	992.3	992.1	992.2	992.2	001.9	991.8	991.4	991.1	991.1	990.8	990.7	990.9	990.4	990.0	990.0	992.2	992.2	
	16	989.2	989.0	989.7	989.6	989.8	990.0	990.3	990.3	990.8	990.9	991.1	991.7	992.0	992.2	992.3	992.3	992.7	993.0	993.2	993.9	994.3	994.8	995.1	995.2	991.7	991.7	
	17	995.1	995.2	995.1	995.0	995.0	995.0	995.1	995.0	994.8	994.6	994.5	994.4	994.0	993.6	993.2	993.0	992.8	992.2	992.2	992.6	993.0	993.1	993.4	993.7	994.0	994.0	
	18	993.6	993.8	994.0	995.0	995.4	995.9	996.1	996.2	996.0	996.6	996.6	996.5	996.8	996.6	996.6	997.0	997.1	997.1	997.8	998.0	997.9	997.9	997.8	997.8	996.3	996.3	
	19	997.5	997.0	997.0	996.8	996.7	996.7	996.4	996.2	996.0	995.7	995.9	995.8	995.6	995.3	995.1	995.1	995.0	995.0	994.9	994.8	994.9	994.7	994.6	994.0	995.8	995.8	
	20	993.7	993.1	992.8	992.2	992.0	991.9	991.9	991.7	991.6	991.1	990.9	990.9	990.5	990.4	990.3	990.1	990.2	990.5	990.9	991.2	991.4	991.7	991.9	992.3	991.5	991.5	
	21	992.5	992.7	992.7	992.8	992.9	993.2	993.5	993.7	993.8	993.8	994.0	994.2	994.4	994.6	994.8	994.6	994.6	994.7	994.9	995.1	995.5	995.8	995.8	995.8	994.1	994.1	
	22	995.7	995.6	995.5	995.5	995.5	995.5	995.4	995.5	995.3	995.2	995.0	994.4	994.3	994.0	993.9	993.8	993.2	992.4	992.4	992.2	992.1	992.0	991.6	991.2	994.1	994.1	
	23	990.8	990.6	989.8	989.0	988.2	988.1	987.7	987.2	986.8	986.6	986.1	985.8	985.4	985.2	985.0	984.8	984.4	984.4	984.4	984.6	984.7	984.8	984.9	985.0	986.5	986.5	
	24	984.9	984.9	984.8	984.9	984.9	985.0	985.0	985.0	984.8	984.4	984.2	984.2	984.0	983.6	983.3	982.9	982.5	982.3	982.3	982.3	982.4	982.0	981.3	980.9	983.7	983.7	
	25	980.6	980.0	979.5	979.0	979.0	978.9	979.0	979.0	979.0	979.1	979.0	979.0	978.8	978.7	978.3	978.1	977.8	977.9	978.2	978.3	978.7	978.5	978.5	978.4	978.9	978.9	
	26	978.3	978.3	978.4	978.4	978.2	978.1	978.5	978.4	978.2	978.1	978.0	978.0	978.0	978.0	977.8	977.7	977.7	977.7	977.6	977.6	977.4	976.9	976.1	975.9	975.2	977.8	
	27	974.9	974.5	974.1	974.4	974.7	975.1	975.4	975.8	975.9	976.0	976.0	976.2	976.2	976.2	976.2	976.5	976.5	976.5	976.5	976.6	976.8	977.0	976.6	976.1	975.6	975.6	
	28	976.2	976.2	976.2	976.7	976.8	977.0	977.4	977.8	978.0	978.2	978.2	978.2	978.6	978.6	978.2	978.1	978.0	978.0	978.3	978.9	979.1	979.3	979.3	979.2	977.9	977.9	
	29	979.0	978.9	978.8	978.8	978.8	978.0	978.0	978.0	978.0	978.0	977.9	977.9	977.7	977.7	977.4	977.3	977.1	977.4	977.7	977.8	977.9	977.9	977.9	977.9	977.9	977.9	
30	977.9	977.9	977.9	978.0	978.0	978.7	979.2	979.8	979.8	980.3	980.8	981.0	981.2	981.8	981.9	982.0	982.3	982.9	983.1	983.4	983.8	984.1	984.2	984.3	980.9	980.9		
Mean (Station Level)	989 +03	988 +79	988 +63	988 +58	988 +66	988 +82	988 +92	988 +99	989 +05	989 +03	989 +04	989 +10	989 +01	988 +95	988 +89	988 +78	988 +72	988 +77	988 +93	989 +18	989 +33	989 +30	989 +24	989 +15	988 +95	988 +95		
Mean (Sea Level)	1018 +14	1017 +89	1017 +75	1017 +70	1017 +79	1017 +95	1017 +97	1017 +95	1017 +94	1017 +83	1017 +78	1017 +80	1017 +67	1017 +59	1017 +54	1017 +45	1017 +43	1017 +56	1017 +81	1018 +16	1018 +36	1018 +37	1018 +32	1018 +24	1017 +87	1017 +87		
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	Mean		



171. ESKDALEMUIR:  $H_b$  (height of barometer cistern above M.S.L.) = 237.3 metres.

MAY, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
1	984.2	984.4	984.7	984.9	985.1	985.4	986.0	986.2	986.6	986.9	987.2	987.4	987.7	987.7	987.8	987.8	988.1	988.1	988.3	988.8	989.0	989.2	989.4	989.2	987.0
2	989.1	989.1	989.2	989.1	988.9	988.9	988.7	988.4	987.7	987.9	987.9	987.1	986.9	986.6	986.4	986.0	985.9	986.0	986.1	986.2	986.1	986.1	986.1	985.8	987.4
3	985.3	985.1	985.0	984.0	984.0	984.0	984.0	983.9	983.7	983.3	983.3	983.2	983.0	983.7	983.9	983.1	983.1	983.0	983.0	983.0	983.5	983.6	983.8	983.9	983.8
4	983.8	983.9	983.9	983.8	983.8	984.1	984.7	984.7	984.6	984.7	984.6	984.2	983.8	983.7	983.4	983.0	982.9	982.8	982.8	982.1	982.5	982.4	982.2	982.3	983.5
5	982.2	981.9	981.9	981.8	981.6	982.2	982.2	982.2	982.0	982.0	982.0	981.8	981.2	981.0	980.5	980.1	979.6	979.2	980.0	980.2	980.4	980.0	980.1	980.0	981.1
6	979.8	979.2	979.0	978.4	978.2	978.2	978.2	978.0	977.4	976.9	976.5	976.1	975.8	975.1	974.6	974.2	974.3	974.7	973.6	973.9	973.9	972.9	973.3	972.8	976.2
7	971.8	971.8	971.2	970.9	970.8	970.8	971.0	971.4	971.5	971.9	972.0	971.9	971.9	972.7	973.0	973.1	973.6	974.1	974.3	974.9	975.1	975.7	976.1	976.4	972.8
8	976.6	976.7	976.9	977.1	977.9	978.0	978.6	978.6	978.9	978.7	978.3	978.0	978.0	977.7	977.4	977.3	977.2	977.0	976.6	976.6	976.2	975.9	975.6	975.4	977.3
9	975.6	975.8	975.8	975.8	976.3	976.5	977.1	977.2	977.5	977.8	978.0	978.4	978.9	979.0	979.4	979.5	979.5	979.5	979.6	979.8	979.8	979.8	979.8	979.9	978.1
10	979.8	979.8	980.0	980.3	981.2	982.0	982.8	982.9	983.6	984.0	984.4	984.9	985.1	985.1	985.4	985.4	985.5	985.8	986.2	986.4	986.6	986.7	986.4	986.4	983.9
11	986.3	986.1	986.0	985.8	985.9	986.0	986.0	986.0	985.9	986.0	985.9	985.9	986.0	985.9	985.7	985.5	985.5	985.5	985.8	985.7	985.7	986.0	986.0	986.2	985.9
12	986.1	986.1	986.0	985.9	985.9	986.0	986.0	986.0	985.9	986.1	986.2	986.1	986.0	985.9	985.9	985.8	985.6	985.7	985.9	986.2	986.5	986.2	986.0	986.0	986.0
13	985.9	985.8	985.5	985.1	984.9	984.8	984.7	984.1	983.9	983.7	983.3	983.3	983.0	982.9	982.8	982.7	982.4	982.7	982.9	983.1	983.2	983.2	983.4	983.9	983.9
14	983.5	983.7	983.8	984.1	984.9	985.1	985.4	985.8	986.0	986.6	986.8	986.8	986.8	986.9	986.8	986.9	987.2	987.6	987.9	988.7	989.1	989.4	989.6	989.9	986.4
15	990.3	990.8	991.0	991.2	991.5	992.0	992.4	992.4	992.6	992.5	992.5	992.6	992.8	992.7	992.6	992.5	992.5	992.6	993.0	993.4	993.9	993.1	993.1	992.8	992.3
16	992.6	992.5	992.4	992.3	992.3	992.4	992.4	991.9	991.8	991.7	991.7	991.7	991.2	991.1	991.1	991.0	990.8	990.9	990.8	990.9	991.0	991.1	990.9	991.2	991.6
17	991.1	991.1	991.2	991.8	991.9	992.1	992.3	992.7	993.0	993.0	992.9	993.0	993.3	993.4	993.6	993.8	993.9	993.9	994.3	994.6	995.0	994.9	994.7	994.7	993.1
18	994.6	994.4	994.3	994.3	994.4	994.3	994.1	994.0	993.9	993.8	993.6	993.1	992.9	992.2	992.0	991.8	991.7	991.4	991.0	991.0	991.0	990.9	990.9	990.8	992.9
19	990.7	990.7	990.6	990.1	990.5	990.1	990.3	990.3	990.5	990.2	990.0	989.8	989.9	989.6	989.0	988.7	988.1	987.6	987.2	986.7	986.4	986.1	985.7	985.0	989.0
20	984.7	984.2	983.8	983.4	983.2	983.2	983.0	982.8	982.5	982.6	982.0	982.3	982.0	981.9	981.8	982.4	982.9	982.9	982.9	983.1	983.7	983.8	983.9	984.4	983.1
21	984.5	985.0	985.6	985.8	986.3	986.8	987.4	987.9	988.2	988.4	988.8	989.0	988.8	989.2	989.4	989.6	989.5	989.7	990.0	990.7	991.1	991.7	991.9	992.0	988.5
22	992.2	992.1	992.2	992.4	992.7	993.0	993.2	993.4	993.6	993.8	993.8	993.7	993.1	992.9	992.7	993.4	993.5	993.5	993.7	993.8	994.1	994.2	994.1	993.8	992.3
23	993.8	993.9	993.9	993.4	993.2	993.1	993.1	993.4	993.1	993.0	992.8	992.7	992.6	992.1	992.0	991.7	991.6	991.9	992.0	992.1	992.3	992.4	992.1	992.0	992.7
24	992.0	991.9	991.7	991.3	991.5	991.6	991.3	991.4	991.0	990.7	990.1	989.5	989.1	989.1	988.9	988.7	988.4	988.1	987.6	987.1	986.9	986.6	986.7	986.0	989.6
25	987.1	986.9	986.7	986.7	986.7	986.6	986.5	986.3	986.1	985.9	985.9	985.8	985.5	985.4	985.2	985.1	985.0	985.2	985.7	986.4	986.6	986.6	986.4	986.4	986.1
26	986.3	986.6	986.7	986.5	986.8	986.9	986.9	986.7	986.5	986.4	986.1	985.9	986.0	986.0	985.9	985.8	985.6	985.5	985.7	985.8	985.9	985.9	986.1	985.9	986.2
27	985.9	985.9	985.7	985.9	986.0	986.4	986.0	987.0	987.0	987.0	986.8	986.8	986.9	987.0	987.0	987.1	987.1	987.3	987.7	987.9	988.0	988.3	988.6	988.5	987.0
28	986.2	986.4	986.3	986.6	986.8	986.9	986.5	986.7	986.9	986.9	986.9	986.9	990.0	990.1	990.1	990.1	990.5	990.5	990.6	991.2	991.8	992.1	992.1	992.1	990.0
29	992.1	992.2	992.0	992.0	992.0	992.1	992.2	992.3	992.3	992.3	992.3	992.0	991.9	991.9	991.6	991.4	991.2	991.1	991.1	991.3	991.5	991.4	991.4	991.1	991.8
30	990.9	990.6	990.0	989.9	989.9	989.9	989.5	989.2	988.9	988.4	987.9	987.2	987.0	986.7	986.0	985.5	985.1	985.1	985.2	985.5	985.6	985.6	985.5	985.4	987.6
31	985.2	985.1	985.0	985.0	984.9	984.7	984.6	984.6	984.3	984.2	984.1	984.1	984.1	984.1	984.1	984.0	984.0	984.0	984.3	984.9	985.1	984.9	984.9	984.6	984.6
Mean (Station Level)	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986
Mean (Sea Level)	1014	1015	1014	1014	1015	1015	1015	1015	1014	1014	1014	1014	1014	1014	1014	1014	1014	1014	1014	1014	1014	1015	1015	1015	1014
	.98	.00	.96	.89	.05	.07	.11	.04	.89	.81	.67	.49	.35	.29	.17	.12	.14	.23	.36	.70	.95	.03	.06	.03	.72

172. ESKDALEMUIR:  $H_b$  = 237.3 metres.

JUNE, 1933.

Station Level ↑	1	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
	2	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
	3	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
	4	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
	5	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
	6	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
	7	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
	8	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
	9	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
	10	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
	11	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
	12	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
	13	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
14	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	
15	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	
16	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	
17	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	
18	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	
19	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	
20	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	
21	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	
22	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	
23	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	
24	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	
25	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	
26	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	
27	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	
28	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	
29	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	
30	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	
Mean (Station Level)	983	983	983	983	983	983	983	983	983	983	983	983	983	983	983	983	983	983	983	983	983	983	983	983	
Mean (Sea Level)	1012	1011	1011	1012	1012	1011	1011	1011	1011	1011	1011	1011	1011	1010	1010	1010	1010	1010	1011	1011	1011	1012	1012	1011	
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	24.	Mean	



173. ESKDALEMUIR:  $H_b$  (height of barometer cistern above M.S.L.) = 237.3 metres.

JULY, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
1	990.7	990.7	990.9	991.0	991.2	991.6	992.0	992.1	992.4	992.5	992.5	992.8	993.0	993.4	993.6	993.9	994.0	994.3	994.8	994.9	995.6	996.1	996.4	996.8	993.1
2	997.0	997.2	997.8	998.1	998.0	998.6	998.8	998.9	999.2	999.4	999.8	999.8	999.9	1000.0	1000.3	1000.6	1001.0	1001.1	1001.6	1002.0	1002.6	1003.0	1003.1	1003.6	999.9
3	1003.9	1004.0	1004.0	1004.3	1004.7	1004.9	1005.1	1005.3	1005.8	1006.0	1006.0	1006.0	1006.1	1006.0	1006.1	1006.1	1006.1	1006.2	1006.3	1006.5	1006.6	1006.9	1006.9	1006.9	1006.9
4	1006.9	1006.9	1006.9	1006.9	1006.9	1006.9	1006.9	1006.9	1006.9	1006.9	1006.9	1006.9	1006.9	1006.9	1006.9	1006.9	1006.9	1006.9	1006.9	1006.9	1006.9	1006.9	1006.9	1006.9	1006.9
5	1002.2	1002.0	1001.6	1001.4	1001.2	1001.1	1001.0	1000.7	1000.2	1000.0	999.6	998.9	998.2	997.3	996.7	996.2	995.7	995.1	994.9	994.9	995.1	995.1	994.9	994.1	998.2
6	993.8	993.2	992.8	992.1	991.8	991.3	991.3	991.0	990.6	990.1	989.9	989.4	989.0	988.6	987.8	987.6	987.1	987.0	987.0	987.1	987.5	987.6	987.7	987.8	989.7
7	987.8	987.0	986.3	986.0	985.7	985.2	984.8	984.9	984.7	984.4	983.3	982.9	982.0	981.5	980.8	980.2	980.3	980.2	980.4	980.2	980.2	980.3	980.3	980.4	984.0
8	984.8	985.2	985.3	985.7	986.0	986.8	987.2	987.8	987.9	988.2	988.2	988.5	988.3	988.3	988.1	987.8	988.3	988.1	988.2	988.0	988.3	988.3	988.1	988.4	987.4
9	988.4	988.0	987.7	987.3	987.8	987.6	987.6	987.6	987.6	987.6	987.6	987.6	987.6	987.6	987.6	987.6	987.6	987.6	987.6	987.6	987.6	987.6	987.6	987.6	985.3
10	977.6	976.8	976.2	976.2	976.2	976.5	977.0	977.2	977.4	977.6	977.2	977.2	977.3	977.6	977.5	977.4	977.6	977.4	977.5	977.4	977.6	977.1	977.0	976.7	977.2
11	976.3	976.0	976.0	976.0	976.6	976.3	976.2	976.2	976.2	974.9	974.6	974.0	974.0	973.9	973.6	973.4	973.3	973.2	973.3	973.5	973.3	973.2	973.1	973.1	974.5
12	972.9	972.8	972.6	972.1	972.4	972.9	973.3	973.8	974.1	974.1	974.3	974.7	975.1	975.4	976.0	976.4	976.6	976.8	977.1	977.8	977.7	977.2	977.8	977.8	975.0
13	977.8	977.0	976.7	975.9	975.3	974.9	974.2	973.3	972.9	972.1	971.1	969.8	969.0	968.0	967.0	966.0	965.2	964.9	964.9	964.9	965.1	965.3	965.4	965.3	970.3
14	965.4	965.4	965.7	966.0	966.3	967.0	967.8	968.4	969.1	969.6	969.9	970.4	970.7	971.0	971.4	972.0	972.4	972.9	973.4	974.0	974.6	974.6	974.8	974.9	970.1
15	975.0	975.2	975.2	975.2	975.6	975.6	975.7	975.9	975.9	976.0	976.0	976.0	976.0	976.0	976.0	976.0	976.0	976.0	976.0	976.0	976.0	976.0	976.0	976.0	976.0
16	980.6	980.8	981.0	981.8	982.6	983.1	983.8	984.3	985.0	985.4	985.7	986.0	986.1	986.3	986.3	986.3	986.3	986.3	986.3	986.3	986.3	986.3	986.3	986.3	986.3
17	989.4	989.2	989.3	989.2	989.4	989.5	989.8	989.9	990.0	990.0	989.9	989.9	989.9	990.0	990.0	990.0	990.0	990.0	990.0	990.0	990.0	990.0	990.0	990.0	990.0
18	991.0	991.0	991.0	991.0	991.2	991.5	991.5	991.5	991.6	991.6	991.7	991.8	991.9	991.7	991.6	991.7	991.7	991.6	991.5	991.7	991.8	991.7	991.8	991.5	991.5
19	991.2	990.9	990.1	990.0	989.4	988.4	987.8	987.9	987.9	987.9	987.9	987.9	987.9	987.9	987.9	987.9	987.9	987.9	987.9	987.9	987.9	987.9	987.9	987.9	987.9
20	984.6	984.4	984.4	984.4	984.4	984.5	984.6	984.9	984.9	985.0	985.1	985.5	985.9	986.0	986.0	986.0	986.1	986.1	986.1	986.6	987.1	987.5	987.6	987.6	985.6
21	987.9	988.0	988.0	988.0	988.3	988.6	988.9	988.9	988.8	988.9	988.7	988.8	988.8	988.8	988.8	988.9	989.0	989.1	989.4	989.9	990.3	990.7	990.9	990.9	989.0
22	990.9	990.9	990.8	990.8	990.9	991.2	991.7	991.7	991.7	991.8	991.9	992.1	992.3	992.3	992.8	992.8	993.1	993.2	993.7	994.0	994.4	994.8	994.8	994.8	992.4
23	995.1	995.0	995.1	995.1	995.0	995.0	995.1	995.2	995.2	994.9	995.0	994.7	994.7	994.7	994.4	994.1	994.1	994.2	994.2	994.4	994.6	994.6	994.4	994.1	994.7
24	993.8	993.6	993.2	992.9	992.6	992.8	992.5	992.6	992.1	992.1	992.0	991.6	991.6	991.7	991.4	991.3	991.2	991.3	991.0	990.8	990.3	989.9	989.1	988.4	991.8
25	987.8	987.3	987.0	986.5	986.1	985.9	985.9	986.1	986.1	986.2	986.5	986.7	986.8	986.9	986.8	986.8	986.8	986.9	987.1	987.4	987.7	987.9	987.9	987.9	986.9
26	988.0	987.7	987.6	987.1	987.5	987.5	987.8	987.7	987.7	987.6	987.6	987.7	987.6	987.7	987.9	987.6	987.3	987.5	987.9	988.0	988.6	989.0	988.9	988.9	987.8
27	988.7	988.4	988.8	988.8	988.7	988.6	988.6	988.6	988.6	988.6	988.6	988.6	988.6	988.6	988.6	988.6	988.6	988.6	988.6	988.6	988.6	988.6	988.6	988.6	986.5
28	984.7	983.8	984.0	984.6	984.9	985.2	985.3	985.4	985.7	985.8	985.7	985.5	985.6	985.7	985.4	984.9	984.0	983.2	982.8	982.0	981.2	980.8	980.2	980.0	984.1
29	979.7	979.2	978.9	978.4	978.2	978.0	978.0	978.0	978.0	977.7	977.7	977.6	977.9	978.2	978.7	979.3	980.3	981.2	982.1	983.3	984.1	985.0	985.2	986.1	979.9
30	986.2	986.1	986.5	986.9	987.0	987.7	987.7	987.7	987.6	987.6	987.5	987.0	986.8	986.9	986.5	985.8	984.8	983.8	982.5	981.1	979.7	977.8	976.1	973.9	984.2
31	970.1	969.3	968.1	966.9	966.9	967.1	967.5	968.3	969.2	970.7	971.9	972.6	974.1	975.7	976.9	978.0	979.7	980.8	982.4	983.5	985.7	986.7	987.9	989.0	975.0
Mean (Station Level)	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986
Mean (Sea Level)	1015	1014	1014	1014	1014	1014	1014	1014	1014	1014	1014	1014	1014	1014	1013	1014	1014	1014	1014	1014	1014	1015	1015	1015	1014

174. ESKDALEMUIR:  $H_b$  = 237.3 metres.

AUGUST, 1933.

Station Level ↑ ↓	Day	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
	1	990.0	990.6	991.2	992.3	992.8	993.2	994.0	994.8	994.9	995.6	996.5	996.6	996.8	996.9	997.1	997.3	997.3	997.0	996.8	996.9	996.9	996.6	996.5	996.5	995.1
	2	996.4	996.0	995.9	995.9	995.9	996.2	996.4	996.7	996.8	996.7	996.7	996.7	996.7	996.9	997.2	997.3	997.2	997.5	997.8	997.9	998.2	998.0	998.0	998.0	996.9
	3	998.0	998.1	998.4	998.4	998.4	998.7	998.8	998.9	999.0	998.9	998.9	998.9	998.9	998.7	998.7	998.7	999.1	999.0	999.3	999.4	999.6	999.7	999.8	999.7	998.9
	4	999.6	999.6	999.5	999.4	999.4	999.4	999.3	999.3	999.2	998.7	998.7	997.9	997.9	997.8	997.6	997.6	997.3	996.9	996.7	996.9	997.5	997.5	997.3	997.2	998.3
	5	997.0	996.8	996.5	996.5	996.5	996.5	996.5	996.5	996.5	996.5	996.1	995.8	995.3	994.8	994.7	994.3	993.7	993.3	992.9	992.8	992.8	992.8	992.7	991.8	994.9
	6	991.5	990.9	990.7	990.6	990.2	990.0	989.9	989.9	989.9	989.5	989.5	989.1	989.3	989.2	989.3	989.3	989.2	989.6	989.9	990.3	990.9	991.4	991.2	991.1	990.1
	7	990.9	990.7	990.5	990.3	989.9	989.7	989.7	989.5	989.7	988.2	987.7	987.0	986.6	986.3	985.2	984.8	984.4	984.2	983.7	983.4	983.1	983.1	982.9	983.0	987.0
	8	982.9	983.4	983.2	983.3	983.7	983.9	984.7	985.1	985.7	986.0	986.2	986.2	986.2	986.2	986.2	986.6	986.6	986.6	986.7	986.7	986.9	986.8	986.4	985.9	985.0
	9	984.1	983.0	982.6	981.7	981.4	981.1	981.9	982.6	983.7	983.9	984.4	985.2	985.7	986.1	986.5	987.0	987.5	987.6	988.1	988.3	989.2	989.8	989.8	990.0	985.4
	10	990.1	990.2	990.6	990.5	990.9	991.5	991.9	992.0	992.4	992.5	992.7	993.0	993.1	993.2	993.3	993.4	993.5	993.6	994.0	994.4	994.4	994.4	994.8	994.7	992.6
	11	994.9	994.7	994.7	994.8	994.6	994.5	994.5	994.7	994.9	994.9	994.8	994.6	994.3	994.4	994.4	994.3	994.2	994.5	994.8	995.3	995.6	995.9	996.3	996.7	994.8
	12	996.5	996.7	996.8	997.1	997.6	998.2	998.9	999.0	999.2	999.3	999.1	999.0	998.8	998.2	998.1	997.8	997.6	997.7	997.8	997.8	997.5	997.7	997.7	997.5	998.0
	13	997.1	996.8	996.8	996.2	996.1	996.0	995.8	995.6	995.2	995.1	994.2	993.7	993.1	992.5	991.8	991.0	990.7	990.3	990.1	989.9	989.6	989.5	989.0	988.8	993.3
	14	988.4	987.8	987.2	986.7	986.2	986.1	986.0	985.6	985.3	985.1	984.9	984.3	983.6	983.1	982.8	982.4	981.8	981.4	981.1	980.7	980.4	979.9	979.0	978.4	983.9
	15	977.9	976.9	976.4	975.3	974.5	973.9	973.2	972.3	971.7	971.1	970.1	969.7	968.7	967.9	967.7	967.8	968.2	968.7	969.5	970.2	971.2	972.0	972.5	972.8	971.8
	16	973.3	973.6	973.8	974.1	974.5	975.0	975.5	976.0	976.7	977.3	977.8	977.8	978.3	978.4	978.7	979.0	979.3	979.9	980.0	980.1	979.9	979.8	979.6	979.1	977.3
	17	978.6	977.9	977.3	976.5	975.8	975.2	974.6	974.2	973.1	972.1	971.0	970.4	970.4	969.9	969.4	968.9	968.8	968.6	968.5	968.2	970.0	969.7	970.0	970.3	972.3
	18	971.3	972.4	973.7	974.7	975.4	975.6	976.7	977.1	977.4	978.1	978.4	979.1	979.2	979.3	979.4	979.5	979.7	979.7	979.8	980.1	980.2	980.1	980.1	979.8	977.6
	19	979.9	980.0	980.1	980.2	980.2	980.5	981.0	981.3	981.5	981.2	981.4	981.4	981.5	981.8	981.7	981.7	981.3	981.1	981.1	981.2	981.0	980.4	980.4	979.8	980.9
	20	979.6	979.2	978.5	977.7	977.6	977.1	977.0	976.9	976.7	976.6	976.6	976.5	976.6	976.4	976.3	976.2	976.2	976.2	976.2	976.2	976.5	976.5	976.5	976.2	977.0
	21	976.1	975.6	975.0	974.6	974.5	974.3	974.1	974.1	974.0	973.8	973.7	973.3	973.1	973.2	973.0	973.1	973.1	974.0	974.5	974.9	975.4	975.8	976.2	976.3	974.4
	22	976.4	976.4	976.3	975.4	975.8	976.0	976.0	975.9	975.8	975.9	975.7	975.2	975.0	974.9	974.3	974.2	974.1	974.0	973.9	974.0	973.9	973.9	974.0	973.9	975.1
	23	973.6	973.5	973.6	973.6	973.4	973.6	973.9	974.1	974.7	975.1	975.6	976.0	976.3	977.4	978.4	978.5	979.1	979.9	980.3	981.5	981.9	982.7	983.7	984.0	977.1
	24	984.4	984.8	984.9	985.1	985.5	985.9	986.4	986.8	987.0	987.1	987.1	987.1	987.2	987.2	987.2	987.1	987.2	987.3	987.3	987.5	987.8	987.9	988.0	987.9	986.7
	25	987.8	987.6	987.5	987.4	987.7	987.9	988.1	988.3	988.3	988.2	988.3	988.5	988.6	988.8	988.4	989.1	989.8	989.7	990.4	990.6	991.1	991.1	991.3	991.4	988.9
	26	991.6	991.8	991.9	991.8	992.1	992.3	992.4	992.3	992.3	992.3	992.6	992.4	992.3	992.1	992.0	991.8	991.3	991.2	991.1	991.5	991.5	991.3	991.5	991.0	991.9
	27	991.1	990.9	990.9	990.6	990.3	990.4	990.6	990.5	990.5	990.6	990.5	990.4	990.6	990.4	990.0	989.6	989.3	988.9	988.6	988.7	988.2	987.8	987.5	987.1	989.8
	28	986.6	986.8	986.5	986.5	986.6	986.1	986.0	986.0	986.3	986.4	986.8	986.9	987.9	988.3	988.3	988.2	988.3	988.3	988.4	988.4	988.7	988.3	988.5	988.1	987.4
	29	988.0	987.6	987.2	987.0	987.1	987.0	987.2	987.3	987.5	987.6	987.4	987.2	987.0	986.6	986.5	986.6	986.6	986.9	987.1	987.5	987.6	987.6	987.7	987.8	987.2
	30	987.7	987.6	987.5	987.6	987.6	987.8	988.2	988.6	988.8	989.1	989.5	989.8	990.2	990.6	990.9	991.1	991.6	992.3	993.1	993.6	994.0	994.5	994.8	994.8	990.3
31	994.7	994.5	994.1	994.1	993.6	993.7	993.6	993.5	993.1	993.0	992.5	992.0	991.8	991.1	990.2	989.6	989.0	988.8	988.8	988.2	988.2	988.2	988.2	988.1	991.7	
Mean (Station Level)		986 .97	986 .85	986 .76	986 .65	986 .62	986 .68	986 .87	986 .96	986 .99	986 .98	986 .95	986 .84	986 .80	986 .76	986 .63	986 .58	986 .55	986 .60	986 .73	986 .94	987 .08	987 .12	987 .13	986 .99	986 .84
Mean (Sea Level)		1015 .30	1015 .20	1015 .12	1015 .01	1014 .99	1014 .99	1015 .08	1015 .02	1014 .96	1014 .88	1014 .79	1014 .59	1014 .52	1014 .44	1014 .31	1014 .27	1014 .29	1014 .44	1014 .68	1015 .04	1015 .27	1015 .34	1015 .39	1015 .29	1014 .68
Hour G. M. T.		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean



175. ESKDALEUIR:  $H_b$  (height of barometer cistern above M.S.L.) = 237.3 metres.

SEPTEMBER, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
1	988.2	988.2	988.3	988.4	988.4	988.9	989.5	989.6	989.9	989.4	989.5	989.5	989.7	989.7	989.9	989.7	990.1	990.3	990.6	991.2	991.6	991.9	992.1	992.3	989.7
2	992.1	992.0	992.0	992.1	992.2	992.4	992.7	993.0	993.1	993.1	993.0	993.0	993.1	993.1	993.1	993.4	993.5	993.7	994.1	994.3	994.3	994.7	994.6	994.6	993.1
3	994.2	994.1	994.1	994.1	994.1	994.4	994.7	995.0	995.4	995.4	995.4	995.2	995.2	995.1	995.1	995.0	995.0	995.3	995.6	995.9	996.1	996.5	996.6	996.4	995.1
4	996.3	996.4	996.3	996.3	996.4	996.4	997.0	997.1	997.3	997.4	997.5	997.5	997.4	997.1	996.7	996.5	996.3	996.2	996.3	996.6	996.7	996.7	996.7	996.5	996.7
5	996.2	996.0	995.7	995.6	995.6	995.6	995.7	995.6	995.4	995.4	995.2	994.9	994.6	994.4	994.0	993.7	993.0	992.8	992.9	992.9	993.2	993.3	993.6	993.9	994.5
6	993.8	994.0	994.1	994.3	994.9	995.1	995.3	995.9	996.1	996.2	996.2	996.5	997.0	997.1	997.2	997.4	997.9	998.4	999.2	999.8	000.5	000.9	001.2	001.3	996.9
7	001.7	001.9	002.4	003.0	003.2	003.5	003.7	004.2	004.9	004.9	004.9	004.7	004.6	004.3	004.3	004.1	004.0	004.2	004.5	004.8	005.0	005.0	005.0	004.7	004.0
8	004.6	004.3	004.0	004.1	004.0	004.0	004.1	004.2	004.2	004.0	003.6	003.2	003.1	002.9	002.5	002.4	002.5	002.8	002.9	003.2	002.9	002.9	003.0	003.0	003.5
9	002.9	002.7	002.8	002.8	003.0	002.9	003.0	003.1	003.0	002.9	002.9	002.7	002.3	002.1	001.9	001.8	001.6	001.8	002.3	002.9	002.9	003.1	003.1	003.1	002.6
10	002.9	002.9	002.8	003.1	003.1	003.1	003.5	003.5	003.5	003.5	003.3	003.0	002.5	002.1	001.5	001.2	001.0	001.1	001.7	002.0	002.1	002.1	002.1	001.9	002.5
11	001.5	001.4	001.1	001.0	000.8	000.9	001.0	000.9	000.9	000.8	000.0	999.6	999.3	999.3	998.9	998.8	998.7	998.4	998.4	998.5	998.5	998.1	997.9	997.8	999.8
12	997.2	996.7	996.2	996.1	995.8	995.8	995.9	995.8	995.8	995.9	995.5	994.8	995.2	993.5	992.9	992.5	992.4	992.4	992.5	992.7	992.8	992.7	992.2	991.7	994.5
13	991.3	990.8	990.4	989.9	989.7	989.0	988.7	988.3	987.8	987.6	987.6	987.4	988.0	988.2	987.7	987.3	987.9	988.3	988.8	989.4	989.8	989.8	989.9	989.8	988.9
14	989.9	989.9	990.3	991.0	991.2	992.0	992.8	993.4	994.1	994.5	994.9	995.0	995.2	995.3	995.0	995.3	995.6	996.0	996.7	996.8	996.7	996.7	996.6	996.6	994.1
15	996.1	996.0	996.0	995.9	995.7	995.9	995.9	995.8	995.8	995.4	995.1	995.1	994.8	994.4	994.0	993.9	993.8	993.8	994.0	994.0	993.6	993.4	993.2	993.1	994.9
16	992.9	992.7	992.4	992.1	991.8	991.7	991.6	991.4	991.2	990.6	990.1	990.0	989.6	989.3	988.9	988.5	988.2	988.4	988.4	988.2	988.1	987.8	987.7	987.8	990.1
17	988.0	987.7	987.4	986.7	986.5	986.4	986.3	986.0	985.8	985.2	984.4	983.6	982.7	981.9	981.3	980.6	980.2	979.6	979.6	979.2	978.4	977.7	976.7	976.4	983.1
18	975.8	975.9	976.0	976.0	977.1	978.6	979.9	981.2	982.1	983.1	983.6	984.0	984.3	984.6	984.6	984.8	985.0	985.2	985.6	985.8	985.6	985.2	984.8	984.1	982.0
19	983.9	983.5	982.8	982.6	982.4	982.2	982.0	981.6	981.3	980.8	980.4	980.0	979.8	979.2	978.7	978.6	978.0	977.9	978.0	977.7	977.7	977.5	977.0	976.2	980.1
20	976.2	975.8	975.1	975.0	975.0	975.1	975.0	974.9	974.6	974.2	974.0	974.0	974.0	974.2	974.4	974.7	975.1	975.7	976.5	977.0	977.7	978.0	978.4	978.6	975.6
21	979.1	979.2	979.8	979.9	980.2	980.6	981.3	981.8	982.3	982.4	982.8	983.3	983.0	983.9	984.2	984.5	984.9	985.0	985.2	985.2	985.0	985.4	985.3	985.2	982.8
22	985.2	984.7	984.6	984.4	984.3	984.1	984.4	984.2	983.9	983.1	982.6	982.4	981.9	981.6	981.4	980.8	980.3	979.9	979.8	979.6	979.2	978.5	978.0	977.3	982.1
23	976.7	975.9	975.3	974.7	974.3	973.7	973.5	973.3	973.0	972.7	972.4	972.1	971.9	971.8	971.7	971.9	972.1	972.3	972.7	973.2	973.7	973.7	973.4	974.3	973.6
24	974.8	974.6	974.7	974.8	974.9	975.1	975.0	975.1	974.8	974.2	974.1	974.3	974.3	974.1	974.4	974.7	975.1	976.1	977.5	978.3	979.3	979.7	980.2	980.7	975.8
25	980.9	981.1	981.9	982.3	982.6	983.3	983.8	984.1	984.8	985.1	985.0	985.4	986.0	986.2	986.7	987.0	987.8	988.5	989.0	989.4	989.2	989.6	989.9	989.9	985.6
26	990.0	989.7	990.0	990.2	990.4	990.7	991.2	991.5	992.1	992.3	992.3	992.3	992.6	992.7	992.6	992.7	993.2	993.6	993.8	994.2	994.1	994.3	994.3	994.4	992.2
27	994.5	994.2	994.0	994.3	994.6	994.7	995.1	995.5	995.6	995.4	995.4	995.5	995.4	994.9	994.6	994.0	993.9	993.6	993.6	993.6	993.6	993.4	993.0	992.6	995.4
28	996.7	996.7	996.8	996.6	996.2	996.5	996.8	996.7	996.7	996.8	996.8	996.9	996.4	994.9	994.6	994.0	993.9	993.6	993.6	993.6	993.6	993.4	993.0	992.6	995.3
29	992.3	991.6	991.5	991.5	991.4	991.6	991.8	992.0	992.1	992.4	992.6	993.0	992.6	992.6	992.4	992.7	993.0	993.5	993.8	994.1	994.3	994.5	994.9	994.9	992.7
30	995.1	995.2	995.3	995.3	995.5	995.9	996.6	996.7	997.3	997.3	997.4	997.5	997.3	997.1	997.1	996.9	997.0	997.1	997.5	997.7	997.9	997.7	997.6	997.3	996.8
Mean (Station Level)	991.03	990.86	990.83	990.81	990.85	991.00	991.26	991.39	991.48	991.44	991.29	991.17	991.10	990.93	990.77	990.65	990.73	990.93	991.26	991.52	991.57	991.55	991.53	991.43	991.13
Mean (Sea Level)	1019.64	1019.47	1019.44	1019.42	1019.48	1019.66	1019.84	1019.81	1019.78	1019.73	1019.39	1019.21	1019.08	1018.89	1018.76	1018.85	1018.79	1018.16	1018.62	1019.02	1019.12	1019.15	1019.05	1019.05	1019.50

176. ESKDALEUIR:  $H_b$  = 237.3 metres.

OCTOBER, 1933.

Station Level	Day.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
	1	996.9	997.0	996.8	997.0	996.9	997.0	997.2	997.6	997.6	997.7	997.7	997.4	997.3	997.1	997.1	997.3	997.9	998.2	998.8	999.0	999.2	999.3	999.1	997.7
	2	999.3	999.3	999.6	999.7	000.1	000.6	001.1	001.4	002.1	002.6	003.1	003.1	002.8	002.8	002.7	002.7	003.2	003.9	004.1	004.1	004.3	004.0	003.6	002.1
	3	003.5	003.1	002.4	002.2	002.1	002.0	002.1	002.0	001.9	001.5	000.9	000.5	999.8	999.3	998.9	998.7	998.6	998.7	998.4	998.3	997.8	997.3	996.9	000.5
	4	996.8	996.2	995.6	995.4	995.2	995.2	995.2	995.0	994.7	994.5	994.2	993.4	992.9	992.6	992.2	991.9	992.0	992.3	992.6	992.8	993.1	993.3	993.3	994.1
	5	993.2	993.0	993.0	993.3	993.6	993.8	994.5	995.2	995.1	995.2	995.0	995.0	995.0	995.1	995.0	995.4	995.8	996.5	996.1	996.4	996.5	996.6	996.5	994.9
	6	996.3	996.3	996.2	995.9	995.7	995.6	995.6	995.7	995.7	995.5	995.2	994.7	994.5	994.4	993.9	993.5	993.1	993.1	993.0	992.8	992.6	992.5	992.1	991.6
	7	990.9	990.5	990.1	989.6	989.4	989.2	989.0	988.6	988.5	988.0	987.7	987.1	986.6	985.9	985.4	984.9	984.3	983.6	983.0	982.4	981.4	980.0	979.0	977.5
	8	976.3	974.6	973.3	972.5	971.4	970.7	970.4	970.3	970.0	970.0	969.7	969.8	969.7	969.7	969.8	969.8	970.5	970.8	971.5	971.6	971.6	971.6	971.4	971.2
	9	971.3	971.2	971.2	970.6	969.8	969.4	968.9	968.3	967.5	966.3	965.2	964.0	962.5	961.4	960.4	959.8	960.3	961.2	961.9	962.8	963.2	963.3	963.6	965.8
10	963.7	963.3	963.2	962.9	962.6	962.5	963.0	963.6	963.9	964.3	964.4	964.3	963.8	963.2	963.0	962.8	962.6	962.7	962.6	961.8	961.6	961.4	960.7	960.4	
11	960.0	959.8	959.2	958.8	958.6	958.2	958.6	959.9	960.6	960.8	961.4	961.7	963.2	964.1	965.2	967.2	968.8	970.4	971.6	972.7	973.6	974.6	975.7	976.3	
12	976.8	977.4	977.6	978.2	979.1	979.6	980.3	981.0	981.9	982.6	983.4	983.6	984.2	984.6	985.1	985.8	986.7	987.6	988.2	989.2	989.6	989.9	990.0	989.8	
13	989.8	989.6	989.5	989.2	989.0	988.9	988.6	988.5	988.0	987.7	987.1	986.6	985.9	985.4	984.9	984.3	983.6	983.0	982.4	981.4	980.0	979.0	977.5	986.2	
14	982.2	982.7	982.7	983.1	983.8	984.3	984.8	985.5	985.9	986.2	986.1	986.2	986.3	986.4	986.5	986.7	987.4	987.7	988.1	988.5	988.4	988.4	987.9	985.9	
15	987.3	986.8	986.1	985.8	985.4	984.7	984.4	983.6	982.8	982.0	980.8	979.5	978.5	977.3	976.6	975.8	974.9	975.4	975.1	975.8	975.5	975.6	974.8	980.3	
16	974.5	974.1	973.3	972.7	972.3	972.0	971.9	971.8	971.8	971.9	971.7	972.1	972.4	972.5	972.6	973.2	974.5	975.8	977.0	978.2	978.7	979.8	979.8	980.6	
17	980.8	981.6	981.6	982.1	983.1	983.6	984.2	985.0	985.4	985.6	985.6	985.8	985.8	985.1	986.2	986.3	986.5	986.6	986.8	987.1	987.2	987.0	987.1	985.0	
18	986.9	986.7	986.4	986.2	986.3	986.2	986.3	986.4	986.4	986.4	986.0	985.5	984.7	984.0	983.4	983.1	983.4	983.6	983.3	983.3	982.8	982.7	982.3	982.1	
19	982.2	982.0	981.7	981.6	981.7	981.9	982.2	982.5	982.7	982.7	982.8	982.9	982.7	982.5	982.6	982.9	983.7	984.2	984.7	985.3	985.7	986.5	986.9	987.5	
20	987.7	988.0	988.3	988.7	989.0	989.6	990.6	991.5	992.0	992.3	992.7	992.5	992.5	992.5	992.7	992.9	993.8	994.3	994.5	994.4	994.9	995.0	994.4	991.9	
21	994.0	993.6	993.0	992.6	992.2	991.8	991.6	991.5	991.4	991.3	990.6	990.2	989.4	988.7	988.5	987.8	987.6	987.5	987.1	986.6	986.0	985.6	984.9	984.7	
22	984.3	984.0	983.8	983.3	983.4	983.5	983.8	984.0	984.3	984.5	984.5	984.5	984.5	984.5	984.5	984.5	984.5	984.5	984.5	984.7	984.9	984.6	984.3	984.2	
23	982.7	982.4	981.9	981.8	982.0	982.2	982.8	983.4	983.5	983.9	984.1	984.2	984.2	984.2	984.7	985.4	985.9	986.5	987.1	987.5	988.1	987.8	988.0	988.2	
24	988.2	988.2	987.8	988.1	988.4	988.3	988.7	989.0	989.1	989.2	988.9	989.0	988.8	988.7	988.7	989.3	989.5	990.0	989.9	990.4	990.4	990.6	991.1	989.1	
25	991.4	991.6	991.6	991.6	991.9	992.1	992.7	993.2	993.8	993.8	993.8	994.5	993.7	993.8	994.2	993.8	994.2	994.5	994.4	994.1	994.5	994.6	994.6	993.4	
26	994.6	994.5	994.3	993.8	993.6	993.7	994.1	994.2	994.1	994.1	993.9	993.5	992.6	992.8	992.1	991.2	990.4	989.5	988.3	986.8	985.5	983.7	981.6	979.3	
27	977.0	974.5	972.5	971.2	970.5	969.4	969.4	969.3	968.6	968.3	968.0	966.9	965.8	965.2	964.3	963.5	963.3	963.0	962.6	962.3	961.3	960.7	960.0	958.9	
28	957.7	956.3	956.2	955.8	955.3	954.3	955.0	955.7	956.3	957.1	958.1	959.0	960.3	961.5	962.4	963.1	963.9	965.0	966.6	967.6	968.8	969.1	969.3	970.0	
29	969.9	970.6	970.6	971.3	972.1	972.8	973.4	974.1	974.8	974.8	975.1	975.1	974.8	975.1	975.2	975.7	976.4	976.5	976.6	977.5	978.5	979.1	979.4	979.8	
30	980.0	980.1	980.1	980.1	980.4	980.1	980.4	981.0	981.3	981.5	981.5	980.7	980.5	980.5	980.5	980.1	980.0	979.7	979.6	979.1	978.8	978.0	977.3	976.3	
31	974.6	972.8	971.6	970.9	970.9	970.8	970.9	970.9	971.4	971.7	971.5	971.2	971.1	971.0	970.9	971.0	971.1	971.9	971.8	972.1	973.3	973.7	974.4	975.1	
Mean (Station Level)		983.57	983.28	982.94	982.78	982.79	982.72	982.98	983.24	983.37	983.44	983.34	983.15	982.92	982.77	982.68	982.63	982.63	983.13	983.35	983.47	983.52	983.55	983.37	
Mean (Sea Level)		1012.36	1012.06	1011.71	1011.51	1011.53	1011.47	1011.73	1011.91	1011.91	1011.90	1011.73	1011.52	1011.27	1011.13	1011.06	1011.07	1011.37	1011.80	1012.07	1012.23	1012.36	1012.16	1011.96	
Hour G. M. T.		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	
																								Mean	



PRESSURE.  
Readings in millibars at exact hours, Greenwich Mean Time.

177. ESKDALEMUIR:  $H_b$  (height of barometer cistern above M.S.L.) = 237.3 metres.

NOVEMBER, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
1	976.5	975.9	976.7	977.6	978.1	979.1	980.0	980.5	981.3	981.7	981.9	981.2	981.0	980.0	979.4	979.0	979.3	979.7	979.9	979.8	979.9	979.7	979.9	980.4	979.4
2	980.4	980.5	980.0	980.7	981.9	982.7	983.4	983.9	984.1	984.1	983.8	983.3	982.7	983.1	983.5	984.5	985.2	985.8	986.0	986.5	986.9	986.6	986.5	986.6	984.3
3	990.1	990.7	990.8	990.8	991.1	991.3	991.7	991.9	992.2	992.5	992.7	992.6	992.8	992.9	993.1	993.3	993.4	994.3	994.8	995.7	996.1	996.1	996.1	996.2	992.9
4	996.2	995.8	995.3	995.0	994.8	994.7	995.3	995.9	996.0	996.1	996.1	996.0	995.5	994.9	994.7	994.6	994.6	994.3	994.1	994.1	993.9	993.3	993.1	992.8	994.9
5	992.1	991.9	991.6	991.1	990.7	990.7	991.0	991.3	991.5	991.6	991.5	991.2	990.9	990.8	990.3	990.4	990.8	990.7	990.8	990.9	990.9	990.8	990.8	990.7	991.1
6	990.5	990.3	990.3	989.8	989.7	989.3	989.4	989.9	990.3	990.5	990.6	990.6	990.8	990.8	991.1	991.2	991.4	991.7	991.9	991.7	991.6	991.9	991.9	991.9	990.8
7	992.2	992.4	992.3	992.5	992.5	992.9	993.6	993.9	994.3	994.8	994.9	995.0	995.1	995.1	995.3	995.7	995.6	995.6	995.6	995.6	995.6	995.6	995.6	995.6	994.5
8	995.8	995.7	995.6	995.5	995.1	995.2	995.3	995.1	995.0	994.9	994.8	993.9	993.6	993.1	992.9	992.6	992.2	991.9	991.6	991.2	990.7	990.4	989.9	989.4	993.5
9	988.7	988.4	987.8	987.6	987.2	986.9	986.7	986.5	986.2	985.6	985.0	984.0	982.8	981.8	981.1	980.7	980.7	980.6	980.4	980.5	980.1	979.8	979.6	979.1	983.9
10	978.5	978.3	977.9	977.6	977.1	976.7	976.4	976.2	975.9	976.0	976.8	975.2	974.9	975.0	975.3	975.3	975.7	976.1	976.1	976.1	976.2	976.1	975.9	975.9	976.3
11	975.7	975.0	975.2	975.3	975.1	974.6	974.5	974.1	974.0	973.8	972.4	971.7	970.8	970.3	970.2	970.2	970.3	970.2	970.4	970.6	971.1	971.3	971.6	971.9	972.6
12	972.3	973.1	973.6	974.0	974.7	975.1	975.6	976.4	976.9	977.3	977.8	978.1	978.2	978.4	978.8	978.9	979.4	979.7	979.7	980.0	979.7	979.6	979.6	979.5	977.1
13	979.1	978.6	978.0	977.6	977.4	976.9	976.1	975.8	975.3	974.8	974.0	972.7	971.8	970.9	971.3	971.5	971.8	972.1	972.8	973.0	974.4	975.0	975.6	974.7	974.7
14	976.0	976.1	976.3	976.7	976.9	977.2	977.3	977.5	977.3	977.0	976.7	976.2	975.0	974.1	973.6	972.7	972.0	971.1	970.4	969.6	968.9	967.9	967.3	966.2	973.9
15	965.1	964.1	963.4	962.7	962.6	962.2	962.3	962.4	962.6	963.4	964.1	964.7	965.5	966.3	967.4	967.9	969.2	970.5	971.2	972.0	973.4	974.1	974.7	976.1	966.8
16	976.0	976.6	977.5	978.3	978.8	979.8	980.7	981.9	982.8	983.6	983.9	984.3	985.3	985.8	986.1	986.7	987.0	987.6	988.3	988.7	989.4	989.8	990.0	990.1	983.8
17	990.2	990.5	990.6	990.8	990.9	991.1	991.7	992.0	992.6	993.1	993.1	992.9	992.7	992.6	992.7	993.0	993.2	993.4	993.8	993.9	994.0	994.3	994.5	994.5	992.5
18	994.0	993.8	993.6	993.3	993.3	993.1	993.1	993.1	993.0	992.3	991.4	990.3	989.6	988.7	987.9	987.6	987.2	987.0	986.6	986.1	986.3	986.1	985.9	985.6	990.1
19	985.6	985.7	985.6	985.3	985.1	985.0	985.1	984.9	985.1	984.8	984.8	984.3	984.1	983.4	983.1	982.9	982.9	982.8	983.0	983.1	983.0	983.1	983.1	982.8	984.2
20	982.5	982.6	982.6	983.2	983.7	984.3	984.8	985.8	986.6	987.1	987.4	987.7	988.1	988.4	989.0	989.5	990.1	990.8	991.4	991.9	992.5	992.7	992.9	993.3	987.7
21	993.3	993.3	993.5	993.6	993.7	994.0	993.8	994.1	993.9	993.8	993.8	993.3	993.1	992.4	992.1	991.8	991.8	991.7	991.6	991.5	991.4	991.0	990.9	990.7	992.7
22	990.2	990.1	989.9	989.7	989.7	989.7	989.9	990.4	990.6	990.7	990.3	990.3	989.9	989.7	989.7	989.7	989.9	990.4	990.4	990.3	990.2	990.4	990.2	990.0	990.1
23	989.8	989.5	989.1	989.1	989.3	989.2	989.3	989.7	989.8	989.8	989.7	989.4	989.2	988.9	988.7	988.8	988.9	989.4	989.4	989.6	989.6	989.8	989.9	989.8	989.4
24	989.6	989.7	989.8	989.3	989.5	989.7	990.0	990.0	990.0	990.0	989.8	989.8	989.5	989.3	989.6	989.6	989.6	989.8	989.8	989.9	990.4	990.5	990.5	990.5	989.8
25	990.1	990.2	990.1	989.8	989.9	990.1	990.9	990.9	991.1	991.4	991.0	990.6	990.5	989.8	989.8	989.8	989.9	989.9	989.9	989.9	989.7	989.1	988.9	988.4	990.1
26	988.0	987.6	987.0	986.7	986.2	985.8	985.8	985.8	985.7	985.7	985.4	984.7	984.2	983.7	983.4	983.2	983.0	982.9	982.8	982.6	982.6	982.4	982.1	981.9	984.7
27	981.7	981.3	981.2	981.0	980.9	980.9	980.9	981.2	981.6	981.6	981.6	981.6	980.9	981.0	981.3	981.5	982.0	982.5	982.9	983.1	983.5	983.7	983.7	983.9	981.9
28	984.3	984.7	984.9	984.9	984.9	985.2	985.5	986.4	986.7	986.9	987.2	987.5	987.6	987.6	988.0	988.5	988.9	989.5	989.7	990.1	990.7	990.9	991.2	991.5	987.6
29	991.2	991.6	991.6	991.8	991.8	991.9	992.2	992.5	992.7	992.9	993.0	993.0	992.6	992.2	992.3	992.8	993.0	993.7	993.8	993.8	993.8	993.8	993.8	993.6	992.7
30	993.5	993.6	993.5	993.0	992.8	992.4	992.3	992.3	992.2	992.2	992.1	991.9	992.0	992.0	991.9	991.8	991.4	991.6	992.3	992.2	991.8	991.7	991.3	991.1	992.3
Mean (Station Level)	985 -61	985 -59	985 -50	985 -48	985 -52	985 -59	985 -82	986 -08	986 -24	986 -32	986 -21	985 -93	985 -69	985 -43	985 -45	985 -51	985 -66	985 -88	986 -06	986 -22	986 -37	986 -35	986 -38	986 -31	985 -87
Mean (Sea Level)	1014 -82	1014 -81	1014 -74	1014 -72	1014 -73	1014 -81	1015 -05	1015 -29	1015 -39	1015 -41	1015 -22	1014 -87	1014 -61	1014 -34	1014 -39	1014 -51	1014 -73	1015 -01	1015 -23	1015 -42	1015 -61	1015 -63	1015 -67	1015 -59	1015 -01

178. ESKDALEMUIR:  $H_b$  = 237.3 metres.

DECEMBER, 1933.

Station Level ↑ ↓	Day	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	
	1	990.7	990.2	989.5	988.5	988.0	988.2	988.5	988.2	987.9	987.8	986.9	986.6	986.5	986.4	986.7	987.5	987.8	988.8	989.3	989.6	989.9	990.9	991.4	992.0	988.6
	2	992.6	992.9	993.4	994.0	994.6	995.7	996.7	997.8	998.7	999.6	1000.3	1000.9	1001.5	1002.2	1003.3	1004.2	1005.3	1006.9	1007.5	1008.0	1008.8	1009.4	1009.8	1009.9	1000.9
	3	010.6	010.8	011.1	011.5	012.1	012.2	012.6	013.0	013.4	013.0	012.9	012.9	012.8	012.6	012.3	012.8	013.0	013.2	013.3	013.2	013.0	012.8	012.8	012.4	012.4
	4	012.3	011.9	011.6	011.0	010.6	010.1	010.0	009.8	009.3	009.0	008.5	007.8	006.9	005.9	005.6	004.9	004.8	004.2	003.9	003.5	003.3	003.5	003.4	003.3	007.5
	5	003.0	002.4	002.0	001.9	001.8	001.5	001.3	001.6	001.8	001.8	001.8	000.9	000.6	000.4	000.4	000.2	000.2	999.9	999.6	999.3	999.0	998.8	998.7	998.5	000.8
	6	997.7	997.1	997.0	996.5	996.1	995.9	995.7	995.1	994.8	994.6	994.2	993.6	993.3	992.7	992.1	991.9	991.7	991.7	991.3	991.4	991.6	991.7	991.4	991.2	993.9
	7	991.0	991.0	991.0	991.1	991.1	991.8	992.7	993.6	994.4	995.3	995.7	996.0	996.0	996.0	996.5	997.0	997.7	998.4	998.9	999.9	1000.0	1000.4	1000.9	1001.0	995.3
	8	001.1	001.3	001.3	001.1	001.3	001.6	001.8	002.0	002.2	002.5	002.8	002.4	002.1	002.0	001.8	001.9	001.9	001.8	001.6	001.3	001.5	001.5	001.2	001.0	001.7
	9	000.9	000.8	000.4	000.1	000.1	000.0	000.0	000.1	000.6	000.6	000.4	000.2	000.0	000.0	000.0	000.4	000.5	000.6	001.0	001.1	001.4	001.6	001.6	001.6	000.6
	10	001.5	001.5	001.2	001.0	000.8	000.6	000.7	000.8	000.8	000.8	001.1	000.9	000.6	999.9	999.8	999.6	999.6	999.7	999.9	999.8	999.8	999.6	999.2	999.0	000.3
	11	998.8	998.7	998.4	997.8	997.5	997.1	997.1	997.0	996.9	996.4	995.2	994.2	993.6	992.7	992.1	991.7	991.1	990.1	988.8	987.8	986.8	985.8	984.5	983.9	993.9
	12	983.3	982.1	981.3	980.8	980.1	979.8	979.4	979.3	979.4	979.7	979.7	979.5	979.2	979.1	979.5	979.9	980.6	981.0	981.7	982.1	982.7	983.1	983.9	984.6	980.9
	13	985.4	986.7	987.4	987.9	988.6	989.2	990.0	990.8	992.1	992.9	993.7	994.3	994.7	995.0	994.8	994.8	995.5	996.0	996.8	996.8	996.6	996.8	997.0	996.7	992.7
	14	996.6	996.8	997.4	997.5	998.0	998.4	998.7	999.0	999.3	999.6	999.8	999.9	999.8	999.6	999.4	999.3	999.2	999.1	998.9	998.8	998.9	998.8	998.7	998.5	992.1
	15	987.1	987.5	987.6	987.8	988.1	988.1	988.9	989.2	989.8	990.5	990.8	990.7	990.4	990.6	990.9	990.9	990.9	991.1	991.4	991.7	991.8	992.0	991.9	991.9	990.0
	16	992.1	992.2	991.8	991.7	991.8	991.7	992.0	992.0	992.2	992.7	992.9	992.5	992.2	992.1	992.2	992.5	992.6	993.0	993.4	993.9	994.1	994.4	994.7	994.7	992.7
	17	994.8	994.9	994.9	995.3	995.0	995.4	996.0	996.5	996.6	996.8	996.9	996.6	996.5	996.4	996.3	996.4	996.5	996.4	996.6	996.8	996.9	997.1	997.3	996.2	997.3
	18	997.3	997.5	997.5	997.4	997.2	997.2	997.5	997.8	997.9	998.4	998.4	998.5	998.5	998.6	998.8	999.1	999.5	999.8	1000.2	1000.6	1000.8	1000.9	1001.1	998.7	1001.1
	19	001.3	001.3	001.7	001.6	001.6	001.8	002.1	002.8	002.9	003.2	003.3	003.4	003.4	003.4	003.5	003.8	003.8	004.1	004.2	004.6	004.7	004.7	004.7	004.9	003.1
	20	004.8	004.8	004.9	004.9	005.0	005.1	005.5	005.8	006.2	006.1	006.0	006.0	005.9	005.7	005.8	005.9	005.8	005.8	005.8	006.0	006.0	006.0	005.8	005.6	005.6
	21	005.3	005.1	005.1	005.0	004.8	004.5	004.4	004.4	004.5	004.8	004.4	004.1	003.9	003.4	003.7	004.1	004.2	004.0	004.0	003.5	003.5	003.5	003.3	003.1	004.2
	22	003.1	002.9	002.5	002.8	002.7	002.8	002.6	003.5	004.0	004.1	004.1	004.3	004.5	004.5	004.4	005.0	005.1	005.8	006.0	006.2	006.3	006.3	006.4	006.6	004.4
	23	006.6	006.7	006.7	006.6	006.7	006.8	007.0	007.1	007.1	007.5	007.5	007.0	006.8	006.8	006.6	006.0	005.6	005.2	004.6	004.1	004.0	003.7	003.2	002.9	006.0
	24	002.7	002.0	001.8	001.6	001.0	000.4	000.2	999.7	999.3	999.2	999.0	998.7	997.8	997.1	996.8	996.6	996.4	995.7	995.0	994.0	993.6	992.9	992.1	991.0	997.9
	25	990.1	989.4	988.4	987.6	986.9	986.1	985.6	984.9	984.2	983.9	983.0	982.0	981.5	980.7	979.9	979.4	978.8	978.1	977.9	977.7	977.2	977.0	976.8	976.4	982.5
	26	976.1	976.0	976.0	976.0	976.0	976.2	976.4	976.8	977.6	978.2	978.2	978.2	978.6	978.9	978.9	979.1	979.3	979.6	979.6	979.8	979.8	979.9	979.8	979.5	978.0
	27	979.1	979.1	978.9	978.4	977.8	976.8	976.3	975.9	975.2	974.6	973.5	972.4	971.3	970.3	968.8	968.1	967.2	966.2	965.5	964.5	963.8	963.4	962.6	962.2	969.1
	28	961.8	961.6	961.1	961.0	960.9	960.7	961.1	961.6	962.1	962.3	962.8	963.0	963.4	963.6	964.3	965.0	965.8	966.6	966.6	967.5	968.1	968.7	968.9	969.6	963.2
	29	969.7	970.4	970.7	970.9	971.0	971.4	971.7	972.3	972.8	973.2	973.2	973.0	972.9	973.0	973.3	973.6	973.8	973.7	973.8	974.1	974.3	974.2	974.0	973.9	972.6
	30	973.2	972.8	973.1	973.0	973.0	973.3	973.6	973.7	973.9	973.6	972.8	972.2	972.3	972.5	973.4	974.0	975.1	976.0	977.4	978.9	980.7	982.3	983.6	985.5	975.2
31	986.2	986.0	989.0	990.2	990.4	990.9	992.1	993.4	994.7	995.0	995.1	995.3	995.4	995.4	995.7	996.0	995.9	996.1	996.0	995.8	995.8	995.5	995.1	994.7	993.5	
Mean (Station Level)	993 .45	993 .40	993 .32	993 .20	993 -13	993 -13	993 .32	993 -53	993 -74	993 -93	993 -83	993 -58	993 -37	993 -19	993 -20	993 -30	993 -45	993 -50	993 -58	993 -64	993 -70	993 -78	993 -73	993 -68	993 -49	
Mean (Sea Level)	1023 -09	1023 -04	1022 -98	1022 -85	1022 -78	1022 -79	1023 -00	1023 -24	1023 -43	1023 -58	1023 -44	1023 -12	1022 -86	1022 -69	1022 -83	1023 -02	1023 -09	1023 -21	1023 -26	1023 -33	1023 -43	1023 -37	1023 -33	1023 -10		
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	



PRESSURE AT STATION LEVEL AND AT SEA LEVEL.  
ANNUAL MEANS FROM HOURLY VALUES.

195

179. ESKDALEUIR:  $H_b = 237.3$  metres.

1933.

Hour G.M.T.	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24	Mean.
Station Level.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
Sea Level.	015.84	015.54	015.46	015.36	015.27	015.28	015.31	015.41	015.47	015.49	015.45	015.32	015.15	014.99	014.85	014.81	014.84	014.97	015.18	015.41	015.61	015.78	015.79	015.78	015.34

PRESSURE AT STATION LEVEL, MONTHLY MEANS AND DIURNAL INEQUALITIES.  
The departures for the mean of the day are adjusted for non-cyclic change.†

180. ESKDALEUIR:  $H_b = 237.3$  metres.

1933.

Month	Mean	Hour 1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24
Jan.	988.06	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
Feb.	984.07	+0.60	+0.49	+0.26	+0.02	-0.17	-0.22	-0.15	-0.09	-0.01	0.00	0.07	0.23	0.55	0.86	1.14	1.41	1.68	1.95	2.22	2.49	2.76	3.03	3.30	3.57
Mar.	981.20	-0.14	-0.23	-0.38	-0.41	-0.32	-0.12	+0.06	+0.30	+0.43	+0.43	+0.36	+0.31	+0.20	-0.03	-0.21	-0.39	-0.33	-0.09	+0.09	+0.12	+0.16	+0.13	+0.04	+0.01
Apr.	988.95	+0.06	-0.18	-0.34	-0.38	-0.30	-0.15	-0.04	+0.03	+0.09	+0.07	+0.08	+0.15	+0.08	0.00	-0.06	-0.16	-0.23	-0.18	-0.01	+0.23	+0.39	+0.37	+0.30	+0.21
May	986.21	0.00	-0.02	-0.07	-0.17	0.00	+0.13	+0.27	+0.29	+0.26	+0.25	+0.17	+0.05	-0.04	-0.10	-0.21	-0.31	-0.35	-0.33	-0.27	-0.05	+0.13	+0.15	+0.14	+0.09
June	983.55	+0.16	+0.07	-0.05	-0.01	+0.09	+0.15	+0.31	+0.33	+0.25	+0.19	+0.07	-0.03	-0.16	-0.24	-0.31	-0.33	-0.41	-0.38	-0.27	+0.10	+0.17	+0.23	+0.18	+0.18
July	986.60	+0.15	-0.08	-0.19	-0.28	-0.23	-0.10	+0.01	+0.09	+0.14	+0.15	+0.03	-0.07	-0.10	-0.13	-0.24	-0.14	-0.13	-0.17	+0.02	+0.12	+0.32	+0.35	+0.27	+0.22
Aug.	988.84	+0.12	0.00	-0.09	-0.20	-0.22	-0.16	+0.02	+0.12	+0.15	+0.14	+0.12	+0.01	-0.04	-0.07	-0.20	-0.25	-0.28	-0.23	-0.10	+0.12	+0.26	+0.29	+0.31	+0.17
Sept.	991.13	+0.04	-0.15	-0.19	-0.22	-0.20	-0.05	+0.19	+0.30	+0.38	+0.33	+0.17	+0.04	-0.05	-0.23	-0.41	-0.53	-0.47	-0.28	+0.03	+0.28	+0.32	+0.29	+0.25	+0.14
Oct.	983.14	+0.10	-0.16	-0.47	-0.60	-0.56	-0.80	-0.31	-0.02	+0.14	+0.24	+0.17	0.00	-0.20	-0.31	-0.37	-0.39	-0.16	+0.17	+0.41	+0.67	+0.71	+0.70	+0.56	+0.38
Nov.	985.37	-0.02	-0.06	-0.17	-0.22	-0.20	-0.15	+0.06	+0.29	+0.44	+0.50	+0.36	+0.06	-0.21	-0.48	-0.49	-0.45	-0.33	-0.12	+0.03	+0.17	+0.29	+0.26	+0.26	+0.17
Dec.	993.49	+0.01	-0.04	-0.12	-0.25	-0.33	-0.33	-0.14	+0.07	+0.27	+0.45	+0.35	+0.10	-0.13	-0.30	-0.30	-0.20	-0.06	-0.01	+0.07	+0.12	+0.17	+0.25	+0.19	+0.14
Year	986.80	+0.03	-0.08	-0.19	-0.26	-0.22	-0.14	+0.03	+0.17	+0.27	+0.31	+0.23	+0.09	-0.05	-0.20	-0.28	-0.31	-0.26	-0.14	+0.01	+0.16	+0.25	+0.25	+0.21	+0.14

ABSOLUTE EXTREMES OF PRESSURE AT STATION LEVEL FOR EACH DAY.  
Maximum and Minimum for the interval 0h to 24h. Greenwich Mean Time.

181. ESKDALEUIR:  $H_b = 237.3$  metres.

1933.

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Day.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	980.1	988.5	984.9	983.0	984.2	977.8	986.8	985.4	989.5	984.1	986.4	984.6
2	975.2	983.4	983.4	984.8	977.9	964.2	985.7	984.7	988.7	984.7	980.3	986.8
3	976.1	984.6	987.1	971.5	984.2	955.8	981.8	986.0	985.8	982.9	989.0	987.1
4	977.9	987.0	972.7	969.6	980.9	954.8	985.0	991.6	984.9	982.0	989.8	987.7
5	981.4	985.1	979.5	964.2	968.1	960.9	986.0	994.4	982.4	979.2	990.1	987.3
6	996.2	978.5	982.8	973.3	987.9	980.8	986.2	985.1	980.0	972.8	991.2	990.0
7	996.7	988.4	974.5	987.2	987.9	986.7	991.2	976.4	970.7	991.1	989.2	988.0
8	992.9	987.8	976.7	973.1	982.0	988.2	978.9	975.3	988.3	991.1	988.5	983.9
9	009.2	992.2	985.1	973.4	994.3	990.6	988.2	982.8	979.9	975.4	000.6	998.1
10	007.9	989.7	989.7	003.9	985.0	993.8	990.1	987.9	984.8	988.7	979.7	990.1
11	998.4	988.7	009.4	003.9	990.2	987.5	984.8	983.0	988.4	985.2	992.4	989.7
12	997.9	991.3	005.3	001.6	990.4	989.2	993.9	982.2	988.8	985.5	989.9	985.2
13	996.4	991.2	005.3	002.9	990.8	988.9	002.8	993.8	986.0	982.4	990.8	984.4
14	995.7	970.7	003.0	997.2	988.9	982.1	004.2	996.0	989.9	983.4	993.0	990.8
15	970.7	987.8	997.4	992.8	982.4	969.6	996.0	990.0	993.6	989.9	991.5	984.5
16	971.1	968.1	994.8	991.2	969.6	959.3	995.2	988.9	992.8	990.6	984.5	965.8
17	971.0	967.9	995.5	988.8	959.3	950.2	995.3	992.1	995.0	990.9	966.6	960.3
18	975.0	967.6	989.5	987.1	959.9	952.6	998.0	993.4	994.7	990.8	962.1	956.3
19	990.0	975.0	995.2	988.1	981.8	984.8	997.8	994.0	990.8	985.0	968.8	962.1
20	005.0	990.0	995.2	987.9	995.0	981.8	994.0	990.1	985.0	981.6	968.7	965.1
21	008.0	004.8	988.9	986.1	997.5	994.7	995.9	992.3	992.0	984.4	976.1	968.9
22	008.9	007.4	991.1	988.9	995.0	992.6	995.8	991.2	994.4	992.0	979.5	975.9
23	010.9	008.4	989.4	979.0	997.2	993.6	991.2	984.3	994.0	991.5	978.9	976.0
24	011.9	010.4	979.1	974.2	998.1	995.3	985.1	980.9	992.1	986.8	981.0	975.5
25	010.4	007.1	976.1	970.8	996.2	993.3	980.9	977.8	987.2	984.9	986.9	985.8
26	007.1	003.1	976.2	988.2	001.2	995.5	978.5	975.2	987.0	985.4	988.6	986.1
27	003.1	000.7	978.0	989.4	001.2	996.5	977.0	974.1	988.7	985.6	988.4	982.5
28	000.7	991.2	984.2	978.0	996.5	987.9	979.4	976.1	992.2	988.1	985.9	980.0
29	991.2	975.1			987.9	981.0	979.2	977.1	992.4	991.0	988.2	985.6
30	975.1	968.6			984.6	979.1	984.3	977.8	991.1	985.0	991.1	988.2
31	974.7	962.7			985.5	983.7			985.5	983.9		989.0
Mean.	992.48	982.68	988.01	980.40	984.83	977.57	991.45	986.51	988.12	984.25	985.93	981.20

Note.- When pressure exceeds 1000 mb. the leading figure 1 is not printed, i.e., 1005.6 mb. is written 005.6. This rule does not, however, apply to monthly means.

† See page 21



TEMPERATURE  
Readings in degrees absolute at exact hours, Greenwich Mean Time.

182. ESKDALEMUIR: Louvred Hut:  $h_t$  (height of thermometer bulb above ground) = 0.9 metres.

JANUARY, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	79.2	79.8	79.2	79.6	78.8	77.9	76.9	77.6	78.9	76.0	77.0	78.5	78.8	78.6	78.4	76.6	75.3	74.9	75.2	75.0	75.9	76.0	76.1	77.2	77.3
2	77.9	78.3	79.0	79.9	79.6	79.8	79.6	79.5	79.5	79.9	80.1	80.1	79.8	79.4	80.0	80.7	81.5	82.2	82.6	82.9	83.1	83.0	82.8	82.4	80.4
3	81.0	79.0	78.8	79.1	79.0	77.0	78.2	78.0	77.8	77.7	77.9	77.9	78.0	78.0	78.0	77.9	77.7	77.6	75.5	76.9	76.8	76.9	76.9	76.6	78.0
4	76.7	76.8	77.2	77.0	77.3	77.0	74.0	75.0	75.9	76.7	77.8	78.0	77.3	76.7	76.8	77.0	76.6	76.7	76.9	76.6	76.8	77.0	77.4	78.5	76.8
5	79.0	75.0	75.1	75.7	75.4	75.2	74.9	74.8	74.6	74.3	75.0	75.1	75.2	75.8	75.3	75.2	75.0	74.9	75.4	75.8	76.0	75.8	75.8	76.0	75.5
6	76.2	75.9	75.7	75.2	75.4	74.9	74.0	74.0	74.3	74.7	75.0	76.1	76.2	76.5	76.8	76.7	75.9	76.3	76.6	76.1	76.3	76.0	76.0	75.7	75.7
7	76.3	76.6	76.9	77.0	77.6	77.9	78.3	78.7	78.4	78.7	78.8	78.9	79.1	79.3	79.7	79.7	80.0	80.5	80.7	80.9	81.2	81.6	81.7	79.0	79.0
8	81.7	80.9	79.3	78.0	77.1	76.9	76.8	76.9	77.0	78.0	79.1	79.8	81.0	81.1	81.6	82.4	82.8	82.7	82.9	82.7	82.8	82.9	80.0	79.3	80.2
9	78.2	77.7	77.0	76.0	76.6	75.7	76.0	77.1	76.4	77.2	77.9	78.8	79.0	78.9	77.4	76.0	73.9	72.8	71.3	70.8	69.9	69.1	68.4	67.8	75.2
10	68.3	71.0	72.0	73.4	74.0	74.1	74.2	74.3	75.2	76.0	76.7	77.3	78.0	78.2	78.7	78.9	78.9	78.7	78.6	78.3	78.2	78.6	78.8	79.0	76.0
11	79.1	79.2	78.6	78.5	77.6	76.0	76.3	75.8	75.4	75.3	76.9	76.9	76.9	76.7	76.1	74.9	73.7	72.0	72.6	72.0	70.6	69.0	68.7	67.8	75.1
12	67.0	66.9	66.2	65.9	65.8	65.2	65.0	64.8	65.7	68.0	69.9	71.4	72.0	73.0	73.1	73.3	73.6	73.9	73.9	74.3	74.6	75.0	74.9	75.1	70.2
13	74.9	74.3	74.0	74.1	74.1	74.0	74.4	73.9	73.4	73.4	73.7	74.7	75.4	76.2	75.7	75.4	75.6	75.1	75.3	75.6	75.7	75.4	75.6	75.7	74.8
14	76.0	76.1	76.4	76.2	76.3	76.3	76.6	77.1	77.2	77.4	77.7	78.0	77.8	78.0	77.9	77.8	77.4	77.5	77.5	77.8	77.9	77.7	77.9	78.0	77.2
15	77.9	77.9	77.7	77.5	75.3	74.6	73.9	74.1	74.9	74.4	74.9	75.1	75.4	75.6	75.0	74.5	73.7	72.2	71.2	71.0	70.0	70.0	71.6	72.2	74.3
16	72.1	72.0	71.2	70.5	70.2	70.1	70.2	70.1	70.6	70.6	71.4	72.2	72.8	73.0	73.0	72.0	71.4	70.8	70.6	70.7	69.2	68.6	68.4	70.3	71.0
17	70.9	70.9	71.6	71.6	72.4	72.3	71.9	72.1	73.0	73.2	73.6	73.7	73.7	73.9	74.0	73.6	73.8	73.2	72.6	73.2	73.2	73.2	73.1	72.4	72.7
18	72.4	72.6	72.1	72.0	71.6	71.7	71.7	71.7	71.6	72.1	72.3	72.9	74.2	74.2	73.4	71.8	69.8	69.4	69.1	68.8	68.0	68.6	69.8	70.1	71.4
19	70.1	70.0	70.4	70.9	71.2	71.6	72.5	72.7	72.7	72.7	72.2	72.2	72.1	72.0	71.8	71.0	70.2	69.0	68.5	67.8	66.4	66.9	69.8	70.4	70.6
20	70.3	70.6	69.8	69.9	69.6	69.8	69.9	69.4	69.6	71.1	72.2	74.5	75.1	75.2	74.3	73.8	72.4	72.0	71.1	70.3	69.0	70.2	70.9	70.0	71.3
21	70.7	71.3	71.7	71.0	70.6	69.2	69.8	69.9	70.4	71.2	71.8	72.0	72.4	72.8	72.0	71.2	70.6	69.6	69.0	68.6	68.8	68.8	68.4	68.0	70.5
22	68.7	68.2	68.8	69.1	68.9	69.0	68.4	68.2	67.7	68.0	70.6	71.5	72.2	72.7	71.8	70.2	67.8	67.2	67.0	68.1	68.7	69.1	70.0	70.0	69.2
23	69.4	68.8	69.4	68.6	68.8	68.9	68.9	69.1	69.6	70.0	70.7	71.3	71.8	72.8	71.9	71.0	71.1	71.0	70.0	68.2	68.0	67.5	67.7	68.3	69.7
24	68.8	68.6	67.7	67.2	67.2	66.9	66.1	65.7	66.7	67.4	69.1	70.8	71.4	72.1	72.4	72.3	72.6	71.0	69.6	68.9	68.6	67.1	67.8	67.0	68.9
25	66.6	66.0	65.0	64.3	64.4	64.2	64.8	64.6	64.9	67.0	70.0	72.3	73.2	73.0	72.9	72.7	72.5	72.3	71.7	71.8	71.6	71.7	71.8	71.5	69.1
26	71.4	71.6	71.5	71.4	71.4	71.6	71.4	71.4	71.5	72.0	72.6	73.3	73.7	73.6	73.6	73.2	73.0	72.7	72.7	72.6	72.5	72.4	72.4	72.4	72.3
27	72.4	72.5	72.3	72.3	72.4	72.3	72.2	72.3	72.8	73.2	73.3	73.4	74.0	74.0	73.6	73.3	73.1	73.0	73.2	73.0	71.8	70.5	70.8	71.0	72.6
28	69.6	69.2	67.1	67.5	67.4	68.3	67.9	68.2	69.1	70.5	72.0	73.2	74.4	74.2	73.8	73.2	71.7	71.1	71.0	72.0	71.0	70.4	69.9	69.3	70.5
29	71.2	70.7	69.7	70.0	70.9	70.0	70.6	70.9	70.5	73.2	74.1	74.4	74.5	74.4	74.4	73.9	73.6	73.1	72.8	72.6	72.3	72.2	71.3	71.3	72.1
30	71.3	71.2	70.9	70.6	70.5	71.3	71.7	71.7	71.5	72.3	72.3	72.9	72.7	72.7	72.8	72.8	72.8	72.0	73.0	73.1	73.2	73.2	74.3	74.3	72.2
Mean	73.5	73.4	73.1	73.1	73.0	72.7	72.6	72.7	72.9	73.5	74.3	75.0	75.3	75.5	75.3	74.8	74.4	74.0	73.8	73.7	73.4	73.3	73.5	73.5	73.8

183. ESKDALEMUIR: Louvred Hut:  $h_t$  = 0.9 metres.

FEBRUARY, 1933.

Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	79.2	79.2	79.3	79.4	79.5	79.7	80.0	80.3	81.6	81.6	81.9	79.4	79.2	78.1	78.1	77.7	76.9	76.7	75.8	75.3	75.0	74.0	73.6	73.7	78.2
2	73.5	73.4	73.1	73.0	73.1	74.0	73.8	74.7	74.2	74.9	75.4	75.9	75.2	75.9	76.3	76.7	76.7	76.0	76.0	76.1	76.0	76.1	75.8	75.6	75.0
3	75.0	74.6	74.1	74.0	72.8	72.1	73.2	73.1	73.4	74.0	74.6	75.7	75.9	76.6	76.2	76.0	75.3	74.1	73.8	74.1	74.5	76.3	77.8	78.6	74.8
4	79.9	80.7	81.0	82.0	82.5	82.1	82.1	81.9	81.6	81.9	82.0	82.1	82.1	82.6	82.8	82.4	82.4	82.0	82.1	82.2	81.8	80.8	80.0	79.9	81.7
5	80.0	80.0	80.9	81.8	81.6	81.1	81.3	81.1	81.6	82.1	81.6	81.6	81.6	81.6	81.8	81.8	82.0	82.0	81.7	81.3	81.6	81.8	81.7	81.6	81.4
6	81.3	81.1	80.9	80.3	79.9	79.6	79.7	79.9	80.2	81.0	80.9	81.3	80.1	79.8	79.1	78.9	78.6	78.6	78.6	78.9	78.8	78.4	78.4	78.2	79.8
7	78.1	78.6	78.5	78.6	78.7	78.8	78.9	78.7	78.8	78.9	78.9	78.9	79.1	79.7	79.9	80.0	80.0	79.9	80.0	80.4	80.3	80.0	79.6	79.1	79.2
8	78.7	78.7	78.3	78.3	78.7	78.7	78.8	79.1	79.7	80.3	80.8	82.0	82.9	83.0	82.8	82.8	81.8	81.9	82.9	83.1	82.2	81.9	81.4	81.4	80.8
9	81.2	81.1	80.9	80.8	80.7	80.7	80.6	80.0	79.7	80.0	80.4	81.9	81.7	81.7	79.9	79.6	79.4	79.3	79.5	79.9	79.3	76.9	76.1	76.1	80.0
10	75.8	75.2	75.0	74.6	74.3	73.6	73.3	73.2	73.4	73.4	73.7	73.6	73.8	73.7	73.5	73.5	73.3	73.2	73.0	73.0	72.4	71.2	71.0	70.9	73.5
11	71.0	70.9	71.6	72.2	71.9	70.9	72.1	71.0	73.8	74.3	74.7	75.2	75.7	76.2	76.6	75.0	74.6	73.2	73.0	74.4	75.0	75.8	76.3	76.7	73.7
12	75.6	76.0	76.4	76.6	75.1	74.5	73.9	73.8	74.5	75.1	75.6	76.6	76.9	77.6	78.8	78.7	79.0	79.1	78.7	79.0	78.0	76.0	75.2	76.6	76.6
13	75.1	75.1	75.6	75.7	74.4	73.7	74.4	75.2	76.5	78.0	78.7	79.0	79.0	78.7	78.7	78.0	77.2	77.2	76.6	75.7	75.8	75.1	75.0	74.2	76.4
14	74.3	73.5	74.7	73.4	73.5	73.3	73.0	73.4	74.3	75.7	77.3	77.9	77.8	77.4	77.5	77.4	77.1	76.5	74.2	74.2	73.4	73.0	73.5	71.3	75.0
15	72.1	71.8	72.2	72.8	72.2	72.0	71.9	71.0	72.2	74.3	75.0	76.0	76.5	76.9	77.2	76.7	74.9	71.9	71.1	70.0	69.0	68.3	68.3	67.4	72.7
16	67.9	68.7	70.2	70.9	71.0	71.9	72.1	73.4	74.2	74.3	75.7	76.1	77.9	79.0	78.7	79.2	78.9	78.0	77.1	76.3	75.6	74.7	73.9	74.1	74.4
17	71.7	72.0	71.4	72.0	69.5	70.0	70.3	70.8	73.6	74.6	75.0	76.7	77.0	76.7	76.2	75.8	74.3	73.1	73.0	72.9	72.1	71.9	70.6	70.6	73.1
18	70.9	69.3	69.6	69.1	69.0	69.0	69.2	70.0	72.0	73.0	73.7	74.9	75.1	75.2	75.0	73.9	73.1	72.7	73.0	72.6	73.0	72.9	73.1	73.0	72.1
19	72.7	71.4	71.1	71.6	71.3	71.1	71.8	71.9	72.5	72.7	74.0	72.3	74.3	74.0	74.4	73.8	72.9	71.1	71.9	71.5	71.9	70.6	70.9	70.6	72.2
20	69.1	67.4	67.5	67.2	68.3	69.5	70.9	72.2	72.2	72.0	72.6	74.5	74.1	74.6	75.7	78.4	77.2	76.4	75.8	75.0	74.3	74.3	74.9	74.2	72.8
21	74.5	73.3	72.9	71.1	71.7	71.8	70.8	71.4	73.0	74.1	75.0	74.9	74.0	75.8	75.4	74.6	74.0	72.6	72.2	72.8	72.6	71.9	72.0	71.9	73.1
22	71.9	72.0	71.8	71.6	71.2	71.4	71.2	71.5	72.5	73.5	74.4	75.1	74.4	74.0	74.7	74.0	72.7	71.7	71.0	70.8	70.7	70.3	70.0	69.2	72.2
23	69.8	69.1	69.9	69.7	69.2	69.0	69.2	69.1	71.9	73.1	73.9	73.8	73.2	74.1	73.1	73.6	72.7	69.9	68.9	68.9	70.0	70.0	68.4	69.0	70.8
24	69.7	69.4	69.5	69.4	69.1	68.0	67.9	68.4	70.0	71.2	72.2	72.9	72.9	73.0	72.8	72.4	71.9	71.8	71.8	71.7	71.1	70.9	71.6	71.7	70.8
25	71.8	72.1	72.2	72.0	72.6	73.4	74.0	74.3	74.7	74.7	74.7	74.6	74.1	74.0	74.3	73.9	74.0	73.9	73.9	73.9	73.8	73.7	73.4	73.0	73.6
26	73.0	72.9	73.0	72.9	73.0	73.0	73.0	73.1	73.2	73.6	73.9	74.1	74.4	74.4	74.6	74.5	74.1	74.1	74.2	74.1	74.2	74.2	74.3	74.3	73.7
27	74.2	74.2	74.2	74.0	74.2	74.1	74.7	74.9	75.1	75.0	75.1	75.2	75.3	75.6	75.7	76.0	75.1	74.7	74.6	74.0	75.1	75.7	75.4	76.1	74.9
28	75.7	76.3	76.6	75.9	75.7	75.7	75.4	76.3	76.6	77.0	77.0	78.6	78.2	77.9	77.8	77.1	76.7	76.2	75.8	75.0	75.6	75.7	75.9	76.2	76.6
Mean.	74.4	74.2	74.4	74.3	74.1	74.0	74.2	74.4	75.3	75.9	76.4	76.8	76.9	77.1	77.1	76.9	76.3	75.6	75.3	75.3	75.1	74.7	74.6	74.4	75.3
Hour. G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean.



TEMPERATURE  
Readings in degrees absolute at exact hours, Greenwich Mean Time.

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184. ESKDALEMUIR: Louvred Hut:  $h_t$  (height of thermometer bulb above ground) = 0.9 metres.

MARCH, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean.
Day.	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	76.7	76.1	76.2	75.4	75.2	75.9	76.1	76.2	76.7	77.6	79.1	78.9	79.0	78.1	77.9	78.1	76.9	76.7	76.8	76.9	76.6	76.6	76.0	75.8	76.9
2	75.7	75.6	75.6	75.1	75.0	75.2	75.7	75.9	76.0	76.0	75.9	76.0	76.6	76.9	76.8	76.9	76.6	76.3	76.3	76.3	76.2	76.0	76.0	76.6	76.0
3	76.8	77.0	77.0	77.2	77.1	77.1	77.0	77.3	77.7	78.0	78.4	78.6	78.4	78.2	78.1	77.9	77.3	77.2	77.2	77.4	77.4	77.1	77.0	77.0	77.5
4	77.1	77.4	77.1	77.2	77.2	77.1	77.0	77.0	77.4	77.8	78.3	78.6	78.6	78.5	78.8	78.6	78.1	77.9	77.9	78.0	78.0	78.1	78.0	78.0	77.8
5	77.7	77.6	77.4	76.9	76.3	75.2	75.0	76.0	76.8	77.3	78.1	78.7	78.3	78.7	78.7	79.2	79.2	78.7	77.9	78.0	78.3	78.4	78.7	79.0	77.7
6	79.1	79.0	79.1	78.6	77.8	76.3	76.2	76.0	77.0	78.6	80.4	79.9	80.3	80.1	79.8	79.2	78.6	77.7	77.6	77.3	77.8	78.0	78.0	78.1	78.4
7	78.0	77.8	77.6	77.3	77.1	77.5	76.5	76.9	77.3	77.9	78.9	78.4	78.5	80.0	79.9	79.3	78.2	78.3	77.6	77.0	75.9	75.8	75.0	74.6	77.6
8	73.5	73.3	71.7	71.0	71.0	71.7	71.1	72.1	73.0	74.2	77.3	78.9	80.0	79.8	79.9	78.9	78.4	78.4	78.2	78.0	78.1	78.0	78.3	78.6	75.9
9	78.7	78.8	78.9	79.0	79.1	79.2	79.1	79.3	79.6	79.7	79.8	79.7	79.7	79.6	80.0	80.1	79.8	79.8	79.0	78.8	78.9	78.8	79.2	78.2	79.3
10	76.9	75.7	75.2	74.0	73.9	74.1	73.5	74.0	75.1	77.9	78.9	80.0	82.0	82.2	83.0	83.2	83.4	81.1	78.8	78.3	78.9	77.7	78.6	78.1	
11	78.8	77.1	76.5	75.1	75.0	75.0	75.0	76.4	82.0	83.9	84.9	85.4	86.0	86.5	86.3	86.0	84.0	82.0	79.2	78.0	76.4	75.7	75.9	74.4	79.9
12	74.4	73.9	73.2	74.1	74.7	73.9	74.6	76.7	78.9	81.3	84.0	85.4	86.6	87.0	86.8	86.4	85.0	80.1	78.2	76.2	75.0	73.7	73.0	72.0	78.6
13	71.2	70.9	70.8	70.4	70.0	70.0	70.4	71.2	73.3	75.6	81.2	82.0	82.3	82.9	83.2	82.8	82.0	78.7	77.7	76.4	76.6	77.0	77.6	77.6	76.2
14	77.8	77.9	77.9	77.9	78.3	78.9	78.7	78.7	78.9	79.1	81.7	81.9	82.4	82.4	82.0	81.8	80.0	79.1	78.1	77.0	77.6	77.9	78.1	78.9	79.3
15	79.2	79.1	78.9	78.8	78.0	78.3	77.9	78.3	78.7	80.3	80.1	82.0	80.5	79.9	80.2	79.9	79.4	79.5	79.6	79.3	79.1	79.2	79.0	78.8	79.3
16	78.9	79.3	79.3	78.6	77.0	76.1	75.7	76.3	77.1	78.2	79.0	78.0	77.4	78.1	78.9	78.8	78.2	77.1	77.4	77.3	76.8	75.4	76.4	77.1	77.6
17	77.1	77.1	76.8	76.5	74.9	75.0	74.9	75.7	78.0	78.2	79.2	79.6	79.7	80.0	77.8	78.5	77.7	77.3	77.0	76.3	76.3	75.7	75.0	74.3	77.1
18	74.6	74.6	73.7	73.7	74.1	73.8	73.9	74.0	76.0	77.8	78.1	79.9	78.0	78.4	79.5	78.4	78.2	77.2	77.0	76.8	76.2	76.4	75.0	75.7	76.3
19	75.1	75.8	74.8	74.9	74.9	74.8	74.9	75.2	76.2	78.1	78.9	79.7	79.7	79.2	78.7	78.3	78.3	76.9	75.4	74.9	73.7	73.0	73.2	73.7	76.2
20	74.0	74.0	73.0	72.1	71.8	72.7	73.4	75.0	76.7	76.0	77.8	78.9	79.7	80.9	81.2	81.5	80.4	78.0	75.6	74.2	72.4	71.7	73.0	73.1	75.7
21	73.0	71.4	69.9	70.7	71.3	72.1	72.7	73.8	75.4	78.0	79.4	79.9	80.0	81.0	80.9	80.0	80.0	79.4	78.7	76.6	76.8	76.7	75.2	75.4	76.1
22	74.0	73.5	73.8	73.0	72.1	72.0	73.0	74.0	78.9	81.9	82.8	83.7	85.8	85.8	86.4	85.0	84.1	82.9	81.7	80.0	78.5	77.8	76.9	77.1	78.9
23	77.0	76.9	76.7	77.9	77.3	77.2	78.7	80.7	82.0	82.8	83.9	84.6	85.2	85.2	85.6	84.7	83.4	82.1	80.7	79.0	77.5	76.8	76.0	75.1	80.3
24	75.0	74.2	73.7	72.1	73.2	72.8	74.0	77.1	82.8	79.9	80.2	81.7	83.0	84.0	84.6	84.1	83.2	81.7	76.4	74.9	73.1	73.3	72.9	72.0	77.4
25	71.6	70.6	70.7	70.9	70.8	70.9	71.6	75.0	78.2	81.3	83.8	85.1	86.2	86.5	87.0	86.0	84.9	82.7	80.2	76.0	75.0	73.2	72.6	72.8	77.6
26	72.2	73.5	71.5	70.6	70.5	70.0	70.2	73.0	77.1	81.7	84.1	85.7	86.4	86.9	87.1	87.1	86.1	82.6	79.5	77.5	76.1	75.6	74.2	73.6	78.0
27	74.0	73.0	72.9	71.3	71.0	70.3	70.8	75.0	78.2	83.0	85.5	86.7	87.0	87.7	87.0	86.8	85.4	83.1	79.6	78.3	76.0	74.9	73.9	73.1	78.5
28	72.9	73.1	73.7	73.2	72.9	72.5	73.0	74.1	76.9	80.3	83.4	84.1	85.7	86.6	86.8	86.6	84.3	82.6	78.4	75.9	73.8	71.9	72.0	70.7	77.8
29	69.3	69.0	69.0	68.9	70.0	70.3	71.0	74.0	77.5	78.7	80.7	82.2	82.1	82.1	82.0	82.8	81.6	80.4	78.2	78.9	76.9	76.8	75.8	76.4	76.3
30	77.0	75.1	73.9	75.1	76.1	76.0	76.5	77.1	77.8	75.9	78.2	79.6	79.0	80.7	79.8	79.0	78.9	77.1	76.3	75.3	75.1	75.2	74.9	74.7	76.9
31	75.0	74.4	74.6	75.6	75.7	76.1	76.7	77.0	78.1	79.4	79.8	80.9	81.0	80.0	79.7	79.0	79.0	78.5	78.4	78.6	78.3	77.2	76.7	75.8	77.7
Mean.	75.6	75.2	74.9	74.6	74.5	74.5	74.7	75.8	77.5	78.9	80.4	81.1	81.5	81.7	81.8	81.4	80.7	79.4	78.1	77.2	76.6	76.2	75.9	75.7	77.6

185. ESKDALEMUIR: Louvred Hut:  $h_t$  = 0.9 metres.

APRIL, 1933.

Day.	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	
1	76.0	77.6	76.9	77.0	77.9	76.7	76.7	77.4	78.6	79.2	81.5	82.2	82.6	82.9	81.6	82.8	81.8	79.9	78.5	78.1	78.0	78.1	77.7	77.9	79.0
2	77.4	77.1	76.7	77.0	76.5	76.7	77.0	77.5	78.2	78.4	79.0	79.0	79.1	79.0	79.2	79.6	80.4	80.6	80.9	81.1	81.8	82.3	82.0	82.0	79.0
3	81.9	81.6	81.7	81.7	81.6	81.5	81.4	81.4	81.6	81.8	82.1	82.0	81.9	81.9	81.9	81.8	81.8	81.3	81.1	81.0	80.9	80.9	80.9	81.3	81.6
4	80.7	80.9	80.4	80.2	80.0	80.0	80.1	80.8	80.7	81.9	83.7	83.3	83.0	82.2	82.1	82.0	81.4	81.0	80.7	80.3	79.8	79.7	79.3	79.2	81.0
5	78.9	78.9	78.8	78.3	78.0	78.0	78.8	79.6	80.6	81.8	81.2	81.9	82.6	82.1	82.7	82.6	82.4	82.0	81.6	81.3	81.0	80.6	79.9	80.0	80.6
6	79.9	79.7	79.7	79.7	79.5	79.4	80.6	80.9	81.0	83.9	85.1	85.3	85.7	86.1	86.7	86.1	84.3	83.5	82.0	80.2	78.8	78.4	78.8	79.0	81.9
7	78.7	77.7	76.7	77.0	77.0	77.1	78.1	80.3	80.7	81.4	82.9	84.6	85.4	86.2	86.6	85.8	84.9	82.6	81.5	80.0	79.7	79.7	79.0	78.4	80.9
8	78.1	78.0	78.0	76.9	76.4	76.2	76.3	78.6	79.0	80.0	81.4	82.2	82.8	84.5	84.3	82.8	83.0	82.3	81.8	81.0	80.5	80.0	79.4	79.9	80.1
9	80.0	80.1	80.2	80.1	80.4	80.4	81.2	81.9	82.8	83.9	84.6	86.9	87.0	86.8	85.7	85.5	75.9	85.0	84.0	83.8	83.2	83.1	83.2	83.0	83.2
10	82.7	82.3	82.1	81.4	81.0	81.1	81.2	81.2	81.2	82.3	82.7	82.4	83.2	82.8	82.0	81.4	80.9	80.7	80.4	80.1	80.0	80.1	80.1	80.7	81.5
11	81.2	81.5	81.1	80.8	80.7	80.4	80.7	80.8	81.6	82.7	83.9	86.1	84.3	85.7	84.7	85.8	84.0	83.5	82.7	81.9	81.1	81.0	81.0	80.9	82.4
12	80.7	80.7	81.4	80.7	79.3	78.0	79.7	79.1	79.9	80.1	81.2	82.9	82.4	82.7	81.7	81.7	80.2	79.0	77.7	75.9	75.0	74.4	74.0	74.4	79.4
13	74.1	74.1	73.9	74.3	75.1	74.1	76.2	78.4	79.6	80.7	81.0	81.8	82.5	81.1	80.6	82.2	80.3	79.7	78.3	77.3	75.8	75.3	74.0	72.0	77.7
14	71.5	72.8	72.6	73.0	72.2	71.9	74.4	77.4	79.3	79.9	81.1	82.1	82.0	83.7	83.0	83.0	82.7	81.0	79.4	77.4	77.5	77.7	76.8	77.6	77.8
15	78.2	78.9	79.4	79.9	79.9	79.8	80.0	80.3	80.8	81.0	81.2	81.1	81.2	81.0	81.3	82.8	83.0	81.3	83.8	83.6	83.4	83.1	82.7	82.4	81.2
16	82.1	81.9	82.0	82.0	82.0	81.8	82.1	82.4	83.0	83.5	84.0	81.7	82.6	83.0	82.7	82.6	83.0	82.3	81.5	80.5	79.6	79.4	79.1	78.5	81.9
17	78.6	78.4	78.1	77.9	77.9	77.9	78.0	78.4	79.0	79.6	79.6	79.6	80.1	80.7	81.0	81.0	81.1	81.0	80.7	80.1	79.7	78.7	78.6	77.7	79.3
18	77.0	76.9	75.1	74.9	74.2	74.2	75.0	76.0	77.8	77.2	78.0	79.0	78.1	78.0	79.3	76.1	77.0	76.4	74.3	73.4	72.4	72.6	72.7	73.0	75.9
19	72.4	72.6	73.0	72.0	72.8	73.1	74.0	75.1	76.0	76.8	74.0	77.3	78.0	78.0	78.6	78.3	77.7	76.7	75.2	75.0	74.2	74.8	74.8	74.9	75.2
20	74.7	74.9	74.9	74.9	75.0	75.0	75.0	74.3	75.0	77.0	77.4	76.4	77.5	78.3	78.5	79.0	78.3	77.1	75.7	72.8	72.1	71.6	71.4	71.0	75.4
21	71.2	70.2	69.9	71.0	71.3	72.3	75.0	77.3	77.9	79.0	78.6	78.3	79.0	79.1	78.8	79.0	79.3	79.3	78.6	77.6	76.4	76.6	76.6	76.0	76.1
22	75.3	75.4	75.0	74.9	75.0	76.0	77.7	78.3	78.9	79.3	79.6	80.2	81.0	81.1	81.0	80.7	80.6	80.6	78.0	73.9	72.9	72.4	71.7	71.4	77.2
23	72.0	71.8	72.2	73.2	73.1	73.6	75.4	78.4	79.6	80.7	81.2	82.9	82.1	82.2	81.0	80.2	79.7	79.4	79.0	78.7	78.4	78.2	78.2	78.2	77.7
24	78.2	78.2	78.1	78.2	78.4	78.8	79.7	80.2	81.2	83.1	84.6	85.0	85.5	86.0	84.8	84.4	83.1	82.2	81.9	81.9	81.8	82.0	82.1	82.2	81.7
25	82.2	82.1	82.2	82.4	82.5	82.6	83.0	83.1	83.1	83.3	84.3	84.8	85.4	84.7	85.5	85.4	85.5	84.0	82.8	81.6	81.8	81.2	81.2	80.9	82.2
26	81.1	80.6	80.1	79.7	79.4	79.8	80.4	81.4	82.7	83.0	83.3	83.4	82.6	82.3	84.0	83.7	83.0	82.8	82.4	82.2	82.0	81.4	81.3	81.7	81.8
27	82.1	82.3	82.0	81.6	81.5	81.6	81.8	82.3	82.4	82.3	83.4	83.1	85.0	84.9	83.2	82.2	81.3	80.0	79.3	79.0	79.0	78.8	79.0	79.6	81.6
28	79.3	79.0	79.4	79.5	79.4	79.7	80.0	80.3	80.8	80.7	81.2	82.2	82.9	84.6	84.5	84.9	84.4	84.0	80.7	78.0	76.1	74.0	74.0	73.3	80.2
29	74.0	73.9	74.7	76.2	76.7	77.1	79.1	81.1	81.4	81.9	82.1	80.8	83.1	83.8	82.2	82.2	81.7	81.0	80.2	80.1	79.7	80.0	80.3	79.7	79.6
30	79.5	78.9	79.0	78.7	78.4	78.5	78.6	78.4	78.8	79.6	79.9	79.6	79.4	79.4	79.4	79.2	79.0	78.7	78.6	78.7	78.6	78.6	78.6	78.6	79.0
Mean.	78.0	78.0	77.8	77.8	77.8	77.8	78.6	79.4	80.1	80.9	81.5	81.9	82.3	82.5	82.3	82.2	81.7	81.0	80.1	79.2	78.7	78.5	78.3	78.2	79.8
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean



TEMPERATURE  
Readings in degrees absolute at exact hours, Greenwich Mean Time.

186. ESKDALEMUIR: Louvred Hut:  $h_t$  (height of thermometer bulb above ground) = 0.9 metres.

MAY, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean.
Day.	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	78.2	78.3	78.0	78.1	77.9	78.0	78.5	79.1	80.0	80.2	78.4	78.3	78.3	78.3	78.6	78.2	78.0	77.9	77.4	77.0	77.0	76.8	76.6	76.4	78.1
2	76.3	76.2	76.1	76.2	76.2	77.4	78.6	78.4	79.2	79.3	79.8	80.9	82.1	81.8	81.1	80.7	79.2	78.5	77.6	77.0	76.6	76.4	76.6	76.6	78.3
3	76.3	76.3	76.3	76.3	76.3	76.8	77.7	78.4	79.4	80.1	79.4	81.6	79.9	79.0	78.3	77.6	77.9	77.9	77.9	77.8	77.7	77.9	78.1	78.6	78.0
4	79.0	79.0	79.0	79.0	79.0	79.0	79.1	79.6	79.9	81.4	83.7	85.1	86.4	87.1	86.9	86.2	86.6	83.8	82.9	82.3	82.6	82.5	82.8	82.6	82.5
5	82.1	81.9	82.1	81.9	81.6	81.9	82.6	83.0	83.9	83.9	84.1	84.9	85.9	85.9	86.5	86.0	86.7	85.8	83.3	82.7	82.8	81.8	81.1	82.3	83.5
6	82.3	82.5	82.6	82.4	81.9	82.7	84.0	84.2	85.3	86.7	87.0	87.3	89.0	88.9	88.7	87.8	84.4	82.9	82.8	83.5	81.9	81.7	81.5	81.5	84.3
7	81.0	81.0	81.0	80.7	80.7	80.8	81.0	81.3	82.0	82.6	83.9	84.0	85.8	83.2	82.3	82.0	82.8	82.8	82.6	82.5	82.3	82.0	81.6	80.7	82.1
8	80.2	80.0	79.0	78.0	77.2	79.6	82.7	85.0	86.4	86.9	86.1	88.0	88.0	88.9	86.9	86.4	84.8	83.0	82.3	81.9	81.8	81.9	81.8	81.7	83.3
9	80.2	79.9	79.8	78.6	78.5	79.5	80.3	81.0	81.2	82.0	82.7	82.6	82.0	82.5	82.0	82.1	82.4	81.8	81.0	80.2	80.2	80.3	80.3	80.1	80.9
10	80.0	78.2	78.2	78.0	80.4	80.9	80.3	82.1	82.8	83.3	83.3	83.3	85.2	85.6	84.3	85.0	84.4	83.2	82.9	82.1	81.3	81.1	80.9	80.1	82.0
11	80.2	80.2	80.2	80.3	80.3	81.0	81.8	81.3	81.2	81.5	82.1	82.8	82.4	82.8	84.2	84.7	84.5	83.1	82.8	82.6	81.9	81.0	80.5	80.1	81.8
12	80.2	77.3	76.5	77.8	79.2	81.9	82.2	82.8	84.9	84.5	84.9	86.9	85.7	87.7	87.5	87.0	86.2	85.2	83.7	80.6	79.0	78.8	78.9	79.0	82.5
13	77.9	77.1	76.9	76.4	77.0	81.0	82.1	83.4	84.1	84.9	84.8	85.0	84.2	84.4	83.6	82.3	81.5	81.5	81.5	79.3	79.3	78.7	78.0	76.1	80.9
14	75.6	77.8	78.1	76.0	76.9	80.0	81.3	82.4	83.4	84.5	83.6	85.1	86.7	87.1	88.0	87.9	84.8	84.0	83.4	82.0	80.6	78.2	78.8	78.3	81.8
15	76.2	77.8	78.4	78.4	78.4	79.9	79.7	82.1	83.0	84.1	84.6	85.2	85.0	86.0	85.9	85.3	85.6	84.2	83.1	82.6	81.9	79.9	80.0	79.8	81.9
16	79.3	79.2	79.1	79.1	79.0	79.9	80.6	81.5	81.0	81.3	81.3	81.2	81.4	81.2	81.0	81.0	80.9	81.1	81.0	81.0	80.9	80.6	80.7	80.8	80.6
17	80.8	80.8	80.7	80.6	80.6	80.8	81.2	81.6	82.1	83.9	85.0	84.9	85.4	85.1	85.7	85.4	85.3	84.5	83.7	83.0	82.5	82.1	81.9	81.8	82.9
18	81.6	81.2	81.3	81.2	81.2	81.7	82.1	83.1	84.0	85.2	86.0	86.6	86.8	87.5	87.7	87.6	87.2	86.9	85.6	84.2	83.3	81.9	81.4	82.0	84.1
19	82.1	82.2	82.2	82.2	82.5	82.6	82.8	82.9	83.0	83.5	84.7	84.8	85.3	85.7	86.1	87.0	86.0	86.3	86.3	85.1	84.9	85.5	85.0	85.7	84.3
20	85.6	85.9	86.0	85.7	85.3	85.2	85.7	87.3	89.8	89.7	90.0	89.0	91.0	91.4	91.1	87.7	85.6	85.3	84.9	84.7	84.7	84.7	84.8	84.7	86.9
21	84.2	83.0	82.9	82.6	82.5	82.1	82.5	83.1	84.9	85.3	87.4	89.1	90.3	90.9	91.3	91.3	91.3	91.6	90.0	87.7	85.0	85.2	85.6	85.0	86.4
22	84.5	83.4	84.0	84.1	84.0	84.6	85.8	87.5	89.0	88.5	88.3	89.8	91.7	92.3	91.1	86.9	88.3	87.0	86.7	86.0	86.3	85.2	85.2	84.4	86.9
23	84.0	83.8	83.1	83.4	83.6	83.1	83.8	84.0	85.0	86.2	87.3	86.9	87.7	89.4	90.2	90.1	89.9	87.1	87.3	85.1	84.8	84.8	85.0	82.8	85.8
24	80.6	80.3	81.0	80.0	79.2	80.1	83.1	83.6	84.3	84.8	87.0	88.0	88.7	87.1	85.3	83.7	83.1	83.0	82.7	82.6	82.5	81.7	80.4	79.7	83.1
25	78.7	78.4	77.7	78.3	79.0	80.7	81.1	81.6	83.8	84.0	85.7	85.0	87.0	85.3	87.4	87.0	86.7	86.0	84.6	82.1	82.6	82.0	81.6	81.1	82.8
26	80.9	78.4	76.8	75.6	76.0	78.4	82.1	84.9	86.3	86.5	87.0	88.0	86.6	85.8	85.8	86.8	85.2	84.1	83.9	82.5	81.0	79.0	77.0	78.9	82.4
27	78.9	79.3	78.8	78.5	80.0	80.7	81.1	82.0	83.6	84.0	86.0	86.5	86.1	87.2	86.7	85.8	86.1	85.9	85.0	84.2	83.2	83.3	82.6	81.1	83.1
28	80.2	79.4	78.0	77.6	78.0	80.0	81.1	81.4	82.6	83.3	85.2	85.0	85.0	84.8	85.6	85.8	84.8	84.9	84.0	82.9	81.2	81.4	81.0	81.0	82.3
29	80.9	80.1	80.4	80.3	80.2	80.6	82.0	83.1	83.6	83.7	84.0	84.6	85.0	84.9	85.1	85.8	85.6	85.6	84.0	82.2	81.9	80.3	80.1	80.0	82.7
30	79.9	80.1	80.0	79.7	79.6	80.2	81.6	83.0	85.0	87.3	88.0	88.9	89.4	88.7	90.7	90.1	89.0	88.6	85.9	83.9	80.6	79.1	78.0	78.7	84.0
31	78.7	78.8	78.1	78.0	78.3	79.9	82.6	85.6	88.6	89.6	90.0	89.1	90.0	90.9	91.1	91.2	91.0	90.8	90.2	86.3	85.6	84.0	83.3	83.1	85.5
Mean.	80.2	79.9	79.8	79.5	79.7	80.7	81.7	82.6	83.7	84.4	84.9	85.5	86.0	86.0	86.1	85.6	85.0	84.3	83.6	82.5	81.9	81.3	81.0	80.8	82.8

187. ESKDALEMUIR: Louvred Hut:  $h_t$  = 0.9 metres.

JUNE, 1933.

Day.	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	82.1	81.0	79.8	79.0	80.1	83.6	84.2	87.0	89.0	88.6	91.0	92.1	91.4	91.1	92.3	92.1	90.0	89.2	89.3	89.2	88.9	88.9	88.3	87.6	87.2
2	87.4	87.0	86.7	86.3	86.4	86.8	86.2	86.0	87.1	86.4	87.5	87.6	88.4	88.2	88.2	87.4	88.9	90.0	88.7	87.9	87.2	87.0	87.4	87.4	
3	87.5	87.7	87.8	87.2	87.7	88.2	90.4	89.7	90.1	91.6	93.5	94.3	93.8	95.0	95.2	95.2	95.0	95.0	94.2	91.1	90.5	88.5	87.0	85.8	91.0
4	85.1	83.8	83.0	82.7	83.8	86.3	90.5	92.8	94.2	95.8	96.8	97.7	98.7	98.7	98.4	98.6	98.4	97.3	95.2	92.6	88.8	87.2	86.1	87.2	91.6
5	85.9	85.7	84.0	83.9	85.8	87.4	90.9	90.7	92.9	94.5	94.3	95.2	95.0	93.2	93.8	94.0	92.2	91.9	90.4	89.0	86.6	85.0	83.8	83.1	89.6
6	83.4	84.0	84.6	84.6	84.9	85.7	86.6	88.9	91.2	92.6	94.0	95.0	95.7	96.8	97.0	96.6	96.0	95.2	93.9	90.2	87.0	86.0	85.7	85.4	90.0
7	84.7	85.5	84.6	84.7	87.4	88.7	91.6	94.4	96.6	97.3	98.0	98.7	99.0	99.6	99.0	98.1	97.8	97.3	96.4	91.7	89.3	87.7	86.1	86.0	92.5
8	86.9	86.8	86.0	87.6	86.9	86.9	87.0	87.3	89.1	90.0	90.5	91.2	91.6	90.6	90.8	89.1	88.3	87.4	86.3	85.3	84.3	83.6	83.2	83.7	87.6
9	83.4	83.3	83.1	83.3	82.9	82.9	83.1	83.8	84.2	85.5	86.0	87.8	88.6	89.0	88.0	87.6	86.8	86.1	85.6	85.0	84.1	83.5	83.3	83.1	85.0
10	82.1	81.7	80.1	81.0	82.4	84.4	85.1	85.8	86.7	86.8	87.5	86.2	85.6	85.7	85.1	85.1	85.0	84.8	83.9	83.8	83.4	83.0	82.4	82.2	84.2
11	82.0	81.8	81.7	81.2	82.1	83.7	84.0	84.1	84.0	84.9	83.5	84.8	85.0	85.4	85.4	86.1	86.3	84.9	84.6	82.7	80.1	78.9	76.4	75.8	83.0
12	75.0	74.7	73.4	73.6	75.6	80.0	84.2	86.7	87.1	88.6	87.1	89.0	89.0	90.1	89.4	87.2	88.1	87.8	87.2	85.0	83.8	83.0	82.2	83.4	83.6
13	83.6	83.5	83.6	83.6	84.2	85.0	85.1	84.9	84.3	84.9	85.9	87.0	86.7	90.0	90.1	89.7	89.0	89.0	87.9	87.1	84.9	83.4	83.9	83.9	85.9
14	84.0	84.0	84.0	83.9	84.1	84.6	85.0	87.0	89.9	89.2	90.6	91.5	91.7	91.4	92.6	92.0	91.7	92.9	90.6	90.1	86.2	83.7	83.3	81.6	87.8
15	81.0	80.3	79.6	78.4	79.0	81.0	85.4	89.2	89.8	90.6	91.7	92.6	92.3	92.4	92.2	91.4	91.6	89.9	88.3	87.8	87.1	86.7	86.6	86.4	87.0
16	86.0	85.7	84.8	84.2	84.0	86.3	87.9	89.9	90.2	90.5	90.1	90.0	90.3	87.2	86.0	85.6	84.7	83.6	83.7	84.2	83.9	83.0	82.0	81.6	86.2
17	80.7	80.4	80.2	80.1	79.8	80.6	80.9	82.0	82.7	84.4	82.0	84.6	85.4	85.0	84.2	85.2	85.2	82.8	82.6	82.5	81.9	81.2	81.1	80.9	82.4
18	80.8	81.1	81.4	80.7	80.4	81.1	81.7	82.9	83.1	84.4	83.3	84.0	86.7	85.7	85.3	84.7	85.0	84.9	84.7	83.0	82.1	81.8	82.0	81.7	83.0
19	81.3	81.3	81.2	81.5	82.2	83.0	84.3	84.0	83.3	85.3	85.2	83.2	85.3	85.7	85.2	84.1	83.9	86.2	85.1	84.1	81.8	80.8	81.6	81.9	83.4
20	81.9	80.6	79.2	78.0	80.1	83.0	85.7	86.2	87.4	88.3	89.9	89.2	88.8	89.3	89.8	89.3	89.6	89.0	88.2	86.0	85.0	84.0	83.1	83.2	85.6
21	82.0	81.8	81.4	80.6	81.8	83.1	84.8	85.4	85.4	89.0	89.6	89.9	89.2	90.0	90.7	90.0	89.0	88.0	87.0	85.9	84.6	84.0	83.0	82.4	85.8
22	82.3	82.6	80.8	80.0	79.6	80.0	82.2	85.4	86.2	87.0	87.8	88.2	88.8	90.1	91.7	90.7	88.3	91.0	88.0	87.0	85.3	85.0	83.9	82.0	86.0
23	81.9	81.4	80.5	79.9	80.0	82.7	85.3	88.0	89.6	89.9	90.6	91.5	90.9	91.6	91.9	91.0	90.7	90.0	87.5	87.0	85.0	83.0	81.1	81.8	86.4
24	82.2	82.2	83.5	83.8	84.3	84.8	84.7	85.0	85.1	85.8	88.3	90.7	92.3	92.1	89.4	90.9	89.2	88.6	87.9	86.4	85.8	85.9	85.5	85.6	86.6
25	85.3	84.6	84.7	84.9	85.3	87.1	87.7	89.4	90.7	92.3	93.0	93.2	93.3	94.0	94.7	93.9	93.3	90.7	89.8	88.0	86.2	84.9	84.0	83.6	89.0
26	83.3	82.9	83.0	83.1	84.0	85.1	85.2	85.0	85.0	85.4	87.0	88.3	88.4	89.0	89.0	90.0	89.6	88.8	88.2	85.0	83.4	81.6	80.0	79.0	85.5
27	78.2	77.5	77.0	76.0	77.9	81.0	82.9	86.9	88.5	89.3	90.1	91.2	92.0	90.4	90.6	91.6	90.9	89.6	88.9	85.0	87.0	86.1	85.2	84.1	85.8
28	83.4	83.1	82.4	82.4	84.0	83.9	83.8	84.0	85.5	86.0	88.8	89.0	88.7	89.9	90.2	90.2	90.5	90.2	87.8	85.6	84.0	83.9	83.7	83.1	86.0
29	82.4	81.5	78.9	78.2	81.0	84.2	85.9	87.2	86.9	88.1	88.2	90.0	90.2	91.1	90.4	89.9	89.0	90.1	89.2	86.6	85.7	84.2	83.0	81.0	86.0
30	80.3	79.8	78.6	77.9	78.3	80.0	84.1	85.2	85.7	87.0	87.8	88.6	89.0	88.1	90.2	89.9	89.0	88.2	87.6	87.1	86.6	84.9	85.0	85.2	85.2
Mean.	82.9	82.6	82.0	81.7	82.5	84.1	85.7	86.9	87.7	88.7	89.3	90.0	90.4	90.6	90.5	90.2	89.8	89.3	88.3	86.8	85.3	84.4	83.6	83.3	86.5
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean.



188. ESKDALEMUIR: Louvred Hut:  $h_t$  (height of thermometer bulb above ground) = 0.9 metres.

JULY, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean.
Day.	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	85.8	85.7	85.4	86.0	86.3	86.4	87.7	88.8	91.0	92.0	93.5	93.7	95.4	95.9	96.0	95.8	95.7	95.7	94.1	91.9	89.5	97.0	86.2	85.7	90.5
2	84.0	83.6	83.6	83.4	86.0	89.0	92.4	94.3	95.2	96.2	96.9	97.9	98.9	99.4	99.9	00.0	99.7	98.6	97.0	95.2	92.0	89.2	88.6	86.1	92.8
3	84.9	84.0	83.3	83.3	83.7	88.1	92.0	95.1	96.9	97.2	97.7	98.0	98.4	98.3	97.7	97.6	97.2	96.8	95.6	92.3	88.9	88.6	87.2	86.0	92.0
4	84.3	82.9	.1	80.8	82.6	86.0	90.2	94.0	96.3	97.9	98.3	99.1	99.3	99.4	00.1	00.0	99.9	99.5	97.9	94.9	89.7	88.5	86.6	86.0	92.3
5	85.8	84.7	84.3	84.0	83.9	87.1	91.8	93.9	96.9	97.8	99.7	00.1	01.0	01.5	01.6	00.9	99.7	98.8	96.5	94.0	92.7	91.9	91.0	88.9	93.6
6	88.9	88.2	87.4	87.2	87.7	87.4	88.0	89.6	90.9	93.7	94.9	94.9	95.2	95.8	96.1	95.5	94.9	93.9	91.9	90.3	89.2	88.4	88.0	87.3	91.1
7	87.6	87.7	87.1	87.7	88.0	88.7	89.1	90.1	93.1	95.0	96.2	98.0	97.9	97.6	95.9	93.1	91.0	90.0	90.4	90.5	89.8	89.4	89.5	89.3	91.3
8	88.2	88.0	88.1	88.0	88.0	87.9	88.1	89.7	90.0	90.0	92.0	92.0	93.6	92.2	92.5	93.0	88.6	90.1	90.4	89.6	88.1	87.9	87.6	87.5	89.7
9	86.4	86.0	86.1	86.1	86.1	86.1	85.9	88.0	89.2	88.9	90.8	90.3	91.2	91.0	90.5	88.4	89.8	87.9	87.2	86.1	85.6	85.6	85.8	86.0	87.7
10	86.6	86.7	86.7	86.7	86.8	86.6	86.8	87.0	88.1	87.0	88.1	88.3	88.7	88.5	88.9	88.6	88.2	87.4	87.1	87.0	86.7	86.7	86.6	86.6	87.3
11	86.1	86.0	85.9	85.2	85.0	85.3	85.6	85.9	86.0	87.9	87.5	88.3	87.0	88.0	88.8	87.9	87.8	87.7	86.9	85.3	85.3	85.4	85.2	84.9	86.5
12	84.9	84.7	84.6	84.6	84.9	85.0	85.4	86.5	85.8	86.1	86.2	86.4	86.6	87.2	86.6	86.2	86.1	85.9	85.9	85.8	85.2	85.2	84.9	84.3	85.6
13	84.1	83.9	84.0	84.0	84.1	85.0	85.9	86.8	85.0	85.1	85.4	85.2	85.7	85.8	85.8	85.9	86.3	86.6	86.9	86.7	86.6	86.6	86.2	86.0	85.5
14	85.9	85.8	85.9	85.9	85.4	86.0	86.9	86.9	87.4	89.0	88.6	89.3	90.8	91.0	90.7	90.0	89.7	88.7	87.5	86.3	85.0	85.3	85.1	83.1	87.4
15	81.8	81.6	81.0	80.3	81.4	81.6	83.8	87.0	88.0	89.2	89.5	89.8	91.3	90.2	91.0	90.6	90.7	89.0	86.1	85.8	85.3	84.6	84.0	84.0	86.1
16	85.0	85.1	84.7	85.0	85.1	86.0	87.0	89.0	89.1	89.0	90.1	90.1	90.9	89.7	92.0	90.0	90.9	90.0	87.8	86.7	85.3	84.0	82.6	81.6	87.4
17	81.1	81.9	82.6	82.6	83.0	83.7	84.3	85.7	86.2	87.0	88.1	89.2	89.3	90.0	90.7	91.1	90.6	91.0	90.1	88.3	87.3	87.0	86.6	86.4	86.7
18	86.7	87.1	86.7	86.6	86.8	87.7	89.0	89.3	89.8	90.0	90.0	90.0	90.6	91.4	91.6	92.0	91.8	91.1	90.8	90.0	89.0	88.3	88.2	88.2	89.2
19	88.0	87.8	86.0	85.2	85.5	86.2	87.2	89.3	92.2	93.0	92.5	93.6	93.0	94.2	92.1	92.2	90.9	90.2	89.2	88.1	87.6	87.0	86.8	86.6	89.4
20	86.4	86.4	86.3	86.2	86.3	86.8	87.4	88.1	89.2	87.6	88.2	88.2	87.5	87.8	88.4	89.2	88.0	88.2	87.5	86.8	85.7	85.9	85.3	84.9	87.2
21	83.8	83.7	84.0	82.9	82.4	83.0	84.5	86.0	89.6	88.2	89.1	90.1	90.5	90.8	91.5	90.9	90.6	90.7	89.7	86.0	84.2	83.2	81.0	81.5	86.7
22	80.6	80.0	79.8	80.0	81.7	83.8	85.3	88.7	89.7	90.5	91.0	91.3	92.4	91.7	92.1	93.5	91.7	91.4	92.0	89.0	85.4	84.5	84.0	83.0	87.2
23	82.5	82.5	82.0	81.9	82.8	83.8	87.5	90.0	89.5	90.8	93.0	92.9	93.9	93.0	92.1	92.8	94.3	93.6	92.5	90.6	89.9	88.6	86.5	86.4	88.8
24	87.2	87.3	87.0	86.6	87.3	87.6	88.2	89.0	90.2	90.0	90.2	92.8	91.6	92.1	90.8	91.1	90.0	88.9	88.6	88.1	87.8	87.8	88.0	88.1	89.0
25	88.0	87.7	88.0	87.7	87.8	88.2	88.2	88.2	88.5	88.8	89.2	89.6	89.9	89.8	90.0	90.0	90.2	89.9	89.5	89.0	88.8	88.7	88.6	88.2	88.9
26	88.1	87.9	87.8	87.4	87.2	86.8	86.7	87.8	87.5	87.6	88.7	88.7	89.4	90.1	88.7	89.6	90.8	89.8	89.0	88.2	87.9	87.2	86.2	83.6	88.1
27	82.0	81.0	80.8	79.6	79.4	80.9	83.4	87.6	88.3	90.0	90.2	90.9	90.4	88.6	85.1	83.3	83.1	83.1	83.3	83.8	84.0	84.2	84.6	84.4	84.7
28	84.3	84.3	83.7	84.0	84.4	84.8	84.9	87.4	87.2	87.4	88.2	88.6	88.2	88.0	87.6	85.6	86.4	85.2	84.9	84.7	84.7	84.6	84.8	84.8	85.8
29	84.5	84.4	84.1	84.3	84.6	85.0	85.8	86.0	86.6	86.6	88.5	87.4	87.0	87.0	87.9	86.5	87.4	85.9	86.3	85.7	84.3	83.3	83.1	81.8	80.9
30	81.2	80.8	79.0	78.6	78.2	79.8	84.0	87.4	87.6	88.1	78.8	87.9	88.1	88.9	88.3	87.7	88.0	87.0	86.8	86.2	86.1	85.6	85.0	85.3	85.1
31	86.0	86.7	86.5	86.6	86.6	86.5	86.8	87.1	88.7	88.8	88.6	89.5	89.5	88.4	87.4	88.1	87.2	87.0	87.1	87.0	87.1	86.7	86.3	85.6	87.3
Mean.	85.2	85.0	84.6	84.5	84.8	85.7	87.1	88.7	89.6	90.3	90.9	91.3	91.7	91.7	91.5	91.2	90.8	90.3	89.5	88.3	87.2	86.7	86.1	85.5	88.3

189. ESKDALEMUIR: Louvred Hut:  $h_t$  = 0.9 metres.

AUGUST, 1933.

Day.	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	85.4	85.0	84.5	83.5	83.8	85.0	86.1	88.0	89.0	90.3	89.2	90.9	89.9	92.6	92.7	92.6	92.3	91.1	90.0	88.1	87.0	87.0	87.0	86.9	88.2
2	86.8	86.8	86.1	86.1	86.0	86.1	86.5	86.7	88.0	89.8	90.4	91.9	91.0	91.5	90.9	93.9	92.0	91.7	91.2	91.5	91.2	90.7	90.6	90.5	89.4
3	90.1	90.8	90.6	90.2	90.1	90.0	90.0	90.6	91.4	92.0	92.8	93.4	94.4	96.3	96.2	96.0	94.1	93.0	92.0	91.6	91.0	90.7	90.3	90.1	92.0
4	89.8	89.2	86.4	84.9	83.9	86.2	89.0	92.7	94.6	95.3	96.0	96.7	97.0	97.5	97.5	98.1	98.1	97.5	96.4	91.6	90.2	89.2	88.9	88.0	92.3
5	87.3	86.3	86.0	86.0	86.2	87.0	89.0	91.7	92.8	96.0	96.7	97.5	97.6	98.5	99.1	98.8	98.6	97.6	95.4	91.7	90.1	89.2	88.9	88.1	92.3
6	87.3	88.1	87.8	87.4	88.9	90.2	90.8	92.1	93.0	93.2	93.7	95.2	94.3	94.9	96.4	95.0	94.9	92.0	91.0	89.4	87.2	85.6	84.6	81.2	90.7
7	83.0	82.4	83.9	84.2	84.5	85.0	86.3	87.7	88.7	89.4	89.0	89.8	89.9	91.0	90.8	89.4	87.2	86.0	85.2	85.0	85.9	86.2	87.0	86.3	86.7
8	85.8	85.2	84.7	84.8	84.7	85.0	85.2	86.2	86.6	87.1	87.4	88.1	88.7	89.1	89.8	87.8	88.5	88.2	86.9	86.0	84.2	84.8	84.8	85.2	86.5
9	86.5	86.9	87.0	87.7	88.0	88.4	88.7	88.3	87.5	87.9	90.0	89.6	90.0	90.5	89.5	89.5	88.6	88.0	86.3	84.0	83.2	83.2	82.8	82.7	87.3
10	82.3	81.7	81.9	81.6	82.0	82.8	84.1	86.2	86.3	87.5	89.3	88.0	90.0	89.4	89.8	89.0	88.1	87.7	87.7	83.9	82.1	81.7	80.0	79.9	85.2
11	79.7	80.0	78.8	79.0	79.0	80.4	82.0	84.0	85.9	86.2	87.0	88.4	89.9	90.0	89.8	89.0	88.4	87.4	86.8	85.9	85.3	84.8	84.7	84.6	84.8
12	83.9	84.0	82.3	83.0	83.2	83.7	84.6	87.2	87.4	88.1	89.6	90.8	91.7	92.4	93.0	92.5	92.9	91.7	89.0	85.3	82.4	81.8	80.4	79.5	86.8
13	78.9	78.8	78.0	77.7	78.8	79.3	81.7	86.1	89.9	91.0	91.8	92.7	93.0	93.5	93.9	94.1	92.6	91.7	90.7	88.7	87.2	87.0	86.0	85.7	86.9
14	85.4	84.9	85.0	85.1	85.4	86.1	86.4	87.6	89.0	88.7	88.6	89.4	91.6	92.7	92.1	91.4	91.0	90.2	89.8	89.0	88.3	87.8	87.9	87.9	88.3
15	87.0	87.0	86.7	86.2	86.2	86.5	86.3	86.7	86.2	86.0	86.9	86.7	86.9	87.9	89.5	90.1	88.8	87.5	86.5	86.0	85.8	85.2	84.8	83.7	86.8
16	83.7	83.4	82.9	83.1	82.5	84.0	85.8	86.4	87.3	87.9	89.1	89.1	89.2	89.0	88.7	88.9	88.7	87.3	86.5	85.8	85.1	85.0	84.8	84.7	86.2
17	84.9	84.7	85.0	84.5	84.1	83.9	84.9	85.0	85.2	86.3	87.0	87.6	87.7	88.4	89.3	89.7	89.0	88.8	88.0	87.0	86.9	86.6	86.3	86.2	86.5
18	86.0	85.7	85.8	85.3	84.8	85.0	85.2	86.0	86.7	87.1	87.8	88.0	89.0	88.7	87.8	89.0	89.4	87.7	86.6	86.2	86.3	86.2	86.1	86.3	86.8
19	85.7	85.5	85.4	85.3	85.2	85.1	85.3	86.0	86.6	88.9	89.0	89.8	89.0	90.7	90.9	89.2	88.3	88.0	86.0	84.9	84.0	83.1	84.1	81.7	86.7
20	80.2	81.7	82.2	82.6	82.9	82.9	83.4	84.8	84.7	85.1	86.8	87.3	85.9	86.6	85.7	86.1	87.2	86.3	84.9	83.9	83.1	83.1	81.9	81.7	84.2
21	82.4	82.2	82.9	82.7	82.6	82.9	83.7	84.7	85.6	86.3	86.7	87.9	88.3	88.8	88.2	88.4	85.9	84.2	82.7	82.5	80.7	80.9	81.4	80.4	84.3
22	78.8	78.0	79.0	82.0	81.6	82.8	83.2	84.1	84.7	85.4	86.0	88.0	88.0	86.4	86.2	84.1	84.2	83.8	83.6	83.3	83.2	82.6	82.0	81.8	83.4
23	82.7	81.8	82.0	82.2	82.6	82.9	83.7	85.3	85.7	86.0	86.2	87.8	87.7	86.7	86.0	87.0	88.6	87.8	85.9	85.7	85.1	84.6	84.4	83.9	85.1
24	83.2	82.1	81.0	79.5	79.5	80.1	81.3	82.8	84.2	85.1	87.7	88.0	88.0	87.9	86.7	86.6	86.2	86.2	86.1	85.8	85.3	85.1	85.5	85.9	84.5
25	86.0	86.0	86.4	87.1	87.4	87.3	87.4	88.0	88.0	89.2	89.0	88.8	89.0	89.6	89.1	88.8	88.8	88.4	88.0	87.6	87.5	87.6	87.6	87.6	87.9
26	87.4	87.3	87.2	87.0	86.9	86.6	85.2	88.7	90.9	92.3	92.6	93.6	94.9	95.4	95.2	95.1	94.6	93.4	90.0	86.7	85.4	84.3	83.1	83.0	89.6
27	82.3	83.0	82.6	81.7	82.2	83.4	85.4	88.2	90.8	92.0	93.0	93.1	93.7	94.2	94.2	94.4	93.0	91.9	90.6	89.1	88.7	88.2	87.3	89.7	88.7
28	89.3	89.0	89.1	89.2	89.2	89.2	89.8	89.0	89.1	89.7	89.7	90.0	89.6	89.7	89.8	90.0	89.6	89.0	88.9	88.5	88.3	88.1	87.7	87.5	89.2
29	87.4	87.3	87.3	87.1	86.7	87.0	87.2	88.0	88.3	88.7	88.8	91.5	92.5	92.4	93.1	90.8	90.0	89.7	88.3	85.4	84.1	83.0	83.2	82.7	88.0
30	82.2	81.7	80.8	80.7	79.8	79.9	82.0	86.0	87.6	85.0	87.0	89.1	89.6	90.0	90.1	89.9	89.0	87.7	84.7	81.7	82.4	81.2	80.4	78.5	84.5
31	77.1	78.0	79.0	79.0	79.0	79.2	80.9	82.9	84.8	85.7	86.2	86.9	86.7	86.0	85.8	85.4	85.2	85.5	86.0	86.1	86.6	86.8	87.0	83.6	
Mean.	84.5	84.3	84.1	84.1	84.1	84.6	85.6	87.0	88.0	88.7	89.4	90.2	90.5	90.9	90.9	90.7	90.1	89.2	88.1	86.7	85.9	85.5	85.2	84.8	87.2
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean.



TEMPERATURE  
Readings in degrees absolute at exact hours, Greenwich Mean Time.

190. ESKDALEUIR: Louvred Hut:  $h_t$  (height of thermometer bulb above ground) = 0.9 metres.

SEPTEMBER, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean.
Day.	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	87.1	86.6	85.6	85.0	84.1	84.0	85.3	86.7	87.7	89.8	90.1	90.0	91.1	91.0	91.2	91.9	91.1	89.8	86.9	84.1	82.0	80.7	79.5	80.0	86.9
2	80.0	79.1	78.3	77.3	76.9	77.1	77.9	81.3	84.9	89.1	91.6	91.4	93.1	93.4	91.0	91.0	92.1	90.7	90.0	88.9	87.8	86.1	85.2	85.0	85.7
3	85.9	86.3	85.0	84.0	84.0	84.5	86.7	89.4	89.4	89.2	89.4	90.6	91.5	92.2	90.7	91.1	91.0	90.0	89.2	88.9	88.1	87.7	87.1	86.1	88.2
4	85.0	85.7	86.3	86.6	86.6	86.7	87.3	88.1	89.8	90.8	90.8	91.2	93.9	93.4	93.7	94.8	94.7	92.1	89.2	87.1	86.2	86.0	87.1	87.0	89.1
5	86.9	87.0	87.0	86.9	86.7	86.7	87.7	88.9	91.0	93.3	94.8	95.6	95.8	96.0	95.2	95.4	95.3	92.1	89.1	89.5	90.0	89.1	88.2	87.7	90.7
6	86.5	85.0	83.9	83.1	82.0	81.3	84.1	87.8	89.6	91.2	92.6	93.2	93.6	94.1	94.9	94.8	93.0	90.6	90.2	88.1	87.1	85.6	85.0	85.3	88.5
7	85.1	84.3	84.6	84.6	83.7	83.6	85.0	86.8	87.1	88.4	89.0	90.0	90.8	90.8	90.2	89.9	88.9	87.4	85.3	85.1	85.0	84.6	85.0	84.8	86.7
8	85.0	85.1	85.0	84.9	84.6	84.4	84.6	85.9	86.1	88.6	89.8	89.0	90.6	90.0	89.3	89.6	87.8	86.4	85.0	84.9	82.9	81.9	81.0	81.7	86.1
9	83.1	83.5	83.7	83.7	83.6	83.7	84.2	85.1	85.7	86.6	87.0	87.7	88.9	89.8	90.4	90.1	89.2	87.6	85.1	83.6	83.0	81.6	81.7	81.0	85.4
10	81.1	81.0	82.7	83.1	83.3	83.6	84.2	84.7	85.7	86.6	88.2	89.0	90.0	91.5	91.2	90.9	90.1	88.9	86.0	83.8	83.3	82.8	82.5	82.8	85.7
11	81.5	81.1	81.4	82.1	81.9	82.3	83.7	85.6	85.9	85.9	87.4	88.1	88.0	87.9	87.4	87.1	87.2	86.0	85.5	85.0	84.9	84.6	84.7	84.9	84.9
12	84.9	84.4	84.0	83.6	83.2	82.9	83.1	84.8	85.9	86.2	87.2	88.2	89.0	89.5	89.4	89.5	88.0	85.8	84.0	82.0	81.0	80.4	81.1	80.1	85.0
13	78.8	78.0	78.3	78.2	78.3	78.7	79.8	84.1	85.0	86.1	87.2	86.7	83.0	82.9	83.5	84.8	84.2	83.1	80.0	78.3	79.1	78.7	79.7	80.0	81.5
14	79.6	80.0	79.8	79.2	78.4	78.4	80.5	82.5	83.8	85.0	85.7	86.4	86.6	87.5	85.6	87.0	81.8	82.2	80.9	80.3	79.0	78.2	76.9	82.3	82.3
15	76.9	78.1	78.4	77.7	77.7	77.8	79.8	82.9	84.9	86.5	87.1	87.9	88.7	88.6	87.9	87.0	86.4	84.2	82.6	83.2	82.3	80.6	80.4	81.2	82.8
16	81.4	82.0	82.2	82.8	82.0	80.0	81.9	84.3	86.8	87.7	89.2	89.6	89.9	90.2	90.3	90.0	88.2	86.2	83.3	81.0	79.8	79.1	79.7	78.0	84.5
17	78.2	77.1	78.2	79.2	79.8	80.7	82.3	83.6	85.1	88.9	90.5	91.8	93.1	93.8	94.0	92.6	91.2	90.3	89.0	88.8	87.9	88.8	89.0	89.0	86.6
18	88.6	88.9	88.4	88.6	86.3	85.0	85.2	85.6	86.4	87.6	88.5	90.2	90.3	90.2	90.5	90.2	88.6	86.2	85.3	83.0	82.1	82.6	81.9	82.7	86.9
19	80.0	79.6	78.7	80.0	79.2	79.3	82.2	85.5	87.5	88.6	88.3	89.6	89.6	90.1	90.4	88.9	88.5	86.0	85.1	85.3	84.8	83.6	82.5	83.4	84.5
20	84.6	84.7	84.7	83.9	83.8	83.7	84.0	84.2	84.6	85.0	84.8	85.5	85.6	85.0	86.0	85.9	85.4	84.2	83.6	82.6	82.0	82.3	81.8	81.7	84.2
21	81.9	81.8	82.4	83.4	83.5	83.9	84.3	85.4	85.6	86.0	85.9	85.6	87.1	86.5	85.8	85.9	85.8	84.8	83.8	83.6	84.0	84.2	83.5	83.2	84.5
22	82.5	82.6	82.7	83.3	83.1	83.1	83.4	84.0	85.4	86.1	86.5	89.0	88.9	88.3	86.4	86.2	85.4	83.3	80.2	79.1	78.9	79.8	79.3	78.9	83.7
23	79.1	78.5	78.6	78.7	78.3	78.9	80.1	81.4	82.4	84.8	86.1	87.3	87.7	87.8	86.8	87.2	86.0	83.1	83.1	81.7	81.6	80.6	80.8	80.4	82.5
24	80.6	81.4	81.8	81.7	82.0	81.7	82.2	82.6	82.9	82.9	82.7	83.4	83.8	85.2	84.6	85.5	85.6	85.7	85.5	84.4	84.7	84.4	84.8	85.3	83.5
25	85.2	85.1	85.3	85.1	85.3	84.8	85.4	85.9	86.6	88.0	87.7	88.5	87.5	87.6	86.8	86.3	86.0	85.7	85.4	84.8	84.6	84.8	84.5	84.1	85.9
26	83.5	83.1	83.2	83.5	83.6	83.7	83.4	83.7	84.3	84.5	85.3	85.8	86.0	86.0	85.2	85.6	85.3	84.8	84.6	83.9	84.1	84.2	84.4	84.7	84.4
27	84.1	84.8	84.7	85.0	84.6	84.6	84.1	86.0	87.5	88.6	88.2	87.4	88.0	87.7	86.2	87.4	86.5	85.1	83.0	82.6	82.6	83.0	82.5	82.8	85.3
28	82.9	82.9	83.2	83.2	83.3	83.3	83.5	83.4	84.0	84.5	85.1	86.1	86.9	86.8	86.7	86.7	86.5	86.3	86.1	85.7	85.8	85.8	85.7	85.6	84.9
29	85.6	85.5	85.3	85.3	85.2	85.2	85.2	85.6	86.1	86.0	86.1	87.8	88.6	89.0	89.4	88.9	88.5	87.8	86.9	83.5	82.0	81.2	82.3	83.6	86.0
30	85.4	85.5	85.4	85.6	85.4	84.8	84.8	85.0	85.1	85.1	85.7	85.9	85.9	86.1	85.6	85.2	84.3	83.9	83.6	83.3	83.2	83.0	82.8	82.7	84.7
Mean.	83.1	83.0	82.9	83.0	82.7	82.6	83.4	84.9	86.0	87.2	88.0	88.6	89.1	89.3	88.9	88.9	88.2	86.7	85.3	84.2	83.7	83.2	83.1	83.0	85.4

191. ESKDALEUIR: Louvred Hut:  $h_t$  = 0.9 metres.

OCTOBER, 1933.

Day.	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	82.6	82.6	82.4	82.4	82.3	81.7	81.1	83.0	84.6	85.2	85.6	85.7	87.0	87.6	87.3	87.0	85.6	83.2	81.4	80.3	79.5	78.6	78.8	78.9	83.2
2	78.2	77.0	77.8	78.4	78.8	79.6	81.4	82.4	83.1	83.0	83.0	83.4	84.0	83.0	83.2	82.8	81.5	78.4	76.8	76.6	75.9	74.6	74.4	74.4	79.7
3	75.9	76.7	76.9	77.1	76.1	74.3	74.6	77.5	81.5	83.4	83.6	82.6	83.0	83.4	85.0	83.6	82.2	81.0	79.0	79.3	80.7	80.9	81.3	80.8	79.9
4	79.8	80.1	80.7	82.8	83.9	84.0	84.0	84.8	85.0	84.4	85.5	87.1	88.0	88.8	88.5	87.6	86.4	85.2	84.4	84.1	82.2	80.0	78.6	77.6	84.0
5	76.8	75.8	75.6	74.6	74.0	73.3	72.9	78.0	83.8	86.4	87.0	87.6	88.1	88.2	87.9	87.3	85.7	81.8	80.5	80.8	81.4	82.0	81.8	81.9	81.3
6	81.9	82.0	81.9	81.9	81.8	82.0	82.0	82.4	83.0	83.4	84.4	85.6	86.1	85.6	85.9	85.6	83.9	80.0	80.0	78.3	78.4	78.6	79.2	79.6	82.3
7	80.1	80.0	78.1	78.5	79.5	80.0	80.6	81.4	84.5	85.3	85.5	85.7	86.0	85.6	85.2	84.6	84.2	83.8	83.3	83.1	83.2	83.5	84.0	84.2	82.8
8	84.2	84.3	84.0	83.9	84.1	84.1	84.2	84.5	84.6	84.7	85.3	85.5	85.7	86.4	86.9	85.4	84.7	83.7	83.6	82.9	83.5	83.0	84.4	85.1	84.5
9	84.9	84.7	84.4	84.2	84.4	84.6	85.0	85.5	85.7	86.2	86.5	86.6	86.8	85.9	85.6	85.6	85.7	84.8	84.2	83.2	82.7	81.7	81.4	81.4	84.7
10	80.3	79.7	79.2	78.8	78.5	80.6	81.5	82.0	83.6	84.6	84.2	84.2	84.2	84.0	83.1	83.6	83.1	82.9	82.2	81.6	81.5	81.6	81.8	81.8	82.0
11	81.9	82.1	81.9	81.5	81.2	81.1	80.8	81.3	81.9	82.5	84.2	83.9	81.3	81.9	82.2	81.8	81.6	81.2	81.0	80.2	79.7	79.2	78.4	76.7	81.3
12	77.2	78.4	78.0	78.8	78.0	77.4	78.3	80.0	81.4	81.7	81.9	82.5	83.0	83.2	83.5	82.0	80.3	78.2	78.6	78.6	75.4	74.6	74.3	74.2	79.1
13	74.5	75.0	75.9	76.9	79.1	80.6	81.2	82.5	83.7	83.6	84.5	85.1	85.3	85.4	84.7	84.5	84.3	84.0	84.0	84.3	84.2	84.0	84.0	84.0	82.1
14	84.4	84.0	83.8	83.3	81.6	80.8	79.8	79.4	82.4	85.2	86.3	86.1	84.8	85.2	85.1	84.0	82.7	79.8	78.0	76.4	75.7	74.8	74.8	74.0	81.6
15	73.7	74.0	75.0	80.4	80.4	79.2	79.6	81.0	82.4	82.8	82.7	83.2	83.3	83.0	82.0	81.5	81.9	80.3	80.2	80.0	79.0	78.2	78.6	78.6	79.9
16	78.4	78.1	78.2	78.1	77.8	78.2	78.4	78.3	78.5	78.6	80.0	80.2	80.6	80.6	81.0	80.0	79.3	78.4	77.6	77.2	76.3	76.5	77.0	77.0	78.5
17	77.0	77.3	76.7	76.5	76.2	75.0	74.7	77.0	79.4	80.5	82.1	82.4	82.0	81.4	81.1	81.1	80.7	80.4	80.5	80.3	80.1	80.4	80.6	80.6	79.3
18	81.6	81.7	81.7	81.9	82.0	81.9	82.0	82.0	82.7	82.8	83.3	84.0	84.2	85.0	85.0	83.6	81.6	80.7	79.8	80.4	81.1	80.7	81.7	81.8	82.2
19	81.3	81.3	81.2	81.1	81.0	81.2	80.7	81.6	82.4	82.6	83.1	83.2	83.2	83.2	83.2	82.6	82.0	82.0	82.2	82.2	82.1	81.7	81.5	81.5	82.0
20	81.5	81.2	81.6	81.4	81.9	81.8	80.5	81.3	82.0	83.6	84.4	84.5	84.9	84.7	84.2	83.0	81.0	78.6	78.8	79.9	80.2	80.5	80.9	80.8	81.8
21	80.6	81.4	81.7	81.8	82.0	82.2	83.1	83.4	83.4	83.5	84.2	84.0	83.9	84.4	83.8	83.7	83.5	83.4	83.3	83.4	83.4	83.4	83.3	83.2	83.0
22	82.9	82.7	82.6	82.7	82.4	82.5	81.7	81.7	84.0	84.4	84.8	84.8	84.6	84.6	84.8	84.3	83.7	83.1	83.3	83.0	82.9	82.8	82.6	83.1	83.3
23	82.4	82.4	82.4	82.4	82.4	82.5	82.2	82.3	82.7	83.5	84.3	84.4	84.8	85.4	84.9	84.6	84.0	83.6	83.6	83.6	83.4	83.4	83.5	83.9	83.4
24	83.6	83.4	83.3	83.1	83.0	82.6	82.8	83.1	83.3	83.6	84.2	83.8	83.7	83.0	82.6	82.1	82.1	81.9	81.6	81.7	81.6	80.8	80.3	79.8	82.6
25	79.0	78.8	78.6	78.0	78.0	77.3	77.8	77.2	78.7	79.2	79.7	79.7	80.3	79.0	78.6	77.0	76.0	76.2	75.9	75.6	75.3	75.2	74.8	75.0	77.6
26	75.0	75.1	75.1	75.2	75.2	75.0	75.0	76.2	76.6	77.2	77.2	77.4	77.8	76.6	76.7	77.0	75.4	73.4	73.2	73.7	74.0	76.7	76.0	75.2	75.6
27	75.9	76.2	77.0	77.9	77.8	76.2	75.3	75.0	75.9	76.2	76.4	77.0	76.6	76.7	75.9	75.0	74.4	73.9	73.6	73.7	73.6	73.6	73.6	74.2	75.5
28	75.2	76.2	76.0	75.6	76.4	76.9	77.2	78.0	78.1	79.3	81.0	80.2	80.6	79.2	79.6	79.6	79.0	78.8	79.0	79.0	78.6	78.2	78.2	77.5	78.2
29	77.7	77.9	77.4	77.8	77.0	77.7	77.8	76.7	77.8	80.0	81.1	80.6	81.2	81.6	81.2	80.6	76.7	77.8	78.0	78.7	78.1	77.7	76.9	78.7	
30	76.9	76.0	75.7	75.9	76.3	76.6	76.8	78.5	79.9	81.0	82.6	82.4	82.9	81.2	80.2	79.2	78.2	77.5	76.4	76.7	77.4	77.0	77.7	78.3	
31	78.5	79.0	79.6	80.1	79.5	78.6	78.7	78.0	78.5	80.2	79.6	79.4	78.4	78.6	77.8	77.2	77.4	77.4	77.6	77.2	77.0	77.2	77.2	78.4	
Mean.	79.5	79.5	79.5	79.8	79.8	79.7	79.7	80.5	81.8	82.5	83.2	83.3	83.5	83.3	83.2	82.5	81.6	80.5	80.1	79.8	79.6	79.4	79.4	79.3	80.9
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean.



192. ESKDALEMUIR: Louvred Hut:  $h_t$  (height of thermometer bulb above ground) = 0.9 metres.

NOVEMBER, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean.
Day.	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	77.0	76.8	76.7	76.4	76.6	76.3	76.6	77.5	78.9	79.0	79.0	78.4	78.4	79.0	79.5	82.6	83.0	83.0	82.7	82.1	80.9	80.0	79.8	80.0	79.1
2	80.2	80.3	78.9	78.4	77.9	77.6	76.7	77.1	78.0	79.1	79.5	80.0	80.2	80.0	79.2	77.7	77.8	77.4	77.0	76.4	76.0	75.7	75.0	75.1	78.1
3	75.4	75.6	76.3	76.7	76.8	76.2	77.2	77.5	78.8	79.3	80.2	80.0	80.0	79.6	79.1	78.7	78.7	78.7	78.0	77.9	77.8	77.7	78.0	77.6	77.9
4	76.6	76.6	76.0	76.0	75.8	76.7	76.8	76.8	77.1	77.9	78.7	78.2	78.4	78.6	78.2	77.4	76.0	73.9	72.1	71.9	71.8	72.7	73.6	74.1	76.0
5	76.1	77.0	77.4	76.8	77.6	78.0	77.8	77.5	78.2	79.0	80.1	81.2	81.9	82.5	82.2	80.8	80.0	78.1	76.8	75.7	74.7	74.0	73.7	73.4	77.9
6	73.7	73.0	73.7	74.0	81.3	83.6	84.2	84.4	84.6	84.6	85.4	86.0	85.6	86.0	85.0	84.2	83.1	82.6	82.8	82.8	82.0	83.9	83.0	82.5	82.0
7	82.5	82.0	80.8	81.2	80.6	79.7	79.4	80.0	82.7	82.9	84.6	84.8	84.7	84.8	84.2	82.5	79.8	78.8	76.7	77.5	77.6	76.6	76.2	75.3	80.8
8	76.6	76.3	76.2	76.1	76.0	75.4	75.6	76.2	76.8	79.6	80.6	81.0	81.2	80.8	80.9	81.0	80.8	80.9	80.8	80.8	80.7	80.6	80.7	80.7	78.9
9	80.9	81.0	80.7	79.6	79.0	79.1	79.0	79.0	79.6	79.8	80.6	81.7	81.5	81.0	81.0	81.0	80.0	79.4	78.9	79.1	77.8	76.3	75.7	75.2	79.6
10	74.9	75.0	75.4	75.7	76.1	76.0	76.0	76.9	77.7	78.9	78.6	79.8	80.4	79.3	79.3	78.6	76.2	75.7	75.5	77.1	77.4	76.1	76.8	77.2	77.1
11	75.8	74.3	74.7	73.0	73.0	71.9	70.7	70.4	72.0	75.1	77.9	79.0	79.6	79.6	78.2	75.2	73.0	71.9	71.2	70.9	70.4	70.7	70.1	69.6	73.8
12	70.0	68.2	68.0	68.0	68.0	67.0	66.8	67.6	70.6	71.6	73.0	74.6	75.6	75.9	76.1	76.0	75.8	75.7	75.2	74.6	73.3	71.6	72.4	72.6	71.9
13	73.0	72.4	72.7	73.2	73.4	74.0	74.6	75.4	75.7	75.5	75.6	75.9	76.6	77.2	78.7	78.8	78.7	77.8	77.8	77.7	77.3	76.8	75.8	75.6	75.8
14	74.9	74.6	74.8	74.4	74.2	73.6	74.2	73.0	74.0	75.1	76.7	77.2	77.7	77.6	77.0	76.4	75.8	76.5	76.4	76.7	76.9	77.1	76.7	76.9	75.7
15	77.1	77.1	77.1	76.9	76.4	76.7	76.6	77.5	77.9	78.1	78.1	78.0	78.4	78.6	78.8	79.1	79.0	78.3	77.8	77.8	77.9	77.7	77.5	77.4	77.7
16	77.4	77.4	76.7	77.6	76.6	77.2	77.0	77.0	76.4	76.9	78.4	79.0	76.2	76.3	76.5	76.0	75.2	75.4	75.2	75.0	75.1	75.0	74.9	74.0	76.4
17	73.7	73.8	74.0	73.3	74.3	74.6	74.3	74.7	75.0	74.9	74.7	75.0	75.9	77.1	75.5	74.1	74.2	74.4	74.3	74.8	74.3	74.6	74.7	75.0	74.6
18	75.0	75.5	75.4	75.7	75.9	76.0	75.5	75.6	75.7	76.4	77.0	78.1	77.7	77.6	77.5	77.6	77.6	77.8	78.0	78.5	78.6	79.6	79.8	79.8	77.1
19	79.7	79.6	79.8	79.8	80.8	81.4	81.2	81.4	81.4	81.4	81.8	81.8	81.6	81.7	81.3	81.3	81.1	80.8	80.9	81.0	80.7	80.8	80.8	81.7	81.0
20	81.7	81.8	81.9	82.0	82.0	82.3	82.4	82.5	82.6	82.8	82.8	83.1	83.0	83.0	83.0	82.9	81.6	81.9	81.5	80.7	79.1	78.7	79.2	79.3	81.8
21	79.1	78.7	78.5	78.6	78.6	78.8	79.2	79.6	79.8	80.0	79.8	79.8	79.6	79.4	79.4	79.6	79.7	79.7	79.6	79.3	79.1	78.9	78.9	78.8	79.3
22	78.8	78.7	79.1	79.1	79.3	79.0	78.6	78.2	78.0	78.6	79.9	80.6	80.7	80.1	78.6	75.9	74.1	73.3	73.6	72.5	72.1	71.2	70.9	71.3	76.9
23	71.6	72.2	71.8	71.9	72.0	72.4	72.6	72.8	73.1	73.3	74.3	75.2	75.8	76.5	77.0	77.0	76.9	75.8	76.3	75.4	74.8	73.9	74.0	76.4	74.2
24	77.1	77.2	75.9	76.0	75.8	75.6	75.9	75.8	75.7	75.6	75.2	77.7	77.8	77.6	77.1	76.7	77.1	77.3	77.3	77.5	77.6	77.4	77.4	77.5	76.7
25	77.2	77.2	77.0	77.1	76.4	75.0	74.5	74.4	75.3	76.4	77.4	78.4	77.1	77.8	77.0	75.3	73.8	72.5	71.6	69.9	70.2	70.0	69.7	68.8	74.8
26	71.0	70.3	69.2	70.2	71.4	72.0	72.0	71.0	72.3	73.6	73.8	74.3	74.8	74.8	74.6	74.1	73.8	73.9	74.0	73.8	73.7	73.6	73.9	73.7	72.8
27	74.0	74.0	73.7	72.9	72.1	72.0	72.2	71.4	72.3	72.7	74.0	74.9	75.0	75.6	75.1	74.6	74.0	73.4	74.6	74.3	74.9	74.7	74.7	74.1	73.8
28	74.8	75.5	75.5	75.7	75.8	75.8	75.9	76.0	76.2	77.2	78.0	78.5	78.2	78.0	77.8	77.4	77.2	77.0	76.7	76.6	76.3	76.2	76.0	76.0	76.5
29	76.0	76.0	76.0	75.8	75.8	75.8	75.9	76.0	76.1	76.1	76.2	76.4	76.6	76.6	75.9	75.0	74.7	74.6	73.8	72.5	71.7	70.7	70.4	71.0	74.9
30	73.3	73.7	73.6	73.7	73.7	73.8	73.9	74.6	75.0	75.0	75.0	75.0	75.0	75.0	74.9	74.7	74.7	74.4	74.4	73.4	71.9	71.9	70.5	69.8	73.8
Mean.	76.2	76.1	75.9	75.9	76.1	76.1	76.1	76.3	76.9	77.5	78.2	78.8	78.8	78.9	78.6	78.1	77.4	77.0	76.7	76.5	76.1	75.8	75.7	75.7	76.9

193. ESKDALEMUIR: Louvred Hut:  $h_t$  = 0.9 metres.

DECEMBER, 1933.

Day.	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	70.7	70.6	70.9	71.3	73.1	73.4	73.7	73.9	74.3	74.4	74.8	74.8	74.8	74.8	74.6	74.2	74.0	74.2	74.1	74.1	74.7	74.8	74.6	74.5	73.6
2	75.1	75.4	75.5	75.9	76.2	76.7	76.0	75.7	76.8	76.6	77.2	77.5	77.5	77.2	76.9	76.5	76.4	75.4	75.0	75.6	74.8	7.8	76.2	76.0	76.1
3	75.4	75.1	75.0	75.0	75.2	75.0	75.0	75.3	75.9	76.2	76.3	76.5	76.8	76.4	76.4	74.8	75.6	75.8	75.2	75.0	75.1	74.7	74.7	74.4	75.5
4	74.7	74.7	74.7	74.6	74.6	74.5	74.4	74.4	74.5	74.8	75.0	75.2	75.4	75.6	75.1	74.6	74.6	74.8	74.8	74.7	74.7	74.7	74.9	74.8	74.8
5	74.9	75.0	74.9	74.8	75.0	75.1	74.0	74.1	73.9	75.2	75.5	76.2	76.0	76.4	75.9	75.7	74.7	75.0	74.4	74.1	74.1	74.1	73.7	72.7	74.9
6	73.9	73.0	71.6	72.3	72.0	71.9	70.6	69.8	72.2	72.4	74.1	76.6	78.0	78.2	78.3	78.3	78.5	78.0	77.8	77.6	77.5	77.2	76.9	77.2	75.1
7	77.3	77.6	77.7	77.0	77.1	77.3	77.6	77.6	77.5	77.7	77.7	77.3	76.8	77.0	77.0	76.2	75.3	75.4	75.3	75.0	74.5	74.1	74.0	73.9	76.5
8	73.9	73.8	73.7	73.7	73.6	73.5	73.6	73.6	73.7	73.9	74.1	74.7	74.8	74.6	74.7	74.1	73.8	73.9	74.1	73.8	74.0	73.9	74.3	74.9	74.0
9	74.6	74.7	74.3	74.2	74.5	74.4	74.6	75.1	75.4	75.2	75.3	75.8	76.0	76.0	76.5	76.8	76.7	76.2	76.0	76.0	75.9	75.7	75.4	75.0	75.4
10	74.9	74.8	74.5	74.2	74.3	74.4	74.3	74.4	74.6	75.6	76.2	76.4	76.1	76.1	75.9	75.0	74.9	74.7	73.9	73.3	74.0	74.0	73.8	73.6	74.8
11	73.6	73.5	73.6	72.1	71.5	70.4	69.4	68.7	68.4	69.9	71.0	72.4	75.9	76.0	74.6	72.4	71.0	69.4	68.7	70.0	70.4	71.6	73.4	73.0	71.7
12	73.0	73.1	73.0	73.2	73.4	73.4	73.3	73.3	73.3	73.4	73.4	73.6	73.6	73.6	73.5	73.4	73.6	73.0	71.9	72.2	72.3	73.1	72.9	73.1	73.1
13	73.1	73.4	73.8	74.3	74.3	74.4	74.2	73.9	73.6	73.8	74.0	74.2	74.3	74.2	74.0	73.8	73.6	74.0	73.7	73.7	73.3	72.9	73.5	72.9	73.8
14	72.8	72.7	73.0	72.9	73.0	72.0	71.6	70.1	69.6	69.9	71.7	72.7	73.7	75.5	75.0	74.0	73.8	74.7	73.0	74.4	74.4	73.6	74.0	74.8	73.0
15	75.1	75.8	75.4	76.0	75.9	76.8	76.2	76.8	76.1	76.1	77.5	78.0	78.5	78.2	78.1	77.3	75.6	74.2	72.6	72.2	71.0	71.0	70.4	69.9	75.3
16	70.6	71.5	70.5	69.9	69.3	70.0	70.4	70.9	71.6	72.2	72.8	73.6	74.4	75.0	75.0	74.8	74.6	74.7	74.6	74.8	74.7	73.9	72.5	71.6	72.6
17	71.0	70.6	69.4	68.6	68.4	67.4	67.1	66.6	66.6	68.3	70.0	72.0	72.0	72.5	72.5	71.5	70.1	68.9	68.3	69.4	70.3	71.0	71.4	72.4	69.8
18	73.1	73.1	73.1	73.6	73.5	73.9	74.1	74.9	73.9	74.5	75.0	75.6	76.0	75.7	76.0	76.2	76.3	76.5	77.0	77.1	76.8	76.8	77.7	77.0	75.2
19	77.1	76.8	76.8	76.8	76.8	76.7	76.7	76.7	76.8	75.1	74.5	74.1	74.2	74.2	74.4	75.0	74.0	72.3	71.0	70.6	71.1	71.3	70.9	69.9	74.2
20	70.0	70.3	69.9	70.0	69.1	69.1	69.1	69.6	68.9	69.7	70.2	71.3	72.0	72.7	73.0	73.5	73.7	73.8	73.9	74.0	74.1	74.1	74.4	74.4	71.6
21	74.7	74.7	74.6	74.7	75.0	75.1	75.1	75.5	75.3	75.1	75.2	75.4	76.0	76.6	76.8	76.7	76.9	77.2	77.3	77.4	77.3	77.4	77.5	77.6	76.0
22	77.7	77.8	78.1	78.4	78.7	78.9	79.0	79.1	79.1	79.1	79.3	79.4	79.4	79.5	79.3	79.1	79.1	79.2	79.4	79.6	79.0	79.2	79.2	79.1	78.9
23	79.6	79.7	79.3	79.2	79.4	79.1	79.1	79.0	78.7	78.6	78.4	78.0	77.8	77.6	77.2	76.9	76.7	76.6	76.6	76.2	76.8	76.9	77.0	76.6	76.8
24	76.4	76.2	76.0	75.5	75.4	75.4	75.6	76.0	76.1	76.4	76.7	76.9	77.0	77.4	77.4	77.2	77.2	77.2	77.2	77.2	77.2	77.0	77.0	76.9	76.6
25	76.9	76.9	76.9	77.0	77.0	77.0	77.5	77.7	78.1	78.0	78.6	78.6	78.4	78.5	78.5	78.5	78.4	78.3	78.2	78.2	77.5	77.2	77.1	77.0	77.7
26	76.8	76.7	76.6	76.6	76.7	76.9	77.1	77.2	77.2	77.3	77.0	77.1	77.4	77.6	77.4	77.1	76.8	76.4	76.0	75.9	75.2	75.3	75.1	75.0	76.6
27	74.9	74.8	74.9	75.0	75.0	75.1	75.1	75.2	75.2	75.2	75.3	75.4	75.5	75.5	75.5	75.1	75.1	75.1	74.9	74.9	74.6	74.6	72.0	72.3	74.9
28	72.8	73.1	72.3	71.6	71.8	72.0	73.1	73.9	74.2	74.7	74.7	75.2	75.2	75.4	75.5	75.2	74.8	75.0	74.8	74.6	74.7	74.8	74.4	75.0	74.1
29	74.6	74.2	73.7	73.6	73.5	73.0	73.0	73.0	72.7	72.6	73.3	74.0	74.6	75.0	75.3	74.7	73.7	73.6	73.7	73.7	73.7	73.8	73.7	73.8	73.8
30	73.7	73.7	73.3	73.0	74.5	74.1	74.6	74.0	74.7	75.8	76.1	75.9	74.8	75.1	75.3	74.9	75.1	75.0	74.8	75.6	75.4	74.7	74.9	74.3	74.7
31	74.5	75.2	75.0	74.5	72.1	70.3	68.7	68.3	69.5	71.2	73.6	74.5	75.3	74.5	73.5	74.1	74.0	74.6	73.7	73.7	73.1	73.6	73.6	73.2	
Mean.	74.4	74.5	74.3	74.3	74.3	74.1	74.0	73.9	74.0	74.4	74.9	75.4	75.7	75.9	75.9	75.4	75.1	74.9	75.6	74.7	74.6	74.5	74.5	74.4	74.7
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean.



TEMPERATURE  
From readings in degrees absolute at exact hours, Greenwich Mean Time.

194. ESKDALEUIR: Louvred Hut: ht = 0.9 metres.

1933.

Hour 1	G.M.T. 2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24	Mean.
°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
78.97	78.83	78.63	78.57	78.64	78.91	79.47	80.29	81.16	81.93	82.65	83.20	83.51	83.66	83.53	83.18	82.63	81.89	81.15	80.44	79.88	79.49	79.26	79.09	80.79

TEMPERATURE: MONTHLY MEANS AND DIURNAL INEQUALITIES.  
The departures from the mean of the day are adjusted for non-cyclic change.†

195. ESKDALEUIR: Louvred Hut: ht = 0.9 metres.

1933.

Month	Mean	Hour 1	G.M.T. 2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24
Jan.	273.76	-0.23	-0.41	-0.64	-0.67	-0.78	-1.04	-1.12	-1.05	-0.87	-0.29	+0.51	+1.21	+1.57	+1.73	+1.51	+1.07	+0.63	+0.23	-0.01	-0.05	-0.32	-0.43	-0.28	-0.26
Feb.	275.32	-0.95	-1.15	-0.99	-1.04	-1.25	-1.32	-1.15	-0.92	-0.08	+0.54	+1.06	+1.49	+1.55	+1.76	+1.75	+1.58	+1.02	+0.30	+0.06	-0.02	-0.16	-0.55	-0.67	-0.85
Mar.	277.65	-2.10	-2.41	-2.78	-3.04	-3.16	-3.20	-2.98	-1.88	-0.19	+1.27	+2.73	+3.47	+3.81	+4.09	+4.11	+3.80	+3.02	+1.74	+0.44	-0.44	-1.09	-1.49	-1.79	-1.94
Apr.	279.76	-1.73	-1.76	-1.89	-1.90	-1.97	-1.98	-1.17	-0.34	+0.35	+1.11	+1.70	+2.17	+2.50	+2.69	+2.51	+2.38	+1.94	+1.18	+0.32	-0.58	-1.09	-1.31	-1.53	-1.63
May	282.76	-2.49	-2.78	-2.96	-3.20	-3.03	-2.05	-1.07	-0.14	+0.96	+1.60	+2.17	+2.71	+3.19	+3.23	+3.28	+2.79	+2.16	+1.53	+0.77	-0.31	-0.95	-1.54	-1.83	-2.04
June	286.54	-3.64	-3.93	-4.52	-4.77	-3.98	-2.41	-0.87	+0.33	+1.22	+2.16	+2.80	+3.56	+3.90	+4.06	+3.98	+3.61	+3.27	+2.80	+1.74	+0.27	-1.22	-2.18	-2.94	-3.24
July	288.27	-3.07	-3.29	-3.63	-3.80	-3.46	-2.56	-1.17	+0.45	+1.37	+2.00	+2.62	+3.08	+3.45	+3.48	+3.25	+2.95	+2.56	+2.05	+1.27	+0.07	-1.06	-1.61	-2.19	-2.76
Aug.	287.22	-2.73	-2.86	-3.06	-3.12	-3.08	-2.56	-1.62	-0.19	+0.74	+1.47	+2.17	+2.97	+3.26	+3.62	+3.87	+3.45	+2.90	+2.02	+0.87	-0.53	-1.32	-1.72	-2.03	-2.42
Sept.	285.38	-2.40	-2.49	-2.49	-2.45	-2.69	-2.81	-1.98	-0.49	+0.63	+1.82	+2.64	+3.19	+3.74	+3.93	+3.87	+3.51	+2.87	+1.32	-0.05	-1.11	-1.63	-2.10	-2.25	-2.29
Oct.	280.87	-1.47	-1.43	-1.44	-1.16	-1.16	-1.26	-1.21	-0.39	+0.88	+1.61	+2.31	+2.45	+2.59	+2.44	+2.33	+1.84	+0.81	-0.35	-0.78	-1.01	-1.17	-1.40	-1.38	-1.47
Nov.	276.90	-0.84	-0.94	-1.08	-1.12	-0.88	-0.85	-0.85	-0.62	-0.63	-0.28	+0.20	+0.73	+1.02	+1.22	+1.15	+0.64	+0.34	+0.15	-0.14	-0.05	-0.13	-0.21	-0.25	-0.33
Dec.	274.70	-0.21	-0.18	-0.39	-0.40	-0.39	-0.50	-0.62	-0.74	-0.63	-0.28	+0.20	+0.73	+1.02	+1.22	+1.15	+0.64	+0.34	+0.15	-0.14	-0.05	-0.13	-0.21	-0.25	-0.33
Year	280.79	-1.83	-1.97	-2.16	-2.23	-2.16	-1.88	-1.32	-0.50	+0.36	+1.14	+1.85	+2.41	+2.72	+2.87	+2.74	+2.39	+1.85	+1.10	+0.37	-0.35	-0.91	-1.29	-1.52	-1.70

ABSOLUTE EXTREMES OF TEMPERATURE FOR EACH DAY.  
Maximum and Minimum for the interval 0h to 24h Greenwich Mean Time.

196. ESKDALEUIR: Louvred Hut: ht = 0.9 metres.

1933.

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Day.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	79.9	74.6	82.0	73.6	80.1	74.7	83.2	75.0	80.2	76.4	92.3	79.0
2	83.1	77.2	76.8	72.9	77.1	75.0	82.3	76.3	82.9	76.1	90.0	86.0
3	82.4	75.3	78.6	72.0	76.8	76.6	82.2	80.8	82.2	76.2	95.4	85.5
4	78.5	73.9	82.9	78.6	78.8	76.9	84.0	79.2	88.2	78.6	99.0	82.5
5	79.1	74.0	82.2	79.9	79.3	75.0	82.8	77.9	87.2	80.8	95.5	82.8
6	76.8	73.9	82.1	78.2	80.8	75.8	86.8	78.3	89.3	81.3	97.0	82.6
7	81.7	75.7	80.4	78.1	81.1	74.6	86.9	76.6	86.3	80.5	99.6	83.7
8	83.0	76.6	83.2	78.2	80.1	70.6	84.7	75.9	88.9	77.1	91.9	83.0
9	79.6	67.8	82.0	76.0	80.6	78.2	87.3	79.9	83.4	78.2	91.7	85.5
10	79.1	67.4	76.1	70.6	83.6	73.4	83.7	80.0	86.0	77.9	87.6	79.7
11	79.2	67.7	76.8	70.6	87.0	74.1	86.1	80.4	84.9	79.7	86.3	75.6
12	75.1	64.0	79.2	73.6	87.2	72.0	83.4	73.1	88.0	76.4	90.8	73.4
13	76.4	73.2	79.4	73.3	83.4	69.6	83.4	72.0	85.7	75.9	90.4	83.2
14	78.2	75.7	78.5	70.9	83.2	76.9	84.0	71.0	88.2	75.4	93.2	81.6
15	76.0	69.8	77.4	67.4	82.3	77.0	83.9	77.6	86.2	76.1	93.0	78.0
16	73.1	68.3	79.2	67.2	79.2	75.3	84.6	78.5	81.7	78.9	91.2	81.5
17	74.0	70.0	77.2	69.3	80.1	74.0	81.2	77.7	86.0	80.5	86.7	79.7
18	74.3	68.0	75.5	68.9	80.4	73.1	79.7	71.9	88.0	81.0	87.0	80.0
19	72.8	66.0	74.8	69.2	80.1	72.9	79.1	71.6	87.1	81.9	87.9	80.6
20	75.5	68.0	78.5	66.9	81.6	70.6	79.7	70.3	91.6	84.6	90.0	77.6
21	72.8	67.5	75.8	70.8	81.3	69.7	80.3	69.2	91.7	82.1	90.8	80.6
22	72.8	66.9	75.1	69.2	86.7	71.9	81.4	71.2	92.5	83.4	91.9	79.4
23	72.9	67.5	74.3	67.3	85.7	75.0	83.0	71.3	90.3	82.6	92.3	79.1
24	72.7	65.7	73.6	67.8	84.6	71.7	86.7	78.1	89.1	78.6	93.0	81.6
25	73.6	63.9	74.8	71.6	87.0	69.4	86.0	80.9	87.7	77.3	94.7	83.4
26	73.8	71.3	74.7	72.8	87.4	69.9	84.0	79.4	88.6	75.0	90.0	79.0
27	74.3	70.1	76.2	73.9	87.9	69.8	85.3	78.7	87.7	78.2	92.0	75.7
28	74.6	67.1	78.7	75.0	87.2	70.7	85.1	73.3	86.1	78.7	90.7	82.0
29	74.7	68.7			83.2	68.8	84.0	73.0	86.9	79.9	91.8	88.6
30	74.5	70.1			81.2	73.6	80.7	78.3	90.8	77.8	90.6	77.6
31	79.3	73.9			81.4	74.3			91.3	77.6		90.8
Mean.	76.6	70.3	78.1	72.3	82.5	73.3	83.5	75.9	87.2	78.8	91.7	80.5

Note.- The initial 2 or 3 of the readings is omitted, i.e., 275.0 degrees is printed 75.0.



RELATIVE HUMIDITY  
Percentages at exact hours, Greenwich Mean Time.

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197. ESKDALEMUIR: Louvred Hut:  $h_t$  (height of thermometer bulbs above ground) = 0.9 metres.

JANUARY, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	Vapour* Pressure	
Day	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	mb.	
1	97	91	94	91	88	87	93	90	90	93	90	88	88	88	89	83	93	96	89	96	94	95	91	80	90.8	7.5	
2	90	92	94	90	91	94	91	90	83	76	78	80	80	88	90	90	89	89	94	96	96	98	98	95	89.3	9.2	
3	98	88	90	84	81	84	83	84	74	74	70	79	71	75	75	76	73	76	87	84	82	80	84	83	80.9	7.1	
4	85	87	82	84	82	93	98	96	94	90	86	86	93	92	92	96	90	90	87	87	88	93	93	89.5	7.2		
5	96	94	87	84	91	93	88	88	89	92	85	85	85	79	84	85	85	86	89	84	85	86	86	90	87.4	6.4	
6	85	88	87	80	80	84	87	89	89	90	100	87	88	87	85	85	85	88	87	93	93	93	95	89	88.1	6.5	
7	95	95	95	95	92	90	92	91	96	93	93	97	96	96	98	99	98	94	93	93	96	96	93	92	94.5	8.8	
8	92	83	74	83	85	85	88	90	88	98	99	99	100	99	98	98	95	94	94	95	92	91	85	83	91.3	9.3	
9	81	74	77	70	70	69	66	63	65	65	55	57	57	63	74	80	84	86	90	91	92	93	94	92	75.1	5.4	
10	95	100	100	99	99	98	96	96	98	100	98	98	100	98	100	99	96	97	95	97	97	93	96	97	97.5	7.4	
11	97	93	89	88	87	87	80	82	89	84	75	73	69	64	64	69	75	78	76	76	78	83	84	84	80.5	5.7	
12	84	85	86	88	89	89	90	90	90	96	90	89	90	93	95	95	95	96	96	94	94	96	96	98	91.5	4.5	
13	95	98	100	98	96	98	98	98	98	98	98	98	98	96	97	93	94	93	96	96	94	98	100	96	98	96.8	6.7
14	98	98	97	97	97	97	97	98	97	97	97	94	96	95	96	94	96	94	94	94	94	98	96	97	96.2	7.9	
15	98	100	100	94	94	94	100	98	96	98	100	98	93	85	78	83	78	82	78	78	85	83	81	77	90.0	6.0	
16	74	74	78	82	84	84	86	86	87	89	89	88	85	86	86	89	86	86	88	88	89	89	88	89	85.2	4.5	
17	88	86	83	81	77	75	81	75	78	81	84	87	89	90	89	90	87	87	90	90	89	87	87	92	85.0	5.1	
18	92	92	92	94	94	94	95	95	95	96	96	89	77	75	78	85	89	95	91	90	89	90	94	94	90.4	4.9	
19	94	94	95	95	96	97	99	99	99	100	100	100	99	99	99	99	99	99	97	96	94	94	95	95	97.2	5.0	
20	96	95	90	90	91	90	89	89	90	90	93	91	82	79	81	79	81	83	85	85	86	89	84	83	87.4	4.7	
21	83	85	84	84	84	85	89	91	91	87	84	82	81	78	81	81	81	82	84	85	88	88	87	86	84.5	4.3	
22	85	85	85	85	84	84	83	83	83	82	78	75	72	71	72	73	75	76	79	85	87	87	88	87	81.0	3.7	
23	89	89	89	89	89	89	88	89	89	89	88	84	78	78	78	81	83	83	83	85	89	90	91	92	86.2	4.1	
24	94	94	93	90	91	90	89	89	90	90	93	95	96	95	87	87	83	76	81	83	83	83	85	85	88.5	4.0	
25	87	87	86	87	87	88	89	89	89	91	90	77	70	72	73	74	75	78	81	79	83	83	84	85	82.7	3.7	
26	88	88	88	89	90	88	90	90	90	90	83	77	70	69	70	78	83	83	83	84	83	84	86	89	83.8	4.9	
27	90	89	90	88	90	89	90	90	90	91	82	84	77	81	84	88	89	91	89	87	84	84	84	88	87.1	5.2	
28	87	87	88	90	90	90	91	90	90	88	89	89	82	84	85	85	92	94	95	95	95	94	95	95	89.9	4.6	
29	95	94	91	90	88	84	89	89	84	85	78	75	75	75	75	81	82	84	88	88	88	88	88	88	85.2	4.9	
30	89	89	89	89	88	88	86	83	85	88	94	93	95	99	99	100	98	97	97	98	96	93	87	92	92.1	5.3	
31	92	92	91	87	85	88	93	93	91	88	95	92	92	92	93	94	97	97	97	96	96	99	99	97	98.0	7.4	
Mean	90.6	89.9	89.2	88.2	88.1	88.5	89.5	89.1	88.9	89.3	88.1	86.7	84.6	84.6	85.2	86.7	87.3	88.2	88.9	89.2	89.7	90.1	90.0	89.8	88.3	†5.9	
Vapour* Pressure	mb. 5.8	mb. 5.6	mb. 5.5	mb. 5.4	mb. 5.4	mb. 5.3	mb. 5.3	mb. 5.3	mb. 5.4	mb. 5.6	mb. 5.9	mb. 6.1	mb. 6.1	mb. 6.2	mb. 6.1	mb. 6.1	mb. 5.9	mb. 5.8	mb. 5.7	mb. 5.7	mb. 5.6	mb. 5.6	mb. 5.7	mb. 5.7	mb. 5.7		

198. ESKDALEMUIR: Louvred Hut:  $h_t$  = 0.9 metres.

FEBRUARY, 1933.

	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.
1	97	97	97	96	96	96	96	96	93	93	83	81	71	74	74	74	85	84	84	82	78	85	87	83	87.0	7.7
2	83	85	84	85	85	85	89	76	81	73	70	68	79	73	75	67	69	73	79	79	81	78	80	79	78.3	5.5
3	84	85	83	83	90	94	99	99	96	96	94	91	88	87	90	87	87	90	92	96	94	95	94	94	90.9	6.3
4	98	96	99	96	94	98	96	98	93	96	99	99	99	94	94	96	96	100	99	99		100	100	100	97.3	10.9
5	100	100	98	98	93	96	96	99	95	95	95	93	92	91	92	92	92	91	87	86	84	88	88	88	93.1	10.3
6	88	89	89	96	96	94	94	94	98	99	99	99	99	99	99	97	96	96	96	96	96	99	97	98	95.7	9.5
7	98	96	97	96	96	96	97	96	97	99	100	100	99	94	96	96	96	99	98	93	93	87	91	90	96.0	9.1
8	90	88	96	96	97	97	99	99	99	98	100	96	98	99	98	94	98	93	96	91	93	88	88	87	95.0	10.1
9	88	85	88	89	90	90	91	98	98	96	100	91	91	88	83	81	81	88	84	83	84	87	93	93	89.0	8.9
10	89	93	91	84	83	87	84	87	87	87	85	79	78	75	76	80	77	75	70	67	68	71	72	73	80.3	5.1
11	71	73	74	73	73	80	79	78	74	65	62	60	60	59	57	65	64	70	75	74	76	66	68	65	69.4	4.5
12	75	73	73	73	80	89	90	92	93	94	91	90	90	90	88	90	87	88	91	84	81	79	69	74	84.1	5.7
13	80	71	67	58	66	73	74	68	60	63	60	63	62	58	57	64	65	63	72	74	75	80	80	85	68.0	5.3
14	82	88	86	85	88	88	85	85	80	70	66	59	56	62	62	62	65	58	72	77	79	78	73	81	75.7	5.3
15	81	81	78	72	75	74	77	84	85	70	62	54	55	53	57	58	65	78	84	86	90	91	95	94	74.7	4.5
16	95	97	97	97	97	96	96	96	96	98	93	96	86	84	85	82	74	78	77	78	79	84	84	85	88.9	6.0
17	78	79	81	73	75	79	78	79	77	73	68	60	63	57	58	60	68	76	79	70	69	72	75	77	72.0	4.6
18	76	78	77	75	73	73	69	69	65	63	56	53	51	49	51	51	54	55	60	66	70	67	63	63.6	3.6	
19	65	68	74	75	77	79	82	82	77	70	94	77	87	69	75	76	76	76	78	70	72	74	74	74	76.0	4.4
20	73	80	83	87	87	85	84	87	93	96	97	96	96	94	94	80	85	76	70	68	70	71	72	74	83.3	5.0
21	75	75	76	76	77	77	76	76	75	68	60	47	58	45	42	45	48	60	70	65	67	70	69	69	65.4	4.0
22	68	68	69	69	68	70	70	71	67	63	55	50	50	48	48	50	53	58	63	65	65	67	68	70	62.2	3.6
23	72	71	70	70	72	70	69	72	73	60	57	58	57	55	56	54	60	72	81	89	91	92	95	95	70.8	3.7
24	95	95	95	95	93	91	89	89	89	81	70	69	70	65	67	62	69	67	68	75	86	99	96	90	82.0	4.3
25	90	88	90	95	100	99	95	89	83	84	84	84	89	90	87	87	85	85	85	85	87	89	90	95	89.0	5.7
26	95	95	91	90	93	93	95	95	95	94	87	87	83	87	85	89	89	87	85	87	89	92	94	94	90.5	5.8
27	94	94	92	92	91	96	88	88	91	93	94	94	94	91	91	96	96	90	91	94	85	82	85	81	91.2	6.4
28	85	83	85	85	87	87	91	85	82	82	84	75	78	76	84	84	87	90	86	84	87	87	85	90	84.4	6.6
Mean	84.5	84.7	85.0	84.4	85.4	86.9	86.7	86.7	85.6	83.1	80.0	78.1	77.5	75.9	75.5	75.7	77.5	79.7	81.1	81.0	81.4	82.8	83.2	83.6	81.9	+ 6.2
Vapour Pressure*	mb. 5.7	mb. 5.7	mb. 5.7	mb. 5.7	mb. 5.7	mb. 5.7	mb. 5.8	mb. 5.9	mb. 6.1	mb. 6.2	mb. 6.2	mb. 6.3	mb. 6.2	mb. 6.2	mb. 6.2	mb. 6.1	mb. 6.0	mb. 5.9	mb. 5.9	mb. 5.8	mb. 5.8	mb. 5.7	mb. 5.7	mb. 5.7	mb. 5.9	
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	



RELATIVE HUMIDITY  
Percentages at exact hours, Greenwich Mean Time.

199. ESKDALEMUIR: Louvred Hut:  $h_t$  (height of thermometer bulbs above ground) = 0.9 metres.

MARCH, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	Vapour Pressure*
Day	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.
1	87	91	93	91	94	86	91	90	83	86	86	81	78	78	78	72	77	75	75	70	73	75	81	80	82.3	6.6
2	82	85	85	93	93	94	93	90	96	96	94	95	92	88	90	88	92	98	93	93	92	95	98	90	91.5	6.9
3	90	87	88	92	95	95	97	97	94	97	94	94	94	97	95	97	98	98	97	96	93	98	100	100	94.9	8.0
4	98	93	98	97	96	97	97	97	93	90	99	96	97	97	100	94	98	100	97	97	95	94	94	90	96.2	8.3
5	90	90	93	92	92	94	96	96	90	84	86	80	80	86	90	96	87	88	92	95	96	94	91	88	90.3	7.7
6	94	96	97	94	94	95	98	96	97	86	73	81	82	74	71	78	82	89	89	85	86	84	86	86	87.3	7.8
7	87	87	90	93	97	92	90	85	87	86	81	78	80	81	74	79	81	80	76	78	82	86	93	91	84.6	7.2
8	90	92	95	96	96	97	97	99	100	100	93	87	77	74	73	86	89	89	90	89	90	94	94	91	90.7	6.8
9	94	94	94	99	99	97	99	97	98	98	98	96	94	94	91	88	88	83	87	87	87	84	92	92	92.7	8.9
10	92	93	96	100	98	96	90	92	93	82	72	67	48	51	42	48	48	58	58	65	71	67	73	65	74.1	6.5
11	58	68	62	68	68	68	69	75	58	55	53	49	45	35	34	41	51	58	66	69	76	72	69	87	60.1	6.0
12	82	84	86	81	94	84	75	72	66	57	47	43	40	38	45	44	54	74	78	83	89	89	89	93	70.2	6.4
13	94	95	95	95	95	96	98	98	98	98	98	98	74	70	71	71	72	90	87	93	92	95	92	94	88.2	6.8
14	97	96	97	97	96	90	85	74	81	81	64	57	55	55	49	50	56	76	82	87	78	90	95	91	78.3	7.5
15	88	88	87	82	81	87	87	74	73	68	69	70	90	94	91	90	96	94	94	93	93	88	90	90	85.7	8.2
16	90	91	93	86	84	85	85	90	87	83	84	87	92	89	83	82	83	87	92	87	83	89	93	93	87.4	7.4
17	92	87	87	90	88	82	88	87	81	81	78	74	69	67	82	83	87	87	92	87	93	91	96	92	85.0	7.0
18	87	87	94	89	90	89	89	94	87	74	82	65	74	78	72	75	80	85	92	90	95	93	93	87	85.2	6.6
19	91	86	85	86	86	85	86	84	81	68	71	84	60	65	73	68	68	78	75	71	72	68	74	80	75.8	5.8
20	83	78	78	78	81	82	83	79	62	53	40	35	37	36	35	36	46	52	63	70	78	83	81	83	63.7	4.7
21	83	87	90	91	93	93	93	93	93	72	65	62	61	52	52	59	56	61	63	62	64	58	77	79	73.4	5.6
22	85	87	84	82	81	78	81	82	56	37	40	42	28	25	20	22	25	29	33	39	48	46	48	49	52.6	4.9
23	47	34	46	39	44	49	44	38	36	30	24	19	24	27	27	32	38	39	45	55	56	54	53	59	39.9	44.1
24	58	61	66	67	59	63	56	38	31	27	30	27	27	27	25	29	36	39	47	65	83	87	88	88	50.4	4.2
25	88	90	89	89	88	88	89	88	63	52	42	42	42	41	42	43	46	60	58	79	85	89	90	92	69.7	5.9
26	92	91	89	90	92	92	92	93	59	50	49	37	37	28	35	36	40	56	74	74	85	85	92	94	69.2	6.0
27	95	94	95	95	94	93	94	95	84	63	48	47	47	49	49	57	62	73	81	85	91	90	87	95	77.6	7.0
28	95	96	96	96	96	96	95	98	98	96	60	52	46	50	49	50	55	62	78	82	83	84	86	90	78.8	6.8
29	88	91	91	91	92	91	91	95	98	90	76	70	71	72	71	60	69	80	83	84	93	87	86	92	83.8	6.5
30	82	85	92	87	87	90	90	79	73	82	80	73	60	60	57	67	71	77	80	77	84	85	84	88	78.8	6.4
31	85	93	89	91	87	91	87	87	85	79	77	72	73	85	88	88	90	93	94	93	94	92	93	98	87.5	7.5
Mean	85.9	86.5	87.7	87.7	88.1	87.6	87.3	85.5	80.0	74.2	69.0	64.7	63.5	63.4	62.0	64.8	68.4	74.3	77.8	80.0	83.2	83.5	85.5	86.7	78.3	† 6.6
Vapour Pressure*	mb. 6.3	mb. 6.2	mb. 6.1	mb. 6.0	mb. 6.0	mb. 5.9	mb. 6.0	mb. 6.4	mb. 6.7	mb. 6.9	mb. 7.1	mb. 7.0	mb. 7.0	mb. 7.2	mb. 7.1	mb. 7.2	mb. 7.1	mb. 6.8	mb. 6.6	mb. 6.6	mb. 6.4	mb. 6.4	mb. 6.4	mb. 6.4	mb. 6.6	

200. ESKDALEMUIR: Louvred Hut:  $h_t$  = 0.9 metres.

APRIL, 1933.

1	88	86	85	84	87	77	70	75	74	69	64	48	46	39	47	44	49	55	66	71	74	75	74	71	67.7	6.3	
2	79	84	88	85	87	87	84	78	81	78	75	82	87	88	94	93	93	91	93	94	91	87	91	89	86.3	8.1	
3	91	92	89	91	89	89	89	91	89	89	88	91	91	91	89	89	89	94	94	93	94	92	88	88	90.8	10.1	
4	91	88	91	90	88	88	88	88	85	78	74	67	61	67	65	67	70	75	76	80	86	83	84	84	79.8	8.6	
5	87	87	87	91	89	87	84	77	79	74	83	81	79	84	86	82	83	88	92	94	93	93	98	99	86.2	8.9	
6	99	99	99	94	96	96	98	89	93	76	64	70	68	65	70	66	74	81	87	96	94	96	97	97	85.7	9.8	
7	94	96	93	93	95	97	95	93	90	86	76	74	71	66	69	70	77	88	89	99	96	96	100	97	87.5	9.3	
8	98	98	98	100	98	100	97	94	96	94	84	78	78	74	75	87	87	91	91	96	96	98	99	98	91.9	9.3	
9	99	99	99	99	98	96	98	96	94	93	94	79	68	78	83	87	82	89	97	95	97	99	94	87	91.9	11.4	
10	80	86	87	93	94	94	94	96	94	83	83	82	83	80	87	86	88	90	91	90	90	94	96	90	88.7	9.8	
11	83	81	85	89	90	94	91	92	92	89	85	75	84	80	81	80	85	91	91	92	96	94	94	96	87.8	10.4	
12	94	94	91	89	86	74	73	78	69	58	57	46	44	43	49	48	52	50	57	69	80	74	76	76	68.2	6.6	
13	78	78	80	75	70	77	89	49	47	41	45	38	39	51	56	48	56	58	63	63	69	74	77	85	61.3	5.2	
14	90	92	92	93	92	92	89	79	69	57	54	47	49	45	47	45	46	55	64	71	68	70	82	87	69.7	6.0	
15	87	87	86	83	84	87	85	86	89	89	93	96	96	94	96	92	96	96	90	90	89	87	89	88	89.7	9.8	
16	88	89	88	87	88	91	89	91	87	84	84	92	92	89	91	88	87	91	92	91	91	94	96	91	89.6	10.2	
17	89	94	94	92	92	90	90	92	85	86	90	91	88	85	82	85	82	85	86	90	93	93	91	94	89.0	8.6	
18	97	92	96	95	94	92	85	73	61	66	49	42	52	48	53	69	82	55	76	79	83	85	84	87	73.7	5.5	
19	91	90	84	88	84	85	77	69	71	67	81	60	58	45	40	49	46	52	61	61	69	67	69	69	68.4	4.9	
20	73	67	68	65	64	68	78	91	82	84	82	75	73	59	58	53	50	56	58	73	82	83	85	88	70.3	5.2	
21	87	87	87	89	88	88	86	62	53	49	49	54	55	52	47	50	49	52	61	65	73	73	73	81	67.2	5.1	
22	82	85	84	80	80	73	87	53	44	49	49	46	47	44	48	48	50	51	54	68	81	85	92	92	64.0	5.3	
23	97	97	97	96	92	90	74	60	58	52	46	44	50	56	64	69	74	76	81	80	82	84	86	86	74.7	6.4	
24	87	92	92	92	92	88	90	86	81	71	67	63	60	63	66	70	78	86	88	89	91	89	89	91	81.5	9.2	
25	91	93	95	95	95	94	96	98	96	93	85	81	80	76	72	71	67	75	84	91	89	88	93	88	87.0	10.8	
26	93	91	93	91	94	90	88	87	82	75	82	89	92	98	87	87	86	82	83	88	93	93	94	93	88.7	10.0	
27	96	96	93	95	93	91	87	83	83	80	70	79	87	55	70	76	84	85	86	85	87	88	90	90	83.3	9.3	
28	90	88	93	91	94	90	90	90	86	88	88	82	80	75	68	60	55	57	60	76	83	90	96	94	94	82.0	8.3
29	90	89	85	81	83	82	76	72	74	71	68	88	73	65	78	74	73	86	91	87	90	88	91	90	81.1	7.9	
30	93	90	87	90	92	91	91	88	90	89	89	87	90	87	91	96	91	94	94	91	93	93	91	91	90.7	8.5	
Mean	89.4	89.6	89.6	89.2	88.9	87.9	84.6	82.0	79.1	75.3	72.0	70.8	69.5	67.8	70.1	70.8	71.7	76.0	80.5	83.8	86.7	87.0	88.6	88.6	80.8	+ 8.2	
Vapour Pressure*	mb. 7.8	mb. 7.8	mb. 7.7	mb. 7.7	mb. 7.6	mb. 7.6	mb. 7.7	mb. 7.9	mb. 8.0	mb. 8.0	mb. 8.0	mb. 8.1	mb. 8.1	mb. 8.0	mb. 8.2	mb. 8.1	mb. 8.1	mb. 8.1	mb. 8.0	mb. 8.0	mb. 7.9	mb. 7.9	mb. 7.8	mb. 7.8	mb. 7.9		
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean		



RELATIVE HUMIDITY  
Percentages at exact hours, Greenwich Mean Time.

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201. ESKDALEMUIR: Louvred Hut:  $h_t$  (height of thermometer bulbs above ground) = 0.9 metres.

MAY, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	Vapour Pressure*
Day	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.
1	92	89	90	88	89	89	88	84	78	83	92	89	82	82	80	81	83	70	76	75	75	78	82	80	83.4	7.3
2	82	81	81	81	81	77	74	74	66	66	61	60	88	84	88	87	67	66	71	73	72	75	73	72	70.1	6.2
3	76	78	78	78	78	75	73	69	71	70	71	65	73	75	80	86	89	87	90	90	90	92	95	93	79.6	6.9
4	94	96	96	96	96	97	93	96	89	82	75	73	66	68	61	71	87	90	92	95	91	92	92	92	86.7	10.3
5	98	98	96	95	93	89	86	86	85	83	81	77	76	75	72	75	70	69	86	92	91	92	96	89	85.5	10.9
6	91	91	89	92	92	88	85	84	77	72	67	64	59	56	58	60	71	88	88	80	91	91	91	92	79.8	10.7
7	92	92	90	94	94	93	96	94	95	92	89	87	75	84	89	91	82	79	83	82	83	84	81	86	87.9	10.2
8	87	85	88	94	93	77	75	65	64	58	74	64	67	60	67	71	71	87	95	95	95	96	96	91	79.7	10.0
9	83	81	84	88	88	78	80	76	78	73	70	78	73	69	73	71	70	74	75	84	86	85	86	87	78.8	8.4
10	84	84	86	86	80	86	89	84	74	71	72	71	63	59	70	65	70	81	79	87	88	88	89	90	79.0	9.1
11	91	96	93	89	90	86	81	91	87	87	86	82	83	86	74	68	68	74	76	78	76	73	74	70	82.0	9.3
12	69	80	87	87	82	74	71	69	57	59	55	51	49	48	49	47	51	51	55	67	72	75	77	70	64.7	7.7
13	71	82	84	87	84	71	61	56	50	46	52	53	66	64	65	71	79	79	79	91	91	91	98	98	73.1	7.8
14	94	87	86	88	85	74	71	63	56	48	51	43	39	36	38	39	54	63	70	76	85	84	84	80	66.8	7.6
15	95	92	94	92	89	74	74	58	48	44	48	43	44	43	35	39	57	61	66	74	76	86	85	87	65.7	7.6
16	88	88	88	88	91	87	79	71	81	81	81	83	82	88	89	89	90	88	89	89	90	93	91	90	86.4	9.0
17	92	92	93	93	93	92	91	89	87	82	76	76	72	74	70	71	72	74	79	86	83	88	88	88	83.4	10.2
18	89	92	89	92	93	91	91	83	80	75	76	71	76	74	72	74	76	79	86	85	85	88	92	93	83.3	11.0
19	95	95	95	96	94	94	91	92	94	93	87	86	86	83	85	77	83	82	85	88	87	82	88	80	88.5	11.9
20	80	80	81	81	82	79	75	64	62	63	63	67	62	65	58	75	90	90	93	94	94	94	93	94	78.0	12.4
21	97	96	92	94	94	99	95	94	83	86	78	71	50	54	35	43	48	42	52	71	80	86	85	89	75.7	11.6
22	92	92	87	89	87	80	80	74	69	74	76	70	61	61	63	78	79	84	79	80	74	86	74	82	68.1	10.8
23	84	89	95	92	91	95	90	90	82	75	79	72	67	61	60	62	77	74	79	81	80	76	83	80	80.2	11.9
24	90	90	86	88	90	90	86	81	74	80	65	64	64	77	79	91	87	86	89	89	86	84	82	80	82.5	10.2
25	83	77	86	82	81	72	72	76	57	58	47	54	46	56	49	53	53	57	62	73	73	77	81	83	66.9	8.1
26	83	89	87	89	81	77	71	63	52	57	54	54	60	60	59	56	59	68	75	80	89	94	97	90	72.5	8.6
27	93	96	93	93	87	89	88	78	74	74	63	62	64	62	62	67	63	63	73	78	83	79	82	86	77.3	9.6
28	91	94	90	94	84	88	85	81	78	79	73	71	72	73	70	67	78	77	74	79	85	81	86	83	80.6	9.4
29	82	86	88	83	84	83	73	68	63	65	60	57	62	63	60	64	63	62	74	79	77	83	86	85	72.9	8.8
30	87	86	87	88	90	86	79	75	72	63	61	61	40	43	44	52	57	53	67	77	86	94	97	90	71.3	8.9
31	94	91	97	97	96	87	87	80	66	62	61	64	61	54	49	48	47	49	57	70	72	77	83	84	72.3	10.5
Mean	87.7	88.5	88.9	89.5	88.1	84.4	81.6	77.7	72.8	71.2	68.7	67.1	64.6	64.9	63.7	66.4	70.2	72.5	77.1	81.8	83.5	85.4	86.5	85.7	77.9	79.4
Vapour Pressure*	mb. 8.9	mb. 8.8	mb. 8.8	mb. 8.7	mb. 8.7	mb. 8.9	mb. 9.2	mb. 9.3	mb. 9.4	mb. 9.6	mb. 9.6	mb. 9.7	mb. 9.6	mb. 9.7	mb. 9.6	mb. 9.7	mb. 9.8	mb. 9.7	mb. 9.9	mb. 9.7	mb. 9.5	mb. 9.4	mb. 9.3	mb. 9.1	mb. 8.9	

202. ESKDALEMUIR: (Louvred Hut)  $h_t$  = 0.9 metres.

JUNE, 1933.

1	87	90	88	88	84	83	84	66	61	58	46	40	48	52	51	52	65	76	71	70	72	77	78	72	69.4	11.2	
2	76	82	87	88	86	82	93	96	93	96	92	91	89	89	88	95	88	83	86	89	91	92	92	90	88.5	14.5	
3	91	87	90	91	82	80	66	65	63	87	48	49	49	46	46	48	47	50	64	71	65	74	77	80	66.3	13.7	
4	78	81	83	86	82	81	60	56	54	45	46	53	50	45	45	47	43	45	52	64	70	79	78	85	76	64.2	13.8
5	77	78	80	83	78	78	65	68	60	60	67	50	50	54	56	58	66	67	76	84	90	90	90	94	70.8	13.4	
6	94	94	95	94	93	90	83	74	69	65	54	50	53	46	41	40	41	45	52	74	75	78	76	72	69.1	13.4	
7	76	71	80	79	65	65	64	54	41	39	35	37	36	35	36	46	43	52	58	82	82	90	89	87	59.8	13.6	
8	84	87	88	75	81	82	85	85	75	79	71	72	66	70	70	75	76	76	80	74	73	74	74	68	77.1	12.8	
9	71	71	73	73	79	79	84	77	74	71	72	62	57	57	63	65	69	72	72	72	79	82	74	75	71.6	10.0	
10	84	83	84	86	82	71	66	66	59	59	56	55	80	78	83	78	76	78	84	79	82	84	86	84	76.2	10.1	
11	86	88	87	85	83	71	60	62	62	66	69	64	63	61	61	57	54	60	68	76	83	86	90	93	72.1	8.9	
12	93	90	96	92	85	72	62	53	56	46	54	45	39	40	38	54	48	55	67	73	72	72	70	80	64.9	8.3	
13	83	81	80	80	84	82	85	89	91	89	88	85	85	70	65	67	69	63	68	66	79	85	89	87	79.5	11.8	
14	85	84	83	83	80	80	82	73	62	62	56	58	56	59	56	58	63	56	74	76	77	83	83	89	71.5	12.0	
15	88	91	90	94	93	86	80	62	61	63	59	56	60	59	56	60	65	72	81	82	88	91	93	88	75.8	12.1	
16	88	87	87	85	83	74	63	58	59	62	62	66	68	73	76	81	93	94	97	97	89	83	88	73	78.7	11.9	
17	79	82	86	93	90	90	85	73	73	70	80	64	60	64	73	63	67	76	76	76	85	91	93	77.3	9.1		
18	92	94	93	90	93	94	91	88	88	83	88	87	70	81	71	74	78	76	75	84	86	89	92	91	85.4	10.5	
19	94	94	91	89	93	89	82	85	88	72	76	84	83	81	86	86	92	75	78	85	89	89	91	89	85.9	10.8	
20	89	91	86	86	86	87	68	64	60	55	54	55	61	59	50	57	55	59	69	77	76	80	86	84	70.7	10.3	
21	84	84	84	88	78	87	78	85	83	65	56	59	58	54	55	53	58	67	80	82	85	89	89	95	74.6	11.0	
22	87	89	89	91	93	84	79	78	74	70	65	62	61	56	57	76	64	61	74	79	88	89	87	83	76.7	11.5	
23	88	91	91	87	84	82	79	76	65	67	67	66	69	64	63	66	66	68	77	79	89	87	93	89	77.1	11.9	
24	93	93	88	87	96	88	89	88	95	94	86	73	73	71	81	73	77	77	69	80	85	85	86	87	84.0	13.1	
25	90	91	93	91	88	80	78	73	68	62	64	66	69	64	61	58	63	67	68	77	86	87	90	93	76.0	13.8	
26	95	94	95	94	89	90	89	83	83	82	66	62	55	50	50	49	56	61	64	82	81	79	88	91	76.2	11.0	
27	86	89	90	90	82	75	75	68	62	56	52	45	42	51	53	47	54	65	68	72	74	75	72	70	67.6	10.0	
28	70	71	78	74	74	83	81	76	70	67	64	56	53	50	50	49	48	53	64	70	76	72	70	74	66.3	9.9	
29	80	83	81	87	76	71	64	65	67	66	71	60	60	61	67	73	79	74	76	81	81	86	87	92	74.1	11.1	
30	94	94	94	97	94	96	84	74	76	69	71	64	65	66	60	62	67	75	76	77	79	81	90	89	79.0	11.2	
Mean	85.4	86.2	87.0	86.9	84.5	81.7	76.8	72.7	69.7	66.6	64.4	61.4	60.8	60.2	60.3	62.1	64.4	66.8	72.5	77.9	80.9	83.1	84.7	84.3	74.2	+11.6	
Vapour Pressure*	10.4	10.3	10.0	9.8	10.1	10.8	11.2	11.5	11.7	11.9	12.0	12.0	12.1	12.1	12.1	12.1	12.3	12.4	12.6	12.3	11.6	11.2	10.9	10.5	11.4		
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean		



RELATIVE HUMIDITY  
Percentages at exact hours, Greenwich Mean Time.

203. ESKDALEUIR: Louvred Hut:  $h_t$  (height of thermometer bulbs above ground) = 0.9 metres.

JULY, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	Vapour Pressure*
Day	88	89	94	91	88	89	83	77	72	70	69	70	68	62	65	60	58	60	65	73	80	86	88	88	76.8	mb.
1	88	89	94	91	88	89	83	77	72	70	69	70	68	62	65	60	58	60	65	73	80	86	88	88	76.8	15.3
2	87	87	84	82	76	71	64	61	58	58	54	54	52	49	43	41	43	45	57	66	63	75	73	85	63.3	14.6
3	81	87	86	79	84	66	57	43	35	35	42	45	45	47	47	43	47	53	54	62	70	70	75	76	59.7	13.1
4	84	89	98	98	79	78	67	57	57	55	50	43	37	45	44	41	45	50	60	74	84	84	90	90	65.3	14.8
5	93	91	89	90	89	87	79	67	64	55	45	38	39	37	42	39	44	49	62	65	69	72	78	78	65.0	15.8
6	74	77	83	85	82	84	77	73	72	67	60	59	57	58	56	56	63	69	76	79	86	85	84	86	72.7	15.1
7	84	83	87	92	91	90	87	87	75	67	64	62	60	62	63	68	81	86	79	84	83	85	86	88	78.9	16.6
8	86	88	85	86	86	86	81	71	75	73	66	64	58	66	65	58	87	82	78	83	91	90	91	94	78.6	14.9
9	93	95	94	93	93	98	93	87	78	79	71	70	69	67	71	78	69	77	84	97	95	97	95	98	85.0	14.2
10	95	96	95	92	92	92	85	80	77	86	81	88	80	81	78	81	86	93	92	92	95	95	95	96	88.5	14.4
11	98	95	94	95	94	96	96	94	94	80	84	86	91	78	79	88	88	82	85	87	94	95	95	90	90.0	13.9
12	93	93	94	94	90	90	88	85	91	88	91	87	83	79	82	86	85	87	87	87	87	87	84	87	87.8	12.1
13	89	92	94	97	98	94	89	79	90	91	91	96	92	94	94	94	95	99	95	95	95	95	97	97	93.2	13.6
14	95	94	93	93	95	88	90	88	87	78	79	78	71	71	72	70	71	74	77	85	86	88	90	96	83.7	13.7
15	91	91	99	99	94	95	90	78	68	68	59	63	60	65	62	68	63	69	89	90	94	86	87	90	80.0	12.1
16	89	93	89	89	88	86	80	72	70	69	69	76	71	72	57	52	55	54	65	70	82	87	88	89	75.5	12.4
17	89	89	91	92	89	91	89	81	76	68	65	56	58	58	57	53	55	57	61	73	83	88	92	94	75.1	11.8
18	93	88	92	94	95	92	87	87	87	90	90	92	88	84	84	84	88	88	88	87	92	96	93	94	89.7	16.5
19	93	93	93	94	91	94	94	83	69	64	65	61	66	65	65	70	72	76	80	80	86	90	91	90	80.3	15.0
20	93	94	96	96	95	92	88	82	75	84	80	81	82	81	84	73	81	76	80	85	87	77	82	85	84.6	13.7
21	84	89	87	92	92	92	92	85	70	74	69	65	62	60	58	57	56	60	60	75	78	81	88	93	75.6	11.9
22	91	90	94	94	86	84	86	74	68	66	64	68	61	63	62	55	60	62	63	75	87	89	92	92	75.9	12.3
23	91	92	95	95	94	95	87	68	72	69	67	73	72	75	80	79	62	59	68	75	88	88	93	97	80.5	14.4
24	98	97	97	96	93	92	91	87	84	84	69	71	70	71	70	75	79	83	90	92	94	96	97	97	85.8	15.6
25	97	97	96	97	96	94	94	96	94	94	94	92	92	93	93	94	92	93	94	97	96	98	98	99	95.0	17.2
26	98	98	98	98	98	96	97	94	96	92	85	86	77	73	82	83	77	83	87	91	90	92	93	92	90.0	15.4
27	93	95	96	94	94	92	93	78	64	61	53	57	59	81	84	92	94	94	96	92	89	84	86	91	83.9	11.6
28	85	85	87	87	84	81	87	71	72	69	59	62	64	67	71	85	83	94	95	97	95	96	97	97	82.0	12.1
29	96	93	92	94	94	91	87	88	85	77	83	82	87	83	87	82	91	88	88	88	90	88	87	89	88.1	12.7
30	93	96	100	97	97	94	87	74	69	66	70	69	76	65	68	73	67	76	72	75	73	88	97	96	80.6	11.4
31	97	96	97	96	96	95	95	95	90	87	84	78	74	79	85	86	87	87	85	85	83	85	88	91	88.5	14.4
Mean	90.7	91.4	92.5	92.6	90.7	89.2	85.8	78.8	75.3	73.0	70.5	69.8	68.3	68.7	69.4	69.7	71.6	74.2	77.6	82.1	85.9	87.5	89.1	91.1	80.6	†14.0
Vapour Pressure *	mb. 12.9	mb. 12.8	mb. 12.7	mb. 12.5	mb. 12.5	mb. 13.1	mb. 13.8	mb. 14.1	mb. 14.3	mb. 14.4	mb. 14.5	mb. 14.7	mb. 14.8	mb. 14.9	mb. 14.8	mb. 14.6	mb. 14.6	mb. 14.7	mb. 14.6	mb. 14.3	mb. 13.9	mb. 13.7	mb. 13.4	mb. 13.2	mb. 13.9	

204. ESKDALEUIR: Louvred Hut:  $h_t$  = 0.9 metres.

AUGUST, 1933.

1	90	89	89	92	87	82	73	67	66	67	71	68	70	61	57	58	54	60	69	87	90	94	95	93	76.2	13.2	
2	93	91	95	96	99	98	98	98	94	84	86	82	89	86	92	79	85	88	92	91	91	93	94	94	91.2	17.0	
3	97	91	88	87	95	97	97	93	88	89	85	85	79	71	73	74	76	80	84	84	86	87	89	89	86.1	18.9	
4	89	87	93	93	90	89	83	70	68	68	61	62	60	67	58	58	58	62	71	84	87	87	89	91	75.3	15.9	
5	95	96	95	91	95	90	98	87	85	66	62	57	52	51	54	51	53	60	71	83	87	87	90	89	76.9	17.2	
6	93	90	91	94	91	87	89	82	81	83	80	77	78	77	64	66	66	73	79	75	75	85	80	80	80.8	16.4	
7	78	86	89	93	95	93	87	83	78	74	75	65	67	63	61	55	75	85	91	95	96	98	96	87	82.1	12.9	
8	89	86	84	83	85	78	73	74	70	66	66	67	64	59	60	62	62	64	67	76	83	84	90	94	74.3	11.5	
9	94	95	98	96	98	92	83	83	80	73	70	67	61	57	56	57	61	55	62	75	82	79	82	82	76.8	12.6	
10	86	86	88	91	88	88	83	77	73	68	62	64	52	59	53	59	64	67	70	79	87	89	90	87	75.3	10.7	
11	90	85	88	90	90	90	87	77	74	75	70	67	59	61	59	63	75	76	80	82	85	90	91	84	78.7	10.9	
12	89	90	95	91	90	87	84	76	72	69	63	57	54	52	47	52	50	63	64	75	83	89	96	99	73.8	11.6	
13	99	93	100	100	97	96	95	87	72	66	56	54	51	50	50	55	56	61	62	75	78	81	88	90	75.7	12.0	
14	90	90	90	94	94	96	96	91	88	87	89	84	72	67	69	77	77	83	87	90	93	92	93	91	86.6	15.1	
15	94	94	94	98	96	93	88	92	90	94	94	94	95	96	91	86	81	85	90	88	82	86	90	92	91.0	14.4	
16	92	93	86	87	88	79	74	72	72	65	63	59	57	60	62	61	61	77	82	86	89	88	91	91	76.5	11.6	
17	93	93	93	93	87	89	90	89	90	96	94	92	92	92	87	82	70	73	77	86	86	83	86	86	87.5	13.5	
18	89	81	77	78	78	78	80	88	77	75	65	66	65	67	78	76	73	84	94	88	94	94	91	94	80.3	12.7	
19	92	93	93	95	90	93	89	87	81	60	59	57	56	49	52	64	76	77	87	87	89	94	90	91	79.3	12.4	
20	96	93	95	92	92	92	94	84	83	84	79	61	72	72	81	77	66	72	74	85	84	84	89	91	83.0	11.0	
21	91	92	86	88	88	87	87	83	72	68	71	65	60	61	61	65	75	80	87	89	83	86	87	91	79.3	10.6	
22	94	92	82	84	87	76	87	83	79	72	69	66	60	66	87	85	83	90	85	88	86	91	92	91	82.3	10.4	
23	89	89	87	86	82	87	92	83	77	75	73	60	64	75	82	78	64	69	77	82	89	84	83	85	79.8	11.3	
24	86	93	89	93	91	93	93	92	93	93	73	68	77	75	81	82	86	88	88	91	95	98	94	99	87.7	11.9	
25	98	99	98	99	96	96	95	94	91	89	88	92	90	92	90	91	90	93	93	94	94	96	96	96	96	93.8	15.9
26	96	97	96	97	95	94	90	92	77	62	61	59	55	56	63	56	50	55	70	74	85	84	86	87	76.7	14.5	
27	86	84	82	87	89	91	93	89	82	69	66	65	60	55	55	60	66	73	77	85	84	87	90	82	77.5	13.8	
28	85	89	89	87	84	80	80	92	98	93	93	96	94	96	92	93	94	98	96	97	97	97	94	94	91.7	16.9	
29	96	96	97	98	95	98	97	91	86	83	71	58	57	59	55	73	80	81	76	85	89	98	96	94	83.7	14.3	
30	95	93	98	98	91	88	84	81	73	88	68	61	55	53	49	52	59	68	79	88	87	92	94	97	78.7	10.7	
31	98	97	97	99	99	97	98	91	81	81	76	69	75	80	88	90	95	97	94	97	97	95	93	90	90.7	11.6	
Mean	91.7	91.1	91.0	91.9	91.0	89.5	88.3	84.8	80.3	75.7	72.9	69.2	67.5	65.9	68.0	69.3	70.3	75.1	79.8	85.2	87.5	89.4	90.5	90.3	81.6	+13.4	
Vapour Pressure*	mb. 12.4	mb. 12.2	mb. 12.1	mb. 12.1	mb. 12.0	mb. 12.3	mb. 12.9	mb. 13.5	mb. 13.6	mb. 13.7	mb. 13.6	mb. 13.6	mb. 13.5	mb. 13.7	mb. 13.9	mb. 14.0	mb. 13.7	mb. 13.8	mb. 13.7	mb. 13.4	mb. 13.0	mb. 13.0	mb. 12.9	mb. 12.5	mb. 13.1		
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean		



**RELATIVE HUMIDITY**  
Percentages at exact hours, Greenwich Mean Time.

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205. ESKDALEUIR: Louvred Hut h<sub>t</sub> (height of thermometer bulbs above ground) = 0.9 metres.

SEPTEMBER, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	Vapour Pressure*
Day	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.
1	88	89	87	84	89	90	80	69	61	61	59	61	56	61	60	55	61	69	76	87	99	91	98	91	76.9	12.1
2	96	97	97	97	97	93	97	96	86	68	66	77	72	73	81	83	74	73	78	79	82	88	95	93	84.9	12.5
3	90	95	97	99	97	96	93	84	78	86	92	84	76	79	83	82	83	91	95	90	91	92	96	97	89.3	15.4
4	91	92	96	94	95	96	97	96	92	89	86	82	68	67	67	63	62	80	85	92	91	93	92	93	85.9	15.7
5	94	93	91	91	89	92	86	85	80	71	66	64	64	65	66	64	65	80	86	84	80	76	77	77	78.9	16.0
6	79	79	81	86	87	86	81	72	60	55	49	46	45	45	38	41	63	75	71	82	88	93	90	89	69.8	12.3
7	90	93	95	92	94	93	86	78	77	73	63	63	63	61	64	70	68	73	82	82	84	88	89	90	79.6	12.6
8	89	89	90	90	89	92	86	87	89	78	70	69	68	69	69	71	78	83	88	89	87	88	93	88	82.9	12.5
9	88	92	91	87	87	84	84	78	78	75	76	71	70	69	68	69	69	75	87	89	87	92	92	94	81.2	11.7
10	98	99	92	96	95	94	90	88	83	80	70	72	66	61	61	61	65	71	78	90	88	91	92	91	82.2	12.1
11	93	96	94	99	100	96	94	88	89	89	81	74	75	68	73	70	76	81	83	88	90	94	93	90	86.5	12.0
12	93	95	97	95	96	94	98	91	86	83	74	68	64	60	56	61	72	80	79	86	86	91	89	94	82.7	11.6
13	93	95	94	97	96	97	98	78	78	73	66	69	75	74	69	59	50	53	61	74	69	64	67	62	76.1	8.4
14	67	63	64	67	75	77	65	56	55	53	48	48	49	43	45	47	49	72	71	73	82	85	81	84	63.3	7.4
15	85	83	94	89	89	87	86	70	65	61	57	58	53	55	54	55	60	74	83	86	89	93	90	93	75.2	9.1
16	94	96	96	99	100	100	88	84	78	73	64	62	60	59	55	44	57	60	72	86	88	90	88	89	78.5	10.7
17	94	95	95	99	94	91	95	89	90	80	67	64	62	58	58	66	71	76	90	94	92	90	88	89	82.8	12.9
18	94	97	96	96	89	85	84	83	81	71	63	56	57	55	54	61	74	87	88	95	92	92	91	98	80.6	12.8
19	99	94	91	88	96	97	94	83	78	70	62	64	59	58	56	57	60	78	76	77	85	91	86	91	78.9	10.7
20	84	83	85	93	92	92	89	95	94	91	91	90	86	84	80	76	83	86	89	88	92	93	92	91	88.3	11.7
21	91	91	93	91	88	92	92	91	93	90	93	93	84	82	87	85	80	81	89	90	90	89	91	90	89.0	12.1
22	92	88	91	92	91	92	89	87	82	73	70	53	51	57	73	71	74	79	87	90	97	90	90	91	81.3	10.5
23	91	96	94	94	96	94	93	87	88	78	74	66	62	60	62	66	68	79	83	89	87	86	88	89	82.1	9.8
24	88	93	92	91	89	88	86	79	87	84	92	88	89	84	89	87	89	90	87	91	89	88	90	89	88.3	11.2
25	93	93	93	90	89	90	87	82	78	81	80	83	81	84	90	90	91	93	93	95	91	92	92	92	88.3	13.1
26	90	83	83	82	81	82	87	89	87	89	83	87	85	85	90	88	90	91	89	94	93	93	95	94	87.9	11.8
27	95	90	89	88	88	88	90	83	80	73	72	74	74	75	77	74	79	84	84	91	92	92	94	95	84.1	12.0
28	89	91	91	93	94	94	93	93	93	92	93	90	88	90	93	93	94	96	96	99	97	97	97	95	93.4	13.0
29	98	94	97	97	97	97	97	96	94	100	86	89	85	79	80	83	88	89	90	92	91	94	89	93	91.3	13.7
30	90	90	91	89	91	96	98	96	91	95	92	91	96	94	93	95	96	97	94	94	93	91	89	88	93.0	12.8
Mean	90.4	90.8	91.2	91.4	91.7	91.5	89.5	84.6	81.8	77.7	73.5	71.8	69.5	68.4	69.5	69.9	72.9	79.8	83.7	87.8	88.9	89.5	89.8	90.0	82.7	†12.0
Vapour Pressure*	mb. 11.1	mb. 11.1	mb. 11.2	mb. 11.2	mb. 11.1	mb. 11.0	mb. 11.3	mb. 11.8	mb. 12.3	mb. 12.6	mb. 12.6	mb. 12.7	mb. 12.7	mb. 12.6	mb. 12.6	mb. 12.6	mb. 12.4	mb. 12.0	mb. 11.7	mb. 11.4	mb. 11.2	mb. 11.1	mb. 11.0	mb. 11.0	†11.8	

206. ESKDALEUIR: Louvred Hut: h<sub>t</sub> = 0.9 metres.

OCTOBER, 1933.

	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.	
1	89	89	91	91	91	91	91	82	76	74	75	71	63	59	63	67	77	79	88	88	90	99	94	99	82.1	10.2
2	94	93	94	94	91	93	94	93	84	74	74	64	64	67	61	64	69	80	82	83	82	84	82	85	81.3	8.0
3	79	82	84	87	91	85	82	76	65	54	55	61	61	62	62	72	80	83	93	90	88	88	91	90	77.5	7.7
4	94	94	93	86	87	87	90	88	89	95	90	79	76	71	70	71	74	80	83	81	86	91	96	96	85.2	11.2
5	95	98	100	100	100	100	100	83	81	72	70	72	66	66	67	68	75	81	89	90	91	91	91	91	85.0	9.3
6	93	93	95	95	96	95	95	93	92	85	86	82	76	82	78	76	85	88	91	96	92	94	94	94	89.3	10.5
7	93	94	90	93	91	88	89	87	78	79	77	76	78	81	85	86	86	90	89	94	94	94	95	97	87.7	10.6
8	98	94	97	97	95	97	98	98	97	95	88	83	82	77	73	74	72	77	81	88	93	95	96	94	89.2	12.1
9	93	96	93	94	95	95	95	93	92	87	85	82	80	88	93	96	99	93	92	84	88	88	86	81	90.6	12.5
10	88	87	91	90	93	89	81	80	71	65	68	68	67	68	72	70	73	73	84	87	93	93	93	93	80.5	9.2
11	93	88	88	89	89	79	81	78	76	78	63	69	88	83	83	81	76	78	79	82	83	82	87	93	81.9	9.0
12	97	87	81	88	90	87	86	78	71	68	63	64	57	58	55	62	73	81	79	87	87	89	85	89	77.7	7.3
13	91	91	86	92	93	91	98	88	90	92	87	80	79	79	79	81	84	87	85	84	88	90	92	93	87.4	10.1
14	91	89	90	89	89	92	94	94	92	74	72	72	66	74	80	83	87	94	84	93	96	95	95	96	87.5	9.8
15	96	96	94	85	83	91	91	93	91	88	94	91	92	94	83	89	89	88	83	78	79	83	83	85	88.5	8.8
16	86	86	86	86	90	90	89	86	89	91	82	80	72	72	71	71	76	77	70	68	71	69	66	69	79.2	7.2
17	64	58	72	73	73	77	77	69	62	58	56	56	61	67	71	71	77	86	85	90	96	96	98	99	74.0	7.1
18	99	99	100	99	99	99	99	97	95	91	88	83	78	71	66	77	87	90	88	85	81	85	77	77	88.4	10.3
19	81	79	79	78	78	78	82	77	75	75	72	73	72	71	71	66	67	70	71	76	72	73	70	76	74.3	8.5
20	74	78	78	78	80	80	85	82	83	75	66	57	56	55	61	74	83	91	91	88	91	91	93	92	78.1	8.8
21	90	91	89	88	91	92	96	95	95	94	88	90	89	86	92	92	92	93	93	92	93	92	92	91	91.5	11.2
22	89	92	92	91	92	94	93	91	83	79	74	69	76	79	80	83	87	87	89	91	92	91	87	83	86.2	10.8
23	89	91	91	89	88	87	89	89	87	85	82	83	78	79	80	84	87	90	90	91	89	91	95	97	87.3	11.0
24	93	88	86	84	87	87	87	87	85	85	85	85	84	87	87	87	86	84	87	88	87	89	88	86	86.9	10.4
25	81	73	74	80	75	76	74	73	67	65	57	55	53	62	64	59	59	59	61	62	63	66	73	71	67.1	5.7
26	71	73	75	72	68	64	64	61	58	52	58	53	53	58	53	68	63	75	78	79	81	77	90	91	67.6	5.0
27	88	95	84	78	78	70	74	68	61	59	52	46	41	43	51	54	59	65	69	70	70	71	72	70	66.5	4.9
28	61	52	69	82	76	80	80	90	89	88	86	90	83	97	91	88	91	90	84	88	89	89	90	89	83.5	7.4
29	85	85	85	84	87	89	86	88	87	75	71	73	71	65	69	70	80	87	87	83	82	88	87	85	81.4	7.5
30	85	88	91	91	92	90	85	79	73	69	54	60	57	61	66	68	71	73	78	76	79	82	95	94	77.0	6.9
31	94	94	91	81	81	79	74	76	72	70	68	67	78	78	74	76	73	74	76	76	77	77	76	77	77.7	7.0
Mean	87.6	86.9	87.4	87.2	87.4	86.8	87.1	84.2	80.8	77.1	73.7	72.1	71.5	72.2	72.7	75.0	78.6	82.0	83.2	84.1	85.3	86.5	87.4	87.8	81.9	† 8.9
Vapour Pressure*	mb. 8.5	mb. 8.4	mb. 8.5	mb. 8.6	mb. 8.6	mb. 8.5	mb. 8.5	mb. 8.7	mb. 9.1	mb. 9.2	mb. 9.2	mb. 9.0	mb. 9.1	mb. 9.0	mb. 9.0	mb. 8.9	mb. 8.8	mb. 8.5	mb. 8.4	mb. 8.3	mb. 8.3	mb. 8.3	mb. 8.4	mb. 8.4	mb. 8.7	
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	



207. ESKDALEMUIR: Louvred Hut ht (height of thermometer bulbs above ground) = 0.9 metres.

NOVEMBER, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	Vapour Pressure*
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.
1	77	77	78	76	75	78	82	76	69	76	84	97	99	97	99	92	87	84	83	79	75	72	73	72	81.7	7.7
2	79	79	74	72	86	76	78	74	71	68	60	59	55	57	60	76	67	68	67	65	68	65	71	69	69.4	6.1
3	72	69	71	73	80	83	79	78	73	75	66	69	71	78	83	80	80	82	84	82	81	82	84	84	77.2	6.7
4	87	83	81	83	80	77	77	77	77	66	66	65	62	71	76	78	83	86	89	90	91	91	91	89	78.6	6.0
5	83	85	89	90	92	90	94	94	97	94	94	92	84	84	86	85	90	92	89	94	96	96	96	96	90.7	7.9
6	96	100	96	96	91	80	81	82	80	80	80	78	83	81	86	88	91	92	89	88	87	77	82	82	86.4	9.9
7	78	78	86	83	85	86	87	87	78	79	73	73	76	78	81	80	88	90	92	94	94	97	97	94	84.4	8.9
8	95	97	98	98	96	98	100	98	98	99	94	94	93	96	94	96	98	96	98	98	96	98	96	96	96.6	9.0
9	96	94	94	93	93	90	90	91	91	90	91	86	87	92	92	93	85	83	87	86	87	93	96	94	90.6	8.8
10	95	96	93	91	91	91	91	88	86	78	82	68	64	66	68	75	80	80	84	76	73	83	77	74	81.7	6.7
11	79	87	85	88	91	92	92	94	92	90	76	70	58	65	75	85	91	91	92	93	93	94	93	91	85.7	5.5
12	93	91	92	92	92	92	92	93	96	98	99	99	97	93	95	93	94	94	96	94	94	94	97	97	94.3	5.3
13	98	98	98	98	98	98	98	93	89	93	93	96	97	98	93	85	88	86	86	84	87	85	93	91	92.7	6.9
14	95	87	90	89	89	92	89	92	89	89	85	90	89	90	95	93	94	92	88	87	82	88	85	85	89.7	6.7
15	85	85	87	88	90	87	90	86	87	85	86	87	87	83	76	79	81	83	84	82	87	86	87	87	85.2	7.3
16	85	85	87	84	85	80	87	84	88	85	86	79	95	95	85	87	87	80	79	82	82	82	87	84.9	6.6	
17	87	89	87	92	91	89	91	90	91	95	94	84	88	80	87	92	94	93	92	88	92	93	91	93	90.4	6.2
18	91	89	93	91	93	91	91	94	93	88	87	86	89	90	92	90	92	97	97	97	97	91	90	88	91.7	7.5
19	86	83	88	91	90	89	92	91	92	93	89	89	91	91	92	91	91	94	93	92	96	94	96	92	91.0	9.8
20	95	96	93	95	96	95	95	94	92	91	91	88	87	87	88	88	93	91	92	90	93	94	97	95	92.3	10.5
21	99	99	99	97	94	97	96	93	94	94	94	94	94	94	94	91	90	91	88	93	94	96	96	96	94.5	9.0
22	96	96	91	93	91	91	88	87	84	86	81	77	79	83	88	90	90	94	92	93	94	94	94	95	89.5	7.2
23	97	99	99	99	99	99	99	99	98	98	97	93	93	92	93	93	93	91	90	87	85	90	89	87	94.3	6.3
24	85	84	86	81	82	82	80	82	79	77	87	74	73	74	80	83	80	79	79	78	76	79	77	76	80.0	6.4
25	79	76	77	76	80	87	85	93	89	88	82	68	69	67	69	79	80	82	83	85	85	85	87	88	80.5	5.6
26	89	86	86	90	91	86	86	86	88	84	82	84	86	86	87	90	92	92	92	94	94	94	90	94	88.6	5.3
27	90	90	94	94	97	96	98	96	97	97	94	93	94	89	93	94	96	94	91	91	90	93	93	94	93.7	6.1
28	95	94	94	94	96	94	95	96	95	93	90	85	84	84	84	85	85	77	73	75	80	80	81	83	87.3	6.9
29	83	83	83	86	86	84	82	83	79	79	80	76	73	73	78	82	84	85	85	87	90	92	93	93	83.1	5.8
30	94	93	92	92	92	92	92	92	89	87	82	82	82	82	84	85	84	85	83	84	89	91	92	92	88.0	5.7
Mean	88.6	88.3	88.7	88.8	89.7	88.8	89.2	88.7	87.3	86.5	84.8	82.9	83.3	82.9	84.9	86.6	87.3	87.3	87.4	86.8	87.7	88.1	89.0	88.6	87.2	† 7.1
Vapour Pressure*	mb. 6.8	mb. 6.7	mb. 6.7	mb. 6.7	mb. 6.8	mb. 6.8	mb. 6.8	mb. 6.9	mb. 7.1	mb. 7.3	mb. 7.5	mb. 7.6	mb. 7.7	mb. 7.7	mb. 7.7	mb. 7.6	mb. 7.3	mb. 7.1	mb. 7.0	mb. 6.8	mb. 6.7	mb. 6.6	mb. 6.6	mb. 6.6	mb. 6.5	† 7.0

208. ESKDALEMUIR: Louvred Hut:  $h_t = 0.9$  metres.

DECEMBER, 1933.

1	92	92	93	94	89	85	83	82	81	81	75	75	77	73	73	72	73	74	73	71	71	73	72	79.5	mb.	
2	77	74	74	78	78	72	78	80	75	73	71	65	63	65	69	69	70	84	85	85	84	80	79	75.2	5.1	
3	84	84	87	93	89	93	85	87	78	78	80	87	70	66	68	78	72	72	73	73	73	69	74	78.6	5.7	
4	73	71	71	70	71	72	73	74	72	73	71	72	74	67	71	78	71	71	69	73	73	71	78	71.9	5.8	
5	73	69	67	69	75	71	81	80	87	82	82	80	83	76	80	79	80	82	79	83	83	83	84	78.8	5.0	
6	86	86	87	90	91	91	88	90	94	95	96	96	94	94	96	96	93	94	94	92	90	93	92	93	91.9	5.6
7	96	90	90	95	93	92	94	90	82	79	82	77	80	90	80	88	89	89	91	84	89	87	85	87.6	6.5	
8	85	85	87	87	87	87	86	84	82	80	79	69	67	73	75	77	79	79	78	79	85	82	82	80.5	6.9	
9	85	88	89	85	83	85	84	80	79	89	93	91	93	93	90	90	88	93	96	96	94	89	93	91	88.9	5.3
10	90	91	91	92	92	93	94	94	94	93	92	90	91	91	90	93	90	85	85	84	83	85	87	89	90.0	6.6
11	87	88	85	82	83	83	85	86	87	86	83	85	70	65	68	79	81	87	87	90	93	97	100	100	84.6	6.3
12	100	100	100	100	100	100	100	100	100	100	100	98	98	94	92	92	90	88	84	87	87	86	89	92	95.0	4.7
13	96	96	93	92	84	73	74	76	84	83	81	75	71	72	71	72	76	77	78	74	75	75	72	72	79.3	5.8
14	74	76	74	75	76	77	80	81	83	85	84	80	74	61	63	69	74	77	79	83	80	82	80	80	76.8	5.1
15	83	83	83	83	85	82	87	80	85	88	82	81	77	81	83	87	82	83	83	87	89	92	91	92	84.3	4.7
16	93	93	90	92	90	93	95	95	97	97	97	97	95	97	98	98	98	98	98	98	96	93	90	95.3	6.1	
17	90	90	89	89	89	86	93	90	89	90	89	90	90	97	98	98	97	94	94	95	97	97	98	98	92.6	5.7
18	98	98	98	98	98	98	98	98	98	98	98	98	100	98	98	98	98	97	98	98	98	98	97	98.0	4.5	
19	97	98	98	98	98	98	98	98	100	100	100	100	98	98	98	98	96	97	97	96	96	96	95	95	97.6	7.0
20	95	95	95	95	94	94	94	94	94	94	95	96	97	97	98	98	98	98	98	100	100	100	100	100	96.5	6.5
21	100	100	100	100	100	100	98	98	98	100	100	100	98	98	95	98	97	96	96	92	92	93	94	94	97.5	5.3
22	94	97	97	97	99	99	99	99	99	99	98	98	98	98	96	96	96	96	94	97	97	97	99	99	97.2	7.4
23	99	99	99	99	99	99	96	96	96	93	91	90	87	86	89	90	90	88	90	92	92	90	88	93	93.1	2.0
24	90	90	88	91	93	91	93	93	96	97	98	98	100	100	98	98	98	98	98	98	97	98	97	95.5	8.1	
25	97	97	98	100	98	100	97	98	98	98	99	99	99	99	99	99	100	100	98	97	96	96	97	97	98.2	7.6
26	98	98	97	97	97	97	97	97	97	97	97	95	93	92	92	93	93	93	93	93	94	94	96	96	95.3	8.4
27	95	95	96	96	98	98	98	98	98	96	94	96	96	94	91	93	93	91	84	78	80	89	90	92	93.0	7.5
28	93	92	91	91	93	92	92	95	96	93	93	93	91	89	89	91	91	89	85	89	90	93	93	91	91.5	6.5
29	94	94	94	94	92	92	94	94	94	96	97	97	97	98	89	91	96	94	90	90	89	87	89	89	93.0	6.1
30	89	92	98	95	96	96	93	98	94	86	88	94	95	85	87	90	84	82	80	70	72	75	71	80	87.3	6.0
31	72	68	68	60	62	69	76	83	84	86	85	75	75	79	85	92	94	94	89	89	83	83	83	83	79.8	6.0
Mean	89.5	89.3	89.3	89.6	89.4	89.0	89.7	90.3	90.0	89.8	89.3	88.3	86.8	86.0	86.1	86.3	88.0	88.1	87.7	87.2	87.6	88.3	88.1	88.6	88.5	† 6.2
Vapour Pressure*	mb. 6.1	mb. 6.1	mb. 6.0	mb. 6.0	mb. 6.0	mb. 5.9	mb. 5.9	mb. 5.9	mb. 5.9	mb. 6.1	mb. 6.3	mb. 6.4	mb. 6.4	mb. 6.5	mb. 6.5	mb. 6.4	mb. 6.2	mb. 6.2	mb. 6.0	mb. 6.0	mb. 6.0	mb. 6.0	mb. 6.0	mb. 6.0	mb. 6.1	
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Mean	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	

\*Computed from the mean temperatures and the mean relative humidities. †Mean of the column. ‡Mean of the row.



209. ESKDALEUIR: (Louvred Hut)  $h_t = 0.9$  metres.

1933.

Hour G. M. T.	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24	Mean
Relative Humidity	88.5	88.6	89.0	89.0	88.6	87.7	86.4	83.8	81.0	78.4	75.6	73.6	72.3	71.8	72.3	73.8	75.7	78.7	81.4	83.9	85.7	86.8	87.7	88.0	82.0
Vapour Pressure (in Millibars)*	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
	8.3	8.2	8.1	8.1	8.1	8.2	8.3	8.6	8.8	8.9	9.1	9.2	9.2	9.2	9.2	9.2	9.1	9.0	8.8	8.7	8.5	8.4	8.4	8.3	8.7

\*Computed from the mean temperature and the mean relative humidity.

RELATIVE HUMIDITY: MONTHLY MEANS AND DIURNAL INEQUALITIES.  
The departures from the mean of the day are adjusted for non-cyclic change.†

210. ESKDALEUIR: (Louvred Hut)  $h_t = 0.9$  metres.

1933.

	Mean	Hour 1	G.M.T. 2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24
	$\frac{\%}{\%}$	$\frac{\%}{\%}$	$\frac{\%}{\%}$	$\frac{\%}{\%}$	$\frac{\%}{\%}$	$\frac{\%}{\%}$	$\frac{\%}{\%}$	$\frac{\%}{\%}$	$\frac{\%}{\%}$	$\frac{\%}{\%}$	$\frac{\%}{\%}$	$\frac{\%}{\%}$	$\frac{\%}{\%}$	$\frac{\%}{\%}$	$\frac{\%}{\%}$	$\frac{\%}{\%}$	$\frac{\%}{\%}$	$\frac{\%}{\%}$	$\frac{\%}{\%}$	$\frac{\%}{\%}$	$\frac{\%}{\%}$	$\frac{\%}{\%}$	$\frac{\%}{\%}$	$\frac{\%}{\%}$	
January	88.3	<u>+2.3</u>	+1.5	+0.8	-0.1	-0.3	+0.2	+1.1	+0.8	+0.6	+1.0	-0.3	-1.7	<u>-3.8</u>	-3.8	-3.2	-1.6	-1.1	-0.2	+0.6	+0.9	+1.4	+1.8	+1.7	+1.6
February	81.9	+2.4	+2.7	+3.0	+2.4	+3.4	<u>+4.9</u>	+4.7	+4.7	+3.7	+1.1	-1.9	-3.9	-4.5	-6.0	<u>-6.3</u>	-6.1	-4.4	-2.2	-0.8	-0.9	-0.4	+1.0	+1.4	+1.8
March	78.3	+7.8	+8.3	+9.6	+9.5	<u>+9.9</u>	+9.4	+9.1	+7.3	+1.8	-4.0	-9.3	-13.5	-14.7	-14.9	<u>-15.3</u>	-13.5	-9.9	-4.0	-0.6	+1.7	+4.9	+5.1	+7.1	+8.3
April	80.8	+8.5	+8.7	<u>+8.7</u>	+8.3	+8.1	+7.0	+3.8	+1.1	-1.7	-5.5	-8.9	-10.0	-11.3	<u>-13.0</u>	-10.7	-10.0	-9.1	-4.8	-0.3	+3.1	+5.9	+6.3	+7.9	+7.9
May	77.9	+9.7	+10.6	+10.9	<u>+11.5</u>	+10.2	+6.5	+3.7	-0.2	-5.1	-6.7	-9.2	-10.8	-13.2	<u>-12.9</u>	<u>-14.1</u>	-11.4	-7.6	-5.3	-0.7	+4.0	+5.7	+7.7	+8.7	+8.0
June	<u>74.2</u>	+11.3	+12.0	<u>+12.9</u>	+12.7	+10.4	+7.6	+2.6	-1.5	-4.5	-7.6	-8.8	-12.8	-13.5	<u>-14.0</u>	-13.9	-12.1	-9.9	-7.4	-1.8	+3.6	+6.6	<u>+8.6</u>	+10.4	+10.0
July	80.7	+10.1	+10.8	+11.9	<u>+12.0</u>	+10.1	+8.6	+5.2	-1.9	-5.3	-7.6	-10.1	-10.8	<u>-12.3</u>	-11.9	-11.3	-11.0	-9.1	-6.5	-3.1	+1.4	+5.2	+6.8	+8.5	+10.4
August	81.6	+10.1	+ 9.5	+9.4	<u>+10.3</u>	+9.4	+7.9	+6.7	+3.2	-1.3	-4.9	-8.7	-12.4	-14.1	<u>-14.7</u>	-13.6	-12.3	-11.2	-6.5	-1.7	+3.7	+5.9	+7.9	+8.9	+8.8
September	82.7	+7.6	+8.0	+8.6	+8.6	<u>+8.2</u>	+8.7	+8.8	+1.9	-0.9	-5.0	-9.2	-11.0	-13.2	<u>-14.4</u>	-13.2	-12.8	-9.8	-2.9	+0.9	+5.1	+6.2	+6.8	+7.1	+7.3
October	81.9	+5.5	+4.9	+5.4	+5.2	+5.4	+4.9	+5.1	+2.3	-1.1	-4.8	-8.1	-9.8	<u>-10.3</u>	-9.7	-9.2	-6.8	-3.2	+0.3	+1.4	+2.4	<u>+3.5</u>	+4.8	+5.7	<u>+6.1</u>
November	87.2	+1.7	+1.3	+1.7	+1.8	<u>+2.7</u>	+1.8	+2.1	+1.7	+0.2	-0.7	-2.3	-4.2	-3.9	<u>-4.3</u>	-2.3	-0.7	0.0	0.0	+0.1	-0.6	+0.3	+0.7	+1.6	+1.2
December	<u>88.5</u>	+0.9	+0.7	+0.6	+1.0	+0.8	+0.4	+1.2	<u>+1.7</u>	+1.5	+1.2	+0.8	-0.2	-1.7	<u>-2.5</u>	-2.4	-0.1	-0.5	-0.3	-0.8	-1.2	-0.8	-0.1	-0.3	+0.2
Year	82.0	+6.5	+6.6	+7.0	<u>+7.0</u>	+6.6	+6.6	+4.3	+1.7	-1.1	-3.7	-6.4	-8.6	-9.7	<u>-10.2</u>	-9.7	-8.2	-6.3	-3.3	-0.6	+1.9	+3.7	+4.8	+5.7	+6.0

† See page 21

# RAINFALL: ANNUAL TOTALS OF HOURLY VALUES.

† Amounts in millimetres; durations, in hours, for periods of sixty minutes between the exact hours, Greenwich Mean Time.

211. ESKDALEUIR:  $H_T = 242.0$  metres +  $0.4$  metres.

1933.

Hour G. M. T.	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to Noon	Noon to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	21 to 22	22 to 23	23 to 24	0 to 24
Amount	mm. 77.1	mm. 62.5	mm. 54.9	mm. 54.9	mm. 46.3	mm. 43.6	mm. 39.1	mm. 36.1	mm. 40.0	mm. 44.3	mm. 31.0	mm. 39.7	mm. 49.9	mm. 36.8	mm. 35.8	mm. 51.4	mm. 41.5	mm. 51.3	mm. 38.7	mm. 40.2	mm. 38.9	mm. 41.4	mm. 54.9	mm. 67.3	mm. 1117.6
Duration	hr. 35.5	hr. 35.3	hr. 34.5	hr. 33.4	hr. 29.7	hr. 30.5	hr. 33.0	hr. 28.7	hr. 31.4	hr. 32.6	hr. 27.3	hr. 30.4	hr. 37.7	hr. 31.7	hr. 28.2	hr. 28.7	hr. 29.2	hr. 32.8	hr. 31.5	hr. 30.4	hr. 27.9	hr. 32.4	hr. 34.9	hr. 36.1	hr. 763.8

† The totals and durations for individual months are printed in the tables on the following pages.

212. ESKDALEUIR:

# NOTES ON RAINFALL.

1933.

**Rainfall Duration.** There were 149 days on which no duration of rainfall was registered. There were 74 days on which the duration of rainfall was registered as 0.1 to 1.0 hour, 37 days with 1.1 to 2.0 hours, 46 days with 2.1 to 6.0 hours, 26 days with 6.1 to 12.0 hours, and 33 days with more than 12 hours. The day with the greatest duration was February 4, when the duration was 16.7 hours, the amount falling being 28.0 mm.

## Notable falls of the Year.

(a) The greatest amount in a 60-minute period was 14.9 mm., which was recorded between 15 and 16h, July 27th, and on this occasion 5 mm. of rain fell in 6 minutes.

Falls of 5 mm. in one hour or less occurred on 19 days.

(b) Details of the greatest continuous falls are as follows:-

Date.	Amount.	Duration.
	mm.	hrs.
January 2nd - 3rd	32.1	8.7
January 14th - 15th	25.8	12.4
January 31st. - February 1st.	78.5	17.2
March 8th - 9th	26.3	17.3
July 30th - 31st	29.1	9.2

On July 27th, 13.5 mm. fell in 18 minutes, a "noteworthy fall".

**Wet Periods.** There were no "rain spells" (i.e., periods of fifteen or more consecutive days on each of which 0.2 mm. or more of rain fell) and no "wet spells" (i.e., periods of fifteen or more consecutive days on each of which 1.0 mm. or more of rain fell).

**Dry Periods.** (a) There were no periods of "absolute drought" (i.e. fifteen or more consecutive days to none of which is credited 0.2 mm. of rain or more) or of "partial drought" (i.e. twenty-nine or more consecutive days, the mean daily rainfall of which does not exceed 0.2 mm.).  
(b) There was one "dry spell" (i.e., periods of at least 15 consecutive days to none of which is credited 1 mm. of rain or more) viz., November 21st. to December 6th.







MARCH, 1933.

APRIL, 1933.

Day	mon.	tues.	wed.	thurs.	frid.	satur.	sund.	mon.	tues.	wed.	thurs.	frid.	satur.	sund.	mon.	tues.	wed.	thurs.	frid.	satur.	sund.	mon.	tues.	hr.		
1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
3	-4	+3	*1	...	*1	*1	*2	*2	*2	*2	*2	1-0	-6	-5	-3	-4	-2	+3	+2	-1	-2	...	...	...		
4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
10	(...)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
12	-1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
20	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
21	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
28	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
29	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
Sum.	3-8	7-1	5-2	4-5	7-2	6-1	3-9	1-7	3-1	1-7	3-2	2-3	4-1	2-8	1-9	1-7	1-4	2-3	3-2	2-0	0-9	2-9	2-2	1-9	77-1	76-2
Total Duration.	hr. 2-7	hr. 4-3	hr. 3-1	hr. 2-0	hr. 2-6	hr. 2-5	hr. 4-4	hr. 1-9	hr. 2-9	hr. 2-8	hr. 2-3	hr. 3-4	hr. 5-6	hr. 3-5	hr. 3-0	hr. 3-2	hr. 3-2	hr. 4-7	hr. 4-4	hr. 3-8	hr. 2-1	hr. 3-6	hr. 1-7	hr. 2-5	hr. 76-2	
Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	0-24	























MARCH, 1933.

[illegible]

APRIL, 1933.

Day.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%	h	m	mw/cm <sup>2</sup>			
1	--	--	...	...	...	...	...	-6	1-0	1-0	1-0	1-0	1-0	1-0	1-0	-1	...	--	--	7-6	58	...	...	...	...	...
2	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	--	--	...	...	...	...	...	...	...
3	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	--	--	...	...	...	...	...	...	...
4	--	--	...	...	...	...	...	-3	1-0	-6	...	...	...	...	...	...	...	--	--	1-9	14	...	...	...	...	...
5	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	--	--	...	...	...	...	...	...	...
6	--	--	...	...	-6	...	-9	-7	1-0	1-0	1-0	1-0	1-0	-6	-1	...	--	--	7-9	59	...	...	...	...	...	
7	--	--	...	...	...	...	...	...	-1	-1	...	-6	-2	...	...	...	--	--	1-0	7	...	...	...	...	...	
8	--	--	...	...	...	...	...	-5	-3	...	-8	-2	...	...	...	...	--	--	1-8	13	...	...	...	...	...	
9	--	--	...	...	...	...	...	-1	-9	-9	...	...	...	...	...	...	--	--	1-9	14	...	...	...	...	...	
10	--	--	...	...	...	...	...	-4	...	-1	-1	...	...	...	...	...	--	--	0-7	8	...	...	...	...	...	
11	--	--	...	...	...	...	...	-2	-5	...	-2	...	-2	...	...	...	--	--	1-1	8	...	...	...	...	...	
12	--	--	-5	-9	...	-4	-1	-7	-9	-9	-9	-7	-7	-2	...	...	--	--	7-8	56	11	51	89	1-46	Clear	
13	--	--	-3	1-0	1-0	1-0	-9	1-0	-9	1-0	-3	-1	-6	-3	...	...	--	--	8-5	61	11	38	85	1-46	Clear	
14	--	--	...	-2	-6	-9	-7	-9	-7	-9	-4	-6	-9	1-0	-4	...	...	--	--	7-0	50	...	...	...	...	...
15	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	--	--	...	...	...	...	...	...	...	
16	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	--	--	...	...	...	...	...	...	...	
17	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	--	--	...	...	...	...	...	...	...	
18	--	...	-1	1-0	1-0	1-0	-7	-1	-8	-6	-7	-8	-4	-7	1-0	-1	...	--	9-0	83	...	...	...	...	...	
19	--	...	...	-1	-8	-8	-7	-5	-5	-2	-5	-8	-6	-2	-6	-3	...	--	6-6	46	...	...	...	...	...	
20	--	...	-1	-2	...	-4	-7	-6	-2	-5	-2	-7	-6	-3	-7	-2	...	--	5-4	37	...	...	...	...	...	
21	--	...	-8	1-0	1-0	1-0	-4	-1	-1	-5	...	...	...	-4	...	...	--	--	5-3	37	...	...	...	...	...	
22	--	...	...	...	...	...	...	...	...	-1	...	...	...	...	1-0	-4	...	--	1-5	10	...	...	...	...	...	
23	--	...	...	-4	-2	...	...	-3	-1	-1	-1	...	...	...	...	...	--	--	1-2	8	...	...	...	...	...	
24	--	...	...	...	...	...	-3	-9	-3	-1	-4	...	...	...	...	...	--	--	2-0	14	...	...	...	...	...	
25	--	...	...	...	...	...	...	...	-1	-2	...	...	...	...	...	...	--	--	0-3	2	...	...	...	...	...	
26	--	...	...	...	...	...	...	...	...	...	...	...	...	-1	...	...	--	--	0-1	1	...	...	...	...	...	
27	--	...	...	-2	-2	...	...	...	-1	-9	1-0	-5	...	...	...	...	--	--	2-9	19	...	...	...	...	...	
28	--	...	...	...	...	...	...	-1	-3	-2	1-0	1-0	1-0	1-0	1-0	-7	...	--	6-3	42	...	...	...	...	...	
29	--	...	...	...	...	...	...	...	...	-1	...	...	...	...	...	...	--	--	0-1	1	...	...	...	...	...	
30	--	...	...	...	...	...	...	-1	...	...	...	...	...	...	...	...	--	--	0-1	1	...	...	...	...	...	
Sum.	--	...	1-8	5-0	5-4	5-5	6-4	8-5	9-8	8-9	8-8	8-5	7-3	5-7	4-7	1-7	...	--	88-0	--	--	--	--	--	--	
Mean.	--	...	-06	-17	-18	-18	-21	-28	-33	-30	-29	-28	-24	-19	-16	-06	...	--	2-93	21	--	--	--	--	--	
Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day	Per cent. of Possible	Time G. M. T.	Inten- sity	p/p <sub>0</sub> Sec.Z.	Sky		
																					Radiation by Angström Pyrheliometer					



For periods of sixty minutes, between the exact hours of Local Apparent Time.

229. ESKDALEMUIR. h<sub>s</sub> (height of recorder above ground) = 1.5 metres.

MAY, 1933.

Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total of Day	Per cent. of Possible	Radiation by Ångström Pyrheliometer				
																					Time G. M. T.	Inten- sity	p/p. Sec.2.	Sky	
Day.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%	h	m	mw/cm <sup>2</sup>		
1	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	--	...	...	...	...	...	...	
2	--	...	6	9	2	2	...	...	2	8	9	4	3	4	...	...	...	--	4.9	32	...	...	...	...	...
3	--	...	...	...	...	1	1	2	7	2	...	...	...	...	...	...	...	--	1.3	8	...	...	...	...	...
4	--	...	...	...	...	...	9	8	1	...	...	...	...	...	...	...	...	--	1.8	12	...	...	...	...	...
5	--	...	...	...	...	...	...	...	...	1	2	5	2	4	6	1	...	--	2.1	14	...	...	...	...	...
6	--	...	...	3	...	4	3	6	1	5	7	1	...	...	...	...	--	3.0	19	...	...	...	...	...	...
7	--	...	...	...	...	...	...	...	...	1	2	...	...	...	2	...	--	0.5	3	...	...	...	...	...	...
8	--	...	...	7	1.0	1.0	8	2	5	2	4	...	1	...	3	...	--	4.9	31	...	...	...	...	...	...
9	--	...	8	7	2	...	...	2	2	...	...	...	...	1	3	...	--	2.5	16	...	...	...	...	...	...
10	--	...	...	...	6	4	8	...	...	2	2	...	...	...	...	...	--	2.2	14	...	...	...	...	...	...
11	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	--	...	...	...	...	...	...	...	...
12	--	...	4	...	1	8	...	3	8	1	1.0	1.0	1.0	1.0	1.0	1.0	2	--	8.7	55	...	...	...	...	...
13	--	1	8	1.0	1.0	3	4	...	3	...	...	...	...	...	2	7	...	--	4.8	30	...	...	...	...	...
14	...	5	1.0	8	8	8	8	6	9	7	6	9	9	...	...	...	...	...	9.1	57	...	...	...	...	...
15	...	1	1.0	7	1.0	1.0	1.0	1.0	9	...	1	7	1	7	1	...	...	...	8.4	52	...	...	...	...	...
16	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...
17	...	...	...	...	...	...	2	1	...	...	...	...	1	...	...	...	...	...	0.4	2	...	...	...	...	...
18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
20	...	...	...	...	1	4	1	1	2	1.0	1.0	1.0	3	...	...	...	...	...	4.2	26	...	...	...	...	...
21	...	...	...	...	...	...	1	9	1.0	1.0	1.0	1.0	1.0	1.0	8	...	...	...	7.8	47	...	...	...	...	...
22	...	...	...	5	8	8	...	...	1	5	6	...	...	...	...	...	...	...	3.3	20	...	...	...	...	...
23	...	...	...	...	...	...	...	2	...	2	1.0	1.0	1.0	1.0	4	7	...	...	5.5	33	...	...	...	...	...
24	...	...	...	1	1	1	...	8	1.0	8	2	...	...	...	...	...	...	...	3.1	19	...	...	...	...	...
25	...	5	1.0	1.0	1.0	1.0	1.0	1.0	8	6	5	9	7	1.0	1.0	1.0	...	...	13.0	78	...	...	...	...	...
26	...	...	8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2	1	8	2	4	...	...	...	9.5	57	...	...	...	...	...
27	...	...	...	...	...	...	...	5	9	1	...	3	...	...	...	...	...	...	1.8	11	...	...	...	...	...
28	...	...	...	...	...	...	...	2	...	...	...	3	1	...	...	...	...	...	0.6	4	...	...	...	...	...
29	...	...	...	1	4	...	...	...	2	...	...	2	6	1	3	2	...	...	2.1	12	...	...	...	...	...
30	...	...	...	2	5	6	9	9	8	1.0	9	1.0	7	9	5	...	...	...	8.9	53	...	...	...	...	...
31	...	...	2	1.0	1.0	1.0	1.0	9	7 7	6	1.0	1.0	1.0	1.0	1.0	1.0	1	...	12.5	74	...	...	...	...	...
Sum.	...	1.2	6.6	9.0	9.6	9.9	9.4	10.5	11.4	9.5	10.7	10.4	8.9	7.8	6.8	4.7	0.3	...	126.9	--	--	--	--	--	--
Mean.	...	.04	.21	.29	.31	.32	.30	.34	.37	.31	.35	.34	.29	.25	.22	.15	.01	...	4.09	25	--	--	--	--	--

230. ESKDALEMUIR.  $h_s = 1.5$  metres.

**JUNE, 1933.**

[illegible]



## DURATION OF BRIGHT SUNSHINE.

For periods of sixty minutes, between the exact hours of Local Apparent Time.

231. ESKDALEMUIR.  $h_s$  (height of recorder above ground) = 1.5 metres.

JULY, 1933.

Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day	Per cent. of Possible	Radiation by Ångström Pyrheliometer				
																					Time G. M. T.	Inten- sity	$p/p_0$ Sec.Z.	Sky	
Day	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%	h	m	mw/cm <sup>2</sup>		
1	...	...	...	...	3	8	9	10	10	10	10	10	10	10	10	10	6	...	11.6	67	...	...	...	...	...
2	...	9	10	10	10	10	10	10	10	10	9	10	10	10	10	10	7	...	15.5	90	...	...	...	...	...
3	...	9	10	10	10	10	10	10	10	10	10	10	10	10	10	10	7	...	15.6	90	...	...	...	...	...
4	...	8	10	10	10	10	10	10	10	10	10	10	10	10	10	10	6	...	15.4	90	11	53	99	1.19	Clear
5	...	3	10	10	10	10	10	10	10	10	10	10	10	6	10	7	...	...	13.6	79	...	...	...	...	...
6	...	...	1	10	10	5	10	10	10	10	10	10	5	...	...	...	...	...	9.1	53	...	...	...	...	...
7	...	...	...	1	...	7	9	10	10	10	10	3	...	...	...	...	...	...	6.0	35	...	...	...	...	...
8	...	...	...	1	8	4	5	9	9	8	5	1	1	...	4	4	...	...	5.9	35	...	...	...	...	...
9	...	...	...	...	6	5	3	10	10	10	10	5	...	4	2	...	...	...	6.5	38	...	...	...	...	...
10	...	...	...	...	4	5	1	4	4	7	4	1	1	...	...	...	...	...	3.1	18	...	...	...	...	...
11	...	...	...	...	...	...	4	3	5	2	...	5	3	3	4	...	...	...	2.9	17	...	...	...	...	...
12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	0.2	1	...	...	...	...	...
14	...	...	...	...	...	...	1	...	...	1	5	9	3	3	2	...	...	...	2.4	14	...	...	...	...	...
15	...	...	...	...	9	5	8	1	1	7	1	2	2	5	1	...	...	...	4.2	25	...	...	...	...	...
16	...	...	1	...	3	...	1	3	3	5	9	10	10	10	10	2	...	...	6.7	40	...	...	...	...	...
17	...	1	...	...	1	...	...	1	6	5	8	10	10	10	10	8	...	...	7.0	42	...	...	...	...	...
18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
19	...	1	...	...	1	10	10	5	4	6	10	5	4	6	7	...	...	...	6.9	41	...	...	...	...	...
20	...	...	...	...	...	3	1	...	...	...	...	...	...	...	...	...	...	...	0.4	2	...	...	...	...	...
21	...	...	...	...	1	8	1	5	5	7	7	6	7	8	10	10	5	...	8.0	48	...	...	...	...	...
22	...	...	3	...	10	10	10	7	5	5	1	5	8	6	3	9	4	...	8.6	52	...	...	...	...	...
23	...	...	1	5	5	...	7	10	6	9	3	2	3	10	10	7	...	...	7.8	48	...	...	...	...	...
24	...	...	...	...	...	...	...	1	7	2	7	2	4	...	...	...	...	...	2.3	14	...	...	...	...	...
25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
26	...	...	...	...	...	...	...	...	1	1	4	...	2	10	3	...	...	...	2.1	13	...	...	...	...	...
27	...	...	...	8	6	3	5	2	3	...	...	...	...	...	...	...	...	...	2.7	17	...	...	...	...	...
28	...	1	3	2	9	8	5	8	8	6	1	4	...	...	...	...	...	...	5.5	34	...	...	...	...	...
29	...	...	2	4	1	...	6	1	...	1	...	...	...	...	1	...	1	...	1.7	11	...	...	...	...	...
30	--	...	5	10	8	3	2	...	...	...	...	2	...	5	...	...	--	...	3.5	22	...	...	...	...	...
31	--	...	...	...	...	...	...	...	...	3	2	...	2	...	...	...	...	--	0.7	4	...	...	...	...	...
Sum.	...	3.2	5.6	8.1	12.7	12.4	13.8	14.0	14.7	15.5	14.6	13.2	11.5	12.6	11.7	8.7	3.6	...	175.9	--	--	--	--	--	--
Mean.	...	10	18	26	41	40	45	45	47	50	47	43	37	41	38	28	12	...	5.67	34	--	--	--	--	--

232. ESKDALEMUIR.  $h_s$  = 1.5 metres.

AUGUST, 1933.

Day.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%	h	m	mw/cm <sup>2</sup>		
1	--	0.4	1.0	1.0	1.0	1.0	1.0	0.7	0.6	0.5	0.9	1.0	1.0	1.0	0.4	...	...	--	11.5	72	...	...	...	...	...
2	--	...	...	...	...	...	0.2	...	0.2	...	...	...	0.6	0.1	...	...	...	--	1.1	7	...	...	...	...	...
3	--	...	...	...	...	...	...	0.1	0.1	0.4	0.9	0.8	1.0	0.4	0.1	...	...	--	3.8	24	...	...	...	...	...
4	--	...	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.8	0.1	--	13.2	88	...	...	...	...	...	...
5	--	...	...	0.4	0.5	0.2	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.3	...	--	10.2	65	...	...	...	...	...
6	--	...	...	...	0.1	0.3	...	0.1	0.5	0.4	0.4	1.0	1.0	1.0	0.5	0.1	...	--	5.4	35	...	...	...	...	...
7	--	...	...	0.3	0.4	0.1	...	0.2	...	...	0.1	0.5	...	...	...	...	...	--	1.6	10	...	...	...	...	...
8	--	...	0.3	...	0.5	0.1	0.4	0.6	0.4	1.0	1.0	1.0	0.1	0.3	0.7	0.3	...	--	6.7	43	...	...	...	...	...
9	--	...	...	0.1	0.4	...	0.4	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	0.7	...	--	9.1	59	...	...	...	...	...
10	--	...	...	0.5	0.8	0.3	0.7	0.8	0.5	0.8	0.3	0.4	...	...	0.1	0.4	...	--	5.6	37	...	...	...	...	...
11	--	...	...	...	...	...	...	...	...	0.1	...	...	...	...	...	...	...	--	0.1	1	...	...	...	...	...
12	--	...	...	...	0.6	1.0	0.6	0.4	0.8	1.0	1.0	1.0	1.0	1.0	1.0	0.2	...	--	9.6	63	...	...	...	...	...
13	--	...	...	0.2	1.0	0.7	0.9	0.6	0.8	0.7	0.7	0.4	0.5	0.1	...	...	...	--	6.6	44	...	...	...	...	...
14	--	...	...	...	...	...	...	...	...	0.8	0.8	0.4	0.1	...	...	...	...	--	2.1	14	...	...	...	...	...
15	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	--	...	...	...	...	...	...	...
16	--	0.1	1.0	0.9	0.9	1.0	0.7	0.6	0.7	0.5	0.2	0.1	...	...	...	...	...	--	6.7	45	...	...	...	...	...
17	--	...	...	...	...	...	...	...	...	...	0.2	0.5	...	...	...	...	...	--	0.7	5	...	...	...	...	...
18	--	...	...	...	0.5	0.6	0.6	0.3	...	0.6	0.6	0.8	0.8	0.9	...	...	...	--	5.7	39	...	...	...	...	...
19	--	...	...	...	0.3	0.6	1.0	1.0	1.0	1.0	1.0	1.0	0.5	0.4	0.4	...	...	--	8.2	56	...	...	...	...	...
20	--	...	...	...	0.1	0.2	0.3	0.6	0.4	...	...	0.1	...	0.5	0.2	0.2	...	--	2.6	18	...	...	...	...	...
21	--	...	...	...	...	...	0.1	0.2	0.8	0.9	0.7	0.3	0.6	0.3	0.3	...	...	--	4.2	29	...	...	...	...	...
22	--	...	0.1	0.7	0.8	...	...	0.2	0.6	0.5	0.1	0.2	...	...	...	...	...	--	3.2	22	...	...	...	...	...
23	--	...	...	0.4	0.8	0.8	0.2	...	0.1	0.1	...	0.1	0.7	0.6	0.5	...	...	--	4.3	30	...	...	...	...	...
24	--	...	...	...	...	...	...	0.5	...	...	...	...	...	...	...	...	...	--	0.5	3	...	...	...	...	...
25	--	...	...	...	...	...	...	...	...	...	0.1	...	...	...	...	...	...	--	0.1	1	...	...	...	...	...
26	--	...	0.1	0.1	0.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.1	...	--	10.6	75	...	...	...	...	...
27	--	...	...	...	...	0.1	...	0.1	0.2	0.1	0.1	0.3	0.3	...	...	...	...	--	1.2	8	...	...	...	...	...
28	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	--	...	...	...	...	...	...	...
29	--	...	...	...	...	...	...	0.5	1.0	1.0	0.9	1.0	0.4	...	...	...	--	4.8	34	...	...	...	...	...	...
30	--	...	...	0.6	0.9	0.9	0.2	0.6	0.8	1.0	1.0	1.0	1.0	0.9	0.8	0.1	--	9.7	70	...	...	...	...	...	...
31	--	...	...	...	0.1	...	...	...	...	...	...	...	...	...	...	...	--	0.1	1	...	...	...	...	...	...
Sum.	--	0.5	3.5	6.1	10.9	10.0	10.1	12.0	13.4	15.3	14.7	15.6	14.1	11.5	9.0	3.2	0.1	--	149.9	--	--	--	--	--	--
Mean.	--	0.02	0.11	0.20	0.35	0.32	0.33	0.39	0.43	0.49	0.47	0.50	0.45	0.37	0.29	0.10	0.00	--	4.84	33	--	--	--	--	--
Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day	Per cent. of Possible	Radiation by Ångström Pyrheliometer				
																					Time G. M. T.	Inten- sity	p/p <sub>0</sub> Sec.Z.	Sky	



## DURATION OF BRIGHT SUNSHINE.

For periods of sixty minutes, between the exact hours of Local Apparent Time.

233. ESKDALEMUIR.  $h_s$  (height of recorder above ground) = 1.5 metres.

SEPTEMBER, 1933.

Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day.	Per cent. of Possible	Radiation by Ångström Pyrheliometer.				
																					Time G. M. T.	Inten- sity.	p/p. Sec.Z.	Sky.	
Day	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%	h	m	mc/cw <sup>2</sup>		
1	--	--	.1	.9	1.0	1.0	1.0	1.0	.9	1.0	.7	.9	1.0	1.0	1.0	...	--	--	11.5	84	...	...	...	...	...
2	--	--	...	...	.2	.5	.2	1.0	.5	.6	.4	.1	...	.7	...	...	--	--	4.2	31	...	...	...	...	...
3	--	--	...	.2	.7	.2	...	...	.2	.1	.4	...	.1	...	...	...	--	--	1.9	14	...	...	...	...	...
4	--	--	...	...	...	.1	.1	...	...	.2	...	.7	.8	1.0	.9	...	--	--	3.8	28	...	...	...	...	...
5	--	--	...	...	.2	.2	1.0	1.0	1.0	1.0	.8	.7	1.0	1.0	...	...	--	--	7.9	59	...	...	...	...	...
6	--	--	...	.9	1.0	.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.4	.1	...	--	--	10.3	77	12	03	71	1.51	Ci
7	--	--	...	.9	1.0	1.0	.9	.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	...	--	--	11.5	86	...	...	...	...	...
8	--	--	...	.2	.4	.4	1.0	1.0	.8	1.0	.6	.7	.9	.6	...	...	--	--	7.6	57	...	...	...	...	...
9	--	--	...	...	...	.2	.2	.1	...	.2	.7	1.0	.8	1.0	.8	...	--	--	5.0	38	...	...	...	...	...
10	--	--	...	...	...	...	...	.4	.3	1.0	1.0	1.0	1.0	1.0	.8	...	--	--	6.5	50	...	...	...	...	...
11	--	--	...	...	.4	...	...	.1	.1	.1	...	...	...	...	...	...	--	--	0.7	5	...	...	...	...	...
12	--	--	...	...	...	...	...	...	.4	.5	.7	1.0	1.0	.6	...	...	--	--	4.2	32	...	...	...	...	...
13	--	--	...	...	.3	.2	.3	.2	.3	...	...	...	.6	.8	.6	...	--	--	3.3	26	...	...	...	...	...
14	--	--	...	.8	1.0	1.0	1.0	1.0	1.0	.8	.9	.9	.7	.9	...	...	--	--	10.0	78	11	57	82	1.60	Clear
15	--	--	...	...	.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.2	...	--	--	9.9	78	...	...	...	...	...
16	--	--	...	.3	.9	1.0	1.0	.9	1.0	1.0	1.0	1.0	1.0	.8	.2	...	--	--	10.1	80	...	...	...	...	...
17	--	--	...	...	...	...	.3	1.0	1.0	1.0	1.0	1.0	.2	...	...	...	--	--	5.5	44	...	...	...	...	...
18	--	--	...	...	...	...	.6	.9	.9	1.0	1.0	1.0	.6	.3	...	...	--	--	6.3	50	...	...	...	...	...
19	--	--	...	...	.5	1.0	.9	.8	.9	.9	.8	1.0	.5	.5	...	...	--	--	7.8	63	...	...	...	...	...
20	--	--	...	...	...	...	...	...	...	...	...	.4	...	.2	...	...	--	--	0.6	5	...	...	...	...	...
21	--	--	...	...	.1	...	...	...	...	.5	.2	...	...	.2	.3	...	--	--	1.3	11	...	...	...	...	...
22	--	--	...	...	...	.7	.6	.3	.8	1.0	.3	.1	.1	.6	.3	...	--	--	4.8	39	...	...	...	...	...
23	--	--	...	...	...	...	.3	1.0	.9	1.0	.9	.4	.3	.8	...	...	--	--	5.6	46	...	...	...	...	...
24	--	--	...	...	...	...	...	...	...	...	.1	...	.1	...	...	...	--	--	0.2	2	...	...	...	...	...
25	--	--	...	...	.1	.6	.6	.6	.6	...	...	...	...	...	...	...	--	--	2.5	21	...	...	...	...	...
26	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	--	--	...	...	...	...	...	...	...
27	--	--	...	...	.6	1.0	1.0	.9	1.0	1.0	1.0	.7	1.0	.8	.3	...	--	--	9.3	79	13	02	86	1.87	Clear
28	--	--	...	...	...	...	...	...	.1	...	...	...	...	...	...	...	--	--	0.1	1	...	...	...	...	...
29	--	--	...	...	...	...	...	...	...	...	.3	...	...	...	...	...	--	--	0.3	3	...	...	...	...	...
30	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	--	--	...	...	...	...	...	...	...
Sum.	--	--	0.1	4.2	9.1	11.0	13.0	14.9	15.7	16.9	15.8	16.6	14.7	15.2	6.5	...	--	--	152.7	--	--	--	--	--	--
Mean.	--	--	.00	.14	.30	.37	.43	.50	.52	.56	.53	.52	.49	.51	.22	...	--	--	5.09	40	--	--	--	--	--

234. ESKDALEMUIR.  $h_s$  = 1.5 metres.

OCTOBER, 1933.

Day	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%	h	m	mw/cm <sup>2</sup>			
1	--	--	--	...	8	1.0	8	5	8	1.0	1.0	1.0	1.0	1.0	...	--	--	--	--	8.9	77	...	...	...	...	
2	--	--	--	...	...	...	...	...	...	5	1	4	8	4	...	--	--	--	--	2.2	19	...	...	...	...	
3	--	--	--	...	7	1.0	1.0	5	...	...	4	8	3	1	...	--	--	--	--	4.8	42	...	...	...	...	
4	--	--	--	...	...	...	...	...	1	2	5	1.0	1.0	8	...	--	--	--	--	3.6	32	...	...	...	...	
5	--	--	--	...	7	1.0	1.0	1.0	8	1.0	1.0	1.0	1.0	8	...	--	--	--	--	9.3	83	...	...	...	...	
6	--	--	--	...	...	...	...	...	...	...	1	2	1	...	...	--	--	--	--	0.4	4	...	...	...	...	
7	--	--	--	...	...	7	1.0	6	5	2	2	...	...	...	...	--	--	--	--	3.2	29	...	...	...	...	
8	--	--	--	...	...	...	...	...	...	...	1	6	8	1	...	--	--	--	--	1.6	15	...	...	...	...	
9	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	--	--	--	--	...	...	...	...	...	...	
10	--	--	--	...	1	9	9	2	1	...	...	...	...	...	...	--	--	--	--	2.2	20	...	...	...	...	
11	--	--	--	...	...	...	7	1.0	1	...	...	...	...	...	...	--	--	--	--	1.8	17	...	...	...	...	
12	--	--	--	...	7	1.0	8	8	7	1.0	8	1.0	8	3	...	--	--	--	--	7.9	74	12	11	85	2.13	Clear
13	--	--	--	...	...	1	1	...	...	...	...	...	...	...	...	--	--	--	--	0.2	2	...	...	...	...	
14	--	--	--	...	...	2	1.0	1.0	7	1	...	1	...	1	...	--	--	--	--	3.2	30	...	...	...	...	
15	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	--	--	--	--	...	...	...	...	...	...	
16	--	--	--	...	...	...	1	2	1	1	6	7	6	...	...	--	--	--	--	2.4	23	...	...	...	...	
17	--	--	--	...	8	1.0	1.0	1.0	8	8	...	...	...	...	...	--	--	--	--	5.4	52	...	...	...	...	
18	--	--	--	...	...	...	...	1	1	...	2	4	1	...	...	--	--	--	--	0.9	9	...	...	...	...	
19	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	--	--	--	--	...	...	...	...	...	...	
20	--	--	--	...	1	6	8	8	8	9	8	1.0	1.0	2	...	--	--	--	--	7.0	69	...	...	...	...	
21	--	--	--	...	...	...	...	...	...	...	3	2	...	...	...	--	--	--	--	0.5	5	...	...	...	...	
22	--	--	--	...	...	7	9	1	1	...	...	...	...	...	...	--	--	--	--	1.8	18	...	...	...	...	
23	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	--	--	--	--	...	...	...	...	...	...	
24	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	--	--	--	--	...	...	...	...	...	...	
25	--	--	--	...	...	9	1.0	1.0	1.0	1.0	8	7	4	2	...	--	--	--	--	7.0	72	12	23	84	2.58	Clear
26	--	--	--	...	5	1.0	1.0	5	...	7	...	5	5	...	...	--	--	--	--	4.7	59	...	...	...	...	
27	--	--	--	...	...	5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	3	...	--	--	--	--	7.8	81	...	...	...	...	
28	--	--	--	...	...	1	6	6	6	4	1	1	...	...	...	--	--	--	--	1.9	20	...	...	...	...	
29	--	--	--	...	...	1	7	1.0	1.0	8	1	1.0	7	...	...	--	--	--	--	6.3	67	...	...	...	...	
30	--	--	--	...	5	8	1.0	1.0	9	1.0	3	...	1	...	...	--	--	--	--	5.6	60	12	30	84	2.77	Clear
31	--	--	--	...	...	5	7	5	6	4	...	6	3	...	...	--	--	--	--	3.6	39	...	...	...	...	
Sum.	--	--	--	...	4.9	12.0	14.9	13.1	11.7	11.2	9.2	12.2	10.6	4.4	...	--	--	--	--	104.2	--	--	--	--	--	
Mean.	--	--	--	...	.16	.39	.48	.42	.38	.36	.30	.39	.34	.14	...	--	--	--	--	3.36	31	--	--	--	--	
Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day	Per cent. of Possible	Radiation by Ångström Pyrheliometer					
																					Time G. M. T.	Inten- sity	p/p <sub>0</sub> Sec.Z.	Sky		



## DURATION OF BRIGHT SUNSHINE.

221

For periods of sixty minutes, between the exact hours of Local Apparent Time.  
 235. ESKDALEMUIR.  $h_s$  (height of recorder above ground) = 1.5 metres.

NOVEMBER, 1933.

Hour L. A. T.																			Total for Day	Per cent. of Possible	Radiation by Ångström Pyrheliometer			
	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21			Time G. M. T.	Inten- sity	p/p. Sec. Z.	Sky
Day	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%	h	m	mm/cm <sup>2</sup>	
1	---	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	0.1	1	---	---	---	---
2	---	---	---	---	3	1.0	1.0	1.0	1.0	1.0	1.0	9	1	---	---	---	---	---	7.3	79	---	---	---	---
3	---	---	---	---	---	7	8	1.0	1.0	9	8	4	4	---	---	---	---	---	6.0	66	---	---	---	---
4	---	---	---	---	---	---	1	4	---	---	---	---	---	---	---	---	---	---	0.5	6	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	3	6	8	4	---	---	---	---	---	---	2.1	24	---	---	---	---
7	---	---	---	---	---	---	---	3	2	1	1	---	2	---	---	---	---	---	0.9	10	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	0.1	1	---	---	---	---
10	---	---	---	---	---	1	6	---	8	1.0	8	7	1	---	---	---	---	---	4.1	48	12	13	75	3.22 Clear
11	---	---	---	---	---	---	8	1.0	8	5	1.0	9	---	---	---	---	---	---	5.0	58	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	9	1.0	7	---	1	1	---	---	---	---	---	---	2.8	33	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	1	3	7	5	2	3	1	---	---	---	---	---	2.2	27	---	---	---	---
17	---	---	---	---	---	---	---	---	---	3	1.0	1	---	---	---	---	---	---	1.4	17	---	---	---	---
18	---	---	---	---	---	---	---	---	4	---	---	---	---	---	---	---	---	---	0.4	5	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	3	6	9	1.0	1.0	2	5	2	---	---	---	---	---	4.7	59	12	00	64	3.91 Clear
23	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	2	---	---	9	1.0	2	---	---	---	---	---	---	---	2.3	30	---	---	---	---
25	---	---	---	---	---	---	---	---	4	6	9	4	---	---	---	---	---	---	2.3	30	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	1	6	---	---	---	---	---	---	---	---	---	---	---	0.7	9	---	---	---	---
28	---	---	---	---	---	1	4	4	---	---	---	---	---	---	---	---	---	---	0.9	12	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Sum.	---	---	---	---	0.3	2.4	5.1	6.9	8.7	7.5	7.1	4.7	1.1	---	---	---	---	---	43.8	---	---	---	---	---
Mean.	---	---	---	---	.01	.08	.17	.23	.29	.25	.24	.16	.04	---	---	---	---	---	1.46	18	---	---	---	---

236. ESKDALEMUIR.  $h_s$  = 1.5 metres.

DECEMBER, 1933.

Day																			hr.	%	Radiation by Ångström Pyrheliometer			
	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.			h	m	mm/cm <sup>2</sup>	
1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	5	7	---	---	---	---	---	---	---	---	1.2	16	---	---	---	---
3	---	---	---	---	---	---	---	---	1	1	---	---	---	---	---	---	---	---	0.2	3	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	4	---	1	8	1	---	---	---	---	---	1.4	19	---	---	---	---
6	---	---	---	---	---	---	---	2	---	---	---	---	---	---	---	---	---	---	0.2	3	---	---	---	---
7	---	---	---	---	---	---	---	2	---	---	---	---	---	---	---	---	---	---	0.2	3	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	(.1)*	(1.0)*	1.0	1.0	1.0	1.0	9	---	---	---	---	---	---	6.0	84	12	17	63	4.93 clear
12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	3	4	7	1.0	1.0	7	---	---	---	---	---	---	---	4.1	58	---	---	---	---
15	---	---	---	---	---	---	3	---	---	---	---	---	---	---	---	---	---	---	0.3	4	---	---	---	---
16	---	---	---	---	---	---	---	3	2	---	---	---	---	---	---	---	---	---	0.5	7	---	---	---	---
17	---	---	---	---	---	2	1.0	1.0	1.0	1	---	---	---	---	---	---	---	---	3.3	47	---	---	---	---
18	---	---	---	---	---	---	---	---	---	8	7	---	---	---	---	---	---	---	1.5	21	---	---	---	---
19	---	---	---	---	---	9	3	---	---	---	---	---	---	---	---	---	---	---	1.2	17	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	2	1	---	---	---	---	---	---	---	---	0.3	4	---	---	---	---
30	---	---	---	---	---	4	5	---	---	---	---	---	---	---	---	---	---	---	0.9	13	---	---	---	---
31	---	---	---	---	---	1	1.0	1.0	1.0	1.0	1.0	2	---	---	---	---	---	---	5.3	75	---	---	---	---
Sum.	---	---	---	---	---	4	5.0	4.9	4.6	4.4	4.7	2.6	---	---	---	---	---	---	26.6	---	---	---	---	---
Mean.	---	---	---	---	---	.01	.16	.16	.15	.14	.15	.08	---	---	---	---	---	---	0.86	12	---	---	---	---
Annual Total.	---	9.6	31.0	48.9	77.2	94.9	121.6	133.0	142.3	137.7	131.2	125.8	102.0	83.1	55.7	30.2	8.2	---	1332.4	---	---	---	---	---
Annual Mean.	---	.03	.08	.13	.21	.26	.33	.36	.39	.38	.36	.34	.28	.23	.15	.08	.02	---	3.65	30	---	---	---	---
Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day	Per Cent. of Possible	Time G. M. T.	Inten- sity	p/p. Sec. Z.	Sky

\*Estimated - Frost on Sunshine ball.



WIND: DIRECTION AND SPEED.  
Direction expressed in degrees from North (E = 90°, S = 180°, W = 270°, N = 360°). Speed in metres per second.

237. ESKDALEMUIR:

H<sub>a</sub> (height of anemograph above M.S.L.) = Height of ground above

Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	
Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	190	7.5	190	8.8	200	9.5	210	8.9	220	7.5	220	6.0	190	3.5	200	3.8	200	4.2	180	3.4	190	3.2	200	4.8
2	160	6.2	160	5.8	160	5.3	180	9.3	190	13.8	200	12.2	190	12.2	190	13.2	190	13.7	190	11.8	190	13.6	190	15.9
3	230	12.5	250	11.8	230	10.2	210	8.2	220	10.2	210	9.3	230	9.2	210	11.4	210	11.2	210	11.3	220	13.3	220	11.7
4	220	8.3	210	6.6	200	8.2	200	8.0	200	7.5	180	7.0	200	8.3	200	8.2	190	7.4	180	7.3	160	8.6	180	9.7
5	170	10.7	220	10.2	260	4.8	250	4.7	250	5.3	240	6.8	240	7.6	240	8.2	230	7.6	220	7.1	220	8.3	220	8.4
6	210	8.5	230	10.8	240	8.5	250	6.3	250	6.9	240	7.0	240	7.3	220	6.0	230	7.2	240	8.4	240	9.2	250	9.4
7	210	2.5	180	3.2	180	3.3	200	3.7	210	5.3	230	7.8	220	7.2	220	8.8	210	9.9	200	9.8	210	10.1	200	9.7
8	240	10.7	250	10.0	250	6.0	250	4.7	190	1.7	180	1.0	350	1.3	190	0.8	...	...	...	...	200	3.5	190	3.0
9	290	12.6	310	8.8	350	3.1	340	5.2	320	8.4	340	4.0	350	2.5	180	2.0	360	3.3	340	2.2	300	3.7	170	1.3
10	...	...	170	0.9	180	1.2	170	1.8	180	2.4	200	3.1	170	2.7	180	2.2	210	0.7	210	3.9	210	3.9	220	4.8
11	230	8.0	240	7.8	280	4.0	280	3.3	310	4.3	330	3.8	310	6.0	320	4.5	350	2.7	20	6.0	30	4.0	360	5.2
12	350	0.7	260	1.0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13	230	2.0	160	1.3	180	1.5	120	0.9	...	...	180	1.5	200	1.8	220	2.8	190	2.2	180	2.0	160	2.0	160	1.8
14	200	2.6	190	4.2	200	4.8	190	5.3	190	5.2	180	4.7	200	5.7	200	6.9	190	6.8	200	9.3	200	9.3	200	12.1
15	190	17.1	190	16.4	200	13.8	200	11.0	250	5.1	210	1.8	180	2.5	...	...	200	1.9	...	...	...	...	...	...
16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17	...	...	...	...	...	...	(360)	2.1	(360)	2.8	...	...	...	...	...	...	(360)	2.1	20	3.6	20	3.3	20	3.0
18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	240	2.4	...
19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
20	10	2.7	10	3.1	340	2.0	320	1.3	350	1.3	340	1.2	360	1.5	350	1.7	20	1.5	20	1.0	50	0.7	...	...
21	200	2.1	180	2.7	180	4.9	180	5.5	170	4.5	200	3.9	200	3.0	190	2.7	190	2.7	180	4.9	180	5.1	170	5.6
22	170	3.2	170	2.3	220	0.6	210	2.7	190	2.9	200	1.3	170	1.9	160	1.2	...	...	...	...	150	0.6	180	1.7
23	190	1.5	190	1.5	220	1.7	190	0.9	...	...	160	1.3	140	0.7	...	...	...	...	...	...	140	0.5	140	1.1
24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
25	350	0.8	350	0.7	...	...	...	...	...	...	...	...	350	0.7	...	...	...	...	...	...	...	...	...	...
26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
27	40	1.7	70	2.5	60	3.0	60	2.4	50	2.9	50	2.5	50	3.7	60	3.2	50	3.2	60	3.0	60	3.0	60	3.3
28	360	1.4	360	1.5	330	1.0	350	0.7	10	0.8	350	1.3	350	2.6	350	3.0	360	2.3	360	1.8	360	1.0	...	...
29	350	1.7	20	1.3	350	1.4	350	1.2	20	1.5	20	1.5	360	1.7	20	1.7	40	1.5	100	1.5	110	3.6	110	2.6
30	360	3.8	10	2.4	350	2.2	360	2.2	10	1.1	10	1.0	350	1.0	350	1.4	...	...	270	0.8	240	1.3	220	2.5
31	230	6.8	230	5.9	240	8.5	250	9.8	260	10.0	250	9.2	240	8.5	230	6.8	240	7.6	240	8.9	220	7.4	210	7.8
Mean	---	4.5	---	4.3	---	3.7	---	3.7	---	3.7	---	3.3	---	3.4	---	3.4	---	3.4	---	3.7	---	4.0	---	4.3

238. ESKDALEMUIR: H<sub>a</sub> = 235 metres + 15 metres.

Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	210	16.1	210	16.0	210	16.0	210	15.3	210	14.7	210	14.3	210	4.2	210	13.8	220	12.7	240	14.2	260	11.2	270	10.5
2	230	8.0	230	8.2	240	8.2	250	7.0	220	7.3	230	8.0	240	7.5	250	7.2	250	8.5	260	8.8	250	9.2	250	12.5
3	210	2.8	250	3.2	250	2.8	180	2.0	230	2.0	170	1.3	180	3.2	170	2.2	190	2.7	190	0.8	180	1.8	180	2.5
4	230	9.5	230	9.7	230	9.0	240	9.5	240	11.8	240	10.9	240	11.5	240	11.3	230	9.3	230	10.3	220	9.5	230	10.2
5	210	9.6	210	10.0	210	10.0	230	11.2	230	13.6	230	11.8	230	12.0	220	10.9	230	11.5	230	11.7	230	13.5	240	13.4
6	270	6.2	260	4.0	260	3.3	240	3.5	190	2.0	200	1.1	210	1.6	210	1.2	220	1.6	210	2.6	210	4.3	210	5.2
7	...	...	200	0.5	...	...	...	...	...	...	...	...	10	1.3	40	1.5	360	1.1	...	...	...	...	...	...
8	230	5.8	230	4.0	220	3.8	190	2.7	180	3.2	200	5.5	200	4.7	200	4.4	200	5.9	200	4.6	190	4.3	180	3.6
9	220	13.3	220	12.3	220	10.8	220	10.7	220	10.0	220	9.3	220	8.8	210	7.5	200	5.6	200	7.3	210	9.8	220	12.6
10	20	3.0	30	3.8	30	3.8	40	6.7	40	7.2	40	8.6	40	9.0	40	9.5	40	8.2	30	8.0	30	6.8	30	7.5
11	(360)	1.8	(360)	2.1	...	...	...	...	...	...	(340)	3.2	(340)	2.8	(350)	3.0	(360)	2.6	(10)	4.8	10	4.2	10	4.8
12	260	5.3	270	5.4	240	4.5	230	4.5	260	3.2	210	3.0	170	2.7	180	3.8	190	4.1	190	4.2	220	4.9	230	5.3
13	200	1.9	240	2.4	300	2.2	310	4.1	240	2.6	190	1.4	180	2.5	190	3.6	200	4.0	200	4.5	220	4.1	270	6.2
14	300	4.2	300	4.8	280	5.5	290	6.3	270	4.1	270	3.2	270	3.1	290	4.2	280	4.2	280	3.7	290	5.4	310	4.5
15	...	...	...	...	280	1.0	320	1.4	330	2.7	350	2.0	20	0.9	...	...	...	...	360	1.2	360	2.2	360	4.8
16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	140	1.5	180	2.3	170	2.7	220	2.8	200	3.8
17	340	1.8	310	2.0	20	1.0	180	0.8	30	0.6	...	...	240	0.6	360	0.8	300	5.7	290	9.0	290	8.0	280	6.8
18	350	4.8	10	2.2	350	5.2	360	4.8	360	6.0	360	6.0	360	6.6	350	8.0	360	10.1	360	10.6	360	11.3	360	10.9
19	10	9.9	10	6.8	360	6.3	350	8.2	360	7.2	360	7.1	360	6.0	360	6.0	360	7.0	360	7.3	360	8.4	10	7.1
20	(160)	1.7	...	...	...	...	...	...	160	1.0	160	0.8	210	2.0	210	4.1	240	5.5	200	6.1	170	5.7	220	4.3
21	300	7.4	300	6.2	320	6.0	310	5.4	300	6.5	300	6.8	300	7.5	290	6.5	300	7.7	300	8.6	310	8.7	330	9.0
22	350	8.8	340	10.2	340	9.8	330	9.5	340	9.2	340	9.0	340	9.5	340	9.4	340	8.3	340	9.0	350	9.0	350	9.2
23	350	4.0	340	5.8	340	7.0	340	7.5	280	3.2	270	1.5	200	1.1	30	1.8	360	3.8	10	4.5	360	5.0	20	4.2
24	20	5.0	30	4.9	50	4.2	40	3.9	50	3.5	50	3.8	50	4.2	60	4.8	60	5.1	60	5.1	70	8.6	70	10.2
25	80	9.3	80	8.7	80	8.7	70	8.0	80	8.2	80	12.7	90	14.1	90	14.8	90	14.1	100	14.0	100	14.9	100	16.0
26	110	13.9	100	11.7	100	9.5	90	9.8	90	9.8	90	7.5	90	9.2	90	8.6	90	9.5	80	10.7	90	11.5	90	12.0
27	120	5.5	120	5.9	100	4.5	80	5.1	90	5.3	80	8.3	90	7.2	90	7.0	90	6.4	90	6.8	100	10.9	110	10.0
28	130	3.6	130	3.5	120	4.0	90	3.9	80	3.5	70	4.4	80	5.5	100	4.3	90	4.5	90	4.8	30	1.3	130	3.2
Mean	---	5.9	---	5.6	---	5.3	---	5.5	---	5.4	---	5.5	---	5.7	---	5.8	---	6.2	---	6.7	---	7.1	---	7.5
Hour G. M. T.	0 - 1	1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12		



Averages for periods of sixty minutes, centred at the Half hours, Greenwich Mean Time.

M.S.L. +  $h_a$  (height of anemograph above ground) = 235 metres + 15 metres.

JANUARY, 1933.

12 - 13		13 - 14		14 - 15		15 - 16		16 - 17		17 - 18		18 - 19		19 - 20		20 - 21		21 - 22		22 - 23		23 - 24		Mean	Day.
°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	m/s.	
180	5.5	200	5.8	200	5.0	190	4.0	190	3.0	250	0.9	200	2.0	190	1.8	160	2.2	160	5.2	170	4.9	170	5.9	4.9	1
190	16.8	190	14.7	190	12.2	190	15.8	190	19.6	190	18.6	190	19.9	190	20.5	190	20.4	190	21.6	190	19.3	220	16.5	14.6	2
220	12.2	210	12.7	220	12.5	210	11.4	210	11.4	220	10.9	220	10.3	220	9.5	220	9.5	220	9.8	230	10.3	220	10.3	10.9	3
190	11.2	190	10.9	190	8.2	210	8.3	210	6.7	200	5.8	180	6.6	180	5.5	180	5.4	160	6.4	160	8.0	170	5.2	7.8	4
220	7.2	220	7.3	220	6.6	210	6.5	210	5.0	210	6.0	200	5.0	210	7.5	210	8.0	180	5.5	190	6.2	190	6.0	7.0	5
250	9.3	250	9.3	250	7.9	250	7.2	260	6.1	250	5.7	250	5.8	210	4.3	240	5.1	230	4.2	220	3.6	230	3.8	7.0	6
200	10.7	210	11.5	210	13.2	210	14.9	210	13.9	220	13.3	220	12.2	220	11.6	220	10.6	220	10.2	230	9.9	240	9.0	9.3	7
190	4.8	220	9.7	220	9.1	230	12.4	240	12.5	230	14.9	230	12.1	230	10.4	240	10.9	240	10.8	270	11.5	290	13.4	7.3	8
20	1.6	310	2.8	190	1.2	250	1.0	270	1.4	20	0.9	...	...	270	0.7	...	...	...	...	...	...	...	...	2.9	9
220	5.3	210	6.9	220	6.5	220	6.3	210	6.3	220	7.0	220	7.4	210	7.1	200	5.6	200	6.5	220	9.3	230	9.9	4.7	10
360	6.6	360	6.8	360	4.0	360	3.6	10	1.7	340	3.2	360	4.3	360	4.2	180	2.2	...	...	10	1.3	360	1.2	4.1	11
...	...	190	1.8	200	3.0	190	2.7	190	3.7	200	3.1	200	3.2	200	3.2	210	3.8	220	3.7	220	3.2	210	2.7	1.7	12
190	2.7	180	2.2	170	3.0	180	2.3	150	1.1	210	1.8	150	1.5	200	1.6	170	2.6	190	3.2	180	2.0	180	2.1	1.9	13
200	11.6	200	12.6	200	11.3	200	11.4	200	12.5	190	13.0	190	15.3	200	12.5	200	13.2	200	14.9	200	15.3	200	16.6	9.9	14
...	...	340	0.6	10	2.3	20	1.9	20	1.2	20	1.3	30	1.3	...	...	...	...	...	...	...	...	...	...	3.5	15
...	...	...	...	...	...	...	...	...	...	330	0.9	...	...	...	...	...	...	...	...	...	...	...	...	0.5	16
20	2.7	20	2.8	20	2.9	30	2.3	10	3.0	20	2.2	360	2.8	360	2.8	360	2.8	360	2.0	20	1.2	...	...	2.0	17
220	2.5	220	1.9	200	1.0	210	1.8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.8	18
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	360	1.2	10	1.5	0.6	19
140	2.5	140	3.2	130	2.1	...	...	...	...	...	...	...	...	...	...	...	...	20	1.0	180	1.6	200	1.2	1.4	20
170	5.0	180	5.1	200	4.1	210	3.7	200	4.3	210	3.7	210	3.8	210	3.6	210	2.5	200	3.1	180	3.0	180	3.2	3.9	21
170	2.5	190	2.8	210	3.0	220	2.7	220	3.0	220	0.9	190	1.2	180	1.0	200	1.0	180	1.2	200	2.2	180	1.5	1.8	22
130	0.6	160	1.1	170	1.8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.8	23
...	...	...	...	160	1.1	...	...	140	1.0	100	2.3	20	1.2	10	0.9	360	1.3	360	1.1	350	1.2	340	1.1	0.8	24
180	0.6	200	2.7	210	1.6	190	1.9	190	1.1	190	0.7	...	...	40	1.0	...	...	...	...	...	...	...	...	0.8	25
...	...	140	0.6	...	...	70	0.6	60	1.5	50	1.9	10	0.8	40	2.0	50	3.5	50	3.0	40	3.2	40	2.5	1.1	26
50	2.8	60	3.8	60	4.1	60	3.8	60	3.7	60	3.7	60	3.1	50	2.0	40	1.8	30	0.8	10	1.3	340	1.6	2.8	27
30	0.4	60	2.4	60	3.2	50	2.3	50	3.5	350	1.6	340	1.0	10	1.5	10	1.4	10	1.7	360	1.5	360	2.2	1.7	28
140	3.2	110	3.0	110	1.6	50	1.5	40	2.5	40	1.4	360	2.5	360	1.7	360	2.6	360	3.1	10	3.6	360	3.9	2.2	29
230	4.8	230	5.2	220	4.3	240	5.2	240	4.5	200	2.5	220	4.3	200	4.3	220	4.0	230	4.8	260	8.3	250	8.8	3.4	30
230	9.5	210	9.2	220	12.2	210	12.2	210	14.2	210	15.2	210	15.1	210	16.6	210	16.0	210	17.7	210	16.5	210	15.7	11.1	31
---	4.7	---	5.2	---	4.9	---	4.8	---	4.9	---	4.7	---	4.7	---	4.5	---	4.5	---	4.7	---	4.9	---	4.9	4.3	

FEBRUARY, 1933

°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	m/s.	
270	11.7	270	11.7	260	8.7	260	6.5	230	6.2	240	8.3	230	8.3	220	8.8	240	7.2	240	7.2	250	8.2	250	8.2	11.3	1
250	11.9	270	11.5	270	10.5	270	11.5	270	12.4	270	10.4	270	8.7	280	10.0	280	9.7	290	9.3	280	7.5	280	5.9	9.2	2
190	3.8	190	5.2	200	5.0	190	4.2	190	4.9	180	4.6	200	3.6	180	3.8	180	2.0	190	1.3	220	8.9	220	9.0	3.5	3
230	9.8	230	8.0	230	7.8	220	7.0	230	7.1	230	7.4	230	8.0	(230)	(8.3)	(220)	(8.3)	210	8.3	210	8.5	210	9.7	9.2	4
250	13.0	250	13.7	250	12.0	250	10.3	270	9.2	280	9.9	270	9.8	270	9.6	270	10.5	270	9.0	260	5.3	260	5.6	10.7	5
210	8.5	210	7.3	200	8.7	210	8.9	210	7.8	210	6.3	210	6.8	190	4.9	210	4.6	180	1.7	220	1.0	...	...	4.3	6
230	1.3	240	2.6	250	3.3	240	3.2	240	3.7	240	3.0	230	3.2	260	4.3	280	4.8	270	3.6	270	5.7	230	5.0	2.2	7
190	5.1	220	11.2	230	15.6	230	14.8	230	13.9	220	10.9	220	12.0	220	13.9	210	11.6	220	12.0	220	13.3	220	13.6	8.3	8
230	14.2	230	13.0	260	12.8	270	10.7	280	10.1	270	8.0	270	3.3	240	1.5	270	2.7	360	4.0	20	3.0	20	2.5	8.5	9
30	8.6	30	8.1	40	7.4	30	7.8	30	6.8	20	6.2	20	6.5	20	6.5	20	6.0	10	3.9	360	3.0	(360)	2.3	6.5	10
10	3.2	300	2.0	270	2.9	270	3.7	260	3.7	240	2.2	280	1.7	290	3.2	270	4.0	240	5.6	240	5.8	280	6.0	3.1	11
210	5.1	210	4.0	260	5.9	250	5.0	250	4.2	260	5.3	220	3.5	230	4.2	310	6.5	320	4.0	350	2.5	180	1.6	4.3	12
260	6.4	270	8.2	290	10.8	280	7.3	300	4.0	250	2.2	280	3.7	270	3.7	270	4.3	270	4.4	270	4.6	270	4.6	4.3	13
340	4.5	330	4.7	330	4.4	320	5.0	330	4.8	10	3.5	350	2.7	350	2.2	350	2.6	20	1.9	...	...	340	1.6	3.8	14
360	5.3	350	3.7	350	3.6	350	4.0	350	2.9	340	1.2	...	...	...	...	...	...	...	...	...	...	...	...	1.7	15
230	4.9	240	6.0	240	6.0	250	6.0	270	5.2	280	8.6	280	5.6	360	3.0	300	2.8	350	3.3	350	2.7	10	1.6	3.0	16
290	8.5	290	10.2	290	8.4	300	7.5	290	5.7	290	5.6	300	8.0	320	7.1	340	6.3	340	5.1	350	3.6	360	2.4	4.8	17
360	11.2	360	11.1	10	9.5	360	8.7	360	6.7	350	7.1	340	8.0	340	8.1	350	8.8	360	8.6	10	10.3	10	11.2	8.2	18
10	7.4	20	7.0	20	6.2	30	4.7	20	4.0	330	1.0	350	1.3	30	1.5	340	2.2	350	2.6	340	2.5	20	1.3	5.4	19
220	3.0	170	3.2	170	3.1	270	5.4	270	6.5	280	5.5	290	7.8	300	7.0	300	6.2	300	6.5	290	8.3	300	7.1	4.3	20
320	7.6	320	8.8	320	10.0	320	9.9	330	9.0	320	8.6	310	9.5	320	8.6	340	9.9	350	9.7	360	7.2	350	8.7	8.1	21
360	(8.5)	360	(7.8)	360	8.6	350	8.2	350	7.0	360	5.7	340	7.0	350	7.3	350	6.3	350	6.0	350	5.7	350	5.2	8.1	22
20	3.8	20	3.8	30	3.5	10	3.6	20	3.6	360	2.5	340	1.3	360	1.1	40	2.7	60	2.0	40	2.2	40	2.8	3.4	23
70	10.7	80	11.9	70	10.6	70	10.4	70	10.3	70	12.5	70	11.6	70	11.9	70	12.2	70	10.0	80	7.3	70	8.1	7.9	24
110	14.9	100	13.2	100	15.0	100	14.5	100	14.0	110	13.7	110	14.0	110	15.0	110	15.6	110	15.8	110	15.9	110	15.6	13.4	25
90	13.1	80	12.9	80	13.2	80	13.2	90	14.5	90	13.2	100	14.9	120	13.3	130	11.2	140	10.0	140	7.8	140	5.2	11.1	26
120	9.8	120	8.4	130	8.0	140	5.7	180	4.8	180	4.5	180	2.4	150	2.3	110	1.0	10	1.0	40	1.0	140	3.7	5.6	27
120	7.0	120	6.2	130	4.1	120	4.4	100	3.3	110	1.8	60	1.0	90	0.8	90	0.7	20	1.3	10	1.2	120	0.5	3.3	28
---	8.0	---	8.1	---	8.1	---	7.6	---	7.0	---	6.4	---	6.2	---	6.2	---	6.1	---	5.7	---	5.5	---	5.4	6.3	
12 - 13	13 - 14	14 - 15	15 - 16	16 - 17	17 - 18	18 - 19	19 - 20	20 - 21	21 - 22	22 - 23	23 - 24	Mean	Day.												



WIND: DIRECTION AND SPEED.  
Direction expressed in degrees from North (E = 90°, S = 180°, W = 270°, N = 360°). Speed in metres per second.

239. ESKDALEMUIR:

H<sub>a</sub> (height of anemograph above M.S.L.) = Height of ground above

Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	
Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	120	2.0	120	2.2	110	3.5	60	1.5	20	2.0	50	1.4	110	2.2	130	3.3	140	2.8	120	2.0	120	3.9	120	6.2
2	60	3.0	80	4.1	90	2.5	100	4.7	100	4.2	110	4.2	100	4.4	100	5.3	110	3.8	50	1.3	50	2.9	50	3.6
3	80	4.8	70	6.0	80	7.0	80	8.2	80	8.6	70	5.0	60	5.3	60	7.5	70	6.7	70	3.8	50	5.6	50	8.2
4	360	2.6	350	3.3	10	3.2	360	2.5	360	2.5	360	2.2	360	2.2	350	2.2	350	2.2	350	2.4	350	1.8	260	0.9
5	230	8.2	230	7.7	230	6.8	230	7.5	240	9.5	230	8.5	220	6.1	210	6.3	200	6.2	210	9.0	210	9.0	210	10.5
6	170	9.1	170	9.0	180	8.4	200	10.4	200	6.8	190	3.7	170	2.0	190	2.3	210	2.8	190	3.3	180	5.3	190	9.0
7	200	12.5	200	10.3	200	9.0	190	8.7	190	8.8	200	9.4	210	8.7	210	9.0	210	8.2	210	8.5	210	8.2	210	9.3
8	160	1.2	180	1.1	290	1.0	140	0.5	...	...	340	0.5	...	...	...	...	...	...	...	...	190	6.5	190	8.5
9	200	10.4	200	10.0	200	10.2	200	10.2	200	9.9	200	9.3	200	9.8	200	10.3	210	11.3	210	13.5	210	13.1	200	11.7
10	170	1.8	190	2.3	170	0.9	...	...	...	...	180	(2.6)	...	...	...	...	...	...	...	...	...	...	...	...
11	150	2.2	310	0.5	130	(0.7)	340	(0.9)	330	(1.4)	330	(1.3)	330	(1.2)	330	(1.5)	140	(1.0)	150	2.5	150	4.2	150	6.1
12	340	1.8	340	1.8	330	(1.7)	340	1.8	350	3.5	360	2.3	360	2.2	10	3.4	360	2.8	350	2.1	100	0.8	170	2.0
13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	150	3.1	200	5.9
14	190	3.3	200	2.1	200	3.8	200	4.6	200	4.0	230	4.4	250	5.2	270	5.0	270	6.4	260	5.7	270	8.7	270	8.2
15	230	13.7	240	13.3	240	12.1	240	10.6	240	9.5	220	7.0	240	9.2	240	9.8	240	9.9	240	10.0	240	12.1	220	9.7
16	180	8.1	180	10.1	180	12.2	210	13.6	230	10.2	230	8.6	220	6.5	200	4.2	200	5.5	190	7.5	190	10.5	190	11.1
17	180	3.7	150	3.0	150	3.0	150	2.4	220	1.1	...	...	...	...	20	1.0	60	1.8	100	0.9	160	1.2	160	1.8
18	360	2.9	360	3.8	360	2.2	...	...	...	...	...	...	...	...	...	...	170	0.6	180	2.2	190	4.2	200	4.8
19	270	1.1	230	2.0	240	3.4	240	3.0	250	4.2	250	3.8	240	3.5	250	2.4	240	3.2	240	5.2	240	5.0	210	5.2
20	10	3.5	360	4.6	340	3.9	110	1.2	350	1.2	340	1.9	10	1.2	350	3.1	360	4.2	10	5.5	10	5.4	350	5.2
21	140	0.5	...	...	...	...	340	0.9	...	...	...	...	...	...	...	...	...	...	150	1.5	180	5.5	190	8.1
22	190	5.2	180	1.6	200	1.3	330	0.6	...	...	...	...	290	0.6	...	...	...	...	160	4.5	150	5.7	150	6.1
23	190	1.5	200	2.0	220	2.2	170	2.3	150	3.3	60	2.2	100	2.0	90	2.2	150	7.1	150	8.6	150	8.8	160	9.9
24	60	(1.8)	140	(3.0)	320	(2.0)	30	(1.5)	140	(1.7)	20	(1.5)	320	(1.5)	50	(1.8)	140	7.2	140	7.7	140	8.6	150	9.3
25	340	1.5	340	1.7	340	1.2	310	0.8	330	1.5	340	1.5	340	2.0	360	1.5	...	...	140	2.1	160	4.5	170	5.4
26	340	0.9	350	1.1	320	0.6	...	...	330	0.5	...	...	...	...	...	...	...	...	140	0.5	140	0.7	200	0.5
27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	120	(0.5)	(190)	(2.0)	(220)	(4.8)
28	...	...	...	...	...	...	(320)	(1.1)	(310)	(0.9)	(310)	(1.1)	...	...	...	...	240	0.8	150	(2.7)	(210)	(5.7)	220	5.2
29	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	190	4.6	200	6.2	210	7.7	200	7.9
30	230	3.8	220	3.8	220	3.2	210	3.7	220	6.3	230	6.7	230	6.2	240	7.0	240	7.1	230	6.4	250	6.7	260	6.1
31	220	3.9	220	4.2	210	4.0	210	5.2	230	6.7	230	5.3	240	5.5	230	5.8	230	5.7	230	6.1	220	6.8	210	7.5
Mean	---	3.8	---	3.8	---	3.6	---	3.6	---	3.6	---	3.2	---	3.0	---	3.2	---	3.7	---	4.3	---	5.6	---	6.4

240. ESKDALEMUIR: H<sub>a</sub> = 235 metres + 15 metres.

Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	...	...	300	4.5	250	3.2	10	2.2	290	4.0	290	4.1	300	2.3	340	2.5	300	6.0	290	10.4	290	11.5	290	10.6
2	260	2.8	210	2.2	200	5.0	210	5.6	210	4.9	210	4.9	210	6.0	210	5.0	210	5.8	210	8.2	220	8.5	220	9.8
3	260	10.3	270	10.4	260	11.0	260	10.5	260	11.0	250	9.3	260	7.8	260	9.0	250	10.1	250	10.4	250	11.9	260	12.4
4	230	2.7	230	3.5	250	3.8	260	4.8	270	3.7	260	3.2	270	2.7	270	5.2	270	6.3	270	6.3	270	7.0	260	6.7
5	240	1.6	240	1.5	240	1.6	200	1.1	200	1.5	200	1.2	180	1.1	180	1.6	210	1.9	230	5.0	230	4.8	230	3.0
6	180	1.5	180	0.8	200	1.0	220	1.6	230	1.5	230	1.5	220	1.7	230	1.2	120	2.7	130	2.0	290	2.4	220	5.0
7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	170	0.7	220	2.1	230	4.9	220	4.7	220	5.4
8	180	3.7	180	3.2	170	1.2	...	...	...	...	...	...	...	...	200	2.1	210	3.0	190	2.8	160	2.9	200	5.1
9	200	6.4	190	7.8	190	5.5	200	8.9	210	10.7	210	9.5	210	9.3	220	9.0	210	7.2	220	7.0	220	6.5	250	6.3
10	240	10.8	240	10.2	240	10.0	220	7.9	200	6.5	220	7.2	230	8.9	230	9.7	220	9.3	220	12.6	220	12.5	220	9.9
11	230	7.5	220	7.5	210	7.7	210	7.9	200	6.2	220	5.7	200	5.5	200	5.2	210	6.3	210	6.3	190	4.7	220	6.6
12	200	4.4	190	3.7	240	4.7	270	4.0	270	5.6	270	4.8	200	1.0	240	1.7	290	6.5	290	6.1	290	6.9	290	7.2
13	340	2.7	300	8.2	310	7.5	340	4.0	190	3.0	290	2.4	270	1.1	110	1.8	320	4.6	(310)	(5.0)	310	5.0	310	5.0
14	340	1.3	330	1.7	360	2.3	350	1.7	360	1.9	10	1.2	...	...	...	...	130	0.6	170	1.3	220	2.0	190	2.9
15	220	7.0	210	8.2	220	9.5	220	10.0	200	6.5	190	4.8	200	5.5	220	7.3	220	7.8	220	7.8	210	7.3	210	7.2
16	270	7.7	270	8.2	270	6.5	260	4.5	260	3.8	280	3.0	270	2.7	280	5.2	280	4.2	290	2.2	300	3.2	30	4.0
17	80	3.1	70	3.4	70	3.3	60	3.2	60	3.3	50	3.5	50	3.8	50	3.2	80	2.5	80	2.4	100	1.7	70	1.8
18	30	4.3	30	6.7	30	8.8	30	11.5	30	8.8	40	5.9	30	6.0	40	7.8	40	8.0	(50)	(8.6)	(50)	(8.3)	(50)	(8.3)
19	20	4.7	10	4.6	10	5.5	10	5.7	360	3.7	360	4.3	360	5.7	10	7.2	10	8.0	10	7.9	20	8.4	20	7.7
20	10	3.5	10	3.4	(20)	3.9	(20)	3.7	20	4.0	10	5.0	10	5.7	20	4.9	20	5.5	20	6.9	20	7.6	30	7.8
21	320	2.5	350	2.4	350	1.0	360	2.1	360	2.7	360	2.5	360	1.3	20	2.0	20	3.0	20	3.0	20	3.7	20	3.0
22	...	...	...	...	...	...	...	...	...	...	...	...	350	1.6	350	1.5	30	2.7	30	3.4	40	2.6	80	0.8
23	330	0.9	330	0.9	340	0.6	340	1.4	350	2.6	350	3.0	360	2.5	350	1.5	150	3.8	150	5.2	150	6.5	150	6.0
24	...	...	...	...	...	...	360	1.5	20	0.6	...	...	50	1.0	60	2.5	90	1.5	120	5.2	130	6.3	130	6.2
25	120	3.9	120	2.7	120	2.5	150	3.0	150	4.1	160	4.5	170	3.3	200	5.3	200	5.7	200	5.5	200	5.3	210	6.3
26	180	3.8	170	2.8	180	2.1	200	0.7	170	3.3	170	4.2	160	4.5	160	4.9	170	7.0	180	8.2	180	8.0	190	8.0
27	180	3.3	190	5.8	200	6.2	210	5.1	230	4.2	220	5.0	220	6.5	220	6.8	210	7.0	210	7.8	210	8.2	200	7.7
28	210	7.6	200	5.5	200	6.5	210	5.7	210	5.1	220	5.7	220	5.9	210	5.0	210	5.2	200	5.7	200	6.2	200	6.2
29	350	0.6	...	...	...	...	350	1.3	350	1.5	350	1.1	350	1.2	360	0.8	40	1.8	70	2.5	60	2.5	140	2.4
30	20	3.9	30	4.9	30	4.5	30	5.3	20	5.5	10	6.4	20	6.5	20	6.0	20	6.9	20	7.0	30	7.5	30	7.7
Mean	---	3.8	---	4.2	---	4.2	---	4.2	---	4.1	---	3.9	---	3.7	---	4.3	---	5.1	---	5.9	---	6.1	---	6.2
Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	



**M.S.L. +  $h_a$**  (height of anemograph above ground) = 235 metres + 15 metres.

MARCH, 1933.

12 - 13		13 - 14		14 - 15		15 - 16		16 - 17		17 - 18		18 - 19		19 - 20		20 - 21		21 - 22		22 - 23		23 - 24		Mean	Day.
o	m/s.	o	m/s.	o	m/s.	o	m/s.	o	m/s.	o	m/s.	o	m/s.	o	m/s.	o	m/s.	o	m/s.	o	m/s.	o	m/s.	m/s.	
120	5.7	110	4.6	90	4.2	110	2.9	100	3.3	30	2.2	120	4.7	120	6.7	110	5.1	110	6.5	100	7.1	90	6.2	3.9	1
50	4.2	60	4.0	60	3.4	60	3.3	50	5.1	50	4.8	60	5.6	70	6.1	70	6.0	60	5.5	60	5.8	70	5.0	4.3	2
40	5.2	30	3.7	40	6.5	30	5.2	20	4.6	360	4.8	20	4.8	340	4.2	350	4.2	10	5.2	10	4.8	360	3.7	5.6	3
190	5.2	190	6.1	200	5.2	200	7.5	200	7.6	190	6.2	190	7.4	210	7.5	220	6.3	220	7.0	230	6.5	230	8.0	4.5	4
210	9.8	200	9.9	200	8.4	190	10.2	180	10.7	180	9.0	170	7.7	170	6.5	160	7.1	170	7.7	160	7.8	160	9.3	8.3	5
190	10.5	190	12.0	190	12.9	190	12.8	190	12.3	190	9.2	180	6.8	180	8.3	180	9.5	180	12.3	180	11.9	190	11.7	8.4	6
230	7.0	230	6.3	230	6.0	250	6.0	270	6.2	270	6.7	270	6.8	260	6.2	220	3.5	250	2.1	230	2.3	270	3.5	7.2	7
200	10.6	200	11.3	200	12.0	200	12.0	200	12.1	200	12.3	200	13.7	190	10.2	180	10.4	190	10.0	200	9.9	200	8.5	6.5	8
200	12.2	200	10.7	190	10.4	190	9.0	200	9.7	220	12.8	220	9.5	230	6.4	240	9.0	230	11.5	220	5.3	210	5.9	10.1	9
90	0.7	170	0.8	...	...	...	...	...	...	...	...	360	1.5	120	0.6	70	0.5	350	1.0	360	1.0	30	0.7	0.9	10
150	7.0	140	6.0	140	5.6	150	4.8	120	6.3	100	5.2	360	(0.9)	360	1.7	340	1.5	330	1.4	360	(0.7)	350	1.6	2.8	11
190	2.5	190	3.0	200	3.5	220	3.6	240	3.2	250	1.7	180	0.5	...	...	340	0.7	...	...	...	...	...	...	2.0	12
220	8.0	220	6.7	210	6.4	220	4.9	270	2.8	230	2.0	240	2.0	210	0.9	130	0.7	160	0.8	200	2.1	170	2.8	2.3	13
260	6.5	250	6.2	240	6.9	240	7.6	240	6.7	190	5.3	170	3.9	190	5.2	190	8.1	200	10.4	200	11.5	210	11.4	6.3	14
200	9.0	190	8.2	200	11.7	210	10.0	200	10.2	200	9.8	190	10.3	200	12.1	180	8.6	190	10.2	180	10.0	180	6.8	10.2	15
180	11.7	190	9.1	200	10.5	190	9.0	200	8.1	200	6.3	200	4.9	210	6.0	220	8.2	210	6.6	190	4.6	190	4.7	8.2	16
170	1.5	140	1.1	50	2.0	360	3.0	10	4.0	20	2.4	60	1.3	60	2.4	40	3.1	40	3.0	20	1.8	340	1.2	2.0	17
230	6.8	260	2.3	220	7.0	210	5.7	200	6.4	180	5.8	190	6.7	190	5.5	170	3.0	190	3.6	210	3.6	210	3.2	3.6	18
210	4.2	180	3.0	160	2.7	140	2.7	100	1.4	60	3.1	40	6.8	30	6.5	10	4.7	360	4.7	360	4.0	360	4.8	3.8	19
350	4.8	330	4.7	310	5.0	300	4.9	270	5.2	270	5.0	280	2.5	250	0.8	...	...	210	0.5	250	1.5	120	0.8	3.2	20
180	8.3	180	8.2	190	7.7	200	8.4	190	6.3	180	4.8	180	3.7	190	5.7	200	4.9	200	5.1	200	3.7	200	4.1	3.8	21
160	6.0	160	7.1	170	8.4	180	8.8	160	5.8	160	4.0	180	3.2	200	3.7	230	2.0	210	1.6	300	1.3	300	1.3	3.4	22
150	9.0	150	9.5	150	9.3	150	9.6	140	8.8	130	4.2	30	2.0	130	7.0	140	4.5	80	1.2	110	2.0	120	(2.1)	5.1	23
150	9.1	150	9.1	150	8.6	160	7.6	160	6.3	170	4.2	260	2.2	320	1.5	...	...	330	0.8	330	1.3	320	1.4	4.2	24
190	6.2	190	5.8	200	5.2	210	5.7	210	6.1	210	4.9	210	3.6	140	1.0	360	1.2	360	1.0	340	0.9	330	0.7	2.8	25
220	1.8	230	1.7	230	1.7	230	1.2	230	1.0	230	0.5	290	0.5	...	...	...	...	...	...	...	...	...	...	0.8	26
(230)	(5.0)	(230)	(4.5)	(230)	(4.5)	210	5.1	190	5.2	190	3.9	210	3.2	170	0.9	...	...	...	...	...	...	...	...	1.9	27
220	5.2	220	5.0	220	5.2	220	5.8	210	5.5	190	3.0	220	1.2	290	0.8	350	1.1	...	...	...	...	...	...	2.3	28
200	8.0	190	7.3	210	7.5	220	8.3	210	7.3	210	6.5	220	4.5	230	3.5	210	2.7	220	2.5	180	2.5	180	2.1	3.9	29
250	7.1	260	7.4	270	9.2	270	7.9	270	7.2	270	7.1	270	6.1	270	5.0	270	5.0	270	5.4	270	5.1	260	4.6	6.0	30
220	8.4	210	8.6	220	6.3	240	4.8	240	5.1	230	6.4	220	5.5	220	5.0	240	3.2	230	2.0	200	1.2	210	1.0	5.2	31
---	6.7	---	6.3	---	6.6	---	6.4	---	6.2	---	5.3	---	4.6	---	4.5	---	4.2	---	4.2	---	3.9	---	3.8	4.6	

APRIL, 1933.

[illegible]



## 241. ESKDALEMUIR:

H<sub>a</sub> (height of anemograph above M.S.L.) = Height of ground above

Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	
Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	20	4.1	20	5.1	20	5.2	340	3.4	360	3.6	360	3.7	10	2.8	20	3.0	50	4.8	50	5.0	30	6.6	40	8.0
2	360	3.3	10	3.8	20	3.3	10	3.5	10	3.0	350	2.2	40	2.9	50	5.1	50	5.5	60	6.7	70	6.7	80	6.7
3	50	6.5	40	5.7	40	6.0	40	6.9	30	7.4	20	5.4	30	6.3	40	7.4	30	8.1	60	10.6	50	9.5	40	8.3
4	30	4.7	40	4.2	40	4.2	40	4.5	40	5.4	40	4.7	40	4.2	40	5.0	40	5.0	50	6.4	50	5.2	50	5.8
5	170	3.4	180	1.5	...	...	160	1.5	160	(1.9)	...	...	...	...	160	3.0	140	4.2	150	4.7	150	5.4	150	5.7
6	...	...	...	...	160	0.7	160	2.1	160	0.7	120	0.5	150	4.0	150	5.2	150	5.5	150	5.5	150	6.3	160	6.7
7	30	1.7	50	1.2	(60)	4.8	(60)	5.7	(60)	5.4	(60)	4.6	(60)	5.2	60	5.0	40	4.6	40	4.8	50	5.3	40	5.3
8	360	1.8	360	2.3	240	1.7	40	1.2	...	...	...	...	360	0.8	90	0.7	140	1.3	110	2.2	170	2.8	190	3.7
9	270	4.9	270	2.7	260	3.2	270	3.2	280	3.7	270	3.9	270	5.0	260	3.2	250	3.8	270	5.9	270	7.5	270	8.2
10	250	1.1	310	1.4	...	...	...	...	10	1.7	360	4.0	10	4.7	10	5.0	10	5.5	10	6.1	10	4.2	10	4.2
11	...	...	...	...	...	...	30	0.6	360	0.5	...	...	60	(0.5)	...	...	60	1.6	120	0.5	160	0.6	200	2.8
12	260	1.6	320	3.6	360	(0.5)	40	(1.0)	30	1.7	90	(1.5)	50	(2.0)	290	2.4	290	2.2	310	3.1	300	3.7	290	5.2
13	260	0.5	190	0.5	300	(1.3)	...	...	...	...	330	(1.0)	320	2.0	320	1.0	300	1.6	270	2.1	270	2.8	230	3.4
14	...	...	350	0.8	360	2.0	...	...	20	1.0	20	1.0	360	3.8	360	3.4	10	3.4	10	4.3	330	4.2	360	4.2
15	80	1.0	330	0.5	...	...	50	1.5	20	1.0	20	0.8	20	1.7	360	1.7	340	3.7	350	3.1	10	2.0	30	1.4
16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	200	2.4	220	1.5	...	...	170	1.0
17	10	1.1	10	1.2	30	1.7	20	1.7	20	1.3	20	1.8	30	2.3	30	3.0	40	2.4	60	3.1	60	3.3	60	3.5
18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	170	0.5	170	1.3	180	1.7	160	2.7
19	190	2.2	200	2.8	190	2.1	170	0.6	190	0.8	210	4.1	200	3.5	200	4.3	200	4.9	200	4.1	190	5.1	210	4.8
20	220	0.7	210	0.7	160	2.4	160	2.8	170	3.0	160	2.4	150	1.6	160	3.6	160	6.2	160	7.2	170	6.1	210	8.0
21	200	5.2	210	4.2	10	0.9	210	1.5	200	3.4	210	2.8	180	1.9	160	0.6	170	0.7	170	1.8	160	2.4	170	2.2
22	350	0.8	350	0.7	330	0.5	360	1.5	360	0.7	350	2.6	20	1.7	30	2.9	30	3.0	30	2.5	20	2.2	30	2.4
23	10	1.9	...	...	...	...	10	2.2	10	1.5	...	...	360	1.0	360	1.4	20	1.0	20	0.5	...	...	230	2.5
24	240	0.5	...	...	...	...	...	...	...	...	...	...	...	...	170	1.2	210	2.9	210	3.3	220	3.1	230	3.1
25	300	7.3	310	3.7	310	2.9	280	4.5	290	4.0	310	4.3	300	6.6	300	6.7	310	6.3	300	5.8	310	5.4	300	5.1
26	150	0.5	240	0.5	330	0.7	...	...	...	...	...	...	...	...	140	1.0	160	1.8	200	3.0	210	3.8	180	3.9
27	310	0.6	...	...	...	...	...	...	360	1.8	360	2.6	30	1.6	50	2.5	60	2.6	70	2.3	60	2.2	30	2.1
28	...	...	...	...	...	...	340	0.6	...	...	...	...	40	1.8	30	2.9	50	2.8	50	4.4	50	4.9	50	4.3
29	360	1.2	10	1.1	350	0.8	10	1.5	10	2.2	10	2.2	20	1.3	20	2.6	50	1.8	50	1.0	20	1.6	40	0.5
30	360	1.2	360	1.3	...	...	...	...	360	1.2	360	1.1	360	0.7	...	...	120	0.5	(170)	(2.4)	(140)	(2.0)	150	2.4
31	360	2.0	360	2.7	360	3.0	360	2.5	360	2.1	360	1.8	360	2.5	350	1.7	120	1.2	150	3.4	170	3.7	170	3.5
Mean	---	2.0	---	1.8	---	1.7	---	1.9	---	2.0	---	2.0	---	2.4	---	2.8	---	3.3	---	3.8	---	3.9	---	4.2

242. ESKDALEMUIR: H<sub>a</sub> = 235 metres + 15 metres.

Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	360	2.7	350	3.0	350	1.9	340	1.5	340	1.5	350	0.7	...	...	100	0.5	150	4.3	150	5.8	150	5.9	160	7.4
2	160	4.0	160	3.7	170	3.2	170	3.6	160	3.7	150	5.1	160	4.6	160	2.6	150	1.1	150	3.6	150	2.4	180	2.7
3	...	...	...	...	160	0.5	160	1.3	180	0.9	170	(1.5)	170	0.7	160	2.6	150	2.8	150	4.9	160	5.6	170	6.1
4	320	1.7	330	1.6	340	1.0	330	0.7	360	0.8	360	0.5	...	...	160	1.5	150	3.4	160	3.6	160	5.2	180	6.9
5	270	0.5	300	0.7	320	1.1	330	1.3	340	0.8	...	...	...	...	160	0.6	160	1.1	180	6.0	210	8.2	200	9.1
6	...	...	...	...	...	...	...	...	270	0.8	240	1.2	200	2.3	190	1.2	170	1.5	170	2.8	180	3.6	180	3.7
7	330	1.3	340	2.0	340	1.9	340	1.7	350	2.4	360	2.7	350	2.3	350	1.2	90	0.5	160	3.3	160	4.1	170	4.0
8	350	0.5	360	1.4	...	...	...	...	20	2.3	10	3.3	10	3.8	10	4.4	20	5.3	30	7.1	40	7.0	30	7.0
9	10	5.7	10	5.6	10	4.3	(10)	(4.5)	(10)	(4.5)	(10)	(4.5)	(10)	(4.5)	30	5.0	20	5.0	20	4.3	30	4.0	40	4.5
10	...	...	...	...	...	...	...	...	360	1.2	...	...	10	1.1	30	1.2	10	1.1	20	1.1	290	1.9	310	2.8
11	...	...	360	0.7	10	1.2	360	1.2	10	2.8	20	3.4	20	4.6	20	4.8	20	4.9	20	4.6	20	4.2	10	3.9
12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	50	0.7	290	1.7	320	1.8	340	2.4	20	2.8
13	10	4.9	10	5.6	10	5.7	20	4.9	20	4.0	20	6.3	20	6.8	20	6.0	20	6.2	20	5.2	30	6.8	20	6.0
14	30	2.3	50	2.2	40	2.2	40	2.2	30	2.2	40	3.2	50	3.3	40	2.0	70	1.7	130	1.4	150	1.9	140	3.0
15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	180	2.6	220	5.9	220	5.7	210	5.5	200	5.9
16	260	0.6	270	0.5	310	2.1	260	2.1	300	1.1	...	...	160	0.5	150	0.5	180	2.1	200	3.7	220	5.2	210	6.5
17	260	6.4	250	5.3	240	6.1	220	5.3	230	5.5	240	5.8	260	4.0	270	4.7	270	5.5	280	5.7	300	6.0	290	4.9
18	220	4.2	220	4.8	230	4.0	230	3.9	210	2.3	210	3.5	240	3.2	220	1.5	210	1.5	200	3.2	280	3.3	30	1.8
19	10	2.0	20	2.5	10	2.7	10	4.2	30	3.8	30	3.0	30	4.6	40	5.0	30	4.9	30	5.3	40	6.5	40	5.8
20	360	0.7	...	...	150	0.7	340	0.7	360	0.6	360	0.5	50	1.0	80	0.6	90	0.5	140	1.0	130	1.6	200	1.7
21	310	(1.0)	310	(0.7)	...	...	...	...	...	...	360	2.4	10	2.8	40	3.2	50	3.5	50	3.5	50	3.8	60	4.4
22	360	3.7	340	1.7	...	...	...	...	...	...	...	...	...	...	80	0.5	150	0.5	80	0.5	110	0.7	...	...
23	190	(0.7)	...	...	330	(0.5)	...	...	...	...	...	...	...	...	130	0.5	180	2.7	210	4.1	200	4.0	200	4.8
24	...	...	...	...	360	1.0	360	1.4	10	3.1	20	3.9	20	4.3	10	3.6	10	4.7	20	5.0	20	4.8	30	5.7
25	20	8.5	20	7.4	20	8.4	20	7.6	20	6.8	30	5.3	20	5.3	30	6.9	40	7.3	40	6.9	40	6.2	50	6.1
26	40	(0.5)	360	(1.2)	350	2.2	350	2.4	360	1.4	10	1.5	20	2.6	30	3.2	20	3.2	20	2.7	20	3.5	20	4.9
27	...	...	...	...	...	...	...	...	...	...	...	...	90	0.5	190	1.7	250	2.1	280	3.3	290	1.9	360	1.9
28	300	1.5	50	2.5	10	1.2	360	(2.5)	360	(2.5)	50	2.3	50	2.7	30	3.0	20	3.0	30	2.3	30	2.5	30	3.9
29	360	1.1	...	...	360	1.0	...	...	...	...	...	...	20	1.3	30	0.7	50	0.5	140	1.0	140	2.0	130	1.5
30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	20	1.3	300	3.2	280	5.0	280	5.1	290	5.0
Mean	---	1.9	---	2.0	---	1.9	---	1.9	---	2.0	---	2.2	---	2.4	---	2.5	---	3.1	---	3.8	---	4.2	---	4.5
Hour G. M. T.	0 - 1	1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12		



Averages for periods of sixty minutes, centred at the Half hours, Greenwich Mean Time.

M.S.L. +  $h_a$  (height of anemograph above ground) = 235 metres + 15 metres.

MAY, 1933.

12 - 13		13 - 14		14 - 15		15 - 16		16 - 17		17 - 18		18 - 19		19 - 20		20 - 21		21 - 22		22 - 23		23 - 24		Mean	Day
°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	m/s.	
50	8.2	40	8.1	50	7.7	40	6.5	30	5.2	30	4.5	40	5.1	30	4.0	20	3.5	10	2.6	20	2.0	360	2.2	4.8	1
80	8.0	80	8.4	80	7.9	80	7.6	70	8.2	80	8.6	80	8.2	80	7.7	80	9.0	60	6.8	50	4.6	40	5.3	6.0	2
40	8.6	50	10.1	40	7.3	30	6.9	30	8.1	30	7.5	30	6.0	40	7.3	40	8.2	30	6.9	20	5.5	30	5.4	7.3	3
70	6.1	80	4.9	90	3.7	80	4.5	70	5.4	60	5.3	50	7.0	40	4.5	360	2.0	70	1.0	150	3.4	160	4.5	4.7	4
140	6.1	150	5.8	150	5.1	140	4.5	140	3.4	130	2.7	140	3.5	180	2.0	...	...	...	...	...	...	10	0.5	2.8	5
160	5.1	160	5.7	160	4.9	160	4.7	170	4.1	180	4.0	10	1.2	70	1.7	140	5.6	160	1.4	...	...	100	1.0	3.3	6
20	4.5	30	5.7	20	5.7	20	5.8	10	5.5	10	7.2	10	6.7	10	6.5	360	4.4	360	4.8	360	5.1	360	3.6	5.0	7
200	4.3	200	5.7	200	6.9	200	8.0	200	8.9	200	7.6	200	5.6	200	6.2	210	4.6	210	3.0	190	2.3	180	2.4	3.5	8
270	7.2	270	7.2	270	7.2	270	6.5	270	6.7	270	6.2	270	5.6	260	4.2	250	4.1	250	3.5	240	2.2	260	0.8	4.9	9
10	4.2	10	4.5	350	3.5	340	2.3	360	1.9	40	2.0	60	0.9	...	...	...	...	...	...	...	...	...	...	2.5	10
230	3.6	200	1.8	130	0.5	290	2.3	290	3.5	290	4.3	300	5.4	300	5.3	290	8.1	300	7.0	20	1.7	340	1.7	2.3	11
290	5.0	290	5.6	290	6.3	290	6.8	300	6.6	300	6.3	290	5.8	280	2.9	...	...	290	0.7	280	2.2	280	0.8	3.3	12
210	6.1	210	6.2	220	6.2	220	6.7	240	7.0	240	6.5	180	2.8	180	2.3	...	...	...	...	...	...	...	...	2.6	13
340	4.5	320	3.7	330	3.7	310	4.3	360	3.7	30	2.9	30	0.5	310	1.6	340	4.7	10	1.2	40	0.5	350	2.4	2.6	14
50	1.5	20	0.8	220	1.2	60	0.8	220	5.1	230	5.0	240	5.0	230	3.7	170	1.3	160	0.7	...	...	...	...	1.9	15
140	1.9	130	2.0	160	2.3	160	2.3	170	2.0	...	...	...	...	...	...	...	...	10	0.5	10	0.7	360	1.0	1.0	16
70	3.2	90	2.7	80	2.2	80	2.5	80	2.6	90	2.9	100	2.0	70	1.0	70	0.5	...	...	...	...	...	...	2.0	17
150	2.7	180	3.2	200	3.9	210	3.5	210	3.9	210	4.9	200	5.0	200	4.0	210	6.0	210	4.5	150	1.6	170	3.0	2.3	18
210	5.0	210	5.3	190	5.2	200	5.0	220	3.1	...	...	...	...	...	...	330	0.6	350	0.6	...	...	210	0.6	2.8	19
210	6.7	200	6.7	210	7.6	210	7.7	200	5.8	190	3.7	190	5.0	200	3.5	190	3.5	190	1.7	...	...	180	1.3	4.1	20
180	2.1	190	2.9	190	2.2	180	2.1	210	2.6	230	1.3	220	1.4	260	1.0	120	0.7	350	1.0	360	2.3	10	1.2	2.0	21
30	3.3	50	3.4	60	4.3	100	4.0	20	2.6	20	3.2	20	3.3	360	2.6	350	3.1	20	3.7	350	3.2	10	3.8	2.6	22
290	4.7	300	3.9	300	3.0	300	3.5	320	4.3	360	4.1	310	3.1	360	1.2	320	1.3	340	1.5	10	1.0	190	1.4	2.0	23
220	4.8	200	7.0	220	7.7	200	6.8	240	4.9	220	4.1	210	3.2	220	3.2	240	4.7	300	5.5	290	5.0	300	6.7	3.4	24
300	5.2	290	5.6	290	6.5	290	5.7	290	6.9	290	5.7	300	5.3	300	5.0	340	2.3	40	1.8	160	0.5	...	...	4.7	25
220	6.1	250	4.4	220	4.6	250	3.6	220	1.8	220	3.6	210	2.5	180	1.1	...	...	...	...	...	...	...	...	1.9	26
20	3.5	30	3.3	40	3.4	60	2.6	60	1.8	80	1.0	120	1.5	130	0.7	...	...	180	0.7	200	0.5	...	...	1.7	27
40	3.4	60	3.9	60	4.8	70	3.0	140	1.6	90	1.1	80	2.4	40	1.6	40	0.7	10	0.7	10	0.7	360	0.5	2.1	28
30	0.7	90	2.3	70	1.1	60	2.5	60	2.2	60	2.4	60	1.8	30	0.5	360	0.8	10	1.3	360	1.3	10	0.7	1.5	29
180	3.5	(210)	(3.5)	(210)	(3.5)	200	3.7	220	3.6	200	3.2	130	3.8	160	1.7	310	1.0	330	1.3	340	1.0	10	0.8	1.9	30
180	3.4	210	5.9	210	5.6	210	5.1	220	4.7	210	3.7	200	2.3	210	1.9	...	...	350	1.5	350	2.1	360	2.7	2.9	31
---	4.6	---	4.6	---	4.7	---	4.6	---	4.4	---	4.1	---	3.6	---	2.9	---	2.8	---	2.2	---	1.7	---	1.9	3.1	

JUNE, 1933.

°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	Day
160	6.7	160	6.9	170	5.2	150	5.0	190	6.6	220	4.4	190	3.5	160	3.5	160	3.7	160	3.7	160	3.7	160	4.4	3.9	1	
180	3.1	170	3.7	180	3.1	160	1.2	80	1.2	150	1.7	160	2.7	170	2.6	170	0.5	330	0.5	110	0.5	150	0.5	2.6	2	
160	5.8	150	5.8	150	4.8	150	4.4	160	4.0	150	3.1	150	0.6	...	...	140	0.5	200	0.5	300	0.5	320	1.5	2.6	3	
180	6.8	200	6.6	210	5.7	220	5.0	210	3.7	210	3.4	200	1.5	...	...	330	0.9	330	1.1	340	1.2	340	0.5	2.7	4	
210	8.6	220	8.7	220	9.4	210	8.9	210	6.2	22	6.0	220	5.0	180	2.7	210	1.9	170	0.8	340	0.5	...	...	3.7	5	
190	4.4	200	5.3	200	5.2	200	(5.8)	200	(5.5)	210	(4.2)	200	(1.3)	...	...	320	(0.5)	330	0.9	320	0.8	340	1.6	2.3	6	
180	5.0	190	4.3	200	4.7	230	5.6	230	4.2	230	3.7	240	1.9	200	0.5	300	1.0	320	0.8	...	...	...	...	2.5	7	
40	6.3	50	5.8	30	5.3	30	6.2	20	6.0	20	6.3	20	5.9	30	5.0	20	5.5	10	4.8	10	3.8	10	5.0	4.5	8	
30	4.1	30	3.8	30	3.5	60	3.8	60	3.8	50	3.6	50	2.5	50	1.5	20	0.5	...	...	10	1.2	360	1.0	3.6	9	
290	3.5	310	2.3	310	3.5	300	3.6	310	2.5	310	2.7	300	4.6	310	4.8	320	3.4	320	4.1	350	2.6	350	1.6	2.2	10	
20	3.8	20	4.3	20	3.6	20	4.0	20	4.0	20	3.4	40	3.6	40	2.1	360	1.0	350	2.4	330	1.5	...	...	3.0	11	
350	1.4	330	1.3	330	2.2	280	3.5	300	5.6	310	3.9	60	2.5	40	2.8	360	2.7	350	3.2	20	2.1	350	2.8	2.0	12	
20	4.6	50	6.1	60	7.6	50	6.2	40	6.1	50	5.9	50	6.0	40	3.3	40	4.9	50	4.1	40	2.5	50	3.1	5.4	13	
160	3.2	150	2.9	160	2.5	170	2.7	160	2.2	180	1.8	190	2.3	210	1.5	310	1.2	340	0.6	330	1.0	...	...	2.1	14	
220	5.8	220	6.7	200	7.4	200	7.2	220	7.8	210	6.7	210	4.9	220	3.7	210	3.0	210	3.1	200	1.8	220	1.0	3.7	15	
200	9.0	200	9.9	200	9.8	200	9.9	200	9.7	200	11.3	200	13.6	210	11.3	230	9.7	260	9.6	280	9.1	260	8.6	6.1	16	
280	5.4	280	5.9	270	5.9	280	5.9	280	6.7	280	6.8	280	6.8	280	4.9	270	3.2	240	4.7	230	6.2	230	4.7	5.5	17	
60	1.5	20	5.7	40	5.8	30	4.9	350	3.2	360	3.3	20	4.2	20	3.1	10	2.3	360	2.3	10	2.2	3.3	3.3	18		
30	6.2	40	7.6	50	6.2	80	5.2	50	3.8	50	5.5	50	4.6	20	2.5	40	2.0	270	0.7	10	0.5	20	0.5	4.0	19	
220	1.6	230	1.9	220	1.5	270	1.2	320	2.5	340	1.5	...	...	...	...	...	...	170	1.3	310	0.8	310	0.5	1.0	20	
50	4.5	30	4.8	30	4.8	30	5.5	40	5.8	30	5.1	30	3.6	20	2.2	20	0.8	10	0.5	360	0.7	350	1.5	2.8	21	
90	0.5	60	0.7	70	1.2	40	1.2	160	1.7	160	0.5	170	2.6	210	1.5	320	0.8	10	(0.5)	340	(0.5)	340	(1.0)	0.9	22	
200	5.7	210	5.4	200	5.1	200	5.8	210	5.5	200	4.8	210	4.0	200	2.7	200	2.2	240	0.6	330	0.5	...	...	2.6	23	
30	6.1	40	7.7	30	8.0	40	6.8	30	7.7	40	8.2	40	7.0	30	6.0	20	6.3	30	6.5	20	7.4	30	7.8	5.2	24	
50	6.3	40	5.8	30	5.7	30	5.6	40	6.0	30	6.9	20	6.5	20	5.2	10	4.1	10	3.4	70	2.1	80	0.9	5.9	25	
20	3.4	20	3.7	20	3.4	20	3.7	30	3.4	30	3.0	20	3.2	30	1.6	350	0.8	...	...	360	0.8	360	0.6	2.4	26	
340	2.2	10	3.6	10	3.7	350	3.5	340	2.6	300	4.1	290	5.1	280	5.0	280	5.1	280	5.4	330	3.3	310	2.5	2.5	27	
20	3.8	10	2.4	20	2.0	10	2.3	20	2.6	20	2.5	70	3.6	50	2.3	30	1.2	10	1.2	10	2.3	10	2.2	2.4	28	
260	1.9	80	2.5	230	4.8	220	4.9	200	4.3	180	2.8	300	0.6	10	0.6	360	0.5	...	...	...	...	...	...	1.5	29	
280	4.9	280	4.8	260	4.8	270	5.0	270	5.0	260	3.2	270	3.7	270	4.2	260	3.5	260	3.8	240	4.9	240	4.0	3.1	30	
---	4.5	---	4.9	---	4.9	---	4.8	---	4.7	---	4.3	---	3.9	---	3.0	---	2.5	---	2.4	---	2.2	---	2.1	3.2		
12 - 13	13 - 14	14 - 15	15 - 16	16 - 17	17 - 18	18 - 19	19 - 20	20 - 21	21 - 22	22 - 23	23 - 24	Mean	Day.													



## 243. ESKDALEMUIR:

H<sub>a</sub> (height of anemograph above M.S.L.) = Height of ground above

Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	
Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	230	3.6	230	3.5	230	2.5	260	2.5	260	1.7	240	0.7	270	2.0	250	4.0	250	4.0	270	3.6	290	4.7	290	5.1
2	360	0.6	...	...	340	0.5	...	...	360	0.5	...	...	...	...	70	0.6	90	0.5	80	0.5	160	1.1	190	1.7
3	...	...	...	...	...	...	140	0.5	...	...	80	0.5	140	0.5	160	0.5	170	1.5	230	0.8	290	2.0	270	3.2
4	170	0.9	150	(1.0)	...	...	...	...	...	...	...	...	...	...	160	0.5	140	1.6	120	1.0	100	1.3	100	1.1
5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	130	0.5	140	0.5	130	1.0	140	2.3	140	3.5
6	10	1.8	360	2.4	10	1.5	360	1.7	360	1.8	20	1.6	30	3.0	40	5.9	30	4.8	40	4.1	50	4.5	80	3.7
7	50	0.7	20	1.0	30	2.0	50	4.0	40	3.3	40	4.7	50	6.2	30	5.1	50	4.5	80	4.4	90	4.7	110	7.1
8	210	8.9	200	5.6	200	5.0	200	6.8	210	6.9	210	7.5	210	6.9	210	8.1	200	8.6	(200)	(8.1)	(210)	(8.5)	(210)	(8.2)
9	210	4.9	160	2.5	170	3.5	200	4.2	210	4.3	180	3.5	180	5.0	190	5.4	180	6.6	190	6.4	200	7.2	190	8.0
10	190	5.6	200	5.5	200	6.4	210	8.0	220	8.8	220	10.4	220	10.2	220	9.5	220	9.3	200	9.7	210	10.0	200	9.9
11	210	6.3	220	6.5	220	5.7	230	6.0	220	6.3	210	4.7	210	5.9	220	7.8	220	7.5	220	7.2	210	7.5	210	7.7
12	230	5.8	230	7.0	220	5.9	230	5.5	230	4.8	230	5.4	250	5.1	240	4.9	240	6.1	240	6.8	240	7.3	240	7.5
13	220	3.2	220	4.0	200	2.1	190	1.6	200	1.6	190	1.8	200	4.0	200	4.5	200	5.5	190	4.7	180	4.5	150	3.7
14	240	2.9	240	3.3	260	2.5	270	2.0	270	1.6	250	2.0	310	2.4	360	1.7	350	(1.7)	(310)	(2.0)	(310)	(2.0)	280	2.5
15	230	(1.0)	150	(1.5)	160	(1.5)	...	...	...	...	...	...	...	...	150	0.5	300	(1.7)	300	1.3	260	1.6	130	(1.5)
16	360	1.5	360	2.2	10	2.7	10	2.8	360	2.1	360	1.7	20	2.2	10	2.5	360	2.1	330	1.4	300	1.5	260	3.6
17	210	0.5	250	1.0	...	...	140	0.5	160	0.5	210	2.9	230	2.8	240	2.8	240	3.0	260	3.2	270	3.3	260	3.7
18	220	3.8	230	3.0	230	1.6	210	2.4	210	3.0	220	2.9	250	3.4	240	3.1	230	4.0	240	5.0	230	5.3	240	5.1
19	...	...	...	...	...	...	320	0.5	...	...	...	...	150	0.7	160	0.5	170	2.8	180	3.1	190	4.2	180	2.5
20	190	4.2	190	2.6	180	2.1	170	3.1	170	3.1	180	3.2	190	2.8	190	3.3	200	4.2	200	5.2	200	4.8	200	4.7
21	...	...	200	0.6	...	...	...	...	...	...	...	...	...	...	...	...	180	1.8	210	3.9	240	3.4	230	4.3
22	...	...	...	...	...	...	...	...	...	...	...	...	130	0.5	140	0.5	240	2.1	260	2.7	280	2.9	260	3.2
23	...	...	...	...	...	...	...	...	...	...	...	...	130	0.6	210	3.1	230	3.6	220	4.6	220	4.8	210	5.6
24	160	(2.0)	180	1.7	170	0.5	170	0.5	220	2.1	220	2.5	230	3.5	230	5.1	230	5.8	230	6.5	230	7.2	260	5.1
25	200	6.7	200	7.3	210	5.1	200	4.8	210	5.2	210	5.4	220	5.7	220	6.0	220	4.7	220	5.0	220	5.7	210	5.7
26	180	1.9	190	2.4	190	2.7	190	2.7	190	3.7	190	4.9	190	6.0	210	6.7	210	5.3	210	5.2	200	6.5	200	6.5
27	330	1.5	320	0.6	...	...	...	...	...	...	...	...	...	...	100	0.5	200	1.6	200	1.7	190	1.3	120	1.0
28	300	5.8	290	6.7	280	8.5	270	5.7	260	3.4	250	2.2	230	4.0	230	4.8	250	6.0	240	6.4	250	6.6	240	8.2
29	220	2.8	220	3.8	330	4.2	240	5.4	230	4.1	240	3.6	240	4.9	240	4.6	230	3.3	240	4.1	240	5.3	260	4.5
30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	60	2.4	320	5.8	270	3.4	240	4.1	200	6.3
31	180	7.5	190	9.0	200	8.2	200	8.6	210	6.7	220	6.6	230	5.6	240	4.8	260	4.4	300	6.0	300	6.5	300	8.5
Mean	---	2.8	---	2.8	---	2.6	---	2.7	---	2.6	---	2.7	---	3.1	---	3.6	---	4.0	---	4.2	---	4.6	---	4.9

244. ESKDALEMUIR: H<sub>a</sub> = 235 metres + 15 metres.

Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	300	5.6	300	6.8	300	5.8	300	4.4	300	4.0	300	7.5	300	7.7	310	6.5	310	6.2	310	6.2	300	7.1	300	5.1
2	210	4.2	210	5.0	220	5.5	220	5.0	220	5.5	230	5.5	220	5.1	220	5.8	230	5.4	230	6.4	230	5.2	240	6.2
3	190	3.2	190	1.7	230	3.2	230	2.3	220	3.2	230	3.9	220	3.2	240	2.7	250	3.0	260	3.0	240	2.8	230	4.2
4	280	1.8	300	2.0	330	1.0	...	...	...	...	...	...	...	...	140	0.5	140	1.0	140	1.3	160	1.5	150	1.3
5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	130	0.5	160	1.5	180	3.0	180	2.4
6	...	...	...	...	...	...	...	...	180	1.5	200	3.3	180	2.4	200	2.4	200	4.2	220	4.0	220	4.9	220	5.1
7	360	2.1	...	...	350	0.6	360	1.5	360	1.9	10	1.0	40	0.9	70	0.8	160	1.5	200	3.2	210	3.8	210	4.9
8	250	6.0	270	4.6	270	3.3	260	4.0	260	4.0	260	4.0	260	4.7	260	5.1	260	5.7	270	5.7	270	6.7	270	5.4
9	210	6.8	210	8.7	220	9.2	220	8.3	230	9.2	230	10.7	240	10.6	250	9.1	250	7.5*	(260)	(7.0)	(260)	(6.0)	(260)	(6.0)
10	(...)	(...)	(...)	(...)	(...)	(...)	(...)	(...)	(...)	(...)	(...)	(...)	(...)	(...)	(220)	(2.0)	(240)	(3.0)	(250)	(4.0)	(260)	(4.0)	(270)	(4.0)
11	(...)	(...)	(...)	(...)	(...)	(...)	(...)	(...)	(...)	(...)	(...)	(...)	(310)	(0.7)	(320)	(1.0)	(330)	(2.0)	(340)	(2.0)	(360)	(2.0)	(20)	(2.0)
12	360	2.0	20	3.1	20	2.6	30	2.5	30	3.5	10	2.8	20	2.9	40	3.0	60	3.8	60	3.5	80	2.1	100	2.0
13	360	0.5	...	...	360	0.5	340	0.7	...	...	...	...	...	...	...	...	150	1.1	200	7.0	210	8.1	210	5.6
14	...	...	...	...	360	0.5	...	...	350	0.5	160	0.5	320	0.5	210	0.5	150	0.7	180	3.2	200	4.1	200	2.5
15	220	4.2	210	4.0	200	3.5	190	3.0	180	4.5	180	5.1	180	7.5	190	8.1	190	9.8	190	9.7	200	10.8	190	8.9
16	230	4.6	240	5.0	250	4.7	260	5.0	260	4.6	260	4.4	270	2.7	270	3.2	270	4.5	260	4.7	260	5.2	260	5.0
17	180	2.8	180	3.1	190	3.6	180	2.8	200	4.5	200	3.6	190	5.0	210	9.0	210	10.2	210	11.1	210	12.5	220	12.9
18	250	12.8	250	11.4	250	8.8	260	6.6	260	5.0	240	5.0	220	3.2	210	3.9	230	6.5	230	7.3	230	7.4	250	7.9
19	220	5.4	240	5.4	240	6.2	250	6.6	250	6.0	240	6.7	240	6.0	240	6.6	240	7.5	250	8.1	260	8.4	250	8.1
20	230	3.7	210	3.2	220	4.9	230	5.4	240	7.1	240	7.8	240	7.5	240	7.7	240	7.3	240	7.8	240	6.8	250	8.0
21	200	3.2	220	3.5	250	5.5	250	5.6	250	5.3	260	4.0	250	3.9	260	4.6	260	6.4	260	6.2	260	6.5	260	6.6
22	340	1.4	130	0.7	120	0.8	300	6.4	300	7.7	270	2.1	250	2.3	220	3.4	250	5.2	240	4.6	290	3.5	270	4.6
23	270	2.1	280	1.6	270	0.4	270	2.6	230	2.0	150	1.8	220	3.2	270	3.3	300	3.7	310	4.8	310	4.6	300	4.9
24	260	0.6	130	0.3	350	1.0	10	0.3	220	0.2	290	0.2	280	0.2	130	0.4	130	0.6	160	0.5	220	3.5	230	4.1
25	210	2.5	210	2.5	190	2.2	200	3.6	210	6.5	220	5.3	210	5.1	210	5.6	210	7.2	220	7.9	210	8.0	210	7.8
26	210	3.0	210	3.2	210	3.6	210	3.6	190	2.5	180	3.0	190	1.2	220	2.5	210	4.8	200	6.0	200	6.6	220	6.5
27	360	0.2	360	0.3	340	0.2	360	0.1	360	0.1	360	0.2	190	0.3	170	0.2	190	3.8	190	7.5	200	6.3	200	8.0
28	210	5.2	210	5.3	200	5.5	210	5.2	200	5.5	190	5.7	190	7.8	200	8.4	200	9.9	210	10.5	210	9.7	210	8.1
29	330	0.8	...	...	...	...	...	...	220	0.4	220	0.1	180	0.1	150	0.5	210	1.4	(230)	(3.4)	(270)	(2.3)	80	0.7
30	...	...	...	...	...	...	...	...	...	...	...	...	130	0.4	200	2.6	220	4.5	250	5.5	250	5.0	270	5.1
31	40	0.3	360	0.2	360	0.2	...	...	...	...	190	0.1	150	0.3	150	0.2	190	3.0	240	7.7	240	9.1	230	8.1
Mean	---	2.8	---	2.8	---	2.8	---	2.9	---	3.2	---	3.1	---	3.1	---	3.6	---	4.6	---	5.5	---	5.7	---	5.6
Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	



Averages for periods of sixty minutes, centred at the Half hours, Greenwich Mean Time.

M.S.L. +  $h_a$  (height of anemograph above ground) = 235 metres + 15 metres.

JULY, 1933.

12 - 13		13 - 14		14 - 15		15 - 16		16 - 17		17 - 18		18 - 19		19 - 20		20 - 21		21 - 22		22 - 23		23 - 24		Mean	Day
°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	m/s.	
290	4.9	300	5.5	300	4.4	280	3.8	280	5.4	290	3.4	300	4.5	300	2.5	300	0.5	320	0.5	330	0.5	...	...	3.1	1
240	1.9	170	1.0	350	1.6	340	2.5	340	3.0	330	2.9	320	2.0	340	0.5	350	0.5	...	...	...	...	...	...	1.1	2
280	4.1	290	5.4	280	5.6	280	4.7	280	4.8	280	2.5	280	1.9	280	3.9	290	4.0	360	0.9	270	0.5	80	1.0	2.1	3
210	3.4	190	3.0	180	3.5	190	3.2	190	3.3	190	3.1	200	2.5	190	2.3	310	1.1	330	0.5	330	0.5	...	...	1.5	4
180	3.5	150	4.0	160	4.6	150	4.8	100	4.5	120	5.0	110	5.2	100	5.1	170	1.5	360	0.5	90	0.5	10	0.5	2.1	5
100	3.3	90	4.7	100	4.8	110	5.1	120	5.2	120	4.3	80	3.7	60	3.2	70	4.0	70	3.9	70	2.7	60	2.0	3.5	6
110	7.6	100	8.7	90	8.5	110	7.3	130	5.2	70	1.7	90	1.7	70	1.9	120	0.9	210	0.5	180	1.5	180	2.8	4.0	7
190	6.5	180	5.0	180	4.0	170	5.7	200	6.5	200	4.3	190	3.0	210	1.3	140	2.0	160	2.2	170	2.4	180	5.0	5.7	8
190	7.8	200	8.8	190	7.8	200	8.3	200	9.4	190	9.3	190	8.1	180	7.3	180	7.2	160	5.0	160	4.8	170	5.8	6.3	9
200	9.5	200	10.2	200	10.3	190	10.2	190	9.4	200	8.2	210	6.5	210	5.7	200	5.5	200	5.5	210	5.7	200	6.4	8.2	10
200	7.8	210	8.2	220	7.2	220	7.5	220	7.6	220	7.0	210	6.2	230	5.6	230	5.1	230	5.3	220	4.6	220	5.5	6.5	11
250	7.7	250	7.0	250	7.1	250	6.6	250	7.4	250	7.8	260	6.6	260	6.5	270	7.2	250	5.2	260	5.2	230	3.6	6.3	12
130	4.4	130	4.3	110	3.3	80	1.4	50	0.5	190	0.9	230	(3.2)	220	4.2	230	4.2	230	3.7	230	2.7	230	3.3	3.2	13
280	3.2	290	3.7	280	5.0	280	5.0	270	5.0	280	5.2	280	4.0	270	3.4	270	3.2	260	2.4	240	2.7	260	1.7	3.0	14
230	2.9	50	2.6	250	3.5	260	3.0	240	3.9	260	2.9	30	1.8	10	0.5	...	...	360	2.2	360	3.0	360	2.0	1.7	15
10	2.1	70	1.3	250	3.6	290	7.3	290	7.4	290	6.5	290	6.0	280	2.6	290	2.1	290	3.1	280	4.0	260	2.1	3.1	16
260	4.2	260	4.2	270	4.8	270	4.7	270	4.7	270	4.7	270	3.6	250	2.7	230	3.8	230	3.1	230	3.6	220	4.1	3.0	17
240	4.0	250	3.7	240	4.4	230	4.8	210	3.9	220	4.5	210	4.0	210	5.2	210	4.3	200	3.3	170	1.3	...	...	3.6	18
190	3.2	200	6.2	210	7.4	200	8.2	190	6.9	200	7.3	200	7.0	200	6.2	210	6.5	200	5.6	210	6.1	200	4.9	3.8	19
220	5.1	210	4.8	180	1.2	210	4.4	240	5.5	240	4.4	260	3.8	190	2.0	260	1.1	250	1.7	260	3.0	260	1.2	3.4	20
240	3.9	250	4.4	270	4.0	290	3.9	270	3.2	280	3.3	270	2.8	270	2.0	290	1.8	310	0.5	310	0.5	310	0.9	2.0	21
260	3.2	270	3.3	270	3.0	260	3.7	290	4.4	300	4.0	280	2.7	270	2.5	300	2.8	300	2.5	290	0.8	...	...	2.0	22
200	6.7	210	7.4	200	7.2	210	5.1	260	4.0	270	4.3	270	3.2	260	2.2	220	2.0	220	3.0	200	2.5	150	1.5	3.1	23
260	5.9	270	6.0	270	5.2	270	5.0	270	5.2	250	4.5	240	2.7	220	2.1	200	1.5	190	3.5	200	6.1	200	6.5	4.0	24
210	6.0	210	5.5	210	5.5	200	4.8	200	4.3	220	5.6	220	5.2	210	4.3	200	4.2	210	3.7	210	2.8	190	2.2	5.1	25
200	8.0	200	8.7	200	7.7	200	6.7	210	6.6	210	6.1	200	5.2	200	5.0	210	5.5	220	4.8	240	2.8	250	1.5	5.1	26
80	0.5	330	1.5	340	5.4	340	6.6	360	6.7	360	5.4	20	2.3	30	1.7	10	2.4	330	3.0	310	5.3	290	4.7	2.3	27
220	8.9	220	9.0	220	8.7	210	7.6	210	6.7	200	5.7	190	4.1	160	1.5	140	0.8	...	...	...	...	...	...	5.1	28
260	3.0	240	3.2	50	3.3	90	1.1	80	2.1	30	4.3	30	3.4	10	1.9	350	1.2	...	...	320	0.7	320	0.7	3.2	29
210	6.2	210	7.4	200	7.9	200	8.7	200	8.4	200	7.7	190	6.3	190	6.0	170	3.8	160	3.3	160	4.4	170	7.0	4.3	30
300	11.3	300	10.2	290	9.5	300	10.8	300	11.3	300	10.6	310	11.4	320	9.5	320	8.0	320	6.3	320	5.5	310	5.2	8.0	31
---	5.2	---	5.4	---	5.5	---	5.6	---	5.5	---	5.1	---	4.3	---	3.6	---	3.2	---	2.8	---	2.8	---	2.7	3.9	

AUGUST, 1933.

°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	m/s.	Day	
300	5.0	280	3.9	270	4.6	270	5.2	270	5.4	260	3.8	240	3.8	220	4.2	210	5.1	200	3.9	200	4.4	210	4.8	5.3	1	
220	6.1	230	6.7	220	5.3	230	5.1	230	5.0	220	5.4	230	4.0	240	3.5	210	3.3	210	3.1	210	2.9	230	4.0	4.9	2	
270	3.2	260	3.0	290	4.0	290	2.8	270	2.9	270	3.0	270	3.0	280	2.3	290	3.2	280	1.7	270	1.1	280	(1.5)	2.8	3	
180	1.3	190	1.6	170	1.5	180	1.5	190	(1.5)	190	(1.5)	...	...	290	1.5	280	0.5	290	0.5	330	0.6	...	...	1.1	4	
190	2.7	200	2.9	210	2.7	190	3.1	220	2.8	200	2.9	210	2.8	220	3.3	270	0.5	...	...	...	...	...	...	1.5	5	
220	3.7	210	3.4	290	5.2	300	6.6	300	6.0	300	6.3	340	2.5	290	1.1	330	2.2	10	1.0	60	1.0	350	1.4	2.9	6	
210	5.4	220	6.1	220	7.2	210	8.1	210	7.8	220	6.5	210	5.0	190	5.8	200	7.6	210	6.6	220	5.5	270	6.5	4.2	7	
270	7.0	270	6.9	270	7.5	270	6.6	270	5.1	270	5.7	250	3.6	220	2.9	220	2.3	210	2.7	180	2.9	160	2.3	4.8	8	
(260)	(6.0)	(260)	(6.5)	(260)	(7.5)	(260)	(6.5)	(260)	(6.5)	(260)	(6.0)	(270)	(4.5)	(270)	(3.0)	(270)	(1.0)	(...)	(...)	(...)	(...)	(...)	(...)	(...)	6.2	9
(270)	(4.1)	(280)	(4.0)	(290)	(4.0)	(290)	(3.5)	(290)	(3.0)	(290)	(3.0)	(290)	(2.5)	(280)	(2.0)	(270)	(1.0)	(...)	(...)	(...)	(...)	(...)	(...)	(...)	2.0	10
(40)	(2.0)	(40)	(2.0)	(40)	(2.0)	(40)	(2.0)	30	3.2	40	3.9	30	2.5	30	2.5	360	2.4	10	2.4	360	2.4	20	2.3	1.8	11	
140	2.0	170	2.4	180	2.0	220	3.7	230	4.1	240	3.8	240	3.2	10	1.2	340	1.5	360	1.0	...	...	360	0.6	2.5	12	
210	6.3	220	5.1	200	4.6	210	4.9	220	5.0	230	4.3	220	2.6	230	1.9	20	0.5	360	0.7	330	1.0	350	0.6	2.7	13	
220	4.0	210	5.6	220	5.1	240	4.3	240	3.3	240	3.5	200	1.9	190	2.3	180	2.8	200	2.6	200	2.9	210	4.2	2.4	14	
180	7.2	180	7.8	210	9.5	220	10.6	220	9.1	230	10.0	240	9.9	260	7.2	270	6.5	250	5.0	250	5.0	260	4.2	7.1	15	
250	5.2	250	5.5	270	4.0	270	3.1	260	3.6	230	5.7	220	5.1	210	4.2	210	3.1	220	3.5	220	2.8	190	2.8	4.3	16	
220	11.9	220	10.9	210	10.4	220	12.0	230	12.5	240	13.0	230	10.8	230	11.2	230	9.3	240	10.4	250	12.5	250	12.5	9.1	17	
240	8.1	250	8.3	240	7.9	240	6.2	220	3.8	210	4.9	210	3.3	220	4.7	210	4.8	220	6.8	230	7.0	230	7.1	6.6	18	
260	8.6	260	7.1	250	7.2	240	7.8	250	5.1	250	4.6	240	4.1	230	3.7	240	3.0	210	2.8	230	2.8	240	3.3	5.9	19	
250	8.4	240	6.9	250	7.0	250	6.6	250	5.5	260	5.4	260	5.2	250	5.2	250	4.7	240	3.6	210	2.5	190	1.6	5.8	20	
260	7.1	270	7.0	280	5.5	290	5.5	290	5.1	290	5.0	360	2.7	160	0.4	360	0.9	160	0.5	170	0.5	350	0.3	4.2	21	
240	6.1	250	6.6	230	6.0	220	8.2	240	7.0	240	5.7	240	5.6	250	3.9	270	2.5	200	1.0	140	0.3	170	0.5	4.0	22	
300	6.0	320	5.3	320	5.9	310	2.5	300	5.1	320	5.2	320	4.8	310	5.5	320	4.5	280	3.0	360	2.3	330	0.3	3.6	23	
210	5.8	220	5.6	230	6.3	220	5.5	210	5.2	210	4.0	210	4.0	200	1.9	210	3.1	190	1.4	220	2.0	210	3.1	2.5	24	
220	8.5	220	8.2	220	9.6	220	11.9	210	7.2	200	6.1	200	4.5	190	3.5	190	3.0	200	3.3	200	2.8	220	2.5	5.6	25	
200	6.5	200	6.4	200	5.4	210	4.6	210	6.0	220	4.0	220	1.3	320	0.4	340	0.6	340	0.4	340	0.5	360	0.1	3.4	26	
200	6.7	210	9.0	210	9.8	220	8.7	210	6.9	200	4.8	210	3.7	210	3.0	300	0.2	120	0.3	150	0.6	210	6.1	3.6	27	
210	6.3	210	5.2	210	3.7	190	2.5	180	2.8	200	3.0	190	1.4	160	0.6	230	0.3	...	...	...	...	...	...	4.8	28	
70	0.8	260	2.6	240	3.4	220	5.0	210	5.8	210	5.0	260	2.1	250	0.3	330	0.1	...	...	150	0.1	150	0.2	1.5	29	
260	7.0	270	6.7	270	7.1	270	6.2	270	5.6	260	2.2	270	2.0	300	1.8	290	2.1	200	1.0	10	0.5	30	0.3	2.9	30	
220	6.5	220	7.1	210	6.4	210	7.0	210	7.0	210	7.4	210	8.2	230	7.0	230	6.9	230	5.2	200	4.3	250	4.3	4.5	31	
---	5.7	---	5.7	---	5.8	---	5.7	---	5.3	---	5.0	---	3.9	---	3.3	---	2.9	---	2.5	---	2.4	---	2.6	4.0		
12 - 13	13 - 14		14 - 15		15 - 16		16 - 17		17 - 18		18 - 19		19 - 20		20 - 21		21 - 22		22 - 23		23 - 24		Mean	Day.		



245. ESKDALEUIR:

H<sub>a</sub> (height of anemograph above M.S.L.) = Height of ground above

Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	
Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	250	4.3	260	2.8	310	1.1	280	1.1	290	2.9	220	0.7	250	1.0	230	1.3	250	5.5	330	4.2	60	1.6	90	1.4
2	340	0.5	340	0.3	360	0.2	360	0.2	...	...	320	0.1	...	...	...	...	160	0.2	150	1.0	220	2.6	260	4.3
3	210	0.9	260	3.4	240	1.2	210	0.3	150	0.1	150	0.1	150	0.7	180	2.0	230	3.4	230	3.2	220	3.5	220	4.3
4	310	0.1	...	...	20	0.3	...	...	...	...	...	...	...	...	...	...	...	...	170	0.6	220	3.0	230	4.0
5	360	2.3	360	2.5	360	3.0	360	2.8	360	2.5	360	2.0	360	1.5	360	1.5	350	1.5	60	0.3	170	1.5	160	2.7
6	260	0.8	280	0.3	340	0.2	350	1.1	340	0.1	350	0.2	350	0.1	...	...	140	0.1	160	0.4	170	0.8	170	2.1
7	20	1.6	20	1.9	360	3.1	10	1.6	40	2.6	30	4.2	30	2.7	40	5.1	40	5.3	30	5.3	30	5.0	50	4.7
8	40	4.2	40	4.2	50	3.3	60	3.8	60	4.2	60	2.6	40	4.9	40	5.6	60	5.8	60	7.2	60	6.2	70	6.2
9	20	(2.0)	20	(2.0)	50	1.6	60	(3.1)	60	(2.5)	50	(2.2)	60	2.4	60	(3.4)	80	3.2	80	4.0	60	4.2	60	4.5
10	10	(2.2)	20	(2.0)	30	(2.0)	40	(1.7)	50	(1.7)	50	(1.7)	50	2.0	60	(2.5)	60	(2.2)	70	2.3	50	2.7	80	3.0
11	10	(2.8)	10	2.9	10	2.7	10	2.2	30	3.3	20	3.3	20	3.7	20	3.6	30	3.4	80	3.5	80	4.0	60	5.3
12	60	2.8	60	2.8	60	3.4	60	3.5	50	(3.2)	50	2.2	40	2.9	60	2.1	60	2.3	60	1.8	60	2.3	40	2.3
13	360	(0.5)	360	(0.2)	360	(0.1)	320	(0.2)	340	(0.5)	360	(0.1)	140	0.2	310	4.9	310	5.7	330	6.5	350	5.1	360	4.0
14	340	8.9	350	8.6	350	8.5	350	3.6	350	6.0	350	6.0	360	3.2	350	6.1	350	6.0	350	5.1	20	5.0	10	3.8
15	170	0.2	120	0.2	220	2.2	210	1.8	190	1.5	200	0.8	210	1.5	210	3.6	230	5.1	230	5.7	240	6.5	220	6.9
16	160	0.5	160	1.2	150	0.9	180	1.9	180	2.8	170	1.7	180	2.3	180	3.0	190	5.0	210	6.0	210	6.9	210	7.2
17	340	0.4	350	0.1	350	0.2	340	0.4	20	0.1	350	0.1	120	0.1	310	0.1	140	0.2	170	2.3	170	3.4	160	4.8
18	180	6.6	190	9.2	210	10.4	210	9.4	250	8.4	290	6.5	270	3.4	240	3.6	260	2.8	280	3.1	280	3.7	300	3.9
19	340	0.6	360	0.4	350	0.1	10	0.1	10	0.5	360	0.7	340	0.9	10	0.3	60	0.1	170	0.5	170	3.0	160	3.5
20	10	0.4	220	0.3	210	1.0	200	0.5	40	0.5	10	1.2	10	2.3	40	2.0	20	2.2	60	2.7	60	4.1	60	5.1
21	10	4.0	350	3.2	10	2.8	360	2.2	20	3.7	30	4.0	30	4.9	30	3.9	40	4.7	40	6.5	50	7.0	60	7.1
22	20	2.2	10	2.5	350	2.0	10	2.5	10	3.3	40	2.9	260	1.1	80	1.5	60	2.4	40	1.2	10	0.6	160	0.7
23	350	1.6	350	3.3	360	2.7	360	1.8	350	2.7	360	2.2	360	2.8	10	3.2	20	1.2	20	2.2	70	3.2	80	3.5
24	30	1.2	360	2.2	10	3.4	20	3.2	20	4.3	20	4.7	20	4.8	20	5.6	20	7.0	20	7.3	20	9.8	20	11.2
25	20	5.2	30	5.5	30	5.2	30	5.0	20	5.2	20	6.0	30	5.8	30	6.7	40	6.9	40	6.5	40	8.5	50	8.6
26	20	6.9	10	6.5	10	5.7	10	5.6	360	4.5	360	5.0	360	3.5	10	3.8	20	4.0	40	4.8	40	5.5	40	6.7
27	70	(1.5)	20	(1.5)	40	(1.5)	10	(2.0)	360	1.7	360	(1.5)	350	1.7	20	1.5	30	2.8	70	4.6	60	5.2	60	5.6
28	30	3.3	20	4.0	10	4.2	10	3.5	10	3.6	20	3.5	20	3.6	20	4.4	30	4.0	30	4.8	40	4.4	50	5.5
29	...	...	...	...	...	...	...	...	...	...	...	...	170	0.4	280	0.1	20	0.2	150	0.5	160	0.6	210	2.4
30	360	0.7	360	1.7	10	1.3	10	1.5	40	1.7	50	4.0	60	3.0	50	3.8	50	3.6	50	4.0	60	4.3	60	5.1
Mean	---	2.3	---	2.6	---	2.5	---	2.3	---	2.5	---	2.4	---	2.3	---	2.9	---	3.2	---	3.6	---	4.1	---	4.7

246. ESKDALEUIR: H<sub>a</sub> = 235 metres + 15 metres.

Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	360	4.0	20	4.2	10	3.9	20	2.6	20	2.2	10	2.1	360	1.9	10	2.2	30	3.2	40	3.5	60	4.0	80	3.9
2	360	(1.0)	360	(0.7)	360	0.1	360	0.3	---	0.0	---	0.0	340	(0.5)	10	1.7	30	5.0	40	4.8	40	5.1	40	5.2
3	340	0.3	340	0.5	330	0.6	320	0.1	330	0.1	330	0.7	330	0.9	350	0.1	---	0.0	120	0.9	190	2.4	210	3.0
4	170	0.2	310	0.3	140	0.8	360	1.0	290	2.3	290	2.3	280	4.2	270	3.3	210	2.2	200	4.6	210	3.8	230	3.5
5	150	0.2	360	0.1	340	0.1	350	0.1	360	0.1	350	0.2	130	0.1	360	0.1	20	0.1	60	1.2	80	2.4	120	2.5
6	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	270	0.1	---	0.0	---	0.0	110	0.3	170	1.3
7	360	0.6	360	1.0	340	1.4	340	1.2	340	1.4	360	2.5	360	3.0	360	3.1	10	2.4	60	4.2	60	4.9	60	5.6
8	60	4.5	60	3.7	70	5.2	60	3.1	20	2.5	360	1.4	310	0.9	240	1.5	240	2.8	230	4.0	240	3.2	260	3.4
9	220	6.8	210	4.9	210	5.0	200	4.6	190	4.5	190	5.8	180	7.5	180	9.6	180	10.4	180	11.1	190	13.2	190	13.5
10	230	7.9	220	4.2	220	3.7	230	1.3	210	0.9	200	1.7	220	3.7	220	4.9	210	6.7	220	9.2	210	10.1	220	10.4
11	210	5.8	220	4.2	240	3.9	230	3.2	280	2.4	310	1.2	300	4.6	270	1.5	280	3.4	270	4.4	270	7.0	260	8.6
12	170	2.0	260	0.6	250	2.0	250	3.4	250	3.8	250	3.3	250	4.4	260	5.0	260	4.0	270	4.1	270	5.6	270	5.0
13	340	0.1	---	0.0	---	0.0	---	0.0	160	1.3	160	2.3	220	5.2	200	4.7	230	8.2	220	8.4	200	7.6	220	9.0
14	210	10.1	230	7.4	230	5.8	240	5.3	240	3.0	200	1.5	180	0.5	120	0.2	180	0.7	220	2.5	250	4.0	240	3.5
15	---	0.0	---	0.0	190	0.3	230	5.3	220	4.2	170	2.1	170	2.0	170	2.7	190	5.2	210	7.1	200	8.6	210	10.3
16	240	9.1	230	7.5	240	7.3	230	8.3	230	7.4	230	8.7	240	8.0	250	7.6	250	7.6	240	6.4	260	5.4	270	5.5
17	260	4.0	270	2.0	290	3.8	300	7.1	330	3.3	140	1.6	270	1.1	230	1.0	310	2.5	310	4.5	310	5.4	290	4.8
18	210	1.0	170	2.6	170	1.5	170	1.0	180	2.8	190	2.5	180	3.4	170	4.4	170	4.2	170	4.3	180	4.8	170	5.6
19	160	4.8	160	3.2	160	4.2	160	6.2	160	4.3	160	2.3	110	1.2	130	1.3	130	3.7	130	4.8	130	6.5	130	6.7
20	110	4.5	80	4.9	80	5.2	90	4.9	90	5.5	90	5.5	80	4.4	40	3.7	50	5.3	50	5.0	80	6.3	90	7.0
21	50	5.1	40	4.2	40	6.8	40	6.7	30	5.7	30	6.1	40	6.5	50	6.5	60	7.3	60	7.6	60	7.1	60	7.3
22	50	4.0	50	2.8	40	1.7	10	2.2	30	1.7	60	1.8	360	0.4	320	0.2	340	0.2	120	0.6	110	2.5	130	3.0
23	10	3.9	360	3.3	10	3.8	360	4.4	360	5.1	360	5.1	360	5.4	360	5.1	360	5.5	10	4.6	20	4.7	20	3.5
24	40	7.0	40	7.2	30	7.5	30	6.4	20	5.5	360	3.6	20	4.0	20	3.6	30	4.8	30	4.8	30	5.3	30	5.7
25	10	8.2	10	9.0	10	8.7	10	8.7	10	7.8	10	8.5	10	8.5	10	7.8	10	8.5	10	8.5	10	9.4	360	9.0
26	350	9.1	350	9.7	360	10.7	250	10.6	350	11.0	350	10.0	350	10.5	340	10.6	340	10.0	340	10.3	350	9.9	350	8.0
27	180	3.3	230	3.8	210	1.7	290	6.9	320	7.0	330	7.1	340	9.9	340	10.0	330	10.3	340	11.8	350	11.0	350	



**M.S.L. +  $h_a$**  (height of anemograph above ground) = 235 metres + 15 metres.

SEPTEMBER, 1933.

12 - 13		13 - 14		14 - 15		15 - 16		16 - 17		17 - 18		18 - 19		19 - 20		20 - 21		21 - 22		22 - 23		23 - 24		Mean	Day
o	m/s.	o	m/s.	o	m/s.	o	m/s.	o	m/s.	o	m/s.	o	m/s.	o	m/s.	o	m/s.	o	m/s.	o	m/s.	o	m/s.	m/s.	
130	0.6	170	1.5	180	1.2	270	3.0	290	3.0	290	2.6	310	2.5	340	1.2	50	0.1	330	0.4	360	0.1	330	0.8	1.9	1
280	3.5	240	3.7	240	4.5	250	3.0	280	4.2	300	4.1	210	2.2	200	3.5	180	0.5	260	0.4	280	1.9	30	0.3	1.8	2
230	5.6	230	5.0	230	5.0	230	5.4	240	4.4	240	2.3	180	1.1	270	0.7	160	1.4	220	1.0	150	0.3	...	...	2.3	3
230	2.7	240	2.0	360	0.8	210	1.7	200	1.3	220	1.6	300	1.4	10	1.5	330	0.7	340	0.5	360	1.3	360	2.5	1.2	4
180	3.7	190	4.3	170	3.0	170	3.1	170	2.2	170	2.0	210	0.4	320	0.9	300	0.3	230	0.5	200	1.5	210	1.0	2.0	5
180	1.8	150	0.7	190	0.5	150	0.2	280	0.4	360	1.7	110	0.8	10	1.0	360	1.4	20	0.1	40	0.3	10	2.9	0.5	6
60	5.0	60	5.0	70	5.3	60	5.2	50	5.4	40	5.0	40	4.8	30	4.5	20	4.8	20	3.1	20	4.0	30	4.2	4.1	7
60	6.6	60	6.8	60	6.5	60	7.2	60	6.2	60	6.4	60	5.6	60	5.0	40	4.2	70	2.1	320	(0.7)	360	(1.8)	5.0	8
60	4.4	70	4.7	60	4.2	70	4.0	100	3.4	110	4.2	80	2.1	30	(1.2)	30	(2.0)	360	(2.3)	10	(1.5)	10	(2.5)	3.0	9
50	2.7	80	3.2	100	3.7	90	4.0	80	4.9	80	3.2	20	2.1	20	2.7	10	1.8	10	2.5	10	2.3	30	1.2	2.5	10
70	5.2	80	4.8	90	3.6	80	5.0	90	5.0	70	2.9	60	2.1	50	2.2	60	2.3	60	3.0	40	3.2	50	2.9	3.5	11
50	2.2	50	3.6	40	3.7	40	3.2	60	3.0	50	1.4	360	1.1	10	2.5	350	(1.0)	350	0.7	360	0.1	360	0.1	2.3	12
20	6.0	30	5.2	30	5.2	20	5.0	360	5.8	360	4.4	360	4.0	340	4.8	340	4.0	330	3.5	330	4.9	340	7.4	3.7	13
360	2.5	310	1.9	310	2.1	270	2.5	280	2.2	300	2.6	260	0.6	310	1.1	20	0.6	340	0.6	160	(1.0)	...	...	3.7	14
230	8.6	230	8.9	230	9.1	230	9.3	230	8.9	230	6.6	200	2.9	200	1.8	220	(2.2)	180	1.2	180	0.3	170	1.7	4.1	15
210	7.6	210	7.5	210	7.2	220	6.2	220	5.5	220	5.2	230	3.8	180	1.3	360	0.3	130	0.1	360	0.5	360	0.5	3.5	16
170	4.7	180	7.7	190	7.8	200	6.4	200	4.5	210	4.9	210	6.0	210	7.9	200	4.6	180	4.5	160	6.5	180	6.5	3.5	17
270	4.4	270	3.8	260	3.0	260	2.5	220	2.5	190	2.9	170	0.4	340	0.1	110	0.1	250	0.1	350	0.1	360	0.4	3.8	18
190	4.0	200	4.0	200	5.2	210	4.0	210	3.4	290	0.5	350	0.5	360	0.4	310	0.4	10	0.1	350	0.4	340	0.5	1.4	19
90	4.2	100	5.0	110	4.7	100	4.5	80	3.9	70	3.1	60	4.5	50	3.9	20	2.3	30	3.3	20	3.5	350	4.0	2.9	20
60	8.0	50	6.5	50	6.3	50	6.2	40	4.5	20	4.0	30	5.1	30	4.5	30	5.2	40	5.2	40	5.0	20	4.3	4.9	21
170	1.3	240	0.6	80	1.5	170	2.1	270	0.6	250	0.7	340	0.3	340	0.5	340	0.6	350	0.5	350	1.2	350	1.0	1.4	22
120	3.4	140	3.2	140	3.1	120	2.5	110	3.2	80	2.8	50	2.5	30	2.5	340	2.5	350	3.0	360	3.9	10	2.7	2.7	23
20	10.8	30	9.8	30	9.5	30	8.0	30	8.3	30	7.2	40	6.8	30	6.0	30	5.4	30	5.2	30	5.5	30	5.6	6.4	24
50	8.1	50	8.2	50	7.9	40	6.0	50	7.1	50	7.6	40	7.3	30	7.6	40	8.0	40	7.1	30	7.4	20	7.5	6.2	25
30	6.0	30	4.8	20	4.2	20	4.4	30	4.0	20	3.5	20	2.9	30	(1.3)	360	(0.7)	70	(0.7)	100	(1.0)	70	(1.5)	4.1	26
60	5.3	60	5.7	90	3.6	50	2.8	50	2.7	40	1.1	10	1.9	20	1.0	20	2.0	10	3.3	20	3.0	30	3.4	2.8	27
50	5.0	60	3.9	60	3.5	40	2.7	60	2.7	40	2.2	30	2.0	20	2.8	20	2.7	40	2.1	60	1.8	70	(1.5)	3.4	28
220	2.8	210	2.1	240	1.9	250	1.9	270	1.2	310	0.5	330	0.3	330	0.8	330	1.0	340	0.9	340	0.7	10	0.1	0.9	29
70	4.4	60	5.2	50	5.0	50	5.6	50	5.2	60	5.2	70	4.5	50	4.8	40	5.0	50	4.5	40	4.1	40	4.1	3.8	30
---	4.7	---	4.6	---	4.4	---	4.3	---	4.1	---	3.4	---	2.7	---	2.7	---	2.3	---	2.1	---	2.3	---	2.5	3.1	

OCTOBER, 1933.

°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	Day.
80	3.9	80	3.4	80	3.1	70	2.7	50	2.7	20	1.3	360	2.0	350	2.0	360	2.2	350	2.0	340	1.3	340	0.9	2.7	1									
50	5.1	50	5.3	40	4.9	50	4.5	40	4.1	60	0.4	290	0.7	320	0.9	340	1.5	350	1.4	350	0.2	340	0.4	2.2	2									
240	3.1	240	4.2	230	2.5	270	2.0	280	2.3	280	2.5	40	1.2	230	0.5	210	2.8	210	3.7	230	1.5	140	0.5	1.5	3									
270	3.9	270	5.0	270	5.1	280	7.4	280	5.7	290	6.3	300	3.7	350	1.9	120	0.9	160	0.9	130	0.2	70	0.1	2.9	4									
160	2.4	170	2.3	170	2.7	170	2.5	190	1.0	290	0.1	320	1.3	310	0.4	290	0.1	---	0.0	---	0.0	---	0.0	0.6	5									
200	2.4	210	3.4	230	3.3	240	2.8	230	2.9	300	2.2	340	1.4	340	0.8	...	...	...	...	...	...	...	...	1.0	6									
60	5.0	60	4.8	50	4.0	50	3.9	40	3.8	40	4.0	50	5.0	60	5.4	50	5.7	40	5.0	30	4.4	50	4.2	3.6	7									
260	3.8	260	4.2	260	4.3	260	5.8	260	6.0	250	6.1	240	6.0	220	5.4	220	4.0	190	2.9	180	3.6	200	5.7	3.9	8									
190	15.2	180	15.8	180	15.7	180	16.0	190	15.9	210	15.2	220	8.7	230	7.7	220	7.4	220	7.1	230	7.4	230	9.0	9.9	9									
230	12.2	220	12.5	220	12.3	220	11.4	210	10.2	220	10.5	190	6.0	190	5.8	190	6.0	190	4.9	200	5.0	200	5.5	7.0	10									
250	9.4	270	6.2	270	6.8	280	7.8	280	8.0	270	6.3	280	7.2	280	5.2	270	5.1	260	5.7	240	4.1	180	1.6	5.1	11									
270	5.2	280	7.5	290	6.8	270	6.0	270	3.0	270	3.0	280	3.7	270	0.5	310	0.5	250	0.2	10	0.2	90	0.2	3.3	12									
220	10.0	220	10.0	220	11.2	210	9.5	210	8.5	200	7.5	200	6.0	200	7.0	210	7.8	200	7.0	190	6.2	200	8.4	6.1	13									
250	3.4	260	2.3	220	2.8	240	2.7	300	1.2	310	0.7	340	0.3	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	2.4	14									
210	11.0	210	11.5	230	11.0	230	8.3	220	8.7	240	9.8	270	7.0	250	6.4	250	5.6	230	7.0	230	7.7	240	7.5	6.2	15									
270	5.9	280	8.0	280	8.7	240	11.3	300	9.3	310	7.4	310	6.2	300	8.6	300	4.5	300	4.5	320	5.5	200	4.6	7.2	16									
280	4.0	250	3.2	260	3.8	240	2.5	230	3.4	240	4.7	220	4.5	220	3.2	180	1.5	150	0.3	180	1.4	170	0.1	3.1	17									
150	4.9	170	8.0	170	7.2	170	5.7	190	4.1	200	3.9	170	2.0	170	1.0	150	4.5	160	4.5	150	4.5	150	6.0	3.9	18									
140	6.7	130	7.4	120	6.7	130	6.7	120	6.5	110	6.6	110	7.0	110	7.3	110	7.5	110	7.4	110	7.3	110	5.9	5.5	19									
90	7.0	90	7.2	90	6.7	80	6.0	70	4.5	60	3.6	60	3.6	50	3.2	30	2.7	20	3.7	30	5.0	50	5.3	5.0	20									
50	7.5	50	8.0	50	7.5	50	7.2	40	6.7	50	5.4	50	4.7	40	4.5	50	5.5	50	5.6	50	5.5	40	4.9	6.2	21									
140	2.4	150	1.7	70	0.6	40	2.5	30	2.5	10	3.7	30	3.4	20	3.5	30	3.4	20	4.1	360	3.8	360	2.6	2.3	22									
30	2.5	20	2.0	20	2.8	70	2.3	60	2.0	50	2.0	30	2.8	350	3.0	330	1.2	360	1.2	10	1.7	40	3.1	3.4	23									
30	5.8	30	6.7	40	7.3	30	8.0	30	7.5	30	8.2	40	7.7	30	7.5	30	7.9	30	9.2	20	9.5	20	8.2	6.6	24									
360	7.7	350	8.3	360	7.6	350	8.2	350	7.7	350	6.6	350	8.4	350	10.1	350	10.7	350	10.3	360	9.5	350	9.5	8.6	25									
360	9.0	350	8.8	350	6.5	360	3.7	340	3.5	350	2.2	160	0.8	230	1.5	150	0.7	260	1.0	230	2.0	180	5.3	6.9	26									
340	11.0	340	10.1	330	9.8	330	10.2	320	10.5	330	8.3	330	7.9	330	8.7	340	8.2	330	9.8	320	9.0	320	9.1	8.6	27									
30	11.0	20	11.1	30	12.0	30	11.9	20	13.5	20	13.2	20	11.3	10	9.7	10	8.2	10	7.6	10	7.4	360	7.0	10.1	28									
350	6.7	350	7.8	360	7.8	360	7.9	360	6.0	360	6.5	360	6.4	360	7.0	360	6.5	10	3.7	10	2.2	10	1.4	5.6	29									
270	4.5	300	5.0	280	3.7	270	3.5	280	3.2	280	3.4	270	2.9	270	2.5	240	2.5	190	2.4	200	2.5	220	4.0	2.9	30									
300	8.0	310	6.6	290	7.2	300	8.7	300	10.2	290	10.2	290	9.9	290	10.7	290	10.9	290	8.5	300	9.7	300	9.7	8.9	31									
---	6.5	---	6.7	---	6.5	---	6.4	---	6.0	---	5.5	---	4.8	---	4.6	---	4.4	---	4.3	---	4.2	---	4.2	5.0										
12 - 13		13 - 14		14 - 15		15 - 16		16 - 17		17 - 18		18 - 19		19 - 20		20 - 21		21 - 22		22 - 23		23 - 24		Mean	Day.									



## 247. ESKDALEMUIR:

H<sub>a</sub> (height of anemograph above M.S.L.) = Height of ground above

Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	
Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	300	9.4	300	9.5	300	10.1	300	8.0	300	7.1	300	6.6	290	3.4	270	3.0	270	3.7	270	3.0	260	2.9	220	3.6
2	300	5.6	290	6.4	300	9.0	290	10.0	300	9.4	310	7.3	300	6.0	290	6.5	290	6.5	300	7.5	300	9.0	320	10.9
3	350	5.4	350	7.6	350	8.1	330	8.5	340	8.2	350	7.9	350	8.0	350	8.9	360	10.1	360	10.0	360	10.4	360	11.1
4	360	3.5	10	3.3	360	4.2	360	6.2	360	7.3	360	5.5	360	4.9	360	3.7	20	2.0	340	1.3	60	1.6	30	2.0
5	110	0.5	150	0.9	140	0.8	140	1.8	140	1.7	140	2.0	140	1.7	160	1.3	150	0.8	170	0.1	130	0.3	150	0.8
6	10	0.1	180	0.1	340	0.4	180	0.5	250	2.4	290	3.7	230	2.3	220	3.0	290	3.6	280	3.4	270	2.7	250	4.1
7	310	4.0	310	4.4	310	4.9	290	5.7	300	3.9	10	1.7	150	0.6	100	0.2	360	3.0	350	1.8	350	0.3	340	0.9
8	320	0.3	340	0.1	320	0.1	350	0.1	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	170	1.1	220	4.1	220	4.3
9	200	5.5	200	5.6	210	6.9	220	5.9	240	6.7	230	6.5	200	3.4	180	2.0	180	2.0	200	4.9	200	5.9	200	6.8
10	160	0.3	210	0.8	160	1.0	190	0.9	190	0.4	190	1.0	200	1.2	250	1.0	230	1.5	180	1.4	270	1.6	350	4.2
11	360	2.9	350	2.0	330	2.3	170	1.2	180	0.3	220	0.3	310	0.7	160	0.2	120	0.1	---	0.0	---	0.0	140	0.8
12	350	0.1	350	0.2	360	0.2	360	0.1	360	0.4	---	0.0	350	0.1	360	0.1	---	0.0	---	0.0	---	0.0	---	0.0
13	---	0.0	360	0.1	330	0.1	360	0.1	---	0.0	---	0.0	---	0.0	220	0.9	190	2.6	170	4.0	190	1.8	160	1.0
14	160	0.7	220	0.4	210	1.4	170	1.4	190	0.5	220	0.5	160	1.0	170	0.9	160	0.6	140	0.1	60	0.2	160	1.0
15	130	3.3	120	3.9	120	6.1	130	7.1	130	8.0	120	8.8	120	9.7	120	10.1	120	9.9	110	10.9	110	10.5	110	9.5
16	40	7.4	40	7.3	40	7.7	40	5.1	40	5.5	30	6.5	40	6.2	30	6.2	30	6.3	40	5.3	40	5.1	40	8.3
17	20	2.9	360	4.3	360	4.0	360	3.8	350	3.2	350	3.2	360	2.6	360	1.7	360	3.2	360	2.3	20	2.4	20	2.4
18	20	4.0	30	4.2	20	5.7	30	5.3	40	5.2	50	5.0	50	4.5	50	4.1	60	5.5	30	3.9	40	5.6	40	7.2
19	110	3.6	120	2.7	110	2.7	140	2.8	140	2.7	130	2.7	130	4.8	120	3.0	90	3.0	110	5.8	120	3.0	110	2.2
20	120	2.0	150	2.0	140	2.3	140	1.7	150	2.1	160	2.4	160	2.5	160	3.2	170	3.2	160	2.5	150	2.1	160	2.3
21	20	1.5	40	0.6	20	3.4	10	2.8	360	2.4	360	2.2	360	1.9	10	1.7	30	1.9	40	2.5	40	3.1	40	2.7
22	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	360	0.1	340	1.1	320	1.0	320	2.0	160	0.6	130	0.2	30	0.9
23	---	0.0	330	0.1	320	0.1	310	0.2	---	0.0	---	0.0	---	0.0	310	0.2	280	0.2	---	0.0	---	0.0	---	0.0
24	360	2.2	360	2.4	340	1.0	340	2.4	360	4.0	350	3.5	360	2.8	10	3.2	340	2.0	350	3.9	350	4.3	10	4.9
25	360	4.5	360	3.6	10	3.8	10	4.1	10	4.2	10	3.6	60	2.8	360	0.2	20	0.7	20	1.7	20	1.5	50	2.7
26	330	0.6	350	0.7	350	2.1	340	0.7	340	0.5	350	1.1	360	0.4	360	0.5	350	0.4	10	1.1	220	0.8	340	0.4
27	10	1.7	360	2.0	20	1.4	10	0.7	10	1.6	20	2.7	360	1.8	30	0.5	40	0.8	20	0.2	20	0.5	50	1.1
28	50	3.3	60	2.9	60	2.2	50	2.1	50	2.5	40	1.7	60	3.2	60	3.2	50	2.1	60	3.3	60	3.7	90	3.6
29	120	3.5	130	3.7	140	4.3	150	3.9	140	4.8	150	3.8	150	4.9	150	4.0	150	4.2	150	3.7	150	4.9	150	5.0
30	360	0.4	260	0.1	170	0.1	170	0.1	---	0.0	---	0.0	---	0.0	---	0.0	140	0.5	160	2.6	160	3.0	150	4.6
Mean	---	2.6	---	2.7	---	3.2	---	3.1	---	3.2	---	3.0	---	2.7	---	2.5	---	2.7	---	3.0	---	3.1	---	3.6

248. ESKDALEMUIR: H<sub>a</sub> = 235 metres + 15 metres.

Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	360	0.5	360	0.7	30	1.6	60	3.5	70	5.1	120	5.8	150	5.5	140	5.0	130	5.7	130	7.5	130	6.3	130	7.6
2	100	1.9	140	2.7	150	1.6	120	2.3	130	3.3	120	4.7	120	2.1	60	1.7	80	3.9	110	4.0	90	2.7	120	6.2
3	50	1.7	50	1.4	60	3.4	50	3.6	50	3.0	50	2.6	60	2.8	60	3.3	60	4.2	60	4.6	70	5.0	70	5.3
4	70	4.5	70	4.4	70	5.8	70	5.0	60	3.9	70	4.5	60	3.9	70	4.4	60	4.0	60	5.9	50	6.1	60	6.8
5	50	5.5	70	6.5	50	6.2	60	7.5	50	4.9	60	6.0	70	6.3	50	4.5	50	3.0	40	3.9	60	5.0	60	4.6
6	30	0.1	30	0.1	20	0.6	20	0.2	---	0.0	10	0.5	10	0.8	350	0.3	10	0.2	70	0.1	(170)	(0.2)	(40)	(0.7)
7	30	3.3	30	3.1	30	3.8	50	4.7	30	2.2	30	2.8	40	4.0	80	5.5	80	6.4	90	5.2	70	4.0	70	4.8
8	40	2.8	40	2.6	50	2.7	50	2.3	60	2.5	50	2.0	50	1.8	40	0.9	50	1.1	50	2.0	60	2.1	40	1.0
9	20	6.2	20	6.0	30	5.7	20	6.1	20	6.7	20	6.6	20	7.2	20	7.0	20	6.4	20	7.0	30	7.4	30	7.1
10	50	0.4	360	0.4	10	0.4	350	0.5	360	0.1	360	0.8	360	0.2	40	0.7	10	0.5	30	0.6	30	0.5	20	1.5
11	350	0.1	---	0.0	340	0.2	350	0.6	330	0.1	350	0.1	---	0.0	---	0.0	---	0.0	---	0.0	160	0.2	140	0.1
12	180	3.0	180	2.5	170	1.6	170	2.1	180	2.9	190	3.0	180	0.3	---	0.0	180	0.3	220	0.1	160	0.2	140	0.2
13	50	5.7	60	4.7	40	4.4	40	5.7	40	6.3	30	6.6	40	6.7	50	5.3	50	5.9	50	6.0	50	5.9	40	5.1
14	30	1.3	360	1.5	360	2.1	20	1.0	20	0.2	350	0.6	120	0.3	250	0.2	20	0.1	150	0.1	---	0.0	---	0.0
15	10	6.0	360	6.6	360	6.5	360	6.2	360	5.3	10	5.8	360	5.5	360	4.7	360	4.2	70	0.3	90	0.2	360	1.0
16	360	0.6	330	0.1	---	0.0	---	0.0	350	0.1	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0
17	350	0.1	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0
18	200	2.1	200	0.2	190	1.3	180	1.8	180	2.3	180	1.7	180	1.3	210	1.5	190	2.6	190	3.2	190	3.0	210	3.5
19	220	2.1	70	0.5	150	1.1	160	1.8	190	1.1	150	0.2	160	0.2	310	0.1	200	0.2	230	0.2	240	0.1	360	0.1
20	340	0.3	330	0.8	310	0.7	330	0.1	320	0.4	320	0.5	330	0.4	320	0.2	320	0.3	---	0.0	---	0.0	---	0.0
21	200	3.5	200	4.1	200	3.2	190	3.4	190	3.7	190	3.4	190	2.8	190	2.7	200	4.2	200	4.7	190	3.5	190	4.6
22	210	6.8	200	5.9	200	6.2	200	7.0	200	6.4	200	6.4	210	6.9	190	5.1	190	3.5	200	4.7	200	3.5	200	6.5
23	210	5.2	220	5.8	200	4.1	200	4.2	210	4.1	190	3.6	220	6.0	230	4.7	210	2.5	200	3.2	240	5.1	230	4.7
24	210	6.2	200	6.1	210	7.0	210	8.0	200	6.5	210	7.5	210	7.3	210	7.0	210	6.5	210	6.3	210	5.6	210	4.9
25	200	7.7	200	7.1	200	6.3	190	6.3	200	6.4	200	4.9	200	5.0	200	4.0	190	4.0	200	5.0	210	5.5	210	6.7
26	160	2.3	160	2.0	170	2.4	190	2.2	190	1.5	190	1.1	200	2.0	190	1.5	170	1.5	170	1.3	170	1.5	160	2.1
27	---	0.0	230	0.2	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	160	0.8	160	2.0	180	1.4	160	3.2	170	3.0
28	50	2.8	50	3.3	50	2.9	50	2.5	50	3.2	30	2.6	20	4.5	20	3.6	30	3.3	30	2.4	30	4.0	30	3.4
29	360	0.3	---	0.0	330	0.1	---	0.0	330	0.3	340	0.1	30	0.4	250	0.4	340	0.1	---	0.0	---	0.0	---	0.0
30	190	2.4	170	3.6	180	6.4	180	4.9	200	4.1	230	3.4	220	2.8	210	2.9	230	3.9	210	3.7	230	6.7	220	5.3
31	330	4.2	310	2.5	310	4.4	180	3.0	320	3.2	200	1.3	80	0.2	300	0.5	200	0.2	---	0.0	---	0.0	120	0.1
Mean	---	2.9	---	2.8	---	3.0	---	3.1	---	2.9	---	2.9	---	2.8	---	2.5	---	2.6	---	2.7	---	2.8	---	3.1
Annual Mean	---	3.3	---	3.2	---	3.2	---	3.2	---	3.2	---	3.1	---	3.2	---	3.4	---	3.9	---	4.4	---	4.8	---	5.1
Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	



## WIND: DIRECTION AND SPEED.

233

Averages for periods of sixty minutes, centred at the Half hours, Greenwich Mean Time.

M.S.L. +  $h_a$  (height of anemograph above ground) = 235 metres + 15 metres.

NOVEMBER, 1933.

12 - 13	13 - 14	14 - 15	15 - 16	16 - 17	17 - 18	18 - 19	19 - 20	20 - 21	21 - 22	22 - 23	23 - 24	Mean	Day
° m/s.	° m/s.	° m/s.	° m/s.	° m/s.	° m/s.	° m/s.	° m/s.	° m/s.	° m/s.	° m/s.	° m/s.	° m/s.	
200 3.7	200 3.8	190 2.7	210 2.9	290 7.4	290 8.2	290 5.9	290 4.9	300 7.7	300 10.1	300 9.4	290 10.2	290 6.1	1
320 11.9	330 13.3	340 13.2	340 13.9	350 13.8	350 13.5	350 14.0	350 9.5	350 7.0	350 8.0	350 6.3	40 2.6	2.2	2
360 10.8	360 9.2	10 8.3	10 8.6	10 9.0	10 7.6	10 6.1	360 5.9	360 4.9	360 4.3	350 5.3	350 4.9	7.9	3
340 1.4	350 2.2	360 0.5	---	0.0	330 0.1	340 0.5	340 0.1	210 0.2	90 0.2	150 0.7	150 0.1	2.1	4
360 0.1	270 1.6	270 1.9	290 2.1	350 1.5	350 0.2	330 0.1	340 0.2	10 0.1	190 0.1	10 0.1	320 0.1	0.9	5
250 4.4	270 3.5	270 2.4	320 2.0	240 3.1	360 1.5	280 6.2	290 8.6	290 10.3	290 6.0	280 3.0	320 2.5	3.3	6
50 0.5	150 0.1	---	0.0	20 0.1	360 0.4	300 0.2	20 0.1	---	0.0	---	0.0	1.4	7
220 4.3	220 3.8	220 4.1	220 3.7	200 3.2	210 3.2	210 3.6	200 4.3	200 5.4	200 5.2	200 5.1	200 6.0	2.6	8
200 6.9	220 8.0	230 7.9	230 6.3	260 5.7	290 3.1	280 0.6	260 2.2	260 2.9	220 1.9	150 2.0	180 0.9	4.6	9
350 4.2	350 4.2	340 4.3	350 2.7	360 1.5	360 0.9	270 0.3	280 0.7	350 3.6	20 1.7	360 1.6	340 4.6	1.9	10
190 2.2	220 2.8	220 2.7	240 0.7	320 1.4	340 0.9	350 0.5	340 0.2	350 0.4	340 0.3	350 0.7	360 0.4	1.0	11
---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	0.1	12
180 5.5	170 6.4	210 5.4	270 3.8	250 3.7	270 4.3	270 4.4	270 4.5	260 4.9	260 1.8	170 0.4	230 0.3	2.3	13
150 1.8	160 1.8	160 0.5	180 0.5	210 0.4	160 1.1	160 2.1	150 2.1	150 3.7	150 4.2	150 4.0	140 2.6	1.4	14
120 10.6	110 8.6	90 8.9	90 7.3	80 8.4	60 6.4	60 4.7	50 7.1	40 6.8	50 6.0	40 6.9	40 7.3	7.8	15
40 9.0	60 5.6	30 6.5	30 7.9	20 8.4	30 9.9	20 7.7	20 7.6	20 7.5	20 6.1	10 4.0	20 3.4	6.7	16
20 3.3	20 4.7	30 5.0	30 5.7	30 3.5	20 4.8	20 6.4	20 6.9	20 5.8	20 5.8	20 5.4	20 4.2	4.1	17
40 7.8	50 6.7	60 8.0	50 8.2	50 7.3	50 6.5	40 6.2	60 5.4	60 4.3	90 3.3	110 3.5	110 4.4	5.5	18
40 2.8	360 3.7	30 3.8	40 4.5	70 3.9	70 4.0	70 3.9	70 4.0	70 4.5	50 2.9	60 2.9	70 1.3	3.4	19
150 3.7	150 2.8	160 0.8	180 0.1	270 0.1	360 0.5	10 0.4	360 0.6	10 1.3	360 1.9	20 0.9	30 0.7	1.8	20
40 3.2	50 2.6	40 2.6	40 1.5	10 1.5	20 1.4	30 1.5	40 1.5	360 0.1	350 0.1	320 0.1	---	0.0	21
30 1.2	70 0.6	60 0.5	330 0.5	330 1.3	330 0.4	40 0.1	---	0.0	---	0.0	---	0.0	22
---	0.0	---	0.0	---	0.0	350 0.6	60 0.5	10 0.4	340 1.5	10 0.1	340 1.0	0.3	23
20 6.7	20 6.2	360 5.1	360 4.1	360 4.6	10 5.5	360 4.8	10 5.1	10 6.2	10 4.4	10 4.2	10 4.7	4.1	24
70 3.1	70 3.1	60 3.4	50 1.5	50 1.5	40 2.3	30 2.0	350 0.5	350 0.3	350 0.4	360 0.3	360 0.2	2.2	25
10 0.2	40 1.0	40 1.0	20 1.0	20 1.1	10 0.5	20 1.4	10 1.5	10 1.7	20 1.6	10 1.3	10 1.4	1.0	26
50 2.9	50 3.1	40 2.5	60 4.5	50 3.7	50 2.2	360 0.6	360 0.8	30 1.7	60 3.1	60 3.5	60 2.9	1.9	27
110 3.7	110 3.2	110 3.0	110 2.7	(100) (3.5)	(110) (4.5)	110 5.1	120 3.8	130 3.1	130 3.4	140 3.2	130 2.7	3.2	28
150 5.8	150 6.6	150 5.0	170 2.6	170 0.3	130 0.5	120 1.7	10 0.1	360 0.9	350 0.7	350 1.2	340 0.6	3.2	29
160 4.5	160 4.2	160 3.5	140 3.1	130 3.0	110 1.8	160 3.5	140 1.9	150 0.6	10 0.1	310 0.2	350 0.9	1.6	30
---	4.2	---	4.1	---	3.8	---	3.4	---	3.0	---	3.2	---	
---	---	---	---	---	---	---	---	---	---	---	---	---	

DECEMBER, 1933.

12 - 13	13 - 14	14 - 15	15 - 16	16 - 17	17 - 18	18 - 19	19 - 20	20 - 21	21 - 22	22 - 23	23 - 24	Mean	Day
° m/s.	° m/s.	° m/s.	° m/s.	° m/s.	° m/s.	° m/s.	° m/s.	° m/s.	° m/s.	° m/s.	° m/s.	° m/s.	
120 8.5	110 7.0	120 9.0	120 7.8	110 5.8	120 5.6	120 3.0	130 4.8	130 5.1	140 6.1	130 5.1	90 3.2	5.2	1
120 6.5	120 6.0	110 4.3	110 4.0	90 3.5	70 3.0	70 3.2	70 4.2	70 3.2	60 2.5	90 0.5	80 0.8	3.3	2
80 5.0	80 5.5	80 4.6	80 3.5	70 3.5	90 6.6	80 6.4	80 5.5	80 4.5	70 3.8	60 4.0	50 3.5	4.1	3
60 5.6	60 7.8	60 8.5	50 6.1	60 9.5	40 7.0	40 7.1	50 10.1	50 9.4	60 8.5	60 7.1	50 5.6	6.3	4
50 4.3	70 5.0	50 4.4	40 2.1	50 3.0	60 2.1	50 1.9	60 2.0	60 1.7	50 0.8	40 0.5	30 0.1	3.8	5
30 2.4	30 3.0	40 2.8	40 2.9	50 3.9	40 4.3	40 4.5	40 5.5	40 5.1	40 3.5	30 1.9	20 2.7	1.9	6
90 5.7	80 4.5	70 4.9	70 3.6	70 4.2	60 4.6	60 5.1	70 4.7	60 3.0	50 2.5	50 2.9	50 2.8	4.1	7
40 2.8	40 3.5	50 2.6	50 1.5	50 1.4	40 2.2	40 2.9	20 4.9	20 4.6	40 2.4	20 3.3	10 4.7	2.5	8
30 7.5	30 7.0	40 5.0	50 2.8	40 3.1	40 4.9	70 3.4	60 3.1	60 2.7	80 1.6	60 0.2	60 0.6	5.1	9
20 3.0	20 2.5	10 2.1	360 1.5	360 1.1	10 1.4	30 0.9	360 1.6	360 0.3	340 0.1	340 0.1	350 0.1	0.9	10
230 1.0	270 1.7	270 1.8	220 1.6	160 0.2	180 0.1	---	0.0	---	0.0	150 0.2	170 0.3	0.5	11
150 0.3	130 1.9	120 0.6	140 1.4	140 1.5	130 0.6	360 0.8	360 1.5	360 2.0	40 3.3	30 4.3	40 4.6	1.6	12
50 5.7	50 5.2	50 3.6	40 3.7	40 3.4	50 3.9	40 4.7	50 1.4	50 0.8	50 2.7	50 1.7	50 4.6	4.6	13
150 0.6	200 1.4	280 0.5	120 0.3	90 0.1	340 3.4	20 2.0	350 1.7	360 4.1	20 2.3	10 1.0	10 3.9	1.2	14
10 1.7	360 2.0	350 0.9	---	0.0	290 1.0	330 1.5	340 1.0	---	0.0	320 0.1	330 0.2	2.5	15
170 0.2	---	0.0	---	0.0	---	0.0	---	0.0	350 0.1	340 0.5	340 0.1	0.1	16
---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	0.0	17
220 5.5	200 3.7	190 2.2	180 2.5	190 3.6	200 3.0	200 2.0	230 3.1	230 3.0	200 2.9	230 3.2	220 2.7	2.6	18
150 0.1	130 0.1	110 0.1	340 0.6	---	0.0	180 0.2	200 0.1	20 0.1	300 1.2	300 0.8	330 0.1	0.0	19
---	0.0	140 0.4	160 1.0	190 1.6	190 1.8	190 1.4	210 1.7	200 2.4	190 2.7	200 2.5	200 3.2	1.0	20
200 4.9	210 4.8	210 5.2	220 4.9	200 3.2	210 4.5	210 5.3	200 4.8	200 6.7	200 6.7	210 7.8	210 8.0	4.6	21
200 6.7	200 8.3	200 7.9	190 5.7	190 6.5	180 4.4	190 7.1	200 6.0	200 4.6	200 4.0	200 4.3	190 3.8	5.7	22
230 4.9	220 6.4	210 6.3	200 3.6	200 4.0	200 3.2	210 3.5	210 4.4	210 4.9	210 5.6	210 5.0	210 5.1	4.6	23
210 2.9	210 4.7	210 7.1	200 7.1	210 5.4	200 4.0	210 4.3	210 5.7	210 5.5	210 5.9	200 5.7	200 6.4	6.0	24
210 6.9	220 6.5	210 6.7	210 6.4	200 6.7	200 7.6	190 7.1	190 6.1	170 4.0	170 3.1	170 2.5	170 3.0	5.6	25
180 1.9	210 1.6	190 1.0	190 0.2	210 0.1	---	0.0	330 0.2	10 0.1	320 0.3	330 0.5	360 0.1	---	26
160 3.6	160 3.0	150 2.7	140 3.0	140 1.7	120 1.1	80 3.6	90 4.6	100 4.4	80 4.4	50 3.2	40 2.6	2.0	27
30 4.9	30 5.0	40 5.5	40 5.3	40 4.8	40 2.6	20 3.3	20 3.0	20 4.5	10 2.6	10 1.4	20 0.8	3.4	28
---	0.0	---	0.0	180 0.8	170 0.9	180 0.2	190 0.4	180 1.2	190 0.8	170 1.1	190 2.3	0.5	29
210 3.3	270 4.2	250 4.9	280 4.8	290 6.0	310 7.7	320 7.9	330 8.0	340 7.3	350 7.3	350 6.7	330 5.5	5.3	30
150 0.1	160 1.1	180 1.9	210 2.0	210 2.2	170 1.4	210 1.1	170 1.0	180 1.8	160 2.7	190 3.8	180 3.9	1.8	31
---	3.5	---	3.7	---	3.5	---	3.0	---	3.1	---	3.0	---	
---	5.4	---	5.5	---	5.4	---	5.2	---	5.0	---	4.6	---	
---	---	---	---	---	---	---	---	---	---	---	---	---	
12 - 13	13 - 14	14 - 15	15 - 16	16 - 17	17 - 18	18 - 19	19 - 20	20 - 21	21 - 22	22 - 23	23 - 24	Mean	Day

0-1h 1st January 1934 180 2.9



249. ESKDALEMUIR:  $H_a = 235$  metres + 15 metres.

1933.

	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
Day.	Max in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max in a Gust.	Time of Gust.	Max in a Gust.	Time of Gust.	Max in a Gust.	Time of Gust.	Max in a Gust.	Time of Gust.	Max in a Gust.	Time of Gust.	Max in a Gust.	Time of Gust.	Max in a Gust.	Time of Gust.	Max in a Gust.	Time of Gust.	Max in a Gust.	Time of Gust.	Max in a Gust.	Time of Gust.
1	m/s.	h. m.	m/s.	h. m.	m/s.	h. m.	m/s.	h. m.	m/s.	h. m.	m/s.	h. m.	m/s.	h. m.	m/s.	h. m.	m/s.	h. m.	m/s.	h. m.	m/s.	h. m.	m/s.	h. m.
2	14	2 35	25	2 50	13	23 40	18	13 35	13	11 0	13	11 50	10	8 10	12	6 5	15	8 30	8	0 45	18	23 20	15	12 10
3	32	21 15	23	15 45	10	0 50	20	21 40	14	17 5	9	5 55	5	15 35	10	16 30	10	12 10	12	8 25	25	18 45	12	11 25
4	23	18 30	14	22 55	17	4 40	20	11 10	15	9 5	10	11 40	9	13 15	8	15 30	10	12 40	8	13 40	21	9 5	13	18 10
5	19	12 55	17	4 40	12	23 5	12	10 45	11	18 40	10	12 40	6	13 40	4	12 15	7	10 55	15	15 55	7	4 45	17	19 40
6	17	0 40	20	10 30	16	16 10	8	9 40	13	18 55	13	15 15	8	14 10	6	13 15	7	13 0	6	9 50	6	13 50	16	3 25
7	21	0 40	13	0 20	18	21 30	9	12 45	13	16 50	9	13 25	9	7 30	10	16 5	6	11 10	6	13 35	17	20 35	13	20 5
8	21	15 30	9	20 45	21	20 45	9	14 45	11	17 50	8	15 45	15	15 0	14	23 55	10	8 5	10	19 40	13	1 55	15	12 50
9	22	22 35	21	14 20	21	18 15	9	23 50	13	16 15	12	9 35	14	0 35	14	14 35	13	16 20	16	17 0	11	23 5	9	23 50
10	20	0 5	20	14 30	19	09 10	15	5 5	15	13 40	9	7 20	14	17 45	17	5 45	9	12 40	29	17 5	14	14 0	14	10 20
11	13	23 30	15	5 50	4	05 20	17	10 0	10	9 50	8	12 20	16	6 35	-	-	9	16 50	20	13 30	11	11 55	5	12 55
12	11	0 20	12	23 25	11	12 50	12	3 15	13	21 10	8	15 50	14	15 0	(8)	17 5	9	13 55	19	15 50	9	0 1	5	13 35
13	7	16 30	15	0 0	6	13 40	16	14 55	11	14 30	10	15 35	14	17 40	8	15 10	8	14 30	17	13 25	2	22 10	9	22 5
14	6	6 50	20	13 50	12	13 0	13	1 45	11	17 5	12	5 35	10	8 20	13	10 25	15	16 20	20	14 15	13	17 50	13	8 25
15	24	23 40	11	3 30	17	22 10	12	16 15	17	13 10	7	12 30	10	14 10	10	13 55	17	2 20	18	0 50	9	22 20	9	21 0
16	24	1 40	9	12 5	20	00 50	13	2 50	8	17 15	11	16 25	8	16 5	18	18 15	16	13 20	23	17 50	20	10 15	13	3 55
17	3	24 0	15	17 50	25	03 10	15	1 35	6	8 40	20	18 25	12	16 20	11	10 35	12	12 10	20	15 55	23	12 20	3	0 15
18	5	9 30	15	13 55	7	16 25	8	23 15	6	11 25	14	0 50	10	15 10	21	11 0	13	14 10	15	3 10	14	18 30	3	24 0
19	4	11 35	18	10 30	11	18 50	18	3 25	8	20 15	11	15 10	9	9 20	23	0 30	18	7 50	13	13 40	16	16 10	10	12 40
20	4	24 0	15	0 10	11	19 15	14	10 35	8	13 55	15	13 30	12	15 15	17	10 45	9	12 50	15	21 25	12	9 35	4	0 45
21	5	12 40	15	22 40	10	14 10	15	11 25	12	14 55	5	11 5	10	12 30	15	12 35	11	23 35	15	13 10	8	0 15	6	23 40
22	9	13 10	17	15 45	12	13 50	8	14 55	8	0 55	9	15 20	8	13 35	16	11 20	15	13 5	14	13 30	7	2 25	13	22 40
23	5	0 55	15	1 50	13	15 5	7	14 50	7	15 35	5	18 30	7	16 15	14	3 55	7	4 10	9	21 5	4	8 40	15	14 5
24	3	2 35	11	3 10	15	16 0	14	11 35	9	17 35	9	15 35	11	13 15	12	13 25	7	13 15	12	8 40	5	24 0	12	6 45
25	4	16 40	20	19 40	13	11 0	11	16 30	12	23 25	14	23 20	11	10 30	9	12 35	21	11 40	18	23 5	12	17 50	13	3 0
26	4	13 0	26	8 5	9	11 55	9	11 25	12	0 20	13	0 25	11	1 20	17	15 30	16	20 20	18	20 35	9	0 5	12	17 10
27	5	20 55	24	16 30	5	12 50	14	17 15	11	12 55	9	11 30	13	13 50	12	13 0	13	1 35	20	8 45	6	21 50	5	2 55
28	6	13 55	16	10 30	8	15 40	17	14 0	6	13 10	10	21 25	16	16 25	15	14 50	10	12 45	21	9 45	9	14 50	9	19 50
29	6	16 50	11	13 0	8	15 25	11	0 20	7	10 35	7	18 10	14	2 20	17	9 50	11	11 35	24	17 35	9	18 45	11	15 40
30	6	10 45	-	-	11	11 55	7	15 0	6	15 20	7	14 40	9	10 55	9	17 5	5	11 50	16	17 15	11	13 5	6	23 10
31	13	23 20	-	-	16	12 55	12	16 5	7	-	10	16 0	12	23 25	15	14 25	10	17 5	10	13 55	10	13 30	15	18 10

## DISTRIBUTION OF WIND SPEED: EXTREME VELOCITIES AS RECORDED BY THE DINES TUBE ANEMOGRAPH.

250. ESKDALEMUIR:  $H_a = 235$  metres + 15 metres.

1933.

Month.	DISTRIBUTION OF WIND SPEED.								EXTREME VELOCITIES.				
	More than 17.1 m/s.		10.8 to 17.1 m/s.		5.5 to 10.7 m/s.	1.6 to 5.4 m/s.	Less than 1.6 m/s.	No Record.	Highest Hourly Wind			Highest Gust.	
	Dates of Occurrence.	Duration.	No. of Days.	Duration.	Duration.	Duration.	Duration.	Duration.	Veer from N.	Speed.	Mid Time.	Speed.	Date.
Jan. ...	2nd, 31st.	hr. 8	10	hr. 71	hr. 141	hr. 245	hr. 279	-	° 190	m/s. 22	day h. m. 2 21 30	m/s. 32	day h. m. 2 21 15
Feb. ...	-	-	12	96	262	236	78	-	210	16	1 0 30	26	25 8 5
Mar. ...	-	-	7	33	251	265	195	-	200 { 230	14	8 18 30 { 15 0 30	25	16 3 10
Apr. ...	-	-	6	23	284	300	113	-	260	13	3 12 30	20	3 11 10
May ...	-	-	-	-	124	380	240	-	60	11	3 9 30	17	14 13 10
June ...	-	-	1	3	130	347	240	-	200	14	16 18 30	20	16 18 25
July ...	-	-	1	4	190	380	170	-	310	11	31 18 30	19	31 18 15
Aug. ...	-	-	4	16	203	340	185	-	240	13	17 17 30	23	18 0 30
Sept. ...	-	-	1	2	107	395	216	-	20	11	24 11 30	21	24 11 40
Oct. ...	-	-	9	34	267	304	139	-	180	16	9 16 30	29	9 17 5
Nov. ...	-	-	3	11	130	305	274	-	350	14	2 18 30	25	2 18 45
Dec. ...	-	-	-	-	145	334	265	-	50	10	4 19 30	17	4 19 40
Year ...	2 days	8	54	293	2234	3831	2394	-	190	22	Jan. 2 21 30	32	Jan. 2 21 15



TEMPERATURE IN THE GROUND AT DEPTHS OF 30 CM. (1 foot) AND 122 CM. (4 feet).  
Readings in degrees absolute, at 9h Greenwich Mean Time.

235

251. ESKDALEMUIR.

1933.

Day.	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
	30cm.	122cm.	30cm.	122cm.	30cm.	122cm.	30cm.	122cm.	30cm.	122cm.	30cm.	122cm.	30cm.	122cm.	30cm.	122cm.	30cm.	122cm.	30cm.	122cm.	30cm.	122cm.	30cm.	122cm.
	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	78.5	79.9	74.4	78.4	74.8	77.9	78.2	78.4	80.8	79.9	85.8	82.0	88.1	84.1	88.0	85.6	87.8	86.0	86.4	85.6	80.8	83.9	77.9	81.5
2	78.3	80.0	74.5	78.3	74.8	77.7	78.4	78.4	80.5	79.9	86.0	82.0	89.0	84.2	88.3	85.6	87.9	86.0	86.0	85.5	80.8	83.8	77.7	81.4
3	78.7	80.0	74.4	78.3	74.8	77.9	78.8	78.5	80.5	80.0	86.2	82.1	89.7	84.2	88.7	85.6	88.0	86.1	85.4	85.5	80.6	83.8	77.7	81.3
4	78.4	80.0	74.6	78.2	74.9	77.7	79.1	78.5	80.5	80.0	86.4	82.2	90.0	84.3	89.3	85.6	88.1	86.1	85.2	85.4	80.3	83.6	77.7	81.3
5	78.0	79.9	74.8	78.1	75.4	77.6	79.6	78.6	81.2	80.0	88.1	82.3	90.6	84.4	90.0	85.3	88.4	86.1	85.0	85.4	80.1	83.6	77.7	81.3
6	77.7	79.9	75.2	78.1	76.0	77.6	80.0	78.6	81.8	80.1	88.1	82.4	90.8	84.7	90.6	85.7	88.8	86.1	85.1	85.4	80.2	83.2	77.5	81.1
7	77.5	79.8	75.9	78.1	76.8	77.6	80.7	78.6	82.1	80.1	88.8	82.6	90.8	84.9	90.5	85.7	89.0	86.1	85.0	85.3	80.7	83.1	77.7	81.1
8	77.9	79.9	76.6	78.1	76.8	77.5	80.8	78.7	82.0	80.1	88.9	82.7	90.2	84.9	90.0	85.8	89.0	86.1	85.0	85.3	80.9	83.1	77.8	81.1
9	78.2	79.8	77.4	78.1	76.8	77.6	81.0	78.7	82.6	80.1	88.3	82.8	90.0	84.9	89.6	85.9	88.2	86.0	85.2	85.3	81.0	83.1	77.7	81.1
10	77.7	79.8	77.6	78.1	77.0	77.7	81.3	79.0	82.2	80.1	87.9	82.9	89.8	85.0	89.2	86.0	88.0	86.1	85.2	85.3	81.0	83.1	77.7	81.1
11	77.5	79.7	76.8	78.1	77.2	77.6	81.3	79.1	82.3	80.2	87.3	83.0	89.3	85.1	88.8	86.0	87.9	86.1	84.8	85.2	80.6	83.0	77.6	80.9
12	77.2	79.7	76.3	78.1	77.3	77.8	81.4	79.2	82.1	80.3	86.8	83.1	89.0	85.1	88.8	86.1	87.6	86.1	84.4	85.1	79.9	83.0	77.1	80.8
13	76.8	79.6	76.0	78.1	77.3	77.8	80.9	79.1	82.4	80.3	86.8	83.1	88.5	85.1	88.8	86.1	87.5	86.0	83.9	85.1	79.2	82.9	77.0	80.7
14	76.7	79.6	76.1	78.2	77.5	77.8	80.2	79.4	82.6	80.5	87.0	83.1	88.0	85.2	89.0	86.1	86.7	86.1	84.0	85.1	79.0	82.9	76.9	80.7
15	76.7	79.6	76.0	78.2	77.4	77.8	80.4	79.3	83.0	80.6	87.2	83.3	88.0	85.2	89.0	86.1	86.4	86.1	83.9	85.0	78.9	82.8	76.1	80.5
16	76.7	79.5	75.7	78.1	78.1	78.0	80.5	79.4	83.5	80.6	87.3	83.3	88.4	85.2	88.0	86.1	86.4	86.0	83.5	85.0	79.0	82.8	76.7	80.5
17	76.7	79.4	75.6	78.1	78.0	78.0	80.7	79.4	83.1	80.7	87.4	83.4	88.5	85.2	87.6	86.1	86.3	85.9	83.0	84.9	78.9	82.9	76.5	80.4
18	76.4	79.3	75.5	78.0	77.9	78.0	80.7	79.5	83.5	80.8	86.8	83.4	88.7	85.2	87.6	86.1	86.8	85.9	82.9	84.9	78.7	82.4	76.3	80.3
19	76.2	79.2	75.3	78.0	77.9	78.0	80.0	79.6	83.6	80.8	86.5	83.5	88.9	85.3	88.1	86.1	87.0	85.9	83.0	84.8	78.9	82.3	76.4	80.3
20	75.9	79.1	75.2	78.0	77.9	78.0	79.6	79.5	84.0	80.9	86.5	83.6	89.1	85.3	88.0	86.1	87.0	85.9	83.0	84.6	79.4	82.2	76.3	80.3
21	75.8	79.1	75.2	78.0	77.7	78.0	79.3	79.6	84.9	80.9	87.0	83.7	88.9	85.4	87.2	86.1	86.7	85.9	83.0	84.5	79.9	82.1	76.2	80.1
22	75.7	79.1	75.2	78.0	77.5	78.0	79.2	79.7	85.6	81.1	87.1	83.6	88.9	85.3	87.3	86.1	86.5	85.9	83.3	84.5	80.1	82.1	76.5	80.1
23	75.4	79.0	75.2	78.0	77.6	78.1	79.2	79.7	85.6	81.1	87.3	83.8	89.0	85.3	87.0	86.1	86.3	85.8	83.5	84.3	79.7	82.1	77.1	80.1
24	75.3	78.9	75.0	77.9	77.7	78.1	79.7	79.6	85.5	81.1	87.8	83.8	89.3	85.4	86.9	86.1	86.2	85.6	83.7	84.3	79.3	82.0	77.5	80.1
25	75.0	78.8	75.0	78.1	77.2	78.3	80.4	79.6	85.3	81.3	87.9	83.8	89.4	85.4	87.0	85.9	86.0	85.6	83.7	84.3	79.0	82.0	77.7	80.1
26	74.9	78.8	75.0	78.1	77.4	78.3	81.2	79.6	85.1	81.4	88.1	83.9	89.1	85.5	87.4	85.9	86.0	85.6	82.8	84.3	78.7	81.9	77.9	80.0
27	74.9	78.8	74.8	78.1	77.9	78.3	81.3	79.6	85.2	81.5	87.8	83.9	89.0	85.5	88.0	86.1	86.0	85.6	82.0	84.2	78.2	81.9	77.9	80.1
28	74.9	78.9	74.8	77.9	78.2	78.3	81.5	79.7	85.3	81.6	87.9	84.0	88.6	85.6	88.1	86.0	86.3	85.5	81.3	84.2	78.0	81.9	77.8	80.0
29	74.8	78.2	-	-	78.4	78.3	81.5	79.7	85.0	81.6	88.0	84.1	88.4	85.6	88.2	85.9	86.4	85.5	81.0	84.1	78.2	81.8	77.4	80.0
30	74.8	78.1	-	-	78.3	78.3	81.3	79.7	85.0	81.7	88.0	84.1	88.3	85.6	88.4	86.0	86.5	85.5	81.0	84.1	78.1	81.5	77.2	79.9
31	74.6	78.3	-	-	78.2	78.4	-	-	85.4	81.9	-	-	88.2	85.6	88.0	86.0	-	-	81.0	84.0	-	-	77.0	80.0
Mean	76.6	79.3	75.5	78.1	77.1	77.9	80.3	79.2	83.3	80.7	87.4	83.2	89.1	85.1	88.4	85.9	87.2	85.9	83.7	84.9	79.6	82.7	77.3	80.6
The initial 2 or 3 of the readings is omitted, i.e. 275.0 degrees absolute is written 75.0.																					Year		82.1	82.0

The initial 2 or 3 of the readings is omitted, i.e. 275.0 degrees absolute is written 75.0.

MINIMUM TEMPERATURE "ON THE GRASS" DURING THE INTERVAL 18h. TO 7h. G.M.T.  
Readings in degrees absolute.

252. ESKDALEMUIR.

1933.

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Day.	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	75.0	78.0	73.0	72.4	77.1	76.2	83.5	80.5	81.2	79.6	73.3	66.0
2	72.0	71.0	74.1	75.4	75.4	85.2	80.0	85.8	74.2	72.8	74.7	71.1
3	75.0	70.0	75.0	79.9	75.4	83.5	80.6	88.0	80.0	69.9	71.0	72.9
4	73.9	73.1	76.5	79.2	77.2	79.4	75.4	80.8	83.0	75.0	73.7	73.2
5	73.2	79.4	73.7	77.0	80.2	80.7	79.9	83.0	83.0	71.8	69.0	72.7
6	73.0	78.8	74.6	78.9	79.0	81.0	84.0	85.5	77.0	78.1	71.2	66.6
7	73.9	77.8	75.2	75.9	80.0	81.4	86.0	78.0	81.0	74.5	76.0	75.0
8	74.4	77.2	68.8	74.9	74.9	84.8	86.5	82.0	83.0	82.1	72.9	72.8
9	72.3	79.7	77.2	79.2	76.8	81.6	84.9	82.0	77.5	80.6	78.0	72.3
10	65.9	72.8	71.6	80.5	75.2	77.0	85.0	78.6	78.0	74.4	72.2	72.8
11	73.0	68.3	71.9	78.0	79.0	80.0	84.0	74.9	78.0	79.2	68.0	65.4
12	63.7	69.8	70.3	75.4	73.0	70.1	83.0	78.0	81.0	73.0	63.0	66.0
13	73.3	70.8	67.7	70.3	72.0	80.8	82.0	73.0	74.3	71.0	68.9	68.8
14	74.4	71.0	74.0	69.2	71.9	80.9	83.6	83.0	74.0	76.1	68.8	66.7
15	73.0	69.8	75.1	75.2	73.5	75.9	77.8	84.7	72.1	71.2	74.7	67.8
16	67.8	65.5	74.4	81.0	78.0	81.0	81.0	79.3	76.2	75.9	74.1	66.8
17	66.4	66.8	73.0	77.5	79.5	77.6	78.8	83.0	74.1	71.0	70.7	64.4
18	69.9	65.4	71.4	73.0	80.9	79.1	84.3	82.0	82.8	79.4	72.8	65.9
19	65.9	69.8	71.9	69.0	77.7	79.5	83.2	84.0	76.8	75.9	77.3	75.8
20	66.4	64.9	69.0	72.4	83.0	75.0	85.4	78.0	79.5	78.9	80.0	68.0
21	66.1	69.3	66.9	65.9	80.1	77.9	79.7	80.0	78.8	75.8	74.5	73.7
22	65.8	69.4	69.0	72.6	81.2	76.8	77.0	74.4	80.2	80.1	75.8	76.7
23	64.3	64.8	71.9	69.1	82.5	77.0	79.1	77.9	75.4	81.0	67.3	78.6
24	63.5	64.9	68.9	77.6	76.2	78.9	84.3	75.7	76.0	81.0	70.0	74.8
25	61.9	71.0	67.1	81.0	75.1	83.0	87.2	84.7	82.7	75.3	72.3	76.6
26	71.0	72.6	67.5	78.7	72.1	81.4	86.5	85.3	81.1	72.8	64.9	76.1
27	71.8	73.0	67.7	80.3	74.9	72.9	76.8	78.6	82.0	70.1	69.8	73.2
28	64.9	72.0	69.2	77.9	75.0	77.8	82.0	85.0	78.2	71.0	71.1	69.4
29	65.9	66.1	70.9	79.0	79.0	74.4	82.1	85.7	84.9	74.9	75.2	71.6
30	69.2	71.6	77.8	77.8	77.2	75.2	75.0	77.8	77.4	72.0	66.2	72.3
31	71.0		73.1		75.4		84.1	74.1		73.5		66.5
Mean	69.6	71.3	71.5	75.5	77.0	78.9	82.0	80.8	78.8	75.4	71.9	71.0



Day.	Cloud Forms.			Cloud Amount (All Forms).						Visibility.						Precipitation.						Remarks on the Weather of the Day.
	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	
1	St.	Cus Steu.	St.	9	8	6	8	1	4	J	k	I	k	J	F	●	...	...	...	...	...	c●, bc a : bc, cp● p : b L, bc n.
2	St.	Nb: Ast.	Nb.	9	9	10	10	10	10	J	k	I	G	G	G	...	...	●	●	●	●	o● early, c● a : o● p : o● n.
3	Cus Steu.	Steu.	Cus Steu.	5	7	9	9	9	8	k	k	k	k	k	k	...	...	...	...	p● <sup>2</sup>	...	cp● <sup>2</sup> ▲ <sup>2</sup> early, p●, c a : cp●▲, p● <sup>2</sup> p : p● <sup>2</sup> n.
4	Cus Steu Ast.	Nb.	Steu.	10	10	10	10	8	10	I	I	G	I	k	J	p● <sup>2</sup> ▲ <sup>2</sup>	● <sup>0</sup>	●	● <sup>0</sup>	...	...	cp● <sup>2</sup> ▲ <sup>2</sup> , * <sup>2</sup> ▲ <sup>2</sup> , o●m <sub>0</sub> a : o●, ● <sup>0</sup> m <sub>0</sub> p : c n.
5	St.	Cus Steu.	Steu.	1	8	7	7	8	8	k	k	k	k	k	k	...	...	...	...	...	...	cp● early, b, c a : bc, c p : c n.
6	St.	Nb: Cus Steu.	Cus Steu Ast.	2	8	9	9	9	9	k	J	J	J	J	J	...	p●	...	...	p●	p●	b, cp● a : cp● p : cp● n.
7	Steu.	St: Steu.	Nb.	10	10	10	10	10	10	I	I	I	G	G	G	...	...	...	...	...	...	c● early, cm <sub>0</sub> a : c●m <sub>0</sub> p : o●m <sub>0</sub> n.
8	Steu.	Nb.	Nb.	4	10	10	10	10	10	J	I	F	F	F	G	...	...	●	● <sup>0</sup>	● <sup>0</sup>	● <sup>0</sup>	c● early, c●m <sub>0</sub> a : o●m <sub>0</sub> p : o● <sup>0</sup> m <sub>0</sub> n.
9	Cus Steu.	---	Ci.	1	1	0	1	1	1	J	J	k	k	k	k	...	...	...	...	...	...	b a : b, b L p : b L n.
10	St: Steu.	Nb.	St.	10	10	10	10	10	10	J	E	G	G	G	G	...	d <sub>0</sub>	d	d	...	d <sub>0</sub>	c L, od <sub>0</sub> a : odm <sub>0</sub> p : od <sub>0</sub> m <sub>0</sub> n.
11	Steu.	Freu.	---	9	9	1	1	0	0	k	k	k	k	k	k	...	...	...	...	...	...	cp● <sup>0</sup> , b a : b, b L p : b L n.
12	Ci.	Steu.	Steu.	4	7	9	10	9	10	k	k	k	F	J	G	...	...	...	* <sup>0</sup>	...	d <sub>0</sub>	bc L a : c, o●* <sup>0</sup> m <sub>0</sub> p : c, od <sub>0</sub> m <sub>0</sub> n.
13	Nb: Steu Ast.	St: Steu.	St: Steu.	10	10	9	9	10	10	J	C	k	J	J	h	p● <sup>0</sup>	...	...	...	...	...	cp● <sup>0</sup> , oF a : c p : c, cm <sub>0</sub> n.
14	St.	St.	St.	10	10	10	10	10	10	G	F	I	h	h	h	...	...	...	d <sub>0</sub>	d <sub>0</sub>	d <sub>0</sub>	om <sub>0</sub> a : oid <sub>0</sub> m <sub>0</sub> p : oid <sub>0</sub> m <sub>0</sub> n.
15	Nb.	St: Cus Steu.	Ci.	10	10	9	9	1	3	G	G	m	m	k	J	*	* <sup>0</sup>	...	...	...	...	⊗, o*, o●* <sup>0</sup> m <sub>0</sub> a : c, b L p : b L, bc L n.
16	Acu.	Cist.	Cist.	9	10	9	9	9	3	k	m	m	l	k	k	...	...	...	...	...	...	c L ⊕ a : c L ⊕ p : c L, bc L n.
17	Steu.	St: Steu Ast.	Steu.	9	10	10	10	10	10	k	k	h	i	h	h	...	...	...	* <sup>0</sup>	* <sup>0</sup>	* <sup>0</sup>	c L, c●* <sup>0</sup> m <sub>0</sub> a : ci * <sup>0</sup> m <sub>0</sub> p : ci * <sup>0</sup> m <sub>0</sub> n.
18	St.	Cus Cist: Ci.	Steu.	10	10	5	2	9	3	G	h	J	J	G	h	* <sup>0</sup>	...	...	...	...	...	oi * <sup>0</sup> m <sub>0</sub> , bc a : c L m <sub>0</sub> p : bc L m <sub>0</sub> n.
19	St.	---	---	10	10	0	0	0	0	G	C	C	C	C	F	...	...	...	...	...	...	⊗ 1 cm: oF, bF a : bF p : bF, bm V n.
20	Steu.	---	---	1	1	0	1	0	0	k	J	G	G	h	h	...	...	...	...	...	...	b L V a : bm <sub>0</sub> bm <sub>0</sub> L p : bm <sub>0</sub> L n.
21	St: Ast.	Acus Cist.	Ast: Cist: Ci.	2	9	9	9	9	6	G	h	h	h	h	h	...	...	...	...	...	...	bc L, c L m <sub>0</sub> a : c L m <sub>0</sub> p : bc L m <sub>0</sub> n.
22	St: Cist: Ci.	---	---	10	7	0	0	0	9	G	h	I	I	I	I	...	...	...	...	...	...	c L, b L a : b L p : b L, c L n.
23	Steu.	Steu.	Steu.	9	9	7	7	9	0	G	G	I	h	h	h	...	...	...	...	...	...	c L, bc L m <sub>0</sub> a : bc L m <sub>0</sub> p : b L n.
24	Ci.	Steu.	Steu.	1	3	10	10	6	0	h	I	I	h	h	h	...	...	...	...	...	...	b L, c L m <sub>0</sub> a : c L m <sub>0</sub> p : b L m <sub>0</sub> n.
25	---	Cus Ci.	Steu.	0	2	1	10	9	9	h	k	J	m	k	k	...	...	...	...	...	...	b L a : b L, c L p : c L n.
26	Steu.	Steu.	Steu.	10	10	10	10	10	10	J	I	J	J	J	J	...	...	...	...	...	...	c L a : c, c L p : c L n.
27	Steu.	Steu.	Steu.	10	10	8	9	9	3	I	k	k	J	J	J	1*	...	...	...	...	...	ci * <sup>0</sup> L, bc a : c p : c, bc n.
28	Acu.	Steu.	St.	1	1	7	2	4	1	k	J	J	k	J	J	...	...	...	...	...	...	b L a : bc, b p : bc L, b L n.
29	Steu.	Steu Ast: Acu.	Steu Ast.	7	7	8	10	10	5	J	J	l	l	k	J	...	...	...	...	...	...	bc L, c a : c p : c, bc L n.
30	Steu.	St.	Steu.	8	10	10	10	6	7	J	k	h	D	J	J	...	...	...	...	...	...	c L, o●* <sup>0</sup> m <sub>0</sub> a : of p : cp* <sup>0</sup> , bc n.
31	Steu.	St: Steu	Nb.	9	10	10	10	10	10	J	J	I	I	h	h	...	...	...	...	●	●	cp● <sup>0</sup> , cm <sub>0</sub> a : o●m <sub>0</sub> p : 0● m <sub>0</sub> n.
Mean Cloud Am't.				6.7	7.9	7.1	7.5	6.9	6.1													

1	Nb.	Cus Steu.	Cus Steu.	10	10	7	6	5	4	h	h	l	l	l	l	●	●	...	...	...	...	o●m <sub>0</sub> , bc a: bcp● p: bc n.
2	St.	Cus Steu.	Cus Steu.	10	7	9	4	7	5	h	J	J	l	k	k	*	...	p*	...	...	...	⊗ 1 cm. cp* m <sub>0</sub> , bc a: cp* p: bc n.
3	Steu.	St: Steu.	St.	9	10	10	10	10	10	J	D	J	h	F	D	...	...	...	...	...	...	c, ofe a: c, o●m <sub>0</sub> p: o●m <sub>0</sub> , ofd n.
4	Steu Ast.	Nb.	Nb.	10	10	10	10	10	10	J	h	h	h	h	D	...	...	...	...	...	...	c, o●m <sub>0</sub> a: o●m <sub>0</sub> p: oi●m <sub>0</sub> , ofe n.
5	Nb.	Nb.	Steu.	10	10	10	10	9	9	F	F	F	i	i	k	...	...	...	...	...	...	o●m <sub>0</sub> a: o●, o●m <sub>0</sub> p: c●m <sub>0</sub> n.
6	Nb.	St.	St.	10	10	10	10	10	10	G	F	F	F	i	G	d	d <sub>0</sub>	d	d	...	...	cd <sub>0</sub> m <sub>0</sub> , od <sub>0</sub> m <sub>0</sub> a: od <sub>0</sub> p: om <sub>0</sub> n.
7	St.	St.	Nb.	10	10	10	10	10	9	F	F	F	h	G	k	d <sub>0</sub>	d <sub>0</sub>	d <sub>0</sub>	...	...	...	od <sub>0</sub> f, dm a: ci●, id <sub>0</sub> m <sub>0</sub> p: cid <sub>0</sub> , p● <sup>0</sup> n.
8	Nb.	St.	Nb.	10	10	10	10	10	9	F	F	F	F	F	i	d <sub>0</sub>	d <sub>0</sub>	d <sub>0</sub>	...	...	...	od <sub>0</sub> m <sub>0</sub> , iF a: od <sub>0</sub> m <sub>0</sub> p: od <sub>0</sub> m <sub>0</sub> , cm <sub>0</sub> n.
9	Steu.	Nb: Steu.	Steu.	9	10	10	9	9	9	h	G	I	m	k	m	...	...	...	...	...	...	c●m <sub>0</sub> , cp● <sup>2</sup> a: cp● p: cp● n.
10	Nb.	Steu Ast.	Steu.	10	10	10	4	9	1	G	J	l	m	m	m	*	*	*	...	...	...	o●, c●* a: ci●*, bc p: c, b L n.
11	Steu.	Cu.	Ci.	7	7	2	5	5	10	m	J	k	k	J	J	...	...	...	...	...	...	bc L, by a: bcy, bc p: bc, c n.
12	St: Ast: Cist.	St.	St: Steu.	8	10	10	10	10	4	J	I	I	I	I	J	...	d <sub>0</sub>	d <sub>0</sub>	...	...	...	c, od <sub>0</sub> m <sub>0</sub> a: od <sub>0</sub> m <sub>0</sub> p: od <sub>0</sub> , cp● <sup>0</sup> , bc n.
13	Cu.	Cus Steu.	Cus Steu.	1	2	3	2	4	5	k	k	k	l	l	l	...	...	...	...	...	...	b L, bcy a: bcy q p: bcy, bc n.
14	Steu.	Cus Steu.	Cus Steu.	1	7	6	8	9	3	m	l	k	I	I	...	...	...	...	...	...	...	b L, bcy a: bcy, c p: c, bc n.
15	Steu.	Cus Steu.	Steu.	9	9	6	1	2	0	J	k	k	k	k	k	...	...	...	...	...	...	c, bcy a: bcy, by p: b, b L n.
16	St: Steu.	Steu.	Cus Steu Ast.	9	10	10	10	10	3	h	h	h	J	m	k	...	...	...	...	...	...	c L, cd <sub>0</sub> m <sub>0</sub> a: ci●* p: c, bc n.
17	St.	Cu.	Cumbs Steu.	1	1	3	2	2	1	m	m	l	m	m	l	...	...	...	...	...	...	b L, bcy a: bcy, b p: b, b L n.
18	Steu Ci.	Cu.	Steu.	1	1	1	4	1	9	m	m	k	l	m	l	...	p*	...	...	...	...	b, bp*, by a: by p: by, cp* n.
19	Cumbs Steu.	Cumbs Ci.	Cumbs Steu	10	2	2	7	7	2	G	m	m	m	m	l	p*	...	...	...	...	...	cp*, b a: cp*, bc p: bc, b n.
20	St: Steu.	St: Steu.	Cus Steu Ci.	10	10	10	9	3	0	h	G	G	J	m	l	*	*	d <sub>0</sub>	...	...	...	o●m <sub>0</sub> , cid <sub>0</sub> m <sub>0</sub> a: cid <sub>0</sub> m <sub>0</sub> p: bc, b L n.
21	Steu.	Cumbs Cu.	Cus Steu.	1	1	4	2	1	0	m	m	J	m	l	l	...	...	...	...	...	...	b L, bcp* y a: bcp* y p: by, b n.
22	---	Cu.	Steu.	0	1	4	8	1	0	m	m	l	m	m	l	...	...	...	...	...	...	b, cy a: cy, bcy p: b, b n.
23	Steu. Ci.	Cus Steu.	Steu.	1	6	8	6	1	8	m	l	m	m	k	k	...	...	...	...	...	...	b, cy a: cy, bcy p: b, b n.
24	Cus Steu.	Cus Ast: Cist.	Steu.	1	3	9	9	10	10	k	J	J	J	J	G	...	p*	p*	*	*	*	b L, cp* a: cp*, ci* p: ci*, 0* n.
25	St.	Nb.	Nb.	10	10	10	10	10	10	I	I	G	G	G	G	...	*	*	*	*	*	⊗ 1 cm. cp*, o●m <sub>0</sub> a: o●, o●m <sub>0</sub> p: o●, o●m <sub>0</sub> n.
26	Nb.	St: Ast.	St: Ast.	10	10	10	10	10	10	G	G	I	I	I	I	*	*	...	...	...	...	⊗ 6 cm. o●m <sub>0</sub> a: cp*, c●m <sub>0</sub> p: c●m <sub>0</sub> n.
27	St.	St: Ast.	Steu.	10	10	10	10	6	7	I	I	I	I	I	I	*	*	...	...	...	...	⊗ o●m <sub>0</sub> , cm <sub>0</sub> a: om <sub>0</sub> p: om <sub>0</sub> , bcm <sub>0</sub> n.
28	Steu Ast: Acu.	Cus Acu: Ci.	Steu.	8	8	9	10	10	10	I	I	I	I	I	I	...	...	...	...	...	...	⊗ cm <sub>0</sub> , cz <sub>0</sub> a: cz <sub>0</sub> cm <sub>0</sub> p: cm <sub>0</sub> n.
Mean Cloud Am't.				7.0	7.3	7.6	7.4	6.8	6.0													
Day	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	Remarks on the Weather of the Day.
	Cloud Forms.			Cloud Amount (All Forms).						Visibility.						Precipitation.						



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Day.	Cloud Forms.			Cloud Amount (All Forms).						Visibility.						Precipitation.						Remarks on the Weather of the Day.
	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	
1	St: Ast.	Steu: Ast: Acu.	Steu: Ast: Acu.	10	10	9	9	10	6	I	J	J	J	J	I	●	...	...	...	...	...	c, c a: c p: c, bcm <sub>0</sub> n.
2	St: Ast.	St: Steu.	St: Steu: Ast.	10	10	10	10	10	10	h	h	h	h	h	h	d <sub>0</sub>	...	...	...	...	...	cid <sub>0</sub> m <sub>0</sub> , om <sub>0</sub> a: c m <sub>0</sub> p: c m <sub>0</sub> n.
3	St.	St.	St.	10	10	10	10	10	10	h	T	I	I	I	I	...	...	...	...	...	...	om <sub>0</sub> a: om <sub>0</sub> , od <sub>0</sub> m <sub>0</sub> p: od <sub>0</sub> m <sub>0</sub> n.
4	Steu.	St.	Nb.	10	10	10	10	10	10	J	I	E	E	E	F	...	...	d	...	d	id	c, odf a: odf p: odf, oidm <sub>0</sub> n.
5	St: Steu.	Cu: Steu.	Nb.	9	9	9	10	10	10	J	k	l	G	h	G	...	...	...	...	...	...	c, cp <sub>0</sub> ▲ a: c m <sub>0</sub> p: c m <sub>0</sub> , o m <sub>0</sub> n.
6	St.	Cu: Steu.	St: Cu: Steu.	10	9	8	9	9	9	C	I	k	l	I	J	...	...	...	...	...	...	oF, cm, c a: c, cm <sub>0</sub> p: cm <sub>0</sub> , c n.
7	St: Steu: Ci.	Steu.	Cu: Steu: Ci.	8	9	10	7	7	5	I	k	k	k	k	J	...	...	...	...	...	...	c, a: cp <sub>0</sub> ●, bc p: bc n.
8	St.	Steu: Cist.	Nb.	10	10	10	10	10	10	h	G	k	k	I	I	...	...	...	...	...	...	om <sub>0</sub> V, oF, c a: c, o m <sub>0</sub> p: o m <sub>0</sub> , c m <sub>0</sub> n.
9	Nb.	St.	Steu.	10	10	10	10	9	9	E	E	G	J	J	J	...	...	...	...	...	...	o m <sub>0</sub> f, om <sub>0</sub> a: om <sub>0</sub> , c p: c n.
10	Steu: Cist: Ci.	Ast: Aculent.	Ast: Aculent: Cist.	9	9	10	9	9	8	J	I	k	k	J	G	...	...	...	...	...	...	c L, ⊕, c m <sub>0</sub> y a: c m <sub>0</sub> y, ⊕ p: cy, cm <sub>0</sub> ⊕ n.
11	Cist: Ci.	Ci.	Ci.	5	3	1	1	1	0	I	I	J	k	J	h	...	...	...	...	...	...	bc, by a: by p: by, b n.
12	---	---	---	0	0	0	0	0	0	h	h	J	J	I	h	...	...	...	...	...	...	b L m <sub>0</sub> , by a: by, b p: b, bm <sub>0</sub> n.
13	Steu.	Cu: Steu.	Steu.	6	9	9	3	3	8	F	F	G	J	I	h	...	...	...	...	...	...	bcm L, cz <sub>0</sub> a: cz <sub>0</sub> bc p: bc, cm <sub>0</sub> n.
14	St: Acule Cist.	Cu: Steu: Ci.	Steu: Ast.	8	9	8	8	8	5	I	m	k	m	l	J	...	...	p	...	...	...	cp <sub>0</sub> ●, cy a: cy ⊕, c p: bc, c m <sub>0</sub> n.
15	Steu.	Nb: Cu: Steu.	St.	5	7	10	9	10	10	k	h	J	F	h	...	...	...	p	...	...	...	bc, cp <sub>0</sub> a: cp <sub>0</sub> ●, o m <sub>0</sub> p: oi m <sub>0</sub> , cm <sub>0</sub> n.
16	Steu: Acu.	Nb.	Steu.	4	10	10	8	4	1	l	l	I	m	k	k	...	...	...	...	...	...	c e early, oi ▲ a: cp <sub>0</sub> ▲, bc p: cp <sub>0</sub> ●, b n
17	Steu: Ast: Acu.	Steu.	Nb: Ast.	10	8	10	10	10	4	k	k	k	k	J	J	...	...	p	...	p	...	c a: cp <sub>0</sub> ▲, cp <sub>0</sub> ● p: cp <sub>0</sub> ●, bc n.
18	Steu: Ast.	Cu: Steu.	Cu: Steu: Ci.	10	7	9	3	9	10	J	J	k	m	l	J	...	...	p	...	...	...	bc, cp <sub>0</sub> ● a: cp <sub>0</sub> ●, cp <sub>0</sub> ▲ p: cp <sub>0</sub> ●, c n.
19	Steu: Ast.	Cu: Steu: Ci.	Cu: Steu: Ast.	10	9	6	9	10	1	m	m	m	m	m	k	...	...	...	...	...	...	c Q, bcy a: bcy ⊕, c Q p: c Q, p ★, b n.
20	Nb: Cu: Steu.	Cu.	Cu: Steu: Cieu.	10	6	1	2	1	1	m	l	l	l	m	l	...	...	...	...	...	...	c ★, bc, by a: by p: by, b L n.
21	St.	Steu: Ast.	Ast: Acu: Ci.	10	10	10	10	7	5	J	k	k	k	J	J	...	...	...	...	...	...	o L, c a: ci <sub>0</sub> ●, bcy p: bcy, bc n.
22	Acu: Cieu: Ci.	Ci.	Acu: Ci.	5	4	7	6	8	5	k	k	k	k	J	J	...	...	...	...	...	...	bc L, bcy a: bcy, cy p: cy, bcy n.
23	Ci.	Ci.	Ast: Acu: Ci.	7	8	9	9	4	0	J	J	J	J	k	k	...	...	...	...	...	...	bcy, cy a: cy p: cy, bc n.
24	Ci.	Ci.	---	1	1	0	0	0	1	l	J	J	k	h	...	...	...	...	...	...	...	b, by a: by p: by, bz <sub>0</sub> n.
25	---	---	Ci.	0	0	0	0	1	0	J	J	J	J	h	...	...	...	...	...	...	...	b L, by a: by, b p: b, bz <sub>0</sub> n.
26	---	---	---	0	0	0	0	0	0	h	I	J	J	J	J	...	...	...	...	...	...	bm <sub>0</sub> L, bz <sub>0</sub> y a: by, b p: b n.
27	Ci.	Ci.	Ci.	2	6	1	4	7	3	D	J	k	k	J	h	...	...	...	...	...	...	b L, by a: by, bcy p: bc n.
28	St.	Acu: Ci.	Ci.	10	10	1	0	1	0	B	D	l	J	h	...	...	...	...	...	...	...	oFe, by a: by, bz <sub>0</sub> p: bz <sub>0</sub> bm <sub>0</sub> n.
29	St.	Cu: Steu.	Cu: Steu: Acu.	10	10	8	9	9	7	F	J	h	h	J	...	...	...	...	...	...	...	of, om, c a: c p: cp <sub>0</sub> n.
30	Cu: Steu.	Cu: Steu: Ci.	Nb: Cu: Steu.	7	8	7	4	3	5	h	k	m	m	m	k	...	...	...	...	...	...	cp ★, p ▲ a: cp ▲, bcy Q p: bc, cp <sub>0</sub> n.
31	St: Steu: Acu.	Nb: Cu: Ast.	Nb.	9	9	10	10	10	9	J	h	k	J	h	J	...	...	...	...	...	...	c, cp <sub>0</sub> ▲ a: c m <sub>0</sub> , o m <sub>0</sub> p: o m <sub>0</sub> , c n.
Mean Cloud Am't.				7.3	7.4	6.9	6.4	6.5	6.3													

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Day.	Cloud Forms.			Cloud Amount (All Forms).						Visibility.						Precipitation.						Remarks on the Weather of the Day.
	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	
1	Cu: Acu: Cist.	Cu: Steu.	Cu: Steu: Ci.	9	9	4	8	4	8	1	l	m	m	m	k	...	...	...	...	...	...	c, bcy, a: bcy, cy p: bcy, c n.
2	Steu: Ast: Acu.	Nb: Ast.	Nb.	9	10	10	10	10	10	k	k	I	G	G	G	...	...	...	...	...	...	c, o m <sub>0</sub> a: c m <sub>0</sub> p: c m <sub>0</sub> , c n.
3	Nb.	Nb.	Nb.	10	10	10	10	10	10	I	h	G	G	G	G	...	...	...	...	...	...	o m <sub>0</sub> a: od <sub>0</sub> m <sub>0</sub> , o m <sub>0</sub> p: o m <sub>0</sub> , cd <sub>0</sub> m <sub>0</sub> n.
4	Steu.	Steu.	Steu.	9	9	9	9	10	10	I	I	l	m	m	k	...	...	...	...	...	...	c, cp <sub>0</sub> ● a: c p and n.
5	Steu.	Steu: Ast.	Steu.	9	9	10	9	9	9	J	J	J	J	I	I	...	...	...	...	...	...	c a and p: c, cm <sub>0</sub> n.
6	Steu: Ast: Acu.	Cu: Steu.	Cu: Steu.	8	9	6	4	7	10	I	I	J	J	J	C	...	...	...	...	...	...	cm <sub>0</sub> , bc a: bc p: bc, ofe n.
7	Steu.	Steu: Ast: Acu.	Ast: Acu.	9	10	9	8	9	10	h	G	I	G	h	F	...	...	...	...	...	...	cp <sub>0</sub> ●, cz <sub>0</sub> a: c, cm <sub>0</sub> p: cm <sub>0</sub> , of n.
8	---	St: Steu.	St: Steu: Ci.	0	9	9	9	9	10	C	G	J	J	h	F	...	...	...	...	...	...	bF L, cm <sub>0</sub> a: bc p: c, cm <sub>0</sub> n.
9	Nb.	Cu: Steu: Ci.	St: Steu.	10	10	7	10	10	10	h	h	m	l	J	G	...	...	...	...	...	...	c m <sub>0</sub> , od <sub>0</sub> m <sub>0</sub> , bc a: bc, c p: c, oid <sub>0</sub> m <sub>0</sub> n.
10	St: Gu.	St: Steu.	St.	9	10	9	10	10	10	J	J	J	J	J	h	...	...	...	...	...	...	c a: c, o p: om <sub>0</sub> n.
11	St.	Steu.	Cu: Steu: Ast.	10	10	9	9	10	10	G	G	k	k	J	G	...	...	...	...	...	...	om <sub>0</sub> , c a: c, cp <sub>0</sub> ● p: cp <sub>0</sub> ●, oidm <sub>0</sub> n.
12	Cu: Steu: Ci.	Cu.	Cu: Steu.	9	8	7	7	3	1	m	m	l	m	m	m	...	...	...	...	...	...	cp <sub>0</sub> ●, bcy a: bcy p: bcy, b n.
13	Cu: Ci.	Cu: Steu: Ci.	Cu: Steu: Ci.	1	2	9	9	9	1	m	m	m	m	l	k	...	...	...	...	...	...	b L, by a: cy p: cy, b n.
14	Acu: Ci.	Cu: Acu: Ci.	Acu: Cist: Ci.	5	6	7	7	9	7	k	J	k	k	k	k	...	...	...	...	...	...	bc L, bc a: bcy p: cy, bc n.
15	St.	Nb.	Nb.	10	10	10	10	10	9	I	h	G	G	G	I	...	...	...	...	...	...	o m <sub>0</sub> , od <sub>0</sub> a: od, o m <sub>0</sub> p: od, c n.
16	St: Steu.	St: Steu.	St: Ast.	10	10	10	10	10	9	I	k	I	I	I	I	...	...	...	...	...	...	c m <sub>0</sub> , cd a: cd, cd <sub>0</sub> p: c n.
17	St: Ast.	Nb: Ast.	Cu: Steu.	1	10	10	9	9	10	I	k	I	k	k	I	...	...	...	...	...	...	c, o m <sub>0</sub> a: o m <sub>0</sub> ●, c p: c, cd n.
18	Steu.	Cu: Steu.	Cu: Steu.	6	6	9	3	1	k	k	l	m	m	m	m	...	...	...	...	...	...	bc, cy a: cy, cp <sub>0</sub> ★ a: cp <sub>0</sub> ★, b n.
19	Cu: Steu.	Cu: Steu.	Steu.	6	7	9	6	8	7	k	k	l	m	m	m	...	...	...	...	...	...	cp ★ a: c, bcy p: cy, bc n.
20	Cu: Steu.	Nb: Cu: Steu.	Steu.	8	10	9	9	5	0	l	G	J	k	m	m	...	...	...	...	...	...	ci ★, o ★ f, cp ★ a: cp ★, cy p: bcy, b L n.
21	---	Steu.	Steu.	0	6	9	10	9	9	m	m	J	l	m	l	...	...	...	...	...	...	b L, cy a: cy, c p: cy, c n.
22	Steu.	Steu.	Steu: Ci.	9	10	9	10	2	1	m	m	l	l	l	l	...	...	...	...	...	...	c, cy Q a: cy Q, by p: by, b n.
23	Acu: Ci.	Steu: Acu.	Steu.	7	7	9	10	9	10	J	I	J	I	I	I	...	...	...	...	...	...	bc, cy a: cy, cz <sub>0</sub> p: cz <sub>0</sub> cm <sub>0</sub> n.
24	St: Cu.	Cu: Steu: Acu.	St: Ast.	10	10	9	10	10	10	I	I	J	J	I	I	...	...	...	...	...	...	cm <sub>0</sub> , cy a: c, c m <sub>0</sub> p: c m <sub>0</sub> , c m <sub>0</sub> n.
25	St.	Cu: Steu.	Cu: Steu: Ast.	10	10	9	9	10	9	G	G	k	k	J	J	...	...	...	...	...	...	oidm, c a: c, ci <sub>0</sub> ● p: ci <sub>0</sub> ●, c n.
26	St: Ast.	Nb.	Cu: Steu: Acu.	9	9	10	9	9	10	J	J	G	J	J	G	...	...	...	...	...	...	ci <sub>0</sub> ●, od <sub>0</sub> m <sub>0</sub> a: od <sub>0</sub> m <sub>0</sub> , c p: c, cid n.
27	St: Steu.	Cu: Steu.	Nb: Ast.	9	10	7	8	10	9	I	I	k	k	I	I	...	...	...	...	...	...	o early, cp <sub>0</sub> ● a: bcy, o m <sub>0</sub> p: o m <sub>0</sub> , c n.
28	St: Steu.	Cu: Steu.	Cu: Ci.	10	9	9	3	2	3	I	J	l	m	m	m	...	...	...	...	...	...	c m <sub>0</sub> , cp <sub>0</sub> ● a: cp <sub>0</sub> ●, bcy p: by, bc n.
29	Steu: Acu.	Cu: Ast: Ast.	St: Ast.	7	9	9	10	10	9	k	k	J	J	J	J	...	...	...	...	...	...	bc, c m <sub>0</sub> a: c T, c m <sub>0</sub> p: c m <sub>0</sub> , c m <sub>0</sub> n.
30	Steu: Ast.	Nb: Steu: Ast.	St.	10	10	10	10	10	10	J	J	I	I	h	h	...	...	...	...	...	...	c, c m <sub>0</sub> a: c m <sub>0</sub> , om <sub>0</sub> p: o m <sub>0</sub> , om <sub>0</sub> n.
Mean Cloud Am't.				7.9	8.8	8.7	8.7	8.1	7.8													
Day.	Cloud Forms.			Cloud Amount (All Forms).						Visibility.						Precipitation.						Remarks on the Weather of the Day.
	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	



Day.	Cloud Forms.			Cloud Amount (All Forms).					Visibility.					Precipitation.						Remarks on the Weather of the Day.		
	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h		18h	21h
1	Stcu: Ast: Acu.	Stcu: Ast.	Acu: Ast.	10	10	10	10	10	10	1	k	j	j	j	j	...	...	...	...	...	...	c, cp <sup>0</sup> a: c p and n.
2	Stcu: Ci.	Ci: Stcu.	Cu: Stcu: Ci.	9	9	6	5	9	9	k	1	1	1	1	1	...	...	...	...	...	...	c, bcy a: bcy, c p: c n.
3	Stcu: Acu.	Stcu.	St: Stcu.	9	9	9	10	10	10	k	k	1	k	j	i	...	...	...	...	...	...	c, a: ci <sup>0</sup> , c p: ci <sup>0</sup> n.
4	St.	Stcu: Acu.	Nb.	10	9	8	9	10	10	h	j	k	k	i	h	...	...	...	...	...	...	om <sub>0</sub> , c <sup>+</sup> a: c, o <sup>0</sup> m <sub>0</sub> p: o <sup>0</sup> , o <sup>0</sup> m <sub>0</sub> n.
5	St: Stcu.	Stcu: Ast: Acu.	Cum: Acu: Ci.	10	10	9	9	5	9	j	j	j	j	i	i	...	...	...	...	...	...	c, cp <sup>0</sup> , c a: c, bc T <sub>20</sub> p: c T <sub>20</sub> , cp <sup>0</sup> n.
6	St: Ast: Acu.	Cu: Acu: Ci.	Nb: Ast.	9	9	9	10	10	10	i	j	j	j	i	i	...	...	...	...	...	...	cp <sup>0</sup> early, c a: cp <sup>0</sup> , c T <sub>20</sub> p: bc, c <sup>0</sup> n.
7	Nb: Ast.	Cu: Stcu: Cist.	Cu: Ast: Ci.	10	10	9	10	9	9	h	i	j	i	k	j	...	...	...	d <sub>0</sub> p <sup>0</sup> ...	...	...	c <sup>0</sup> , c <sup>0</sup> , c a: c, cp <sup>0</sup> p: cid <sub>0</sub> c n.
8	Stcu: Ci.	Cu: Ast: Acu.	Cu: Stcu: Ast.	5	7	9	9	10	10	k	k	k	k	j	d	...	...	...	d <sub>0</sub> ...	...	...	bc, c a: c, ci <sup>0</sup> p: c <sup>0</sup> m <sub>0</sub> , od <sub>0</sub> f n.
9	St: Stcu.	Cu: Stcu.	Cu: Stcu.	8	9	9	9	10	10	k	k	m	1	1	k	...	...	...	p <sup>0</sup> ...	...	...	cp <sup>0</sup> , c a: c, cp <sup>0</sup> p: cp <sup>0</sup> , cd <sub>0</sub> n.
10	Stcu.	Cu: Stcu	Cu: Stcu.	10	8	9	10	10	9	k	k	1	k	k	k	...	...	...	...	...	...	cp <sup>0</sup> , c a: c p and n.
11	Stcu.	Stcu.	Stcu.	10	10	10	10	10	7	j	j	j	j	k	k	...	...	...	d <sub>0</sub> ...	...	...	c, ci <sup>0</sup> a: c, cd <sub>0</sub> p: cp <sup>0</sup> , bc n.
12	Cu: Stcu.	Cu: Stcu.	Cu.	8	7	7	4	2	4	k	k	1	1	1	1	...	...	...	...	...	...	c, bcy a: bcy, by p: by, bc n.
13	Acu: Ci.	Cu: Stcu: Ast.	Cu: Ast: Acu.	8	8	9	10	9	9	1	m	1	1	1	1	...	...	...	...	...	...	c <sup>0</sup> , cy, c a: c p: c n.
14	Cu: Stcu.	Cu: Stcu.	Cu: Stcu.	3	7	6	6	9	2	1	1	1	1	1	1	...	...	...	...	...	...	bc <sup>0</sup> , bcy a: bcy q, cy p: cp <sup>0</sup> , b <sup>0</sup> n.
15	Cu: Stcu.	Cu: Stcu: Ci.	Cu: Acu: Ci.	3	3	9	9	9	9	1	1	1	1	1	k	...	...	...	...	...	...	bc <sup>0</sup> , cy a: cy p: cy, c n.
16	Ast.	Nb: Ast.	Nb: Ast.	10	10	10	10	10	10	k	j	i	j	j	h	...	...	...	...	...	...	c <sup>0</sup> , c <sup>0</sup> m <sub>0</sub> a: c <sup>0</sup> m <sub>0</sub> , c <sup>0</sup> p: c <sup>0</sup> , od <sub>0</sub> m <sub>0</sub> n.
17	St.	Cu: Stcu: Ast.	St: Stcu.	10	10	10	10	10	10	h	g	i	i	h	g	...	...	...	...	...	...	cm <sub>0</sub> , cz <sub>0</sub> a: cz <sub>0</sub> p: cz <sub>0</sub> , om <sub>0</sub> n.
18	Stcu.	St: Ast.	St: Ast.	10	9	10	10	10	7	h	h	i	h	h	k	...	...	...	...	...	...	cm <sub>0</sub> cz <sub>0</sub> a: cz <sub>0</sub> p: cm <sub>0</sub> , bc n.
19	St.	St: Stcu: Ast.	Stcu: Ast.	10	10	10	10	10	10	g	g	i	k	k	j	...	...	...	...	...	...	om <sub>0</sub> n, cm <sub>0</sub> a: cm <sub>0</sub> , c p: c <sup>+</sup> , c n
20	Stcu: Ast.	Stcu: Acu: Cist.	St: Ast.	10	8	8	6	10	10	i	i	i	i	i	g	...	...	...	...	...	...	cz <sub>0</sub> a: cz <sub>0</sub> , bc z <sub>0</sub> , c <sup>0</sup> m <sub>0</sub> p: cm <sub>0</sub> n.
21	St.	Cu: Ci.	Cu: Stcu: Ci.	10	10	4	4	6	9	h	j	k	k	k	k	...	...	...	...	...	...	c <sup>0</sup> early, cid <sub>0</sub> m <sub>0</sub> a: bcy p: bcy, c n.
22	Stcu: Ci.	Cu: Stcu: Ci.	Nb: Ast.	8	7	8	10	10	10	k	k	k	h	j	j	...	...	...	...	...	...	c <sup>0</sup> , c <sup>+</sup> a: c <sup>+</sup> , c <sup>0</sup> p: c <sup>0</sup> p: ci <sup>0</sup> , c n.
23	Nb: Ast	Cu: Stcu.	Cum: Cu: Stcu.	10	9	9	7	8	10	i	i	i	k	k	j	...	...	...	...	...	...	c <sup>0</sup> early, c <sup>0</sup> m <sub>0</sub> a: cz <sub>0</sub> , c T <sub>20</sub> p: c <sup>0</sup> p: c <sup>0</sup> , c n.
24	St.	Cu: Stcu: Ci.	St: Ast.	9	10	7	10	10	10	i	k	k	k	j	j	...	...	...	...	...	...	c, bc a: bc, ci <sup>0</sup> p: ci <sup>0</sup> n.
25	Cu: Stcu: Acu.	Cu: Stcu: Ci.	Cu: Stcu: Ci.	4	6	7	6	3	9	1	1	1	1	1	1	...	...	...	...	...	...	bc, bcy a: bcy p: bcy, c n.
26	Stcu.	Cu: Acu: Ci.	Cu: Ci.	1	3	6	8	6	7	1	1	1	m	m	m	...	...	...	...	...	...	b, bcy a: bcy, cipy p: bc n.
27	St: Stcu.	Cu: Stcu.	Cu: Stcu.	10	9	9	9	9	9	i	j	k	j	j	j	...	...	...	...	...	...	c <sup>0</sup> , c a: c p: c, cp <sup>0</sup> , c n.
28	St.	Stcu.	Cu: Stcu.	10	9	10	9	9	9	i	j	k	k	k	j	...	...	...	...	...	...	om <sub>0</sub> , c a: c p: cp <sup>0</sup> , c n.
29	Stcu: Ast: Acu.	Stcu.	Cu: Stcu.	9	9	9	9	7	9	1	1	1	1	1	1	...	...	...	...	...	...	p <sup>0</sup> early, c, cy a: cy, bc p: bc, c n.
30	Stcu.	Cu.	Cu: Stcu.	9	6	5	3	5	1	j	i	k	k	j	i	...	...	...	...	...	...	c <sup>0</sup> , bcy a: bcy p: bcy, bm <sub>0</sub> n.
31	Ast: Acu.	Cu.	Cu: Ci.	1	4	7	1	1	8	i	i	j	1	k	i	...	...	...	...	...	...	bcm <sub>0</sub> n, bcy a: bcy, by p: by, cz <sub>0</sub> n.
Mean Cloud Am't.				8.2	8.2	8.3	8.1	8.2	8.5													

1	Ci.	Cut Ast: Acu.	Cut Steus Ast.	9	9	7	9	10	10	j	j	j	j	I	I	...	...	...	...	...	...	...	c <sup>0</sup> , bcy a: bcy, cy p: cy, cz <sub>0</sub> n.
2	Nb: Ast.	Nb.	Cut Acu: Ci.	10	10	10	10	7	9	I	h	h	h	k	j	d	● <sup>0</sup>	●	...	...	...	cd, c <sup>0</sup> m <sub>0</sub> a: o <sup>0</sup> m <sub>0</sub> , bc p: bc, c n.	
3	Cu: Aculent.	Cut Acu: ist.	Ci.	3	9	6	5	1	3	j	j	k	j	j	j	...	...	...	...	...	...	bc <sup>0</sup> , bcy a: bcy p: by, b <sup>0</sup> n.	
4	Aculent.	Cu: Ci.	---	1	1	1	0	0	5	k	k	k	k	k	j	...	...	...	...	...	...	b <sup>0</sup> , by a: by p: by, bc n.	
5	Ci.	Acu: Ciou: Ci.	Aculent: Ci.	6	4	5	3	5	6	k	k	k	1	1	k	...	...	...	...	...	...	bc <sup>0</sup> , bcy a: bcy p: bc <sup>0</sup> n.	
6	St: Steu.	---	Ci.	9	1	0	0	1	6	k	1	1	1	1	1	...	...	...	...	...	...	c <sup>0</sup> , by a: by p: by, bc n.	
7	---	Ci.	Ci.	0	1	1	2	1	1	k	k	j	1	j	1	...	...	...	...	...	...	b, by a: by p: by, b n.	
8	Steu.	Cut Steut Ci.	Cut Steut Ci.	10	9	7	8	8	9	j	j	k	k	k	1	...	...	...	...	...	...	cT <sub>20</sub> , bc a: bc, c p: c n.	
9	Cut Steu.	Cut Steu.	Steu.	10	10	7	10	9	9	k	k	k	k	k	1	...	...	...	...	...	...	c, bcy a: c p and n.	
10	Cut Acu: Ci.	Cut Steut Ast.	St: Steut Ast.	9	9	10	10	10	9	1	1	j	j	j	j	...	...	● <sup>0</sup>	● <sup>0</sup>	● <sup>0</sup>	...	c, ci <sup>0</sup> a: c <sup>0</sup> p: ci <sup>0</sup> n.	
11	Steu.	Steu.	Steu.	4	9	9	9	9	1	1	1	1	m	m	m	...	...	...	...	...	...	bc, c a: cy p: cy, b n.	
12	---	Cut Steu.	Cut Steut Ci.	0	5	9	7	8	9	m	m	m	m	k	k	...	...	...	...	...	...	b <sup>0</sup> , cy a: c <sup>0</sup> p, p <sup>0</sup> p: cy, bc n.	
13	St: Steu.	St.	Cut Steu.	9	10	10	4	4	2	I	h	j	k	1	1	...	d <sub>0</sub>	...	...	...	...	cid <sub>0</sub> a: c, bc p: bc, b n.	
14	Steu.	Cut Steu.	Cut Steu.	10	8	8	6	1	j	h	j	j	k	j	j	...	...	...	...	...	...	c, bc a: cy, bcy p: bcy, b <sup>0</sup> n.	
15	---	Cu.	Cut Ci.	0	0	7	7	8	9	G	j	j	j	j	j	...	...	...	...	...	...	bm <sup>0</sup> , bc a: bcy p: c n.	
16	Cu Ci.	Cut Acu: Ci.	Nb.	1	4	8	10	1	0	m	m	1	k	h	F	...	...	...	●	●	...	bcy, c a: c <sup>0</sup> m <sub>0</sub> p: o <sup>0</sup> m <sub>0</sub> n.	
17	Cut Ast: Ci.	Cut Steut Ci.	Cut Acu: Ci.	9	9	8	8	9	10	k	k	1	1	1	1	...	...	...	p <sup>0</sup>	...	...	cp <sup>0</sup> ▲ a: cp <sup>0</sup> p: cp <sup>0</sup> n.	
18	St: Ast.	Nb: Cum: Ci.	Cut Steu.	10	9	9	9	8	9	j	j	m	1	m	j	...	...	...	p <sup>0</sup>	...	...	c <sup>0</sup> , cp <sup>0</sup> ▲ a: cp <sup>0</sup> p: c n.	
19	Cut Steut Acu.	Cut Steu.	Cut Steut Acu.	9	9	9	9	9	2	j	k	1	1	k	k	...	p <sup>0</sup>	p <sup>0</sup>	...	...	...	cp <sup>0</sup> ▲, p <sup>0</sup> a: cp <sup>0</sup> , c p: cp <sup>0</sup> ▲, b n.	
20	Cu: Ci.	Cut Steut Ci.	Cut Acu: Ci.	1	6	9	9	9	10	k	k	1	m	1	I	...	...	...	...	...	...	b <sup>0</sup> , cy ⊕ a: cy, cT <sub>20</sub> p: cT <sub>20</sub> , c n.	
21	Cu: Ci.	Cut Steu.	Cut Steut Ci.	4	7	9	4	4	9	j	j	1	1	k	I	...	...	...	...	...	...	bc, cy a: bcy p: bc, c n.	
22	Cu: Acu.	Cut Steut Ci.	Cut Steu.	2	8	6	3	5	10	j	j	k	k	k	k	...	...	...	...	...	...	b <sup>0</sup> , bc a: cy, cp <sup>0</sup> ▲ cT <sub>20</sub> p: cp <sup>0</sup> n.	
23	Ci.	Cut Steu.	Cu: Acu.	1	6	5	3	5	4	j	j	k	1	1	1	...	...	...	...	...	...	bc a, p and n.	
24	Nb: Steut Acu.	Cut Acu: Ci.	St: Acu: Ci.	9	10	7	9	9	8	j	I	j	j	j	j	...	● <sup>0</sup>	●	...	...	...	ci <sup>0</sup> , c <sup>0</sup> m <sub>0</sub> a: cT <sub>20</sub> , c p: c n.	
25	Cut Steu.	Cu.	Cut Acu.	7	1	1	1	1	1	j	j	k	k	1	j	...	...	...	...	...	...	bc <sup>0</sup> , b a: b p and n.	
26	St: Steu.	Cut Steu.	Cut Steut Cist.	10	10	9	9	9	9	j	k	k	k	1	k	...	...	...	...	...	...	c <sup>0</sup> , c a: cy, c ⊕ p: c n.	
27	Acu: Ci.	Cut Steut Ci.	Cut Steu.	8	7	6	8	9	2	k	k	j	k	k	k	...	...	...	...	...	...	c <sup>0</sup> , bcy a: cy p: c, b n.	
28	St: Steu.	Steu.	Cut Steu.	10	9	8	7	3	7	k	1	1	1	1	k	...	...	...	...	...	...	c, cy, a: bcy p: bcy, bc n.	
29	Steu.	Cut Steu.	Steu.	7	9	9	9	8	9	1	1	k	k	k	k	...	...	...	...	...	...	bc, c a: c p: c, b, c <sup>0</sup> n.	
30	Ast: Acu: Ci.	Steut Ci.	Steu.	7	9	8	7	9	9	1	k	k	k	1	k	...	...	...	...	...	...	⊕, bc <sup>0</sup> , c a: bcy p: c n.	
Mean Cloud Am't.				6.2	5.9	6.9	6.5	7.6	5.6														
Day	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	Remarks on the Weather of the Day.	
	Cloud Forms.			Cloud Amount (All Forms).						Visibility.						Precipitation.							



Day.	Cloud Forms.			Cloud Amount (All Forms).						Visibility.					Precipitation.					Remarks on the Weather of the Day.		
	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h		18h	21h
1	St: Stout Ast.	Cus: Acus Ci.	Acus Ci.	9	6	3	2	1	1	j	k	k	k	m	l	...	...	...	...	...	...	c, bc a: bc, by p: by, b n.
2	---	Cu.	Cu.	0	1	2	1	1	0	m	l	l	m	m	m	...	...	...	...	...	...	b, by a: by p: by, b n.
3	---	Ci.	Ci.	0	1	1	1	1	1	m	m	l	m	m	m	...	...	...	...	...	...	by a and p: by, b n.
4	---	Cu.	---	0	0	1	1	0	0	m	m	m	m	m	m	...	...	...	...	...	...	b, by a: by, p: by, b n.
5	---	Cu.	Cus Acus Ci.	0	0	3	3	6	7	k	j	k	l	m	k	...	...	...	...	...	...	b, bcy a: bcy p: bcy, bc n.
6	St: Cicut Ci.	Acus Ci.	Ast: Acus Ci.	5	9	4	7	9	9	k	j	j	k	j	j	...	...	...	...	...	...	c, bcy a: bcy p: c p: c n.
7	St: Acus Ci.	Cus Stout: Acu.	Nb: Ast: Acu.	9	7	5	6	9	4	j	j	j	k	j	j	...	...	...	...	...	...	c, bc a: bc, c p: c p: c n.
8	Steu.	Stout Acus Ci.	Cus Acus Ci.	9	9	8	9	7	8	j	j	k	k	k	j	...	...	...	...	...	...	cp, c a: cp, bc p: cp, c n.
9	Nb: Ast.	Cu.	Cus Acu.	9	7	7	9	8	10	i	k	k	k	k	h	...	...	...	...	...	...	c, bc a: bc, cp, c n.
10	St: Steu.	Cus Steu.	St: Steu.	9	9	9	9	10	10	j	j	k	k	j	h	...	...	...	...	...	...	cp, c a: cp, c i: c n.
11	St.	Nb: Cus: Steu.	Cus Stout: Acu.	10	10	9	9	8	9	h	h	l	l	j	k	...	...	...	...	...	...	oi, c a: cp, c p: cp, c n.
12	Cus Steu.	Steu.	St: Steu.	9	10	10	9	10	5	j	i	l	l	k	...	...	...	...	...	...	...	cp, c a: cp, c i: c n.
13	St: Steu.	Nb.	St.	9	10	10	10	10	10	j	j	h	h	h	h	...	...	...	...	...	...	ci, c a: ci, oi, c n.
14	Steu.	Cus Stout: Acu.	Cus Steu.	9	9	9	7	7	5	j	j	k	k	l	l	...	...	...	...	...	...	bc, c a: c p, p, bc p: bc n.
15	St: Acus Ci.	Cus Cist: Ci.	Cunb: Ast: Ci.	9	7	9	7	7	7	l	l	l	l	l	k	...	...	...	...	...	...	bc, c a: cy, c p: c p: c n.
16	Steu.	Cunb: Cus: Ci.	Cus Ci.	9	9	8	3	3	7	l	l	l	m	m	l	...	...	...	...	...	...	cp, c a: cp, bcy p: bcy, bc n.
17	Nb: Ast.	Steu.	Cus Ci.	10	9	9	4	6	8	k	k	m	m	m	k	...	...	...	...	...	...	ci, c a: cy, bcy p: bcy, c n.
18	Steu.	Nb: Steu.	Steu: Ast.	9	9	10	10	9	9	k	j	j	k	j	j	...	...	...	...	...	...	c, cd, c a: c p and n.
19	St.	Cus Stout: Acu.	Cus Acus Ci.	10	6	9	7	7	9	i	l	l	l	l	k	...	...	...	...	...	...	om, c a: cp, c p: bc, bc p: bc, cp, c n.
20	Steu.	Cus Nb.	Cus Acu.	9	9	10	10	9	9	k	j	k	k	k	k	...	...	...	...	...	...	c, cp, c a: c p: cp, c n.
21	St: Acus Ci.	Cus Ast: Acu.	Cu.	9	9	9	7	3	1	m	l	l	l	m	m	...	...	...	...	...	...	c, a: c, bcy p: bcy, b n.
22	Steu: Ast: Acu.	Steu.	Cus Steu.	9	4	9	8	8	1	l	l	l	l	l	l	...	...	...	...	...	...	c, bc a: c p: c, b n.
23	Steu.	Cus Steu.	Cus Ast: Acu.	9	8	9	8	3	9	k	k	j	j	l	j	...	...	...	...	...	...	c, bc a: cp, bc p: bc, c n.
24	St: Ast: Acu.	Cus Ast: Acu.	Nb: Steu.	9	9	9	9	10	10	j	k	l	k	l	g	...	...	...	...	...	...	c a: c, c, c p: cid, c n.
25	Nb.	Nb.	Nb.	10	10	10	10	10	10	i	i	i	i	i	i	...	...	...	...	...	...	o, c a: c p: c p: c n.
26	St.	Cus Steu.	Steu: Acus Ci.	10	10	10	10	8	8	G	F	k	k	k	j	...	...	...	...	...	...	od, c a: c p and n.
27	Ast: Acus Ci.	Cunb: Ast.	Cunb: Nb.	9	9	10	10	9	1	k	l	j	j	j	k	...	...	...	...	...	...	c, cp, c a: ci, c p: c p: c n.
28	St: Steu.	Cus Steu.	Nb: St.	9	9	8	8	10	10	k	l	l	l	h	i	...	...	...	...	...	...	c a: c, o, c p: o, c n.
29	Cus Steu	Cunb: Nb.	Cunb: Ast: Acu.	7	9	9	9	9	7	j	k	k	k	k	k	...	...	...	...	...	...	cp, c a: cp, c p: c, bc n.
30	Ci.	Cus Ast: Acu.	Steu: Acus Cist.	4	7	10	9	9	10	m	l	m	l	m	m	...	...	...	...	...	...	bc, c a: c p and n.
31	Nb.	Steu.	Cus Steu.	10	9	9	10	10	9	G	I	l	k	j	k	...	...	...	...	...	...	od, c a: ci, c p: cp, c n.
Mean Cloud Am't.				7	7	7	7	7	7	7	7	7	7	7	7							

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1	Cus: Ci.	Cus Steu.	Cus Acus Ci.	4	1	9	5	4	9	m	m	l	l	m	k	...	...	...	...	...	...	bc, b, c a: bcy p: bc, ci, c n.
2	St.	St.	St: Ast.	10	10	10	10	10	9	h	G	j	l	k	l	...	...	...	...	...	...	od, o a: od, c p: od, c n.
3	St.	Cus Acus Ci.	Cus Steu.	10	10	8	5	4	9	G	j	l	k	l	k	...	...	...	...	...	...	od, c a: c, bc p: bc, c n.
4	---	Cu.	Cu.	0	1	3	2	1	2	l	m	m	m	m	l	...	...	...	...	...	...	b, bc a: bc, by p: by, b n.
5	Steu.	Cu.	---	6	7	2	2	0	7	i	j	l	k	i	h	...	...	...	...	...	...	bcm, by a: by, bz, p: bz, bcm, c n.
6	Ast: Acus Ci.	Cunb: Ast: Acu.	Cus Acu.	9	9	9	4	2	3	i	i	j	j	k	k	...	...	...	...	...	...	c, cp, c a: cz, bc p: b, bc n.
7	Steu: Ast: Acu.	Cus Ast: Acu.	Ast.	9	9	9	9	10	10	k	j	k	k	k	h	...	...	...	...	...	...	od, c a: c, bc p: bc, c n.
8	Steu: Ci.	Cus Cicut Ci.	Cus Acus Ci.	8	9	7	6	6	9	k	k	k	l	l	k	...	...	...	...	...	...	c, bc a: bc p: bc, c n.
9	Cus Steu: Ci.	Cus Steu.	Cu.	9	9	5	3	1	1	l	l	l	l	l	l	...	...	...	...	...	...	c, bc a: bcy p: by, bc n.
10	St: Steu.	Cus Cicut Ci.	Cus Steu: Ci.	9	7	9	9	9	7	k	j	l	l	l	l	...	...	...	...	...	...	bc, cy a: cy p: c, bc n.
11	Cus Ast: Ci.	Cus Ast: Acu.	Cus Ast: Acu.	9	9	9	9	10	10	k	k	k	k	k	k	...	...	...	...	...	...	c, c a: c, cy p: c, ci, c n.
12	Steu.	Cus Ci.	Cus Ci.	9	8	6	6	1	1	k	k	k	k	k	i	...	...	...	...	...	...	c, bcy p: bcy p: by, b, c n.
13	Cus Steu	Cus Acus Ci.	Steu: Ast.	3	8	6	8	9	9	h	k	k	k	k	j	...	...	...	...	...	...	bcm, bcy a: bcy p: cy, c n.
14	St.	Cus Steu: Acu.	St: Steu.	10	9	8	8	9	10	i	j	j	j	h	g	...	...	...	...	...	...	om, c a: c p: om, c n.
15	Nb: Ast.	Nb.	Steu.	10	9	10	9	9	9	k	j	h	k	k	l	...	...	...	...	...	...	ci, c, c m, c a: c m, c p: cid, c n.
16	Cu.	Cus Acu.	Cu: Steu.	1	4	7	9	9	9	l	k	m	l	l	k	...	...	...	...	...	...	b, bcy a: bcy, c p: c n.
17	Nb: Ast.	Nb.	Cus Steu.	10	10	10	9	8	9	k	h	G	j	l	k	...	...	...	...	...	...	c, cp, od, c a: od, c p: cp, c n.
18	Steu: Ci.	Cus Steu.	Cunb: Steu.	9	8	9	8	10	10	j	k	j	h	l	h	...	...	...	...	...	...	c, cp, c a: cp, c p: cp, c n.
19	St.	Cus Steu.	Nb: Cunb.	9	8	6	6	6	8	j	k	l	m	j	j	...	...	...	...	...	...	cp, bcy a: bcy, cp, c p: cp, c n.
20	Steu: Acu.	Cus Steu.	Cus Steu: Acu.	9	9	9	9	8	4	j	j	l	l	l	l	...	...	...	...	...	...	cp, c a: cp, c p: c, bc n.
21	Cus Steu: Ci.	Cus Steu: Ci.	Cunb: Ast: Ci.	8	9	8	8	9	4	k	k	k	m	m	l	...	...	...	...	...	...	cp, cy a: cy, cp, c p: cp, bc n.
22	St: Acu.	Cus Acus Ci.	Cus Acus Ci.	6	9	7	9	9	9	j	k	k	k	j	j	...	...	...	...	...	...	bc, cp, c a: cp, c p: ci, c n.
23	Cus Steu.	Cus Steu.	Cus Steu: Acu.	8	6	8	9	7	8	l	l	l	k	l	k	...	...	...	...	...	...	bc, cp, c a: cp, bc p: bc, cp, c n.
24	St.	Cus Steu.	St: Ast.	9	10	9	10	10	10	h	j	k	k	k	h	...	...	...	...	...	...	of, om, c a: cp, c p: c, c m, c n.
25	St: Acu.	St: Ast.	Steu.	9	10	10	10	10	10	i	i	i	G	j	i	...	...	...	...	...	...	od, c m, c a: od, c p: c, om, c n.
26	St: Steu.	Cu.	---	9	6	2	1	0	0	j	j	k	k	k	j	...	...	...	...	...	...	c, bcy a: bcy, by p: by, b, c n.
27	Steu: Ast: Acu.	Steu: Ast: Acu.	Steu: Ast: Acu.	10	8	9	8	8	8	j	j	k	k	j	j	...	...	...	...	...	...	c, cp, c a: cy p: c n.
28	St.	Nb.	St.	10	10	10	10	10	10	j	j	G	j	h	h	...	...	...	...	...	...	cd, o, c m, c a: o, ci, c m, c p: ci, c m, c n.
29	St: Steu: Ast.	Cus Acus Ci.	Steu: Ci.	10	10	5	4	7	2	j	j	m	m	k	k	...	...	...	...	...	...	ci, c, bcy a: bcy p: bc, b n.
30	Cu.	Cus Steu.	Cus Ci.	2	5	6	3	2	4	k	k	m	m	l	l	...	...	...	...	...	...	bfe, cp, bcy a: bcy p: b, bc, c n.
31	Steu: Ast.	Nb: Ast.	Nb.	10	8	10	10	10	10	l	l	l	j	i	i	...	...	...	...	...	...	c, ci, c a: ci, o, c m, c p: o, c, c m, c n.
Mean Cloud Am't.				7	7	7	7	7	7	7	7	7	7	7	7							

Day	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	Remarks on the Weather of the Day.
	Cloud Forms.			Cloud Amount (All Forms).						Visibility.					Precipitation.							



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OCTOBER, 1933.

1	St: Steu. Ci.	Cut Ci.	Ci.	4	5	2	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
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Day.	Cloud Forms.			Cloud Amount (All Forms).					Visibility.					Precipitation.						Remarks on the Weather of the Day.			
	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h		18h	21h	
1	Frst: Steu.	Nb.	Nb: Steu.	9	9	10	10	9	4	k	j	h	h	k	k	...	...	●	●	i	o	...	c, o m <sub>0</sub> a : o m <sub>0</sub> , ci <sup>0</sup> p : ci <sup>0</sup> , bc n.
2	Steu: Cieu.	Cu.	Cut Steu: Acu.	4	1	2	5	2	1	k	l	j	l	l	l	...	...	...	p	o	...	bc, by a : by, bcp <sup>0</sup> q p : bq, b n.	
3	Steu.	Steu.	Cunb: Nb.	3	4	5	5	9	9	k	k	k	k	k	k	...	...	...	...	p	o	bc, cp <sup>0</sup> a : bcp <sup>0</sup> p : cp <sup>0</sup> , c n.	
4	Steu: Ast: Acu.	Ast: Acu.	Ast: Acu.	9	9	9	9	4	9	l	l	k	k	k	k	...	...	...	...	...	...	c a : c, bc p : bc, c n.	
5	Steu.	Steu.	Ast.	10	10	10	10	9	6	j	i	j	k	j	j	...	...	...	...	...	...	cpd <sub>0</sub> , c a : c p : c, bc n.	
6	Steu: Ast.	Steu: Ci.	Cut Steu.	10	10	4	5	6	1	j	k	j	k	k	k	...	...	...	...	...	...	cp <sup>0</sup> early, bc a : bc p : bc, b n.	
7	St: Acu.	Steu: Acu: Ci.	Acu.	9	9	9	4	5	7	m	k	l	l	l	l	...	...	...	...	...	...	c a : c, bc p : bc n.	
8	St.	St.	St.	10	10	10	10	10	10	D	D	j	i	h	h	...	...	...	...	d <sub>0</sub>	d <sub>0</sub>	d	od <sub>0</sub> , ofe a : od p : od n.
9	Steu: Ast: Acu.	St: Steu.	St: Ast.	10	9	10	10	4	1	i	j	j	i	i	k	...	...	...	...	d <sub>0</sub>	o	od early, c a : od <sub>0</sub> , c <sup>0</sup> p : c <sup>0</sup> m <sub>0</sub> , b n.	
10	Cut Steu.	Cunb: Cu.	St: Steu.	7	9	3	9	10	8	m	k	j	k	k	k	...	...	...	...	p	o	cp <sup>0</sup> , bc a : c, bcp <sup>0</sup> p : bcp <sup>0</sup> , c n.	
11	Steu.	Steu: Ci.	Acu: Ci.	1	2	9	4	1	1	m	k	l	l	l	k	...	...	...	...	...	...	b n, c a : bc, b n p : b n p 2100 n.	
12	Steu: Ci.	Frst: Ast.	Steu.	4	9	9	10	10	2	m	k	k	j	j	j	...	...	...	...	...	...	bc n, ci <sup>0</sup> a : ci <sup>0</sup> p : c, b n.	
13	St: Steu.	Nb.	Steu.	10	10	10	10	2	3	G	G	j	k	k	k	...	...	...	...	...	...	ci <sup>0</sup> m <sub>0</sub> , o m <sub>0</sub> a : o m <sub>0</sub> , b p : bcp <sup>0</sup> n.	
14	Steu.	St: Steu.	Frst: Ast: Acu.	1	1	9	9	10	10	l	j	j	j	j	j	...	...	...	...	...	...	b n, c a : c, ci <sup>0</sup> p : oi <sup>0</sup> n.	
15	Nb.	Nb.	Steu.	10	10	10	10	9	10	h	h	h	j	j	j	...	...	...	...	...	...	o <sup>0</sup> , m <sub>0</sub> a : o m <sub>0</sub> , ci <sup>0</sup> p : ci <sup>0</sup> n.	
16	Nb.	Nb.	St.	9	9	10	6	1	3	j	j	j	k	k	k	...	...	...	...	...	...	cp <sup>0</sup> , p <sup>0</sup> q a : cp <sup>0</sup> , b p : b, bc n.	
17	St: Steu.	Steu: Ast: Acu.	Steu: Acu: Ast.	7	9	6	7	5	2	k	k	l	l	k	k	...	...	...	...	p	o	bc, cp <sup>0</sup> , p <sup>0</sup> a : cp <sup>0</sup> p : cp <sup>0</sup> , b n.	
18	St: Ast: Acu.	St: Ast.	Nb: Ast.	7	9	10	10	10	10	j	k	j	i	i	i	...	...	...	...	...	...	c, ci <sup>0</sup> , cp <sup>0</sup> a : c <sup>0</sup> p : c <sup>0</sup> , c n.	
19	Nb: Ast.	St: Ast.	St: Ast.	10	10	10	10	10	10	i	h	i	h	h	h	...	...	...	...	...	...	c <sup>0</sup> , i <sup>0</sup> , a : ci <sup>0</sup> , c p : ci <sup>0</sup> , c <sup>0</sup> n.	
20	St: Ast.	St: Steu.	Steu.	10	9	10	10	10	3	h	h	i	i	i	h	...	...	...	...	...	...	c <sup>0</sup> early, cm <sub>0</sub> a : cm <sub>0</sub> p : cm <sub>0</sub> , bcm <sub>0</sub> n.	
21	St.	St.	St.	10	10	10	10	10	10	G	h	h	h	h	h	...	...	...	...	id <sub>0</sub>	...	om <sub>0</sub> , oidm <sub>0</sub> a : oidm <sub>0</sub> p : od <sub>0</sub> m <sub>0</sub> n.	
22	Steu.	Cu.	Steu.	9	6	1	1	1	1	j	j	i	j	i	h	...	...	...	...	...	...	c, bcm <sub>0</sub> , b a : b, bm <sub>0</sub> p : bc, b m <sub>0</sub> n.	
23	Steu.	St: Ast: Acu.	Steu.	10	9	9	10	9	2	h	i	j	k	k	k	...	...	...	...	...	...	c m <sub>0</sub> , c a : c p : c, b n.	
24	Steu.	Steu: Cieu: Ci.	Steu.	6	7	5	8	9	9	j	j	j	j	j	j	...	...	...	...	...	...	bc n, bc a : c p and n.	
25	Steu.	Cu: Steu.	Steu.	9	9	6	8	4	2	k	j	k	l	k	k	...	...	...	...	...	...	c n, c <sup>0</sup> , bc a : c, bc p : bc n, b n.	
26	Steu.	Steu.	Steu.	9	9	9	9	9	9	k	k	l	l	k	k	...	...	...	...	...	...	bc n, c a : c p and n.	
27	St: Steu.	St: Steu.	St.	9	8	9	10	6	10	k	i	j	j	j	j	...	...	...	...	...	...	c n, c a : c, bc p : bc, c n.	
28	Nb: St: Steu.	Cut St: Steu.	Steu.	10	10	10	10	10	10	i	h	j	j	j	j	...	...	...	...	id <sub>0</sub>	pd <sub>0</sub>	cid <sub>0</sub> m <sub>0</sub> , c a : cpd <sub>0</sub> p : c n.	
29	St: Steu.	Steu.	St: Steu.	10	10	9	9	9	7	j	j	i	i	i	i	...	...	...	...	...	...	cm <sub>0</sub> , c a : cm <sub>0</sub> p : cm <sub>0</sub> , bcm <sub>0</sub> n : 2100.	
30	St: Steu.	St: Steu.	St: Steu.	10	10	10	10	10	9	i	i	j	j	h	G	...	...	...	...	...	...	cm <sub>0</sub> , c a : cm <sub>0</sub> p : bcm <sub>0</sub> 1930 n.	
Mean Cloud Am't.				8-18-2	6-18-3	7-16-0																	

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1	St: Steu.	St: Steu.	Steu: Acu.	10	9	9	8	9	7	h	I	I	J	J	J	I	I	I	I	...	p <sup>0</sup>	...	...	...	c ⊥ m <sub>0</sub> , cm <sub>0</sub> a : cm <sub>0</sub> p : cm <sub>0</sub> bc n.
2	St: Acu.	Steu.	Steu.	9	10	9	9	9	9	j	I	J	J	J	k	k	j	j	k	...	...	...	...	cp <sup>0</sup> , c a : cm <sub>0</sub> p and n.	
3	Steu.	Steu.	Steu.	9	9	9	9	9	9	k	k	j	j	k	k	k	j	j	k	...	...	...	...	cp <sup>0</sup> , c a : c p and n.	
4	St: Steu.	Steu.	Steu.	10	9	9	8	9	9	k	k	j	j	j	k	k	j	j	k	...	...	...	...	c a : cp <sup>0</sup> , c p : c n.	
5	St: Steu.	Nb: Steu.	Steu.	5	7	9	8	9	9	k	j	k	k	k	k	k	...	...	p <sup>0</sup>	...	...	...	...	bcp <sup>0</sup> a : cp <sup>0</sup> , c p : c n.	
6	Steu.	St: Steu.	St: Steu.	1	9	10	10	10	10	l	I	I	h	h	k	...	...	...	d <sub>0</sub>	id <sub>0</sub>	...	...	...	bc ⊥ m <sub>0</sub> , cid <sub>0</sub> m <sub>0</sub> a : cid <sub>0</sub> m <sub>0</sub> p : cid <sub>0</sub> m <sub>0</sub> , c n.	
7	St: Ast.	Nb: Steu.	Steu.	10	9	9	8	9	9	h	j	k	k	k	k	d <sub>0</sub>	...	i <sup>0</sup>	...	...	...	...	...	ci <sup>0</sup> m <sub>0</sub> , a : ci <sup>0</sup> , c p : cp <sup>0</sup> , c n.	
8	Steu.	Steu.	Steu.	10	10	9	8	7	9	k	k	j	k	k	k	...	...	...	...	...	...	...	...	c a and p : bc, c n.	
9	Steu.	Nb.	Steu.	6	9	10	8	6	8	k	I	I	k	k	j	...	p <sup>0</sup>	...	...	...	...	...	...	bc, c <sup>0</sup> m <sub>0</sub> a : ci <sup>0</sup> , bc p : cp <sup>0</sup> n.	
10	Steu.	St: Steu.	Steu.	9	9	10	8	8	10	j	j	j	j	j	j	...	...	...	...	...	...	...	...	ci <sup>0</sup> a : ci <sup>0</sup> , c p : c, $\perp$ glow 1810-1900 n.	
11	Steu.	---	Steu.	1	1	0	0	1	10	k	I	k	k	j	j	...	...	...	...	...	...	...	...	b ⊥, b a : b, b ⊥ p : b ⊥, c n.	
12	St.	Nb.	St.	10	10	10	10	4	10	d	F	h	h	I	i	...	...	...	...	...	...	...	...	of, o <sup>0</sup> m <sub>0</sub> a : oi <sup>0</sup> m <sub>0</sub> , bcm <sub>0</sub> p : bcm <sub>0</sub> cm <sub>0</sub> n.	
13	St: Steu.	St: Steu.	Steu.	10	9	10	9	9	9	i	I	j	l	k	k	...	...	...	...	p <sup>0</sup>	...	...	...	cp <sup>0</sup> m <sub>0</sub> , c a : cp <sup>0</sup> p : bc, c n.	
14	Steu.	Steus Ci.	Steus Ci.	1	8	2	5	7	1	k	k	k	l	k	k	...	...	...	...	...	...	...	...	bc, c, b a : b, bc p : bc, b n.	
15	Steu.	Steu.	---	4	8	7	9	0	1	k	k	k	k	k	k	...	...	...	...	...	...	...	...	c, bc a : c, b p : b, b ⊥ n.	
16	St.	St.	St.	5	9	10	10	10	7	k	k	G	D	F	j	...	...	...	id <sub>0</sub>	...	...	...	...	c ⊥, p <sup>0</sup> a : om <sub>0</sub> , oid <sub>0</sub> f p : om <sub>0</sub> , bc n.	
17	St.	St.	---	2	1	9	5	0	10	E	k	h	D	E	G	...	...	...	...	...	...	...	...	bf, b ⊥ a : bf, F p : b ⊥ f, cm <sub>0</sub> n.	
18	St.	St.	St.	10	10	10	10	10	10	E	E	E	B	D	D	d <sub>0</sub>	...	...	...	...	...	...	...	oid <sub>0</sub> f a : oF p : of n.	
19	St.	Cu.	---	10	10	3	2	0	10	C	C	C	1	D	D	...	...	...	...	...	...	...	...	oFe, bc, oFe a : oFe, b p : bf ⊥ n.	
20	St.	St.	St.	10	1	10	10	10	10	D	G	C	C	C	C	...	...	...	...	...	...	...	...	of ⊥, b, oF ⊥ a : oF ⊥ p : oFe n.	
21	St.	St.	St: Steu.	10	10	10	10	10	10	C	D	G	G	G	h	d <sub>0</sub>	...	d <sub>0</sub>	...	id <sub>0</sub>	...	...	...	od <sub>0</sub> F, od <sub>0</sub> m <sub>0</sub> a : od <sub>0</sub> m <sub>0</sub> , cm <sub>0</sub> p : cid <sub>0</sub> m <sub>0</sub> n.	
22	St: Steu.	St.	St: Steu	10	10	10	10	10	10	h	G	F	I	I	h	d <sub>0</sub>	d <sub>0</sub>	...	id <sub>0</sub>	d <sub>0</sub>	...	...	...	cd <sub>0</sub> m <sub>0</sub> a : od <sub>0</sub> m <sub>0</sub> p : cd <sub>0</sub> m <sub>0</sub> n.	
23	St.	St.	St.	10	10	10	10	10	10	h	h	I	J	I	I	id <sub>0</sub>	...	...	...	...	...	...	...	oidm <sub>0</sub> , om <sub>0</sub> a : om <sub>0</sub> p and n.	
24	St.	St.	St.	10	10	10	10	10	10	i	G	E	C	D	E	id <sub>0</sub>	id <sub>0</sub>	d	d <sub>0</sub>	d	...	...	...	oid <sub>0</sub> m <sub>0</sub> , od <sub>0</sub> a : od <sub>0</sub> F p : od <sub>0</sub> f, o <sup>0</sup> f n.	
25	St.	St.	St.	10	10	10	10	10	10	f	G	C	C	F	G	d	d <sub>0</sub>	d	...	id <sub>0</sub>	...	...	...	od.m., odF a : odF, oF p, oid <sub>0</sub> m <sub>0</sub> n.	
26	St.	St.	St.	10	10	10	10	9	9	g	E	I	I	h	h	...	...	d <sub>0</sub>	...	...	...	...	...	of, cd <sub>0</sub> m <sub>0</sub> a : cd <sub>0</sub> m <sub>0</sub> , cm <sub>0</sub> p : cm <sub>0</sub> n.	
27	St.	St.	St: Frst.	10	10	10	10	10	9	D	D	h	I	I	J	...	...	...	...	...	...	...	...	of, om <sub>0</sub> a : o, cm <sub>0</sub> p : cm <sub>0</sub> c n.	
28	St: Steu.	St: Nb.	St: Frst.	9	9	10	9	9	9	j	I	J	J	J	j	...	...	...	...	...	...	...	...	c ⊥ m <sub>0</sub> , ci <sup>0</sup> a : ci <sup>0</sup> , c p : c n.	
29	Steu.	Steus: Cieu: Ci.	Steu.	9	9	4	9	9	9	j	j	j	I	h	h	...	...	...	...	...	...	...	...	c ⊥, bc a : bc, cm <sub>0</sub> p : cm <sub>0</sub> n.	
30	St: Steu.	St.	St: Ast: Ci.	10	2	10	10	9	2	I	I	I	l	l	l	...	...	...	...	...	...	...	...	c <sup>0</sup> , c <sup>0</sup> m <sub>0</sub> a : ci <sup>0</sup> , c p : c, b n.	
31	Ci.	Cist: Ci.	St: Cist.	1	1	5	7	9	9	l	l	j	j	j	j	...	...	...	...	...	...	...	...	b ⊥, bc a : bc ⊥ p : bc ⊥ n.	
Mean Cloud Am'nt.				8	08	28	58	47	78	5															
Mean Annual Cloud Am'nt.				7	4	7	77	77	47	06	6														
Day	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	Remarks on the Weather of the Day			
	Cloud Forms.			Cloud Amount (All Forms).						Visibility.						Precipitation.									



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1933.

Month.	JANUARY. Factor 6.50				FEBRUARY. Factor 6.47				MARCH. Factor 6.43			
Hour G.M.T.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.
Day	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.
1	Z+	195	130	400	Z-	265	65	50	265	Z-	395	750
2	Z-	115	Z-	Z-	Z+	Z-	155	155	515	65	265	635
3	Z-	135	195	Z+	135	520	290	200	-460	395	25	100
4	115	Z+	380	380	-300	Z-	Z-	Z-	0	185	215	50
5	Z-	175	190	215	Z-	-20	-25	75	-5	165	Z-	Z-
6	55	140	-175	-135	75	355	190	215	Z-	330	255	215
7	55	115	120	25	Z-	25	Z-	215	170	240	180	290
8	105	150	80	15	285	290	205	190	190	215	340	-25
9	120	80	150	325	85	Z-	Z-	230	Z-	95	100	135
10	505	300	315	65	-150	50	130	175	355	530	300	285
11	55	Z-	290	400	240	150	240	255	225	335	255	515
12	155	270	-	355	125	250	155	90	355	360	305	455
13	770	605	455	545	170	155	195	185	335	405	290	700
14	360	260	230	190	190	240	275	330	-	90	130	315
15	Z-	-80	170	705	280	180	290	660	Z-	135	190	165
16	315	285	-	-	515	495	255	455	Z-	70	265	290
17	-	-	270	180	650	170	200	495	140	230	Z-	440
18	395	170	445	500	180	185	270	255	375	420	190	Z-
19	335	175	800	780	240	150	150	465	180	150	(220)	290
20	450	305	425	640	300	390	115	225	405	240	255	460
21	130	290	475	495	125	175	230	395	190	205	240	670
22	435	380	485	585	215	180	205	455	550	590	300	420
23	365	615	620	705	325	450	255	425	335	215	230	500
24	260	365	300	220	330	115	160	145	230	210	235	355
25	170	280	190	165	Z+	645	485	Z+	260	245	240	465
26	80	105	135	245	305	Z+	Z+	-115	300	315	275	420
27	325	375	260	580	0	Z-	C	435	380	420	185	420
28	290	240	270	625	460	620	325	310	630	670	295	585
29	570	320	125	595	-	-	-	-	425	150	195	385
30	370	395	490	740	-	-	-	-	220	140	100	65
31	-25	155	105	Z-	-	-	-	-	115	145	Z+	255
(a)	283	259	297	411	249	276	210	283	298	265	231	380
(b)	307	283	310	395	247	269	218	312	276	299	235	383
Mean.	(a) 313	(b) 324			(a) 255	(b) 261			(a) 293	(b) 298		
Month.	APRIL. Factor 6.38				MAY. Factor 6.29				JUNE. Factor 6.23			
Hour G.M.T.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.
Day	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.
1	200	170	170	380	120	110	25	55	330	140	75	150
2	140	180	90	80	85	140	120	105	145	105	Z-	270
3	50	35	40	230	50	90	30	-165	145	240	110	215
4	125	140	120	150	-75	205	180	Z+	325	180	120	230
5	305	180	195	250	185	280	135	Z+	185	190	135	230
6	645	200	255	560	245	210	150	Z-	265	125	160	140
7	710	520	370	430	95	Z+	135	135	90	110	130	265
8	455	520	280	315	355	155	180	250	175	65	75	65
9	135	130	-	-	95	150	65	60	35	75	100	145
10	105	165	185	135	85	85	100	90	160	140	Z-	75
11	135	130	105	85	130	-5	215	155	110	115	130	255
12	195	75	190	170	225	90	140	350	200	150	215	155
13	125	135	140	145	180	125	170	85	140	75	165	215
14	190	120	175	395	155	170	155	45	150	190	185	380
15	185	30	105	100	110	125	150	165	335	170	170	190
16	140	90	65	85	245	Z-	Z-	70	85	180	180	Z-
17	0	25	100	140	305	460	150	205	105	175	Z-	130
18	Z-	120	115	110	125	170	115	130	125	Z-	-	130
19	115	255	120	125	125	190	105	140	Z+	Z+	Z+	230
20	75	Z+	125	405	205	240	230	320	215	120	105	250
21	170	105	165	235	265	315	165	190	85	195	110	175
22	190	90	125	230	180	155	Z-	190	165	115	85	Z-
23	140	170	215	320	Z+	15	165	120	80	205	140	175
24	60	245	175	190	130	145	185	185	80	60	40	155
25	Z-	240	170	125	180	130	135	185	245	140	140	230
26	345	200	225	70	90	115	100	230	255	15	140	165
27	Z-	140	150	190	130	160	75	90	90	205	125	165
28	-20	135	(140)	240	150	0	60	150	255	20	125	135
29	65	60	Z+	75	90	105	100	190	80	50	115	130
30	30	Z-	-225	165	100	155	125	340	190	140	140	170
31	-	-	-	-	280	215	120	60	-	-	-	-
(a)	193	164	160	11	163	161	130	158	167	132	129	186
(b)	205	170	163	220	157	151	126	150	177	129	128	191
Mean	(a) 182	(b) 189			(a) 153	(b) 146			(a) 153	(b) 156		

Note:-The Potential Gradient is reckoned as positive if the potential increases upwards. For Indeterminate Potential Gradient the following notation is used : Z +, Indeterminate, positive value; Z -, Indeterminate negative value; Z+ Indeterminate in magnitude and sign.  
(a) Mean of all positive readings. (b) Mean from all complete days using both positive and negative readings.



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1933.

Month.	JULY. Factor 6-22				AUGUST. Factor 6-21				SEPTEMBER. Factor 6-26			
Hour G.M.T.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.
Day	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.
1	320	155	180	375	155	130	145	220	130	105	115	345
2	130	140	125	270	170	165	80	380	320	350	115	395
3	-	-	240	-	-	315	-	-	135	195	105	25
4	150	115	185	235	-	-	-	-	-	170	80	155
5	155	70	120	435	-	-	180	375	335	165	115	190
6	305	250	280	280	165	190	145	140	125	230	150	-
7	165	105	270	475	175	105	180	130	-	235	135	165
8	-	-	125	Z+	90	130	140	115	150	140	130	230
9	95	195	120	115	75	100	155	185	75	-	105	180
10	Z-	170	130	Z-	-	115	130	240	155	115	130	240
11	195	175	Z+	Z+	135	165	110	70	215	140	110	150
12	-100	-25	-15	90	210	155	145	295	170	90	135	155
13	50	Z-	Z+	180	340	150	185	235	150	130	115	265
14	155	Z-	Z+	215	125	370	150	230	220	290	135	355
15	190	110	Z+	Z+	220	60	305	120	165	135	150	325
16	220	140	145	350	145	185	140	230	130	270	245	335
17	185	160	130	165	65	-90	240	100	220	205	170	170
18	195	40	80	250	115	155	50	Z-	90	165	120	380
19	220	145	130	60	175	170	140	245	295	315	220	Z+
20	-	-	-	-	305	100	Z-	200	320	-	Z+	275
21	-	80	135	270	120	40	35	215	300	190	90	250
22	105	215	150	315	400	135	Z-	195	160	175	100	190
23	115	155	105	245	340	245	Z-	-170	235	375	90	280
24	395	255	45	95	335	260	170	30	235	-25	100	290
25	-305	315	100	360	35	-	-	-	250	285	100	155
26	(130)	(70)	80	250	-	-	-	-	145	150	180	235
27	230	-	Z+	Z+	-	-	-	-	115	235	165	345
28	115	115	155	385	-	-	-	440	200	105	190	280
29	295	120	Z+	130	150	355	215	485	205	240	230	170
30	140	135	115	80	535	165	160	345	-	-	170	105
31	Z-	230	-30	110	140	235	100	90	-	-	-	-
(a)	185	153	143	239	197	175	149	221	194	200	138	237
(b)	144	145	132	254	186	160	154	203	193	184	136	250
Mean	(a) 180		(b) 169		(a) 185		(b) 176		(a) 192		(b) 191	
Month.	OCTOBER. Factor 6-28				NOVEMBER. Factor 6-23				DECEMBER. Factor 6-21			
Hour G.M.T.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.
Day	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.
1	105	85	190	195	115	145	445	255	340	150	300	245
2	120	90	190	320	70	175	170	240	150	155	310	425
3	95	190	225	480	175	115	Z-	300	250	115	150	130
4	240	320	-	255	145	80	145	490	100	160	145	185
5	230	195	165	205	290	115	165	285	90	120	225	175
6	60	140	190	320	190	95	330	335	110	150	280	205
7	70	105	50	-105	135	65	155	280	120	115	215	210
8	25	395	180	320	310	540	395	175	95	115	200	255
9	215	155	Z-	240	85	160	95	245	140	130	Z-	200
10	175	215	140	265	290	220	190	280	190	35	Z-	750
11	150	160	155	250	220	235	200	285	170	265	155	615
12	180	155	165	400	130	175	195	380	-150	175	335	750
13	140	210	170	160	125	Z+	Z+	270	Z+	170	205	260
14	130	505	55	330	265	205	275	315	85	305	290	745
15	335	155	Z-	165	Z-	Z-	175	160	170	245	200	460
16	165	Z+	135	235	85	Z-	65	190	230	200	365	340
17	135	100	-	60	95	95	155	Z-	120	220	470	420
18	320	330	225	295	75	Z-	45	240	435	395	540	540
19	190	200	155	310	35	225	265	Z+	515	575	810	620
20	210	250	180	290	90	70	220	590	540	405	820	820
21	145	5	90	140	800	405	-	80	680	370	470	225
22	85	165	120	230	115	410	195	390	130	115	200	100
23	Z-	155	105	420	410	355	175	325	105	235	140	395
24	60	140	120	155	315	300	465	270	165	100	125	Z-
25	85	225	145	195	185	45	130	290	80	140	335	205
26	140	195	120	320	135	135	195	405	Z-	260	565	395
27	250	155	175	330	325	490	225	565	155	375	290	370
28	180	Z+	Z+	Z+	280	160	320	155	510	220	80	115
29	Z+	170	180	225	105	100	195	390	290	220	320	345
30	180	150	215	340	165	190	230	350	50	170	125	560
31	Z-	120	165	255	-	-	-	-	255	245	600	Z+
(a)	158	187	154	266	199	204	222	298	217	216	314	381
(b)	143	194	155	261	199	203	232	332	207	230	305	378
Mean	(a) 191		(b) 188		(a) 231		(b) 241		(a) 282		(b) 280	
								(a)	209	199	190	273
								Annual Means. (b)	203	201	191	277
								(a) 218		(b) 218		

Note:-The Potential Gradient is reckoned as positive if the potential increases upwards. For Indeterminate Potential Gradient the following notation is used: Z +, Indeterminate, positive value; Z -, Indeterminate, negative value; Z ±, Indeterminate in magnitude and sign.  
(a) Mean of all positive readings. (b) Mean from all complete days using both positive and negative readings.



POTENTIAL GRADIENT (reduced to level surface): DIURNAL INEQUALITIES (in volts per metre).  
The departures from the mean of the day are adjusted for non-cyclic change.†

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\* 0a Days Only.

1933.

MONTH AND SEASON	Hour 0 to 1	G.M.T. 1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	21 to 22	22 to 23	23 to 24	Non Cyclic Change	No. of Days Used.	Mean Values.	
Jan.	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m		
Feb.	-43	-67	-52	-65	-57	-50	-34	-46	-59	-53	-58	-48	-29	-33	+24	+66	+109	+173	+155	+114	+91	+24	-16	+13	+13	12	355	
Mar.	+34	-34	-11	-41	-33	+8	-50	-55	-51	-71	-53	-65	-69	-62	-56	-67	-1	+56	+70	+100	+70	+94	+112	+99	-11	9	309	
	+25	+17	+14	+5	+5	-1	+28	+28	+22	-20	-80	-100	-94	-81	-86	-84	-97	-60	+25	+85	+124	+136	+119	+65	+30	13	347	
Apr.	+22	+11	+37	+36	-10	-18	+4	-30	-25	-32	-62	-66	-53	-48	-34	-56	-33	-6	+24	+72	+58	+75	+75	+61	-22	10	240	
May	+24	+14	-1	-10	+6	+22	0	+5	-14	-17	-15	-29	-42	-30	-22	-17	-24	-20	-5	+5	+44	+32	+51	+44	-1	8	146	
June	+22	+10	+13	+20	+33	+37	+5	-14	-18	-22	-33	-38	-43	-43	-33	-28	-25	-11	-1	+34	+30	+23	+42	+36	+13	18	161	
July	+19	-5	-22	-40	-40	-17	-14	-31	-45	-52	-41	-37	-35	-41	-45	-28	-23	-8	+37	+82	+97	+102	+110	+74	-13	7	188	
Aug.	+18	0	0	-3	+19	+18	+33	+20	-22	-35	-33	-23	-35	-19	-9	-10	-24	-17	+4	+5	+17	+42	+36	+9	-39	5	168	
Sept.	-6	-14	-9	+46	+26	+59	+111	+74	+10	-24	-49	-63	-69	-67	-69	-63	-42	-19	+19	+20	+47	+46	+15	+15	+37	12	206	
Oct.	-21	-21	-35	-47	-53	-25	+2	-5	-6	+1	-24	-33	-33	-33	-27	-29	+6	+46	+85	+109	+81	+35	+32	-1	+9	9	203	
Nov.	-36	-27	-22	-1	-26	-51	-52	-38	-13	-9	-48	-60	-50	-34	-32	+2	+45	+87	+82	+89	+70	+97	+21	-5	+36	14	262	
Dec.	-43	-47	-34	-52	-59	-84	-93	-80	-61	-45	-33	-26	-20	+5	+45	+81	+95	+123	+137	+113	+67	+38	+12	-35	-5	13	259	
Year	+1	-8	-10	-13	-16	-9	-5	-14	-23	-32	-44	-50	-49	-40	-33	-23	-5	+23	+54	+72	+68	+68	+54	+29	---	--	237	
Winter	-22	-27	-30	-40	-44	-44	-57	-55	-46	-45	-47	-52	-47	-30	-19	+10	+51	+94	+115	+114	+80	+80	+42	+11	---	--	296	
Equinox	+5	-2	+2	+10	-8	+4	+36	+17	0	-19	-54	-65	-62	-57	-54	-58	-41	-10	+38	+71	+77	+73	+60	+35	---	--	249	
Summer	+21	+5	-3	-8	+5	+15	+6	-5	-25	-31	-31	-32	-39	-33	-27	-21	-24	-14	+9	+31	+47	+51	+60	+41	---	--	166	

267. ESKDALEMUIR.

\* 1a and 2a Days Only.

1933.

MONTH AND SEASON	Hour 0 to 1	G.M.T. 1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	21 to 22	22 to 23	23 to 24	Non Cyclic Change	No. of Days Used.	Mean Values
Jan.	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m		
Feb.	-182	-242	-131	-338	-399	-371	-365	-187	-328	-129	+95	+93	+202	+243	+262	+314	+372	+410	+335	+243	+210	+70	-73	-113	+142	1	522
Mar.	-56	-47	-46	-74	-69	-24	-25	+37	+159	+48	+28	+22	+46	+23	+23	+13	-30	-34	-9	+3	-6	+62	+1	-50	-29	4	191
	+117	+50	-39	-88	-184	-152	-144	-130	-198	-201	-159	-135	-104	-61	-37	+20	-13	-33	+127	+57	+271	+465	+268	+302	-468	1	279
Apr.	+25	+4	+13	+43	+13	+9	-19	-1	-25	-43	-61	-46	-18	-25	-14	+13	-1	-9	-10	-1	+22	+51	+27	+44	-1	11	149
May	+42	+22	+3	+3	+30	+66	+29	+11	-13	-9	-25	-44	-30	-41	-20	-24	-24	-80	-13	+17	-11	+8	+39	+48	+12	10	130
June	+33	+93	+58	+61	+11	-37	-27	-80	-86	-95	-46	+4	-14	-27	-17	-13	-34	-25	+5	+61	+53	+70	+38	+38	-79	3	151
July	-45	+1	+77	+116	+133	+138	+86	-9	-23	-50	-72	-77	-60	-61	-65	-49	-18	-28	-18	+29	+19	-14	0	-8	-100	3	195
Aug.	+28	+6	0	0	+37	+58	+68	+51	+19	-9	-56	-54	-61	-50	-41	-5	-31	-27	-23	+49	+36	+17	-5	+8	+33	5	182
Sept.	+42	-23	-44	-31	-51	-40	+12	-12	-44	-70	-83	-33	-20	-22	-15	+19	+18	+27	+44	+61	+76	+77	+65	+47	-164	6	177
Oct.	-58	-71	-79	-77	-57	-60	-57	-42	-27	-19	-13	-20	0	-19	0	+12	+46	+87	+89	+140	+112	+78	+58	-26	-77	6	176
Nov.	-31	-44	-70	-121	-104	-131	-111	-111	-103	-104	-87	-44	-45	-24	+15	+75	+147	+116	+162	+212	+182	+171	+64	-43	-140	3	200
Dec.	+32	+2	-42	-30	-24	-1	-75	-66	-84	+65	+16	+67	+16	-19	-4	+22	+30	-1	+23	+28	+16	-3	+25	+19	-189	4	207
Year	-4	-21	-25	-45	-55	-45	-52	-45	-63	-51	-37	-22	-7	-7	+7	+33	+39	+35	+59	+74	+82	+88	+42	+22	---	--	213
Winter	-59	-83	-72	-141	-149	-132	-144	-82	-89	-30	+18	+35	+55	+56	+74	+106	+130	+123	+128	+121	+101	+75	+4	-47	---	--	280
Equinox	+31	-10	-37	-38	-70	-61	-52	-46	-73	-83	-79	-59	-35	-32	-17	+16	+13	+18	+63	+64	+120	+168	+105	+92	---	--	195
Summer	+15	+3	+35	+45	+53	+56	+39	-7	-26	-41	-50	-43	-41	-45	-36	-23	-27	-35	-12	+37	+24	+20	+18	+21	---	--	165

† see page 21

\* Note. For explanation of 0a, 1a and 2a Days, see page 164



268. ESKDALEMUIR.

1933.

Month	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE	
Day.	Character	Duration of Negative Pot. Grad.	Character	Duration of Negative Pot. Grad.	Character	Duration of Negative Pot. Grad.	Character	Duration of Negative Pot. Grad.	Character	Duration of Negative Pot. Grad.	Character	Duration of Negative Pot. Grad.
		Hours		Hours		Hours		Hours		Hours		Hours
1	1b	1-1	2c	12-0	1b	1-7	1a	0-6	1a	1-0	1a	1-4
2	2c	13-7	1c	2-4	2b	4-3	1a	2-7	0a	...	1b	2-6
3	2c	5-9	1a	0-1	2b	4-4	1a	0-7	2b	5-7	0a	...
4	2c	7-1	2c	12-0	2b	3-6	0a	...	2c	7-3	0a	...
5	2b	3-9	2c	12-1	2c	9-0	1a	0-5	1c	2-9	0a	...
6	2c	4-3	1a	1-0	2b	3-8	0a	...	2c	3-7	0a	...
7	2b	4-9	2c	6-6	1b	1-0	0a	...	2c	6-1	0a	...
8	2b	3-5	1a	0-3	2c	7-8	0a	...	1b	0-7	0a	...
9	0a	...	2c	6-5	2b	5-4	(2b)	---	1a	0-8	0a	...
10	1b	1-6	1b	2-8	0a	...	0a	...	0a	...	2b	5-9
11	1b	2-5	0a	...	0a	...	1b	2-9	1a	1-1	0a	...
12	(1b)	1-1	1a	0-5	0a	...	1a	0-7	0a	...	1b	0-6
13	1b	0-9	0a	...	0a	...	0a	...	1a	0-5	1a	0-6
14	1b	0-5	0a	...	1b	2-8	0a	...	1b	0-9	0a	...
15	2c	7-4	0a	...	2c	5-1	1a	0-5	0a	...	0a	...
16	(0a)	...	1b	0-6	2c	5-1	1a	0-2	2c	7-1	1b	2-9
17	(1a)	0-1	0a	...	1b	0-6	2a	3-8	1a	0-3	2c	5-0
18	0a	...	0a	...	1c	1-9	1b	0-7	1a	0-5	2c	7-4
19	1a	0-1	1b	0-7	1b	0-9	1b	1-1	1a	0-2	2c	5-5
20	0a	...	1b	0-7	0a	...	1b	0-6	1b	2-3	0a	...
21	0a	...	1b	0-1	0a	...	0a	...	1b	0-6	0a	...
22	0a	...	0a	...	0a	...	0a	...	2b	3-3	1b	1-6
23	0a	...	0a	...	0a	...	0a	...	2c	3-5	0a	...
24	0a	...	1b	0-8	0a	...	1a	0-7	1a	1-1	1b	2-0
25	0a	...	1c	2-2	0a	...	2b	5-1	0a	...	0a	...
26	0a	...	2c	9-0	0a	...	1a	0-3	0a	...	1a	1-2
27	0a	...	2c	11-4	0a	...	2c	4-7	1a	0-1	0a	...
28	0a	...	0a	...	0a	...	2b	4-0	1a	1-7	0a	...
29	0a	...	...	...	1a	0-1	2c	3-8	1a	0-4	0a	...
30	1b	0-1	...	...	2c	3-6	2b	12-3	0a	...	0a	...
31	2c	6-7	...	...	2c	5-1	...	...	0a	...	...	...
Total	---	65-4	---	81-8	---	66-2	---	45-9	---	51-8	---	36-7
No. of days used.	---	31	---	28	---	31	---	29	---	31	---	30
Mean	---	2-1	---	2-9	---	2-1	---	1-6	---	1-7	---	1-2
	JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	Character	Duration of Negative Pot. Grad.	Character	Duration of Negative Pot. Grad.	Character	Duration of Negative Pot. Grad.	Character	Duration of Negative Pot. Grad.	Character	Duration of Negative Pot. Grad.	Character	Duration of Negative Pot. Grad.
		Hours		Hours		Hours		Hours		Hours		Hours
1	1a	0-5	1a	0-2	0a	...	0a	...	1b	2-2	0a	...
2	0a	...	1a	0-2	0a	...	1a	0-1	1b	2-2	0a	...
3	0a	...	(0a)	...	1a	0-5	0a	...	2c	5-9	1a	0-4
4	0a	...	0a	...	1a	0-1	0a	...	0a	...	0a	...
5	0a	...	0a	...	1a	0-1	0a	...	0a	...	1a	0-1
6	0a	...	0a	...	0a	...	0a	...	0a	...	1a	0-1
7	1b	1-6	0a	...	0a	...	2b	3-8	0a	...	1b	1-4
8	1b	1-6	0a	...	0a	...	1b	2-2	0a	...	0a	...
9	1b	2-0	1a	0-7	0a	...	2c	4-8	2b	3-2	2c	7-2
10	2c	5-1	0a	...	0a	...	0a	...	0a	...	2b	5-6
11	2c	3-8	1a	0-8	0a	...	1b	1-7	0a	...	1b	1-3
12	2b	4-3	0a	...	0a	...	1a	0-1	0a	...	1b	2-7
13	1c	2-2	0a	...	1a	0-1	1a	0-5	2c	6-8	1b	0-2
14	1b	1-4	1b	0-5	0a	...	1b	1-7	1a	1-1	0a	...
15	1c	1-7	1b	2-9	0a	...	2c	4-4	2c	11-6	0a	...
16	1b	1-5	0a	...	0a	...	2c	3-9	1c	2-3	0a	...
17	0a	...	2b	4-8	1a	0-2	1a	0-1	2c	3-3	0a	...
18	0a	...	2c	3-9	1b	1-8	0a	...	2c	8-0	0a	...
19	1a	0-1	1b	2-1	1b	1-5	0a	...	1c	2-5	1b	0-3
20	(1b)	---	1b	1-7	(2c)	---	0a	...	1b	0-7	0a	...
21	0a	...	1b	1-6	(1b)	(2-7)	1b	1-1	0a	...	0a	...
22	0a	...	2b	5-1	0a	...	0a	...	0a	...	0a	...
23	0a	...	1b	2-7	0a	...	2b	3-1	0a	...	0a	...
24	1a	1-5	1a	0-1	1b	2-7	1a	0-1	0a	...	2b	3-1
25	2b	5-7	(1b)	---	1b	0-7	1a	0-6	1a	0-7	2b	3-1
26	1a	0-1	(0a)	...	1a	0-1	1b	1-5	0a	...	1b	2-9
27	2c	3-0	(1a)	---	0a	...	1b	0-9	0a	...	1b	1-3
28	1a	0-1	(2c)	---	1a	0-4	2c	9-4	1b	2-3	1a	0-1
29	2c	3-3	1a	0-1	0a	...	1c	2-3	1a	0-2	0a	...
30	1b	1-5	1a	0-1	0a	...	1a	0-1	0a	...	2b	3-5
31	2c	9-5	2b	3-7	...	...	2c	3-7	...	...	0a	...
Total	---	50-5	---	31-2	---	10-9	---	46-1	---	53-0	---	33-3
No. of days used.	---	30	---	28	---	2-9	---	31	---	30	---	31
Mean	---	1-7	---	1-1	---	0-4	---	1-5	---	1-8	---	1-1

Annual Values. Character Frequency ... 0 1 2 Duration ... Total. No. of Days. Mean.  
149 140 76 572-8 359 1-60



**TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT.**  
Mean values for periods of sixty minutes, ending at the hours of Greenwich Mean Time.

269. ESKDALEMUIR. (H.)

16,000 γ (·16 C.G.S. unit) +

JANUARY, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1 D	558	553	554	557	558	567	567	569	570	565	560	558	564	567	560	559	555	558	560	557	554	541	559	556	559
2	554	550	561	553	559	564	563	564	554	557	554	554	555	563	567	564	563	561	543	559	563	559	553	553	557
3	554	555	562	558	558	562	563	564	564	564	561	562	565	562	568	566	564	564	563	561	561	567	561	561	562
4 Q	562	563	563	563	564	567	567	564	561	557	557	554	556	564	562	562	563	559	564	567	567	565	564	560	562
5 Q	560	561	562	562	563	564	568	564	564	563	559	564	567	572	567	567	567	568	567	567	567	567	567	567	565
6	565	564	569	569	564	587	590	572	568	553	526	538	541	540	541	555	553	554	555	563	562	558	555	553	558
7	550	553	556	555	567	566	561	560	555	553	554	554	555	555	558	559	545	531	549	556	563	562	560	559	556
8	558	562	563	558	565	572	577	569	563	562	559	554	547	550	559	563	564	562	558	560	559	561	567	567	562
9	563	562	563	563	566	568	572	572	567	567	568	568	566	564	567	563	554	559	558	559	555	558	567	560	564
10 Q	562	562	563	566	565	569	569	569	567	563	557	555	554	557	564	567	567	563	559	563	564	563	562	563	563
11 Q	564	564	564	566	568	572	572	572	572	566	558	555	559	564	562	562	563	564	564	564	564	564	562	562	563
12	564	567	570	568	572	572	573	575	572	568	562	562	563	569	568	567	572	573	571	571	567	566	563	562	568
13	563	562	566	567	570	571	571	572	573	570	568	567	570	571	567	570	571	571	568	564	566	566	564	566	568
14	562	562	566	565	567	571	574	576	573	571	565	563	564	567	571	571	572	571	569	571	575	551	541	539	566
15	556	559	565	563	565	553	599	557	529	542	549	639	540	548	548	552	552	553	549	547	552	574	552	547	554
16	552	554	557	556	562	573	562	554	542	538	545	541	534	551	553	547	554	558	560	561	561	561	561	560	554
17	557	557	559	564	565	565	567	570	556	530	555	560	557	559	561	558	560	561	562	563	563	565	563	560	561
18	561	559	560	561	561	570	568	565	562	555	547	548	553	558	560	561	562	563	563	565	563	560	564	563	560
19 D	564	564	564	564	577	569	570	568	565	568	563	563	565	561	546	529	530	542	546	541	551	551	547	546	556
20	551	555	561	565	551	590	578	563	552	552	552	555	557	560	560	560	558	561	564	564	563	560	559	568	562
21 Q	559	559	562	563	567	568	572	569	565	563	559	558	558	563	564	564	564	568	569	572	565	561	560	559	564
22 D	559	559	560	561	562	563	571	566	560	558	555	548	548	555	567	550	545	535	534	539	543	558	521	544	553
23	553	552	543	549	553	555	562	558	557	553	551	546	549	550	540	562	562	557	555	554	544	568	576	529	553
24	535	553	538	545	555	558	561	557	554	552	552	543	538	556	561	563	562	547	559	556	555	557	553	552	553
25	545	552	553	555	556	560	569	565	551	550	553	548	551	556	542	546	550	556	556	558	561	553	538	546	553
26	544	549	571	548	560	563	565	565	556	540	548	553	556	559	548	547	552	553	568	565	565	552	548	547	555
27 D	543	573	556	558	545	564	564	568	555	546	532	546	551	561	564	559	554	538	539	537	536	567	555	533	552
28 D	568	546	559	556	556	560	562	561	550	545	536	541	547	541	566	547	550	555	559	555	568	567	541	572	554
29	547	549	554	554	563	558	559	563	558	551	540	543	538	535	554	541	545	550	555	568	581	562	553	561	553
30	558	558	553	549	558	558	565	560	559	549	544	545	553	559	559	545	556	563	563	563	555	564	543	549	555
31	553	549	554	552	558	559	562	557	557	559	552	554	557	555	559	567	559	557	563	562	562	562	559	556	559
Mean	556	558	560	559	562	566	569	566	560	556	553	553	554	558	559	558	558	557	558	559	560	561	556	556	559

**MAGNETIC DECLINATION (WEST).**

Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

270. ESKDALEMUIR. (D.)

14° +

JANUARY, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day																									
1 D	13·7	14·7	17·1	19·3	18·8	17·7	17·4	17·7	17·9	17·7	18·7	18·1	19·8	21·9	21·7	22·0	19·7	19·6	18·5	9·7	8·7	13·8	16·6	18·2	17·5
2	18·6	19·3	15·7	15·7	17·5	17·7	18·0	17·7	18·7	17·8	19·4	18·7	20·0	19·2	18·8	18·7	18·7	19·2	18·2	15·7	17·7	16·2	14·7	15·9	17·8
3	16·7	18·7	15·7	16·7	17·5	18·1	17·7	17·7	17·7	18·4	18·2	18·9	21·8	20·7	19·6	18·7	18·4	18·2	18·5	18·2	17·6	17·5	15·8	15·9	18·0
4 Q	16·4	15·7	17·6	17·2	17·6	17·7	17·7	17·7	16·9	17·6	17·8	18·9	20·6	21·7	19·9	19·2	19·0	18·2	18·2	18·2	17·8	17·7	17·7	17·7	18·1
5 Q	18·2	18·2	17·9	17·8	18·2	17·9	17·7	17·7	17·5	17·7	18·4	19·6	20·6	19·9	19·4	18·7	18·7	18·5	18·4	18·0	18·0	17·8	17·7	17·7	18·3
6	17·0	16·7	16·7	14·9	15·6	16·5	15·7	17·7	18·8	18·5	22·5	24·7	24·8	25·7	21·2	21·5	19·3	18·2	16·9	14·6	15·8	17·6	16·4	13·3	18·4
7	13·5	17·6	19·2	21·0	18·1	15·8	16·3	16·7	16·9	17·0	18·3	19·6	20·2	19·7	18·2	18·6	18·1	19·2	20·5	19·8	18·0	17·8	17·5	16·7	18·1
8	16·7	16·8	17·8	18·7	18·5	18·5	18·1	17·7	17·7	18·3	19·7	20·5	21·1	20·7	19·5	18·5	17·7	17·7	17·7	17·5	16·9	16·7	15·7	16·1	18·1
9	17·5	17·7	18·7	17·7	17·7	17·7	17·7	17·1	16·7	17·4	18·7	19·0	19·3	19·1	18·8	19·7	20·1	19·2	18·7	17·7	16·7	16·1	15·7	16·7	18·0
10 Q	17·4	17·7	18·6	18·1	18·1	17·7	17·2	16·7	16·4	16·0	16·7	17·7	18·7	19·2	18·7	18·2	18·2	18·0	18·1	17·7	17·3	16·6	16·5	16·7	17·6
11 Q	17·3	17·1	17·5	17·9	17·7	17·5	17·5	16·9	16·7	16·9	17·9	18·7	20·7	21·5	20·1	19·7	18·7	18·5	18·0	17·7	17·4	17·0	16·7	16·8	18·0
12	17·3	18·0	18·1	17·9	18·1	18·0	17·7	17·3	16·8	16·5	16·7	17·7	19·3	20·1	19·1	18·5	18·6	18·4	17·8	17·7	17·6	17·0	16·7	15·7	17·8
13	15·7	16·5	17·7	18·0	17·8	17·7	17·8	17·7	17·6	17·9	18·7	19·0	19·7	19·2	18·6	18·3	18·1	18·4	18·7	18·1	17·6	16·6	15·9	16·8	17·8
14	16·8	17·6	17·9	17·7	17·6	17·6	17·5	16·9	16·7	16·8	17·6	18·7	19·7	19·7	19·0	18·8	18·8	18·7	18·7	18·7	13·6	11·3	6·9	12·7	16·9
15	14·2	17·7	18·8	18·9	17·5	23·6	18·7	24·8	22·6	23·5	20·4	20·9	20·6	20·5	19·6	17·9	17·7	17·5	16·5	15·0	15·2	12·0	11·5	16·4	18·4
16	16·4	17·4	20·7	17·2	17·5	17·6	17·6	17·6	18·2	17·9	18·4	19·8	19·7	19·7	18·8	17·6	17·8	17·7	17·5	16·7	16·7	16·6	16·6	16·5	17·8
17	16·2	17·0	17·4	17·0	17·8	17·5	17·2	16·9	16·8	17·6	18·5	19·4	19·4	18·8	17·4	17·5	17·8	17·9	18·2	17·7	16·9	16·6	15·7	15·0	17·4
18	16·0	16·4	16·5	17·4	17·6	17·8	17·0	16·7	16·4	16·4	16·9	17·4	19·5	19·6	18·4	18·3	17·8	17·6	17·2	15·9	16·4	15·6	15·8	15·8	17·1
19 D	16·8	16·7	17·5	17·8	17·9	17·2	18·9	18·2	16·8	17·8	18·8	19·6	22·6	21·4	21·7	19·6	19·2	19·8	18·2	13·6	15·8	16·2	13·8	9·4	17·7
20	13·9	18·6	19·5	16·6	25·4	20·5	23·2	21·9	18·6	18·6	19·4	19·4	20·7	21·0	19·4	17·9	17·6	17·5	17·5	16·9	16·7	15·9	15·6	15·6	18·7
21 Q	16·8	17·5	17·6	17·6	17·5	17·5	16·9	16·6	15·9	16·6	17·9	19·0	19·7	20·5	18·6	18·7	17·9	17·9	17·7	17·5	17·1	15·8	16·5	17·0	17·6
22 D	17·0	17·4	17·2	17·4	16·4	16·8	17·6	15·8	15·7	15·8	16·6	18·6	19·6	19·7	20·4	22·6	23·6	18·6	10·6	12·5	10·8	8·7	9·7	12·4	16·3
23	13·8	12·6	17·4	17·7	16·7	18·5	16·7	15·9	16·4	16·6	19·6	19·5	20·8	23·1	21·2	19·9	20·8	19·5	19·2	11·6	15·8	14·9	8·6	5·5	16·8
24	15·7	22·0	15·4	16·3	15·5	15·8	15·7	15·8	16·5	17·7	20·4	21·1	20·8	22·5	19·9	19·1	20·6	20·6	18·6	17·5	16·6	16·0	14·2	12·7	17·9
25	11·8	18·5	15·8	15·5	17·5	16·6	16·1	16·1	15·9	16·6	18·7	21·2	22·2	22·4	21·8	22·5	20·5	19·6	17·6	17·0	13·5	15·6	14·7	8·4	17·3
26	13·6	15·2	16·6	11·6	13·5	13·6	15·4	15·0	14·5	15·2	17·4	18·5	21·8	22·8	23·7	20·8	21·8	20·6	16·4	13·9	8·8	13·5	13·9	12·6	16·3
27 D	10·7	14·3	14·9	14·9	15·6	18·5	16·2	15·7	15·8	16·1	17·6	19·2	20·8	21·2	21·7	18·6	18·7	8·4	14·6	11·5	8·9	18·9	11·3	16·6	15·9
28 D	15·2	12·6	18·8	17·8	15·7	15·9	17·2	16·7	16·6	16·6	18·7	18·9	21·6	16·6	20·2	17·5	16·5	19·6	12·4	17·6	16·6	10·8	9·9	11·2	16·3
29	11·5	15·6	14·8	17·4	16·7	17·6	16·7	16·6	16·3	16·5	16·7	18·7	21·4	21·5	22·5	21·4	17·7	17·8	17·7	14·7	13·1	14·5	14·7	17·7	17·1
30	16·7	17·8	14·6	15·5	14·0	15·8	16·1	16·5	16·3	15·8	16·8	18·5	21·1	20·8	19·8	18·7	17·6	17·4	16·7	15·6	11·6	13·4	13·8	13·8	16·6
31	16·4	17·1	15·6	15·4	16·5	16·3	16·1	15·9	15·6	16·5	16·4	19·3	21·7	22·4	19·6	19·4	18·7	18·4	17·4	17·4	16·7	12·5	14·3	14·7	17·0
Mean	15·7	17·0	17·3	17·1	17·4	17·5	17·3	17·3	17·0	17·3	18·3	19·3	20·7	20·7	19·9	19·3	18·9	18·2	17·5	16·2	15·6	15·4	14·6	14·8	17·5



TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT.  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

247

271. ESKDALEMUIR. (V.)

44,000  $\gamma$  (.44 C.G.S. unit) +

JANUARY, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$
1 D	906	908	909	909	908	907	910	910	910	910	909	909	909	909	914	920	922	928	928	936	928	925	921	919	915
2	918	907	895	908	911	913	913	913	910	910	910	910	910	913	917	917	917	917	921	925	918	914	913	913	913
3	913	908	906	909	910	910	913	913	912	910	913	910	908	913	916	917	917	917	917	917	916	916	915	915	913
4 Q	914	914	914	913	913	913	913	913	914	914	914	915	914	917	918	917	917	917	916	916	916	916	914	915	915
5 Q	914	914	914	914	914	914	914	914	914	913	914	911	914	915	915	915	915	914	915	915	915	916	914	914	914
6	914	912	910	907	908	903	899	904	908	912	917	916	919	925	938	930	929	926	925	922	921	919	918	917	917
7	911	910	910	908	907	911	914	914	915	917	915	915	916	918	918	918	922	933	929	925	922	921	919	918	917
8	917	914	911	911	911	910	911	912	914	917	914	914	915	918	917	918	917	916	918	918	918	918	914	912	915
9	912	914	912	911	912	911	911	911	914	914	910	910	910	911	914	916	918	918	918	918	921	919	915	915	914
10 Q	915	914	914	913	912	911	911	911	911	911	910	910	910	915	917	915	915	915	915	915	915	915	915	914	913
11 Q	914	911	911	911	910	910	910	910	910	910	913	910	910	910	911	911	913	913	914	914	915	916	915	915	912
12	914	914	914	915	917	917	914	913	911	911	909	908	908	910	910	911	911	912	914	914	914	914	912	911	912
13	910	910	911	913	914	914	912	911	911	914	910	910	908	910	911	914	914	912	911	914	914	915	915	914	912
14	914	914	911	911	911	911	910	909	909	909	911	909	909	911	911	912	912	912	911	914	916	923	931	933	914
15	926	921	918	916	915	908	890	896	906	904	908	912	919	923	923	923	923	922	922	923	919	910	903	908	914
16	912	911	904	907	912	911	911	911	915	915	915	915	916	918	922	923	921	919	917	916	915	915	913	912	914
17	915	914	912	912	912	912	911	911	912	916	915	915	912	915	917	916	915	915	915	915	914	913	914	912	914
18	911	911	911	911	911	909	910	911	909	907	909	911	909	909	911	911	912	912	912	912	911	911	911	908	910
19 D	908	909	909	908	905	905	906	909	909	906	907	906	908	913	920	938	957	942	935	935	928	922	920	920	918
20	911	905	905	909	895	870	883	890	902	906	907	909	910	913	917	917	917	918	917	917	917	915	914	912	907
21 Q	910	910	910	910	910	910	910	911	910	910	910	911	910	911	913	913	912	911	911	912	913	917	913	914	911
22 D	912	911	911	909	907	904	904	907	908	911	911	911	911	912	914	922	930	954	970	937	930	919	922	922	919
23	909	903	914	916	915	912	907	911	914	914	914	918	918	917	918	918	919	920	923	930	927	925	918	909	916
24	891	866	882	901	911	912	912	912	911	912	913	916	918	916	918	919	919	921	920	923	924	923	923	923	912
25	923	913	904	909	912	913	912	912	913	918	916	916	915	919	927	930	926	926	926	923	923	921	923	920	918
26	920	917	901	897	899	902	905	906	909	909	909	909	909	910	919	924	924	926	925	924	919	916	917	920	913
27 D	920	902	902	905	905	901	902	905	909	909	912	911	910	912	918	920	924	938	933	932	931	893	902	908	913
28 D	901	905	898	894	902	905	906	908	909	909	913	911	912	920	921	924	928	921	924	920	913	917	924	906	912
29	902	906	906	910	910	910	910	911	910	910	910	907	910	915	918	926	937	932	926	921	910	906	910	907	913
30	907	904	896	895	892	903	904	907	907	907	910	909	905	907	913	917	918	916	914	913	914	914	913	913	908
31	909	902	903	908	908	909	909	907	908	906	907	906	906	907	913	914	915	917	914	914	911	906	902	903	909
Mean	912	909	907	909	909	908	908	909	910	911	911	911	912	914	917	919	920	921	921	920	918	916	915	914	913

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS.  
MAGNETIC CHARACTER FIGURES: TEMPERATURE IN MAGNET HOUSE

272. ESKDALEMUIR.

JANUARY, 1933.

Day	Terrestrial Magnetic Elements.															$\frac{H_R + V_R}{10,000 \gamma}$	Magnetic Character of Day. (0-2)	Temperature in Magnet House. 200 +				
	Horizontal Force.						Declination.						Vertical Force.									
	Maximum 16,000 $\gamma$ +			Minimum 16,000 $\gamma$ +			Range	Maximum 14° +			Minimum 14° +			Range	Maximum 44,000 $\gamma$ +				Minimum 44,000 $\gamma$ +			Range
1 D	h. m.	$\gamma$	$\gamma$	h. m.	$\gamma$	h. m.	$\gamma$	h. m.	$\gamma$	h. m.	$\gamma$	h. m.	$\gamma$	h. m.	$\gamma$	h. m.	$\gamma$	h. m.	$\gamma$			
2	20 3	623	531	20 19	92	13 12	23-5	2-2	19 58	25-7	19 38	941	905	4 47	36					315	1	83-4
3	21 3	590	526	19 2	64	12 13	21-6	13-0	22 20	8-6	19 6	928	895	2 13	33					254	1	83-4
4	18 8	572	549	0 8	23	12 23	22-7	14-5	2 44	8-2	20 20	917	905	2 5	12					92	0	83-4
5 Q	0 1	568	553	11 20	15	13 30	21-9	13-8	1 8	8-1	14 58	919	913	5 50	6					52	0	83-4
6	13 57	572	557	10 22	15	12 15	20-7	16-8	6 16	3-9	21 40	917	911	11 2	6					52	0	83-4
7	5 46	613	517	14 29	96	14 10	27-3	11-0	23 30	16-3	14 28	942	899	6 0	43					352	1	83-5
8	4 55	572	526	17 12	46	3 38	23-6	11-4	0 25	12-2	17 40	933	903	4 3	30					211	1	83-5
9	22 50	586	542	12 18	44	12 34	21-7	14-8	22 50	6-9	13 31	920	910	6 20	10					118	0	83-4
10 Q	22 21	575	549	16 23	26	16 16	20-8	14-8	22 19	6-0	20 30	921	910	12 58	11					92	0	83-4
11	6 10	572	553	13 0	19	12 52	19-5	15-7	21 56	3-8	14 10	918	910	12 20	8					68	0	83-4
12	8 8	576	558	11 18	23	13 7	21-7	15-8	8 30	5-9	22 4	917	910	8 38	7					69	0	83-4
13	22 33	576	558	10 58	18	13 7	20-3	15-6	24 0	4-7	5 28	917	907	11 6	10					73	0	83-4
14	8 54	580	557	0 12	23	12 6	20-6	14-4	1 54	6-2	22 14	916	908	12 50	8					74	0	83-4
15	20 17	591	525	23 12	66	13 10	19-9	5-4	22 28	14-5	23 14	936	908	12 50	28					236	1	83-3
16	6 15	612	506	8 41	106	5 52	31-2	7-6	22 23	23-6	0 1	929	887	6 16	42					365	1	83-2
17	5 23	575	533	12 30	42	2 20	22-6	15-7	0 50	6-9	15 0	924	904	2 39	20					160	1	83-1
18	23 22	574	524	9 22	50	13 6	19-6	14-5	23 15	5-1	14 11	919	911	12 30	8					119	0	83-2
19 D	22 33	574	545	10 28	29	13 4	19-8	12-8	19 59	7-0	20 0	913	907	9 20	6					75	0	83-0
20	4 37	579	504	15 39	75	15 9	24-5	8-4	15 54	16-1	16 4	972	905	4 32	67					426	1	82-9
21 Q	5 42	597	547	10 28	50	4 43	28-2	12-4	0 1	15-8	17 10	918	869	5 15	49					303	1	82-8
22 D	19 42	573	554	12 16	19	13 24	20-8	15-4	21 24	5-4	21 40	917	909	0 1	8					68	0	82-8
23	21 13	636	504	22 34	132	16 58	25-7	1-5	21 9	24-2	18 28	986	903	6 40	83					592	2	82-7
24	22 15	595	529	19 52	66	13 32	24-5	1-6	23 5	22-9	19 16	933	899	1 12	34					263	1	82-7
25	1 30	591	502	1 1	89	1 38	26-6	7-6	0 6	19-0	20 20	928	860	1 39	66					444	1	82-6
26	20 40	580	523	22 33	57	14 7	23-5	5-6	23 25	17-9	16 0	931	902	2 20	29					225	1	82-6
27 D	2 16	598	525	14 49	73	14 33	25-6	5-7	20 6	19-9	17 42	928	894	3 8	34					274	1	82-6
28 D	21 7	627	513	17 0	114	21 20	26-6	4-1	20 0	22-5	17 20	939	887	21 39	52					422	1	82-6
29	20 26	587	523	15 43	64	12 42	22-7	6-6	22 47	16-1	16 15	932	890	3 1	42					295	1	82-6
30	18 43	596	526	12 58	70	14 43	23-6	10-5	0 16	13-1	16 13	938	898	0 1	40					296	1	82-5
31	21 23	587	517	3 15	70	12 52	23-4	10-0	2 56	13-4	16 5	921	887	4 0	34					269	1	82-5
Mean	21 18	589	542	17 12	47	13 32	23-1	11-6	21 37	11-5	17 11	919	899	1 32	20					168	1	82-5
No. of Days Used	-- --	31	31	-- --	31	-- --	31	31	-- --	31	-- --	31	31	-- --	31					31	31	31



TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT.  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

273. ESKDALEMUIR. (H.)

16,000 γ (·16 C.G.S.unit) +

FEBRUARY, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1	556	557	557	558	562	562	562	562	560	558	549	545	550	559	562	562	562	563	566	565	566	563	571	563	560
2	565	563	562	562	573	575	571	566	563	562	559	557	548	549	556	545	542	545	563	554	557	568	559	561	559
3	561	562	564	562	565	566	566	562	562	562	554	550	545	549	558	561	566	568	567	567	566	566	561	561	560
4	570	563	561	562	565	564	566	566	565	558	562	567	567	566	559	560	560	561	570	567	565	566	560	566	564
5	561	567	562	569	571	574	570	573	575	576	575	572	570	568	567	569	571	576	579	577	575	574	571	570	571
6 Q	569	569	571	570	569	573	574	569	564	560	555	555	556	563	563	563	563	564	565	565	565	568	570	571	566
7	573	571	573	573	570	579	579	587	584	573	566	571	570	564	565	567	569	565	569	573	570	573	568	564	571
8	564	565	565	566	565	568	568	568	559	554	555	559	559	559	560	563	565	565	568	565	560	561	560	560	563
9	564	561	561	569	569	572	569	564	560	559	560	559	559	559	563	560	559	564	565	561	551	551	557	560	561
10	564	563	556	567	569	566	567	565	564	560	558	555	555	559	560	559	564	567	568	568	566	566	560	561	563
11 Q	561	562	562	563	564	564	566	567	569	566	563	560	563	567	571	567	567	568	566	567	567	567	566	567	565
12	567	568	568	571	572	571	570	566	567	565	567	567	568	567	564	558	558	559	563	564	564	565	566	567	565
13 Q	567	568	568	567	567	567	566	564	558	553	550	549	558	559	559	562	563	565	567	567	566	567	566	567	563
14	568	572	570	570	571	571	568	567	571	570	564	560	557	552	562	563	563	565	566	539	544	562	566	565	564
15	566	570	572	565	567	566	571	572	562	556	552	553	545	552	557	548	539	534	558	565	566	576	566	563	560
16 Q	560	562	562	562	563	562	566	565	558	552	548	548	553	557	557	561	562	562	563	563	562	563	562	562	560
17 Q	562	562	561	563	565	565	566	565	561	554	548	549	551	556	561	563	565	568	570	571	570	568	566	566	562
18	569	569	569	569	570	570	570	570	566	561	555	556	562	565	569	571	570	569	562	564	570	562	565	564	566
19 D	564	557	566	561	565	569	580	579	563	574	571	533	533	546	547	542	543	547	553	547	535	550	548	575	556
20	519	492	528	549	543	549	552	551	554	529	539	557	538	551	559	546	548	556	539	551	560	557	560	574	546
21 D	556	550	537	578	570	560	556	557	556	556	541	536	537	551	538	539	551	547	548	569	556	556	602	524	553
22 D	593	540	532	539	538	529	551	550	547	548	539	538	546	547	547	554	561	560	565	555	544	557	574	547	550
23 D	540	552	551	551	564	563	566	537	547	551	547	546	555	556	538	537	559	541	550	568	555	557	536	560	551
24 D	540	547	541	539	547	551	555	550	551	555	550	514	542	543	535	537	560	546	522	547	556	588	583	538	547
25	541	551	542	536	555	559	563	550	543	539	509	527	545	551	557	560	561	564	555	560	559	560	582	531	550
26	542	532	531	564	551	555	543	552	550	547	542	527	547	554	555	555	554	559	560	562	565	600	542	547	551
27	550	551	546	555	561	557	556	560	562	556	538	534	547	551	556	556	556	561	560	561	561	580	565	561	556
28	551	547	552	556	561	562	562	561	554	555	542	542	548	553	558	563	564	566	565	566	566	569	561	550	557
Mean	559	557	557	561	563	564	565	563	561	558	552	549	553	556	557	557	559	560	561	562	561	566	565	559	559

## MAGNETIC DECLINATION (WEST)

Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

274. ESKDALEMUIR. (D.)

14°+

FEBRUARY, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day																									
1	15·7	16·5	16·4	16·5	16·6	16·7	17·0	16·5	16·5	16·6	17·8	18·6	20·3	20·9	20·1	18·6	18·5	18·5	18·1	17·4	17·4	16·6	14·5	14·8	17·4
2	16·5	15·7	15·4	13·7	14·3	11·2	13·5	14·7	16·6	17·6	18·5	19·3	20·5	20·4	20·4	19·6	19·5	21·5	18·4	17·4	16·5	15·8	16·1	16·5	17·1
3	17·1	17·5	17·4	16·6	17·3	17·2	16·7	16·5	16·5	16·5	17·5	19·3	20·4	21·3	21·1	19·5	19·4	18·6	18·1	17·6	17·5	17·4	15·3	10·7	17·6
4	14·8	16·6	16·7	16·7	16·8	16·8	16·7	16·5	16·7	18·1	19·3	19·8	20·6	20·6	19·4	18·6	18·8	18·9	15·5	15·4	16·8	16·3	15·1	16·2	17·4
5	15·3	17·4	19·6	16·4	14·4	16·2	17·3	17·4	17·2	17·1	17·4	17·4	18·2	18·2	18·3	18·0	17·9	18·2	18·1	17·5	17·2	16·6	17·0	17·2	17·3
6 Q	17·2	17·0	18·7	16·7	16·3	15·3	15·4	16·1	16·0	16·3	17·5	18·6	19·7	19·6	18·4	17·4	17·3	17·3	17·0	16·7	16·3	16·0	16·5	17·0	17·1
7	17·3	17·5	17·7	17·4	17·7	15·8	16·1	15·6	16·3	18·1	18·6	21·4	21·6	21·1	19·6	19·0	19·3	18·6	17·4	17·2	16·6	16·9	17·2	16·6	17·9
8	16·8	17·3	17·1	17·2	17·3	16·7	16·4	16·0	15·6	17·0	18·4	19·2	20·4	20·2	19·4	18·4	17·7	17·3	17·3	16·5	14·7	12·2	13·9	13·9	17·0
9	15·5	15·5	19·1	16·8	14·5	14·4	14·2	14·7	14·7	15·5	16·4	17·7	20·4	20·4	21·0	21·3	19·8	18·6	18·4	18·9	17·6	15·7	16·4	16·3	17·2
10	15·7	15·6	15·3	16·0	14·7	15·4	15·7	15·9	16·3	16·4	18·2	18·8	19·4	19·3	18·9	18·0	18·0	17·9	17·7	17·3	17·0	15·0	16·4	16·0	16·9
11 Q	16·2	16·4	16·6	16·7	16·4	16·4	16·4	16·4	17·0	17·5	18·4	18·9	19·3	19·6	19·4	18·3	18·3	18·4	18·5	17·9	16·6	16·6	16·5	16·5	17·5
12	17·1	17·0	16·8	16·7	16·6	16·4	16·2	16·3	16·7	17·6	18·5	19·0	18·9	18·4	17·2	16·4	16·4	16·5	16·9	17·0	17·0	17·0	16·6	16·6	17·1
13 Q	16·7	16·5	16·6	16·6	16·5	16·4	16·2	15·7	15·8	15·5	15·2	15·3	15·8	16·3	16·1	15·3	15·3	16·2	17·2	17·3	17·4	17·9	17·4	17·0	16·3
14	17·1	15·9	16·3	17·7	16·8	17·2	17·0	17·7	18·4	18·2	19·6	20·7	20·5	20·8	19·3	18·0	17·6	17·4	16·3	10·8	7·3	15·9	15·9	15·9	17·0
15	15·3	17·7	15·9	16·3	16·6	18·5	16·2	16·5	17·6	17·6	18·0	21·0	21·0	21·3	20·1	18·3	13·7	17·7	16·6	17·1	15·8	17·0	13·7	15·2	17·3
16 Q	16·3	16·6	16·6	16·5	16·4	16·5	16·5	16·4	16·3	16·3	17·3	18·2	19·4	19·6	19·0	17·9	17·0	17·0	16·6	16·5	16·3	16·3	16·5	16·4	17·0
17 Q	16·4	16·4	16·4	16·4	16·5	16·5	16·4	16·4	15·5	15·2	16·4	18·5	19·5	19·6	19·3	18·3	17·4	17·3	16·8	16·9	16·7	16·8	16·7	16·6	17·0
18	16·8	16·8	17·0	17·0	16·8	16·4	16·3	16·1	15·7	15·2	16·8	18·3	19·6	20·0	19·2	18·6	18·3	18·4	18·2	17·7	15·2	16·3	14·9	14·3	17·1
19 D	14·7	12·6	10·4	13·4	15·3	15·4	16·2	17·2	17·2	16·6	20·0	22·4	25·6	27·3	28·4	20·4	21·3	16·5	3·4	2·5	12·1	12·7	15·4	12·5	16·2
20	0·3	7·3	12·4	12·3	15·6	16·3	16·3	15·7	16·2	17·2	18·9	21·2	22·4	22·3	21·4	19·3	20·1	18·6	17·3	16·3	17·4	16·2	14·4	13·2	16·2
21 D	13·0	12·7	15·3	12·1	14·4	11·3	14·3	14·0	15·5	16·3	19·2	21·4	23·0	23·4	20·5	22·6	13·4	21·0	11·4	13·3	16·5	10·4	10·6	9·3	15·6
22 D	20·4	7·4	12·3	19·6	15·7	18·0	17·6	16·2	18·3	17·3	18·4	18·2	20·7	18·4	18·5	13·7	18·5	16·4	-0·5	8·6	15·2	14·0	16·4	20·4	15·8
23 D	15·4	15·3	18·3	20·4	14·4	14·4	16·2	21·2	18·4	16·9	17·0	18·9	19·7	22·3	21·6	19·7	14·2	12·4	17·4	4·6	13·4	9·4	14·4	8·3	16·0
24 D	13·4	15·4	12·0	14·5	14·2	14·6	15·0	21·3	22·7	17·4	18·3	20·4	20·4	23·3	24·0	20·3	11·8	8·4	4·2	16·4	17·0	1·4	3·3	13·4	15·1
25	12·5	13·3	15·5	17·3	17·2	15·4	16·4	16·6	17·4	19·3	18·6	20·7	21·3	20·3	20·6	18·2	16·4	17·2	9·3	14·4	16·5	16·7	19·2	12·4	16·8
26	9·7	10·5	15·8	15·6	12·2	14·5	17·2	16·5	15·5	15·4	18·4	20·1	20·2	21·7	20·5	18·4	18·0	16·7	16·0	16·3	8·0	8·6	5·6	11·4	15·1
27	13·5	14·9	17·7	18·3	15·4	14·7	16·2	15·9	15·7	16·4	17·6	18·7	19·7	19·6	20·3	18·6	17·7	17·2	17·4	17·3	15·7	15·4	14·2	11·2	16·6
28	10·6	13·3	14·3	14·8	15·4	15·5	15·2	14·7	14·2	14·0	15·6	18·3	19·4	19·9	20·2	19·5	18·4	17·6	17·2	16·6	16·3	16·5	10·3	12·7	15·9
Mean	14·9	15·1	16·1	16·3	15·8	15·7	16·1	16·5	16·7	16·8	17·9	19·3	20·3	20·6	20·1	18·6	17·5	17·4	15·2	15·3	15·6	14·8	14·7	14·6	16·7



**TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT.**  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

249

275. ESKDALEUIR. (V.)

44,000  $\gamma$  ( $\cdot 44$  C.G.S. unit) +

FEBRUARY, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	Y	Y	Y	Y	Y*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1	904	905	906	906	905	905	904	904	903	903	903	902	899	899	907	907	907	906	907	907	906	906	904	903	905
2	899	898	900	902	898	895	895	895	895	895	895	899	900	903	907	911	921	921	917	917	916	910	908	906	904
3	906	904	903	903	903	904	904	906	904	905	907	907	907	908	908	911	910	910	908	908	907	907	908	910	907
4	900	900	903	904	904	904	904	903	902	902	899	896	896	896	909	902	904	907	907	908	907	907	908	905	903
5	904	900	892	887	893	894	897	897	897	897	901	901	898	898	902	904	904	904	902	903	904	904	904	903	900
6 Q	901	901	898	899	900	900	900	901	901	900	897	896	896	897	903	904	904	904	904	904	904	904	901	901	902
7	901	900	899	898	898	896	893	891	890	891	894	896	897	900	901	902	901	901	904	901	901	901	902	902	898
8	901	901	901	901	900	900	900	900	901	901	900	900	900	901	904	904	901	901	901	901	905	905	901	900	901
9	898	898	896	888	889	887	889	892	895	897	898	901	900	901	902	905	903	904	905	906	910	912	910	907	900
10	903	902	903	899	898	898	898	898	898	898	901	902	903	905	906	906	905	903	902	902	902	905	905	905	902
11 Q	905	905	905	904	903	903	902	900	898	900	902	902	901	899	898	900	902	902	902	902	903	904	904	902	902
12	902	902	903	903	902	902	899	899	896	896	898	899	899	900	904	906	903	903	902	902	902	902	901	901	901
13 Q	901	902	902	902	902	902	901	900	900	902	904	905	903	903	903	903	903	903	901	900	899	899	899	899	902
14	899	899	899	899	899	898	898	896	895	895	895	897	903	907	907	908	907	903	904	913	909	900	899	900	901
15	900	898	897	899	900	898	897	896	896	896	894	893	896	900	903	914	926	925	919	914	911	907	904	903	904
16 Q	904	904	905	907	908	908	908	908	908	907	905	904	904	907	909	911	909	909	908	908	908	908	907	907	907
17 Q	907	907	907	907	907	907	907	907	908	907	904	901	902	903	904	906	907	907	905	904	904	904	904	903	905
18	903	901	902	902	902	903	903	903	906	906	902	899	900	900	900	903	905	905	908	911	909	908	908	908	904
19 D	910	910	904	905	904	904	902	902	902	901	894	897	898	904	906	933	931	927	938	923	922	917	912	851	909
20	841	841	864	886	900	905	907	906	903	905	903	902	908	912	913	922	917	916	925	927	917	916	912	894	902
21 D	892	895	881	857	840	857	881	890	893	895	897	898	902	912	938	957	980	932	931	921	919	916	876	883	902
22 D	851	857	857	855	864	872	875	887	894	901	902	905	905	913	920	926	915	917	929	922	916	909	898	877	894
23 D	875	895	890	879	890	896	895	895	896	898	898	899	900	906	924	941	962	962	935	935	911	909	903	905	908
24 D	893	895	897	899	899	900	897	897	891	893	899	900	906	914	921	942	948	944	947	929	915	907	877	883	908
25	889	889	894	886	884	893	896	900	903	904	909	906	901	907	912	920	919	913	919	914	913	899	875	868	901
26	901	886	867	871	883	890	895	896	901	901	897	899	901	902	912	915	914	913	909	908	910	883	883	890	897
27	894	897	895	886	890	897	899	901	901	899	897	901	902	905	908	911	913	913	912	910	910	905	896	895	902
28	894	900	903	906	905	905	905	906	906	906	905	903	902	901	903	909	910	908	906	906	906	906	911	905	905
Mean	896	896	895	894	895	897	898	899	899	900	900	900	901	904	908	914	915	913	913	911	909	906	901	898	903

**DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS.**  
MAGNETIC CHARACTER FIGURES: TEMPERATURE IN MAGNET HOUSE

276. ESKDALEUIR.

FEBRUARY, 1933.

Day	Terrestrial Magnetic Elements.															HR <sub>1</sub> +VR <sub>1</sub> 10,000 γ	Magnetic Character of Day. (0-2)	Temperature in Magnet House. 200 + °A						
	Horizontal Force.						Declination.			Vertical Force.														
	Maximum 16,000 γ +			Minimum 16,000 γ +			Range	Maximum 14° +		Minimum 14° +	Range	Maximum 44,000 γ +			Minimum 44,000 γ +				Range					
	h.	m.	γ	γ	h.	m.	γ	h.	m.		h.	m.	γ	γ	h.	m.	γ							
1	22	45	580	539	11	23	41	13	36	21.4	13.3	23	0	8.1	15	3	909	898	12	42	11	117	0	82.3
2	21	43	584	534	16	3	50	17	30	22.5	10.6	5	22	11.9	16	16	921	894	9	50	27	204	1	82.3
3	23	58	584	541	12	30	43	14	0	22.4	5.3	23	14	17.1	23	30	912	901	24	0	11	120	0	82.3
4	18	53	588	555	14	54	33	12	45	21.3	12.0	18	52	9.3	22	28	909	894	13	3	15	122	0	82.3
5	1	50	582	557	2	24	25	2	32	21.3	13.4	4	8	7.9	15	20	905	885	3	10	20	126	1	82.3
6 Q	1	2	578	551	13	0	27	12	2	21.6	14.5	5	25	7.1	20	50	905	896	11	50	9	85	0	82.3
7	7	6	593	550	13	15	43	11	46	23.3	15.4	7	28	7.9	18	8	904	890	8	9	14	134	0	82.3
8	22	23	569	549	11	52	20	13	3	21.3	10.5	21	10	10.8	21	0	906	899	12	18	7	64	0	82.2
9	4	14	573	549	20	31	24	15	55	21.4	12.9	4	28	8.5	21	23	913	886	5	31	27	161	0	82.1
10	0	10	573	550	12	0	23	12	28	20.1	11.8	21	45	8.3	15	24	906	897	8	0	9	78	0	82.1
11 Q	14	44	574	558	0	14	16	13	14	20.0	15.5	0	1	4.5	0	12	906	898	8	15	8	63	0	82.1
12	4	27	576	557	16	37	19	11	14	19.9	15.7	5	1	4.2	15	10	907	895	9	7	12	86	0	82.0
13 Q	21	42	575	548	11	13	27	21	52	18.5	14.6	11	11	3.9	11	10	906	899	21	44	7	76	0	82.1
14	18	31	586	529	20	23	57	13	32	21.4	2.8	20	23	18.6	19	26	914	894	8	50	20	185	1	81.9
15	21	20	586	521	16	11	65	13	16	22.4	10.4	21	39	12.0	16	20	928	892	11	20	36	270	1	81.9
16 Q	6	43	568	543	11	12	25	13	13	20.3	15.4	9	10	4.9	15	40	911	903	0	1	8	77	0	81.9
17 Q	19	33	573	547	11	49	26	13	15	20.3	15.1	9	30	5.2	8	50	908	900	11	33	8	79	0	82.0
18	14	34	586	555	11	23	31	14	34	21.0	13.0	23	48	8.0	20	3	912	898	12	10	14	114	0	82.0
19 D	23	32	616	500	20	19	116	14	42	32.4	-7.5	18	51	39.9	18	38	946	837	23	40	109	682	2	82.0
20	23	9	596	472	0	35	124	11	52	24.3	-6.7	0	49	31.0	19	20	931	829	1	33	102	664	2	82.0
21 D	22	8	681	499	16	0	182	14	23	27.8	-4.7	16	16	32.5	16	13	1024	837	4	23	187	1142	2	81.8
22 D	0	28	637	505	5	3	132	23	58	26.3	-8.6	18	18	34.9	18	12	935	838	0	48	97	655	2	81.7
23 D	19	41	614	495	0	12	119	0	1	25.6	-10.6	19	36	36.2	17	11	977	842	0	1	135	804	2	81.5
24 D	22	5	656	484	11	50	172	14	58	26.3	-5.6	21	59	31.9	15	58	956	874	22	31	82	659	1	81.4
25	22	11	619	495	10	42	124	12	42	23.3	3.3	18	40	20.0	15	58	927	874	22	23	53	439	1	81.3
26	21	13	624	495	1	56	129	13	10	23.4	-2.6	20	43	26.0	16	0	916	864	4	53	52	447	1	81.3
27	21	59	602	525	11	4	77	12	0	21.5	10.1	23	29	11.4	18	10	913	886	3	40	27	249	1	81.3
28	21	18	574	539	10	52	35	14	41	20.4	5.8	22	50	14.6	23	10	914	892	0	18	22	157	1	81.3
Mean	--	--	595	530	--	--	64	--	--	22.6	7.0	--	--	15.6	--	--	922	882	--	--	40	288	0.68	81.9
No. of Days Used	--	--	28	28	--	--	28	--	--	28	28	--	--	28	--	--	28	28	--	--	28	28	28	28

For explanation see page 176. Q denotes an "International Quiet Day", while D denotes a disturbed day used for the computation of Tables 323-334.



TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT.  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

277. ESKDALEMUIR. (H.)

16,000 γ (•16 C.G.S. unit) +

MARCH, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1	557	550	559	554	558	562	562	561	557	553	545	541	551	550	553	557	558	561	566	560	561	560	562	575	557
2	572	557	562	562	566	571	567	564	558	553	549	547	555	558	563	566	566	566	565	562	556	561	557	559	561
3	558	558	562	562	566	571	571	567	570	569	566	558	557	553	560	568	559	552	565	564	561	563	561	560	563
4	563	563	560	555	566	568	573	573	572	580	554	551	550	554	558	562	563	562	563	556	558	563	563	562	561
5 Q	560	561	561	561	563	566	564	563	563	559	551	550	549	555	563	567	566	566	567	565	568	566	567	567	562
6 Q	566	566	563	567	567	568	572	572	567	562	554	554	559	558	556	559	564	567	568	569	572	572	568	567	565
7 Q	567	568	568	568	571	571	572	572	572	566	559	558	564	567	564	566	567	566	569	572	572	572	562	573	569
8	573	572	571	575	577	577	577	573	569	561	556	556	555	559	565	564	568	565	569	574	567	564	559	562	567
9 Q	564	563	563	563	566	567	568	564	557	553	550	549	551	556	560	563	567	567	569	569	568	571	568	569	563
10	563	575	564	561	564	572	573	573	568	563	556	557	562	568	568	568	572	573	575	573	568	558	568	569	567
11	567	588	564	553	560	572	567	567	561	555	543	545	540	541	560	562	560	561	566	567	570	568	572	571	562
12	569	568	567	564	564	567	568	570	560	551	544	542	545	552	561	565	565	565	567	572	569	568	567	576	563
13	567	567	569	573	572	577	572	573	570	568	559	556	555	562	573	571	541	553	567	564	567	570	569	567	566
14	571	568	567	569	572	558	575	562	554	550	546	548	542	569	572	565	558	562	559	560	564	565	564	563	562
15	563	563	565	564	566	567	569	568	564	561	552	541	536	542	560	563	564	564	564	564	564	564	564	563	561
16 Q	567	565	567	565	565	571	569	571	567	558	551	546	551	559	564	568	567	567	564	568	568	568	568	567	564
17	568	569	568	568	570	572	572	572	569	558	549	550	552	556	554	565	575	568	567	571	577	576	573	575	566
18 D	577	573	583	591	587	604	568	558	553	547	541	531	542	555	573	546	562	581	551	570	574	574	618	501	565
19 D	523	561	558	561	562	559	561	564	555	545	538	534	550	556	559	580	555	551	568	588	540	527	551	565	555
20 D	559	535	557	542	537	543	554	552	552	533	500	528	547	553	557	570	551	542	537	577	559	554	569	551	548
21	560	562	564	555	551	555	555	547	538	497	478	514	536	551	542	556	546	549	562	568	571	568	574	533	547
22	556	537	511	552	560	569	551	551	546	525	543	506	537	541	542	555	578	562	592	555	585	582	567	561	553
23 D	567	553	561	570	542	541	576	569	554	547	533	537	528	551	551	559	567	573	568	564	569	562	551	547	556
24 D	537	561	538	542	567	559	532	553	542	528	519	528	528	555	562	577	569	580	554	546	552	559	572	577	552
25	541	549	533	537	559	552	545	537	524	526	522	524	531	535	552	555	564	560	564	565	559	561	561	561	546
26	556	551	555	554	556	559	561	555	532	522	537	544	546	552	557	570	558	569	563	570	573	573	577	570	557
27	570	570	569	569	573	576	571	573	553	537	545	547	533	554	537	561	584	542	560	555	551	559	561	560	559
28	566	555	553	550	554	557	557	551	547	542	531	537	542	556	542	550	558	568	560	561	573	565	569	562	555
29	552	558	561	560	553	561	564	562	542	530	511	526	547	561	565	564	561	560	560	569	567	569	567	564	556
30	557	560	555	553	559	555	555	549	543	538	536	537	542	550	556	556	560	565	566	565	561	567	569	574	555
31	570	569	564	555	559	562	564	562	552	542	532	532	546	556	566	560	564	567	564	570	570	572	573	587	561
Mean	561	562	560	560	563	565	565	563	556	547	540	541	546	554	559	563	563	563	564	566	566	565	569	564	559

## MAGNETIC DECLINATION (WEST).

Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

278. ESKDALEMUIR. (D.)

14° +

MARCH, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day																									
1	13.3	13.0	12.2	13.5	15.3	15.5	15.4	15.4	14.4	14.8	16.4	17.8	20.9	21.3	22.2	20.7	20.3	19.2	18.0	15.6	13.9	15.2	15.3	13.8	16.4
2	12.4	15.4	17.6	15.5	15.4	15.4	15.3	15.0	15.0	15.2	16.5	18.5	20.6	21.7	21.5	20.2	18.4	18.0	17.2	15.4	15.2	13.0	13.3	13.5	16.5
3	15.6	16.0	15.6	15.6	15.2	14.6	15.2	15.3	14.4	15.4	17.3	17.8	20.2	22.1	22.2	23.3	22.4	20.7	19.6	17.3	14.3	14.8	15.5	15.5	17.3
4	15.5	18.5	15.5	16.2	15.5	15.4	15.2	15.3	14.2	14.4	16.0	18.3	18.6	19.3	18.6	18.4	17.2	16.7	17.0	16.3	16.2	15.4	14.7	15.3	16.4
5 Q	15.4	15.4	15.5	15.5	15.4	15.4	15.4	15.4	14.4	14.5	16.0	18.1	20.4	21.4	20.7	19.6	17.6	16.7	16.6	15.7	16.5	15.4	15.5	15.6	16.6
6 Q	15.5	15.7	15.6	16.5	15.6	15.6	15.5	15.5	14.6	15.5	17.5	20.1	21.6	22.3	21.2	18.8	17.5	17.6	17.6	17.4	16.5	16.1	16.3	16.4	17.2
7 Q	16.4	16.3	16.1	15.8	15.7	15.5	15.4	14.9	14.1	14.4	16.6	18.6	20.4	21.3	20.5	19.4	17.5	17.5	17.4	17.2	16.7	16.6	14.6	16.3	16.9
8	16.7	17.4	16.1	15.8	15.6	15.4	14.7	13.6	12.5	12.7	15.5	18.3	20.6	20.7	20.5	19.6	17.4	17.5	17.3	16.7	16.5	17.1	13.7	15.3	16.5
9 Q	14.1	15.8	14.6	15.3	14.6	14.9	14.5	13.6	13.3	13.5	16.6	18.5	20.1	20.7	20.1	18.5	16.8	16.5	16.5	16.4	16.3	16.4	15.7	15.5	16.2
10	14.3	13.8	14.1	13.9	17.6	16.4	15.4	15.2	14.4	14.4	15.8	18.5	21.8	23.6	22.5	20.6	18.6	17.4	16.7	17.3	14.8	13.4	14.1	15.5	16.7
11	12.8	15.8	10.5	12.8	13.7	14.1	14.3	14.3	13.7	14.3	15.3	19.0	22.5	22.5	22.3	20.7	18.8	17.5	16.4	15.9	15.3	15.6	16.7	16.6	16.3
12	16.4	16.4	15.6	15.6	16.3	16.0	15.4	14.4	13.5	13.5	16.2	19.2	21.0	22.1	21.4	19.3	17.7	17.5	17.2	16.6	16.5	16.3	16.4	15.5	16.9
13	15.3	16.2	15.6	15.6	17.4	14.4	15.4	16.2	14.7	15.2	16.5	20.3	21.5	21.7	21.3	20.8	18.6	17.3	15.6	15.7	15.6	15.7	15.6	15.4	17.0
14	15.6	15.3	15.6	16.3	15.6	20.3	17.5	16.4	15.4	14.6	15.6	19.2	19.3	20.3	20.3	19.4	16.8	15.6	14.8	15.6	15.6	15.4	15.4	15.4	16.7
15	15.5	15.4	15.5	15.5	15.6	16.0	15.6	14.5	13.4	13.4	15.2	18.5	21.8	21.4	20.4	19.6	17.5	16.3	16.2	16.1	15.5	15.0	14.5	14.7	16.4
16 Q	15.7	15.9	15.6	15.6	15.7	15.4	15.3	14.6	13.6	13.5	14.7	17.9	20.3	21.2	20.5	19.8	17.7	17.0	15.9	16.5	16.4	16.3	15.5	16.2	16.5
17	15.9	15.6	15.3	15.3	15.4	15.4	15.3	14.5	13.3	13.5	15.4	19.3	21.2	23.6	23.0	19.5	18.2	17.5	16.4	16.5	14.2	13.4	14.3	13.7	16.5
18 D	14.6	14.2	18.6	13.7	15.5	15.2	11.2	11.8	12.0	13.2	16.8	19.2	21.3	22.4	24.7	25.2	19.2	17.2	16.6	17.1	16.3	15.6	6.3	5.8	16.0
19 D	-0.7	17.5	10.9	14.7	13.2	12.9	13.3	14.2	13.6	14.7	16.1	19.5	21.6	23.3	22.2	21.2	22.3	18.3	10.3	8.2	10.2	-6.2	8.4	11.3	13.8
20 D	13.1	20.3	17.2	7.4	12.2	14.6	16.9	14.3	13.8	14.9	17.3	17.6	20.5	20.7	19.9	20.2	14.3	7.3	12.3	9.3	11.5	12.4	17.3	13.5	14.9
21	17.3	19.5	13.2	12.9	14.5	13.1	15.0	14.4	14.7	16.4	19.1	21.6	21.2	21.6	20.4	18.3	16.7	14.5	16.2	16.4	15.3	11.4	7.5	14.1	16.1
22	11.1	1.1	9.5	16.1	8.5	12.3	13.3	15.1	15.7	15.5	18.4	20.9	20.8	22.5	20.1	19.5	13.0	14.4	10.2	12.1	14.0	13.4	12.9	14.5	14.4
23 D	17.5	20.4	16.9	13.3	11.2	20.1	14.9	15.0	13.6	13.9	15.9	18.4	18.6	18.4	22.3	19.1	14.7	13.2	13.6	15.4	12.2	3.5	6.1	10.4	14.9
24 D	9.2	12.2	10.6	12.2	12.5	13.4	21.3	17.3	17.4	16.1	17.5	20.1	20.5	21.2	22.3	15.3	19.6	10.3	10.2	12.4	16.1	9.4	14.5	12.4	15.2
25	14.1	12.3	16.2	20.6	15.4	14.9	19.1	20.3	16.9	15.9	17.1	17.9	20.3	19.6	20.2	18.6	15.7	15.7	14.1	11.2	13.4	14.6	13.6	13.3	16.3
26	14.4	14.6	14.4	13.9	14.0	13.5	13.2	12.6	13.3	17.1	15.7	20.1	20.5	21.3	21.1	20.5	19.3	18.1	17.4	17.3	16.5	16.3	15.4	15.2	16.5
27	14.4	14.9	15.2	15.1	15.4	14.9	15.5	16.1	12.2	14.2	16.3	20.6	24.6	26.2	26.9	22.0	22.3	20.1	14.2	9.9	12.2	15.1	15.1	14.5	17.0
28	15.4	14.3	14.5	19.9	13.8	14.2	13.6	12.7	11.8	12.9	14.4	16.5	19.4	23.6	22.6	19.4	18.2	11.2	14.4	13.4	10.4	13.5	14.7	15.1	15.4
29	13.4	15.6	14.3	14.1	15.3	15.2	14.4	13.3	13.4	15.6	16.9	21.3	23.3	25.6	24.3	23.1	18.8	18.1	16.0	14.6	15.4	14.2	13.4	12.3	16.7
30	14.9	14.3	16.4	16.3	14.6	13.4	13.4	12.5	12.9	13.2	16.3	19.2	21.2	23.3	21.5	19.6	17.4	15.5	15.4	15.4	14.7	14.9	14.6	18.3	16.2
31	15.1	16.4	11.4	11.2	14.2	14.3	13.5	12.7	12.2	13.4	15.4	19.4	20.7	21.9	23.3	22.9	20.3	18.3	12.5	16.1	16.1	15.4	15.3	15.3	16.1
Mean	14.2	15.3	14.7	14.9	14.7	15.1	15.1	14.7	14.0	14.5	16.3	19.0	20.9	21.9	21.7	20.1	18.1	16.4	15.5	15.1	14.9	13.7	13.9	14.4	16.2



**TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT.**  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time

279. ESKDALEMUIR. (V.)

44,000  $\gamma$  ( $\cdot 44$  C.G.S. unit) +

MARCH, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$
1	906	906	902	903	903	903	903	905	906	906	903	902	897	899	904	909	913	911	910	914	914	911	910	904	906
2	897	900	900	901	902	902	903	903	902	900	899	896	892	891	895	902	906	906	906	909	911	911	908	903	902
3	903	903	903	903	902	900	900	901	903	903	900	898	895	895	895	903	911	910	907	908	913	907	908	906	903
4	902	900	896	896	895	897	897	899	899	900	895	892	895	896	897	899	903	906	907	909	909	906	906	905	900
5 Q	903	903	903	902	902	902	901	902	902	902	897	895	894	895	899	903	906	906	903	903	903	903	903	902	901
6 Q	901	900	899	899	899	899	899	899	899	898	895	892	892	896	903	909	907	905	903	903	903	903	903	902	900
7 Q	901	899	899	898	898	898	898	898	898	895	891	888	889	891	898	902	902	901	900	901	901	898	898	898	897
8	893	893	893	894	894	894	894	897	897	894	893	890	890	893	898	904	904	900	898	899	901	902	905	902	897
9 Q	897	897	897	897	896	895	896	899	900	897	893	893	893	894	898	900	900	898	897	897	897	897	900	900	897
10	901	897	897	897	893	890	893	894	896	897	894	888	882	886	891	897	897	894	897	896	898	905	901	898	895
11	893	859	857	873	885	887	890	891	892	891	891	886	887	891	895	900	902	902	901	901	900	897	898	898	890
12	898	898	898	898	898	895	895	896	897	897	894	891	890	892	896	901	905	903	902	901	902	902	902	898	898
13	898	898	898	895	892	891	891	891	891	890	886	883	885	888	894	909	913	910	907	905	902	900	899	899	896
14	898	898	898	896	891	884	880	886	891	891	891	890	891	891	894	901	905	907	905	903	901	899	899	899	895
15	899	899	899	898	896	896	895	895	895	894	891	891	894	895	898	901	902	902	899	898	898	898	898	898	897
16 Q	894	894	895	895	896	895	895	895	895	894	890	883	880	883	890	895	898	898	897	895	895	894	894	894	893
17	894	894	894	894	894	894	893	894	891	890	886	880	882	886	890	894	898	901	898	898	896	894	891	890	892
18 D	889	889	879	855	849	828	846	861	872	878	877	877	877	879	889	901	904	903	906	900	893	893	870	827	877
19 D	846	850	870	872	870	882	887	887	886	882	879	875	874	878	884	893	908	916	927	908	901	882	885	885	884
20 D	883	837	827	840	858	867	868	879	883	884	887	890	890	895	896	898	920	938	934	904	898	898	875	871	884
21	878	860	859	848	845	855	870	882	888	891	897	893	885	883	894	904	914	916	907	900	900	904	893	879	885
22	829	822	823	838	857	863	866	872	878	885	883	886	893	893	902	906	912	912	905	905	890	878	882	886	878
23 D	882	863	871	876	878	860	858	869	878	881	879	878	885	892	897	921	930	928	915	901	883	873	875	873	885
24 D	869	861	871	853	863	859	857	868	878	884	887	889	885	885	894	915	927	935	931	924	909	877	875	865	887
25	853	854	853	856	859	872	879	879	887	893	895	895	893	900	903	907	909	906	905	904	900	897	893	893	887
26	891	893	893	894	895	894	896	897	897	894	887	885	883	885	887	893	898	900	898	895	895	896	897	897	893
27	897	896	895	895	893	890	890	886	889	890	886	879	887	897	897	900	904	923	923	921	919	909	902	898	899
28	890	894	894	885	881	890	893	895	893	890	887	886	883	884	893	900	906	913	908	906	900	895	893	871	893
29	878	882	890	893	893	892	893	890	891	890	891	882	875	881	897	908	915	908	904	903	900	898	882	878	892
30	888	893	893	887	890	890	893	893	893	887	879	877	878	882	897	907	906	903	900	898	900	897	893	885	892
31	882	881	874	879	885	886	889	889	890	893	890	884	878	878	885	893	897	900	904	898	897	897	894	882	889
Mean	888	884	885	884	886	886	887	890	892	892	890	888	887	890	895	902	907	908	907	903	901	898	895	890	893

**DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS:**  
MAGNETIC CHARACTER FIGURES: TEMPERATURE IN MAGNET HOUSE.

280. ESKDALEMUIR.

MARCH, 1933.

Day	Terrestrial Magnetic Elements.															HR <sub>H</sub> +VR <sub>V</sub> § 10,000 γ <sup>2</sup>	Magnetic Character of Day. (0-2)	Temperature in Magnet House. 200 + °A							
	Horizontal Force.						Declination.			Vertical Force.															
	Maximum 16,000 γ +			Minimum 16,000 γ +			Range	Maximum 14° +		Minimum 14° +	Range	Maximum 44,000 γ +		Minimum 44,000 γ +					Range						
	h.	m.	γ	γ	h.	m.	γ	h.	m.	γ	h.	m.	γ	γ	h.	m.	γ								
1	23	29	594	539	11	51	55	14	43	22.6	10.1	20	8	12.5	20	3	917	897	12	33	20	181	1	81.3	
2	0	11	585	544	11	40	41	13	56	22.5	11.1	21	29	11.4	21	35	913	890	13	38	23	171	1	81.3	
3	15	5	585	544	17	22	41	15	6	23.7	11.6	20	16	12.1	20	6	915	894	13	30	21	162	1	81.3	
4	6	37	577	546	11	52	31	1	40	20.3	13.3	8	49	7.0	19	50	911	891	11	50	20	141	0	81.4	
5 Q	21	0	572	546	12	39	26	14	0	21.5	13.8	8	43	7.7	16	40	907	893	12	4	14	106	0	81.4	
6 Q	7	14	577	548	15	0	29	14	6	23.5	14.4	8	33	9.1	15	18	910	892	12	0	18	129	0	81.4	
7 Q	22	31	591	554	15	8	37	13	29	22.1	12.7	22	50	9.4	16	30	902	887	11	50	15	128	0	81.4	
8	5	43	577	541	12	58	36	12	39	21.7	12.3	8	50	9.4	22	28	907	889	12	2	18	141	0	81.4	
9 Q	21	43	578	546	11	20	32	13	22	21.4	12.7	8	39	8.7	8	3	901	892	12	10	9	95	0	81.4	
10	18	16	579	550	21	21	29	13	38	23.9	11.5	21	10	12.4	21	26	908	882	12	20	26	165	0	81.5	
11	1	4	616	536	12	43	80	13	2	23.8	7.5	2	48	16.3	16	22	905	854	1	50	51	362	1	81.4	
12	19	10	586	532	11	20	54	13	29	22.5	12.6	8	8	9.9	16	10	905	888	12	22	17	166	0	81.3	
13	14	53	592	536	16	21	56	14	53	23.6	13.5	5	40	10.1	16	3	917	882	11	22	35	250	1	81.4	
14	4	15	586	532	12	19	54	5	43	22.4	14.2	8	59	8.2	17	43	909	879	6	20	30	225	1	81.4	
15	6	48	574	530	11	36	44	13	7	23.2	12.7	22	2	10.5	16	32	902	890	11	18	12	127	0	81.4	
16 Q	0	5	587	545	11	32	42	13	34	21.4	13.4	9	8	8.0	17	3	898	880	12	33	18	151	1	81.4	
17	20	46	589	540	11	42	49	13	29	24.6	10.5	20	48	14.1	17	13	901	879	11	50	22	180	0	81.4	
18 D	22	26	701	409	23	21	292	15	58	26.3	-3.5	22	44	29.8	18	40	909	822	23	22	87	876	2	81.4	
19 D	19	4	669	446	21	8	223	15	52	25.2	-15.7	21	16	40.9	18	50	943	833	0	1	110	864	2	81.4	
20 D	19	9	634	491	10	42	143	1	48	31.0	-4.6	19	5	35.6	18	3	941	807	1	58	134	839	2	81.5	
21	22	14	596	464	10	18	132	13	57	24.9	5.4	22	36	19.5	17	4	919	842	4	53	77	565	1	81.5	
22	20	11	628	487	11	55	141	13	24	24.2	-4.4	1	10	28.6	16	22	912	811	2	52	101	687	2	81.5	
23 D	17	3	640	506	16	41	134	5	28	25.8	-0.6	21	23	26.4	16	46	939	852	6	10	87	613	1	81.5	
24 D	17	26	651	500	6	3	151	6	31	25.2	2.3	17	19	22.9	17	18	945	850	3	24	95	678	2	81.5	
25	15	52	582	510	11	42	72	3	36	23.4	8.4	1	58	15.0	16	0	912	850	0	44	62	398	1	81.5	
26	17	6	582	509	9	5	73	13	21	21.4	11.4	6	54	10.0	17	53	901	882	12	50	19	206	1	81.5	
27	16	54	601	520	12	34	81	13	58	30.3	8.2	19	40	22.1	17	58	927	878	11	40	49	354	1	81.5	
28	23	0	616	523	10	42	93	13	42	24.4	9.2	17	41	15.2	17	47	915	870	23	18	45	356	1	81.6	
29	22	55	606	510	10	50	96	13	36	26.8	9.2	22	49	17.6	16	30	916	873	23	1	43	352	1	81.6	
30	23	28	588	528	11	58	60	13	30	23.5	11.8	7	38	11.7	15	24	908	875	11	43	33	248	1	81.5	
31	23	25	607	511	10	50	96	14	46	24.1	10.2	18	40	13.9	18	28	904	872	2	20	32	303	1	81.6	
Mean	--	--	601	520	--	--	81	--	--	23.9	8.2	--	--	15.7	--	--	914	870	--	--	43	330	0.84	81.4	
No. of Days Used	--	--	31	31	--	--	31	--	--	31	31	--	--	31	--	--	31	31	--	--	31	31	31	31	31



TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT.  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

281. ESKDALEMUIR.(H.)

16,000  $\gamma$  ( $\cdot 16$  C.G.S.unit) +

APRIL, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$
1	571	565	556	555	560	565	570	565	553	554	548	539	552	555	567	565	569	561	565	563	579	566	566	574	562
2	561	560	561	561	568	565	564	561	561	555	562	551	550	552	556	560	566	565	574	560	556	547	550	557	559
3	566	564	557	557	556	566	570	574	555	533	516	518	529	556	560	565	564	562	565	564	565	568	572	566	557
4	569	564	589	551	550	585	565	556	552	547	541	538	538	546	552	561	567	573	570	571	570	574	574	565	560
5	561	565	554	560	564	565	571	566	560	551	534	533	537	547	549	552	556	565	569	571	570	570	567	569	559
6	566	547	569	561	566	569	562	555	553	550	542	534	531	537	546	563	571	578	579	579	566	562	565	569	559
7	570	569	562	562	560	574	571	571	557	549	538	532	538	542	565	550	562	578	570	574	566	557	566	568	560
8	563	565	565	562	566	566	572	569	551	544	539	534	542	549	556	566	565	572	579	569	572	573	576	568	562
9	567	557	565	567	568	570	567	554	537	516	531	534	539	550	549	548	566	567	569	567	572	572	572	576	557
10	570	566	566	566	567	565	564	557	549	548	536	534	540	549	544	572	571	573	575	571	572	570	570	571	561
11 Q	566	563	566	567	566	562	562	561	548	552	545	546	549	552	556	562	567	566	566	570	567	567	568	571	561
12 Q	566	567	567	567	570	566	566	561	553	543	539	534	538	549	561	567	569	567	567	569	571	571	570	570	561
13 Q	570	567	567	567	566	567	568	566	557	535	533	531	541	556	560	565	570	577	570	570	572	572	571	572	562
14	571	572	572	572	574	573	571	564	558	546	538	541	549	554	572	568	568	571	562	562	567	561	567	564	564
15 D	564	567	565	562	562	553	568	567	559	553	545	540	539	541	559	564	567	590	575	569	553	511	527	540	555
16 D	554	569	562	550	540	558	559	553	541	536	529	531	536	544	534	563	572	568	576	567	553	563	573	599	555
17 D	573	550	526	563	557	554	540	544	542	533	508	491	511	521	571	549	557	558	558	563	568	576	571	558	548
18	540	552	571	544	549	540	558	550	541	535	530	531	531	532	534	555	577	585	572	563	559	536	544	535	548
19 D	559	553	535	549	557	557	556	529	536	536	514	508	517	553	557	572	573	568	599	582	567	562	562	549	553
20	555	557	558	561	559	526	545	549	535	522	516	527	551	554	555	578	563	568	568	573	576	559	559	560	553
21	554	565	551	559	546	552	550	541	540	529	515	518	537	545	557	559	583	577	563	572	558	568	614	546	554
22	556	560	550	555	537	545	557	524	498	504	522	528	536	553	541	568	568	567	577	577	577	574	564	563	552
23	555	559	559	559	560	550	521	554	549	536	528	537	546	541	541	568	569	572	573	563	596	552	559	554	554
24	558	557	559	558	559	550	550	548	536	523	531	541	551	566	570	569	574	578	569	564	568	565	575	573	558
25	560	560	561	560	559	559	559	549	538	523	525	533	544	555	576	569	569	584	574	572	564	564	564	568	558
26	584	566	559	558	559	560	555	547	540	537	533	544	547	543	551	578	585	569	569	573	565	559	560	561	558
27	564	560	561	556	559	557	555	551	542	535	533	536	545	551	559	561	569	569	569	578	583	574	569	564	558
28 Q	548	559	559	558	559	559	555	547	543	537	533	535	541	549	555	567	570	578	573	571	569	580	565	573	557
29 Q	572	566	561	561	561	561	557	552	539	539	539	542	543	543	560	565	575	579	579	571	571	570	575	568	560
30 D	569	566	562	563	564	563	562	562	560	552	534	537	544	551	566	573	607	585	599	617	599	562	582	570	568
Mean	563	561	561	560	560	559	560	555	546	539	532	533	539	548	555	564	570	572	573	571	570	563	568	565	558

## MAGNETIC DECLINATION (WEST).

Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

282. ESKDALEMUIR.(D)

14° +

APRIL, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day																									
1	15.2	13.9	15.3	18.2	15.3	12.6	13.4	13.2	13.3	14.4	18.4	20.1	22.6	23.2	23.4	21.4	19.1	17.2	14.6	13.3	16.0	14.7	14.5	10.2	16.4
2	13.4	14.2	13.3	12.6	13.4	12.4	12.7	11.9	11.8	13.1	13.4	15.5	20.2	21.5	21.1	18.5	16.5	15.3	15.1	12.2	9.4	8.3	9.1	12.6	14.1
3	14.6	15.3	12.6	12.4	13.4	15.0	13.3	12.5	11.4	14.3	17.3	20.1	21.2	22.9	22.6	21.6	19.7	18.5	17.1	14.7	13.4	14.6	14.1	12.7	16.1
4	12.6	18.2	17.2	5.4	13.2	12.3	11.4	11.2	10.9	11.9	13.3	15.6	19.2	21.5	21.2	19.8	18.6	18.2	16.4	15.6	15.8	15.8	15.3	14.9	15.2
5	13.5	14.4	11.6	12.2	11.3	13.2	12.3	11.4	11.3	12.3	14.6	16.5	19.4	21.9	21.4	20.7	18.9	16.6	15.3	14.4	12.4	12.6	12.3	10.9	14.6
6	9.3	13.2	13.1	12.6	13.3	12.3	14.3	14.5	13.2	12.6	14.4	18.3	20.6	22.3	21.1	20.4	19.3	17.2	16.1	15.4	11.3	6.3	12.1	14.6	14.9
7	15.1	16.1	14.1	13.0	13.4	14.3	12.2	11.2	10.9	11.6	15.6	17.4	21.4	22.4	23.9	22.6	14.6	17.2	16.4	13.3	1.3	10.3	15.3	15.1	14.9
8	15.4	16.1	15.6	14.4	14.5	14.1	12.9	13.6	12.3	13.0	15.8	18.2	20.5	22.3	21.5	21.4	19.2	15.3	11.3	15.1	15.5	13.5	14.3	13.9	15.8
9	12.6	12.3	14.2	14.1	14.6	14.2	13.4	13.4	15.0	14.4	16.3	19.6	21.4	22.7	21.9	18.4	17.2	16.2	14.8	14.2	15.2	15.1	14.4	14.4	15.8
10	15.5	14.4	14.2	13.4	13.4	13.6	13.4	12.3	13.3	13.2	14.4	18.3	21.5	22.5	21.4	16.5	16.1	15.5	11.3	13.2	14.9	15.3	15.3	15.2	15.3
11 Q	15.3	15.2	14.5	14.3	14.0	13.3	12.3	11.3	11.6	13.4	15.1	18.3	21.1	22.3	20.6	19.3	17.3	16.2	15.3	15.4	14.6	14.6	13.3	14.5	15.5
12 Q	14.6	14.9	14.3	14.6	14.3	13.2	12.2	11.3	11.1	12.4	14.1	16.4	19.1	20.4	19.3	17.8	16.5	15.6	15.3	15.4	15.3	15.3	15.1	15.0	15.1
13 Q	15.1	14.3	14.3	13.9	13.6	13.4	13.0	11.4	10.5	11.5	12.8	15.3	17.8	19.5	19.1	17.8	17.2	16.3	15.5	15.4	15.3	15.3	14.8	14.5	14.9
14	14.5	14.4	14.3	14.1	14.0	13.4	12.3	11.3	10.2	10.8	13.4	17.5	22.3	24.0	21.4	20.6	20.4	19.3	18.1	16.2	13.2	14.7	12.1	9.4	15.5
15 D	11.3	11.5	11.2	11.4	11.5	14.8	13.2	12.4	11.6	12.3	13.5	17.1	20.3	21.5	22.3	20.7	19.0	19.4	17.4	16.5	8.2	7.3	3.8	5.1	13.9
16 D	9.3	12.1	9.4	11.3	12.5	16.0	16.3	16.2	16.4	15.2	15.3	17.3	20.4	23.2	19.2	18.3	19.3	18.4	12.5	-0.8	11.1	14.4	13.3	4.8	14.2
17 D	3.6	8.4	7.3	15.3	11.0	12.2	15.0	14.2	12.1	12.8	15.0	18.1	23.4	23.2	24.0	24.8	18.0	17.8	17.2	16.1	12.5	6.3	8.2	7.5	14.3
18	10.2	16.3	12.4	11.4	12.2	16.1	14.6	17.0	13.1	13.2	15.0	18.2	21.2	23.2	21.4	19.1	15.4	15.2	8.5	10.3	11.3	10.0	6.3	9.4	14.2
19 D	7.2	10.8	16.4	14.3	11.8	11.0	11.4	15.3	14.0	14.2	16.2	19.0	20.1	19.3	21.3	16.8	17.8	16.4	14.0	11.3	8.2	15.2	17.0	11.1	14.6
20	11.3	12.5	13.4	12.2	12.0	18.4	15.4	11.6	11.8	13.2	17.2	17.0	19.1	21.1	17.4	18.3	17.2	16.1	15.1	11.0	12.2	11.3	13.3	15.1	14.7
21	18.2	14.6	13.1	12.2	13.0	12.2	11.1	11.3	11.0	12.0	15.0	18.9	20.6	21.4	21.2	19.2	17.6	17.2	12.3	7.2	10.2	13.5	10.2	9.4	14.3
22	8.2	8.5	12.0	13.0	12.4	14.1	11.5	11.0	12.1	17.4	17.5	20.4	22.2	21.7	20.7	17.0	18.2	12.2	15.4	15.0	14.2	12.4	9.4	8.5	14.4
23	10.5	12.6	12.2	13.3	11.9	11.8	17.2	13.7	11.1	12.4	14.5	18.9	22.3	23.7	21.2	20.0	17.2	14.1	15.0	11.5	7.1	9.2	9.6	8.1	14.1
24	15.3	12.1	12.9	12.1	13.2	13.0	12.7	11.3	11.0	11.9	15.1	19.0	20.9	21.7	20.2	16.0	16.5	17.2	14.9	12.9	14.2	13.8	16.0	8.3	14.7
25	11.7	12.2	13.1	11.4	12.3	13.1	12.1	12.1	12.9	13.2	17.0	19.3	22.4	22.3	21.9	20.0	17.4	14.1	14.2	13.1	12.2	13.0	12.5	13.0	14.9
26	18.1	12.2	10.0	11.0	11.3	11.0	9.7	10.4	11.3	12.2	14.6	18.2	22.1	24.4	19.9	19.0	18.4	16.1	13.4	5.2	7.0	10.9	11.3	12.5	13.8
27	13.1	13.2	12.7	11.9	9.5	11.0	11.0	10.9	11.1	12.2	14.5	17.2	20.3	20.9	19.2	18.0	16.7	15.6	13.4	13.1	13.9	6.6	5.1	7.7	13.3
28 Q	7.7	10.3	15.2	10.4	11.1	10.3	9.9	9.9	10.1	11.1	13.4	15.3	18.2	20.9	19.2	18.0	16.3	16.1	14.9	14.1	13.4	12.5	13.9	12.0	13.5
29 Q	11.0	12.1	12.0	11.2	11.1	11.0	11.0	10.4	10.9	12.7	15.2	18.3	21.0	20.9	19.0	17.7	16.9	16.1	15.0	13.2	13.4	13.5	13.3	14.2	14.2
30 D	12.1	12.3	12.1	12.0	11.9	11.3	10.1	10.2	11.0	12.4	15.0	16.2	18.1	18.7	18.9	19.1	20.9	17.0	19.1	18.6	14.5	-0.1	9.3	6.1	13.6
Mean	12.5	13.2	13.1	12.7	12.7	13.2	12.7	12.3	11.9	12.9	15.1	17.9	20.7	21.9	20.9	19.3	17.8	16.5	14.8	13.1	12.2	11.9	12.1	11.4	14.7



TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT.  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

253

283. ESKDALEMUIR.(V.)

44,000  $\gamma$  ( $\cdot 44$  C.G.S.unit) +

APRIL, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$
1	878	883	886	873	863	867	873	878	881	881	878	879	880	879	885	892	897	902	903	902	892	892	892	888	884
2	885	887	889	890	888	889	889	892	891	889	886	881	881	886	889	892	898	901	900	903	907	905	898	891	892
3	878	875	882	886	882	877	879	882	884	882	879	881	891	883	885	893	900	906	907	910	910	904	899	897	890
4	889	867	849	864	875	881	885	889	889	886	883	881	880	878	879	886	892	897	899	900	901	898	897	895	885
5	894	890	887	886	886	889	890	893	893	890	883	875	871	875	883	887	894	902	905	904	904	901	897	893	891
6	882	871	871	884	889	889	886	886	885	886	885	883	880	882	886	889	892	894	894	895	901	904	894	892	887
7	889	888	887	889	890	886	891	893	893	893	886	883	882	882	893	902	920	908	907	908	916	901	894	894	885
8	894	894	889	890	890	893	893	893	891	888	885	885	886	889	893	899	903	909	911	902	908	908	894	886	894
9	883	886	890	889	890	890	893	895	893	894	893	887	889	895	901	904	905	903	900	899	897	895	896	893	894
10	893	894	894	894	893	893	893	893	891	889	889	886	886	890	897	903	901	900	901	897	893	892	892	892	894
11 Q	892	893	892	892	892	892	892	892	889	881	878	875	873	879	885	888	892	894	893	892	892	892	892	891	888
12 Q	892	892	892	892	889	889	889	889	886	881	881	879	880	882	888	891	892	892	891	889	889	889	889	889	888
13 Q	892	892	892	892	892	892	892	892	892	889	889	886	882	881	887	889	892	893	894	893	892	892	891	891	890
14	891	891	891	891	892	891	891	891	888	886	880	873	872	881	886	891	898	904	907	909	909	902	899	898	892
15 D	895	892	891	888	886	881	877	883	882	877	872	873	875	878	885	891	895	901	917	938	950	910	901	892	893
16 D	895	892	886	888	885	877	884	888	888	884	885	881	884	885	900	900	899	905	909	916	906	898	893	877	892
17 D	841	855	859	854	852	857	865	869	877	880	884	886	892	910	900	910	924	927	912	902	897	899	880	872	883
18	868	827	843	864	867	867	872	873	879	879	876	875	859	887	896	901	908	908	912	908	901	887	862	853	879
19 D	845	836	837	844	872	882	883	884	886	884	881	879	884	901	901	907	908	907	904	898	896	890	957	839	879
20	868	880	884	887	887	875	875	867	875	879	880	880	879	886	902	913	926	917	913	912	890	889	890	887	889
21	873	875	879	883	883	881	886	890	890	887	890	887	880	880	884	890	891	902	912	912	905	897	850	850	886
22	862	861	876	882	880	878	875	879	878	878	878	878	881	889	899	903	901	904	897	896	882	862	872	874	882
23	874	878	882	880	878	878	870	870	873	875	871	867	868	883	897	897	897	901	899	904	897	886	878	871	882
24	856	870	875	879	881	883	886	889	888	889	886	879	878	878	886	897	901	901	902	901	895	893	874	867	885
25	868	874	882	885	885	885	885	883	881	881	877	874	873	879	885	888	896	903	902	902	898	896	890	885	886
26	866	873	871	880	884	885	885	884	879	877	870	866	864	873	879	881	889	899	902	906	895	890	888	887	882
27	886	885	885	885	885	885	885	885	884	881	870	869	865	879	877	884	888	892	892	892	885	888	884	876	883
28 Q	867	870	862	873	880	882	883	883	875	873	872	866	864	866	876	884	887	889	892	892	891	892	887	877	878
29 Q	872	876	881	883	885	884	884	884	881	878	876	872	869	872	877	883	884	887	889	891	888	888	884	881	881
30 D	879	881	883	885	888	888	885	884	881	881	878	873	870	874	877	879	878	889	888	888	906	925	900	877	885
Mean	878	877	879	882	883	883	884	885	885	883	881	878	878	882	889	894	898	901	902	902	899	895	887	882	887

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS:  
MAGNETIC CHARACTER FIGURES: TEMPERATURE IN MAGNET HOUSE.

284. ESKDALEMUIR.

APRIL, 1933.

Day	Terrestrial Magnetic Elements.															HR <sub>R</sub> +VR <sub>V</sub> \$ 10,000 $\gamma^2$	Magnetic Character of Day (0-2)	Temperature in Magnet House. 200 +						
	Horizontal Force.						Declination.						Vertical Force.											
	Maximum 16,000 $\gamma$ +			Minimum 16,000 $\gamma$ +			Range	Maximum 14° +			Minimum 14° +			Range	Maximum 44,000 $\gamma$ +				Minimum 44,000 $\gamma$ +			Range		
	h.	m.	$\gamma$	$\gamma$	h.	m.	$\gamma$	h.	m.	'	h.	m.	$\gamma$	$\gamma$	h.	m.	$\gamma$							
1	20	28	592	528	11	5	64	14	17	24.4	7.3	23	26	17.1	18	20	904	863	4	44	41	290	1	81.6
2	18	5	582	537	21	21	45	13	54	22.2	6.6	21	28	15.6	20	3	908	880	12	20	28	200	1	81.6
3	22	36	585	501	11	58	84	14	6	24.2	10.9	8	11	13.3	20	25	911	874	1	15	37	305	1	81.6
4	2	43	598	534	11	32	64	13	51	22.7	3.9	3	31	18.8	20	7	903	846	2	32	57	362	1	81.6
5	19	30	579	524	12	8	55	13	30	22.4	10.4	23	46	12.0	20	14	906	871	12	38	35	248	1	81.6
6	18	12	583	523	11	54	60	13	38	24.0	2.9	21	10	21.1	21	6	907	864	2	8	43	293	1	81.7
7	17	44	598	513	12	54	85	14	14	24.9	-2.8	20	25	27.7	16	19	922	880	12	9	42	330	1	81.7
8	17	17	599	525	10	54	74	13	36	23.2	6.9	18	0	17.3	18	3	917	883	11	4	34	276	1	81.7
9	21	12	580	503	10	0	77	13	36	23.6	10.3	1	2	13.3	18	8	907	882	0	50	25	240	1	81.7
10	15	33	585	520	14	59	65	13	30	23.4	10.2	18	28	13.2	15	28	904	885	12	12	19	193	1	81.7
11 Q	17	40	575	538	10	43	37	13	8	23.2	10.1	7	51	13.1	18	0	896	871	12	23	25	173	0	81.7
12 Q	19	7	574	530	11	40	44	13	20	20.8	10.7	8	16	10.1	17	0	892	879	11	18	13	131	0	81.7
13 Q	17	41	581	526	10	52	55	13	31	20.5	10.3	7	56	10.2	18	0	896	881	13	4	15	158	0	81.7
14	15	36	589	533	11	9	56	13	28	25.3	8.9	23	0	16.4	19	23	911	869	12	13	42	282	1	81.8
15 D	17	18	603	479	21	16	124	14	35	24.3	-1.7	20	44	26.0	20	42	968	871	10	40	97	646	2	81.9
16 D	23	40	631	520	10	10	111	13	45	24.1	-6.8	19	25	30.2	19	12	921	858	24	0	63	467	2	81.9
17 D	14	31	592	475	11	28	117	12	55	29.2	1.0	0	19	28.2	17	16	931	835	0	42	96	625	1	81.9
18	17	22	599	504	5	5	95	13	49	24.6	3.0	22	16	21.6	18	36	913	823	1	30	90	562	1	81.9
19 D	18	48	646	498	11	38	148	12	15	22.3	5.2	0	28	17.1	15	50	910	831	2	50	79	601	1	81.9
20	20	26	618	499	10	34	119	13	42	21.8	3.0	19	19	18.8	16	52	927	856	0	1	71	517	1	81.9
21	22	19	574	499	23	38	175	14	23	22.2	3.3	23	4	18.9	19	12	914	842	22	42	72	610	1	81.9
22	20	33	628	481	8	40	147	12	26	23.4	5.3	0	1	18.1	17	8	907	858	21	37	49	464	1	81.9
23	20	10	613	499	6	20	114	13	24	25.2	-2.4	20	4	27.6	19	58	910	860	24	0	50	414	1	81.9
24	22	9	606	518	9	24	88	13	38	22.1	8.0	23	32	14.1	18	16	904	852	0	24	52	379	1	81.9
25	17	37	594	519	10	8	75	13	10	23.2	8.5	0	1	14.7	17	16	903	866	0	1	37	291	1	81.9
26	0	22	596	529	10	31	67	13	30	25.2	0.9	19	41	24.3	19	33	910	860	0	53	50	336	1	81.9
27	20	7	591	528	10	12	63	13	12	21.3	-0.1	21	48	21.4	19	2	893	864	12	22	29	235	0	82.0
28 Q	17	58	587	529	11	58	58	13	50	21.1	6.9	0	40	14.2	21	29	894	862	2	40	32	240	1	82.0
29 Q	17	59	583	533	9	44	50	13	19	21.6	10.0	0	1	11.6	19	8	892	869	12	30	23	186	0	82.0
30 D	16	34	665	529	9	30	136	16	31	23.9	-6.9	21	14	30.8	21	4	939	870	12	20	69	536	2	82.0
Mean	--	--	601	516	--	--	85	--	--	23.3	4.8	--	--	18.6	--	--	911	863	--	--	47	353	0.93	81.8
No. of Days Used	--	--	30	30	--	--	30	--	--	30	30	--	--	30	--	--	30	30	--	--	30	30	30	30



TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT.  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

285. ESKDALEMUIR. (H.)

16,000  $\gamma$  ( $\pm 16$  C.G.S. unit) +

MAY, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$
1 D	553	550	552	552	551	547	566	558	548	548	549	561	565	525	598	698	756	661	584	516	470	434	492	488	559
2	412	545	539	537	539	540	531	532	538	530	532	536	534	542	547	548	552	557	563	562	556	553	563	548	532
3	562	535	549	543	557	547	543	529	540	541	539	519	536	544	552	558	566	568	556	566	564	566	570	573	561
4	562	556	552	557	562	564	553	557	552	547	543	540	544	547	557	551	571	574	584	589	556	561	561	561	558
5	567	562	558	561	554	548	557	564	549	538	532	538	544	540	567	565	579	574	571	575	566	561	571	570	559
6	571	563	562	559	540	540	553	553	538	527	522	525	548	553	567	567	571	576	576	564	570	570	572	590	557
7	567	562	562	567	563	557	545	544	539	534	530	530	539	539	554	568	570	572	570	567	568	569	567	564	556
8	562	566	558	561	559	561	559	553	544	535	532	541	549	557	563	575	572	575	580	576	573	574	571	568	561
9 Q	567	567	563	563	563	560	552	545	540	535	534	539	549	557	563	570	571	575	576	575	572	572	572	571	560
10 Q	568	562	559	562	567	562	557	544	525	531	543	549	554	557	562	567	567	572	576	576	576	572	571	568	560
11	568	570	568	559	567	567	563	557	546	535	525	531	549	557	555	571	572	580	580	575	571	571	568	568	561
12 Q	567	567	567	570	569	567	559	552	542	539	539	543	544	550	563	567	575	580	581	580	585	581	573	575	564
13	575	572	570	565	557	570	580	572	558	549	539	540	537	554	567	573	581	586	581	580	578	573	570	572	567
14	577	562	569	569	569	564	560	554	545	550	555	560	557	567	577	586	569	587	596	591	563	545	550	545	565
15	558	559	557	559	563	559	545	541	536	538	530	536	539	541	550	560	578	591	586	581	571	584	589	563	559
16	548	551	560	560	559	560	554	542	539	533	536	536	539	550	550	559	571	586	595	585	572	567	555	560	557
17	564	568	568	559	559	554	550	548	546	544	545	545	550	554	567	568	587	601	591	581	574	568	549	563	562
18 D	560	551	555	542	546	524	536	519	537	514	509	519	518	536	550	556	566	584	582	582	574	571	575	573	549
19	566	560	553	556	555	555	550	546	535	533	535	533	542	544	556	572	579	580	597	582	578	564	560	561	558
20	564	568	565	566	565	547	551	546	541	539	541	546	556	561	563	572	574	578	597	578	577	573	581	567	561
21	567	567	570	569	565	557	539	547	548	542	543	544	547	552	561	566	573	577	583	578	574	570	568	576	562
22	574	579	568	566	570	564	554	545	538	534	537	543	548	557	558	578	577	576	580	582	574	574	579	570	563
23	571	568	566	566	566	555	551	543	540	542	544	548	557	557	561	566	563	587	590	585	579	589	574	567	564
24 Q	566	566	566	566	565	559	554	545	537	534	540	544	551	561	578	576	585	594	593	589	585	581	579	579	566
25	577	566	575	571	571	567	563	554	544	540	532	537	536	545	566	567	576	590	595	599	594	586	582	580	567
26 Q	576	572	571	571	572	571	566	562	553	547	544	545	554	565	571	572	571	576	578	581	581	580	577	576	568
27	576	575	575	576	576	572	564	557	554	550	551	559	564	567	575	592	591	612	592	582	587	587	572	567	574
28	571	574	568	566	564	560	560	551	546	546	542	546	551	560	566	574	583	587	588	583	578	576	578	577	566
29 D	576	577	574	575	578	574	571	574	563	553	553	556	568	570	587	593	587	602	597	565	574	578	584	576	576
30 D	566	567	557	561	561	566	562	552	530	524	529	531	539	557	567	574	611	581	593	581	585	583	584	588	565
31 D	584	577	576	572	567	565	557	558	558	553	544	545	561	577	526	562	581	599	586	581	580	585	576	572	568
Mean	562	564	563	562	562	558	555	550	544	539	538	541	547	553	563	573	581	585	583	578	571	568	569	567	561

## MAGNETIC DECLINATION (WEST).

Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

286. ESKDALEMUIR. (D.)

14° +

MAY, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day																									
1 D	9.1	12.1	11.9	10.3	10.0	8.4	7.4	9.0	10.1	12.1	15.3	19.7	25.3	28.1	28.9	28.1	32.3	37.2	15.1	15.1	6.0	16.1	3.1	18.3	16.2
2	26.2	10.1	9.3	9.0	10.9	10.5	11.1	12.2	13.4	13.3	13.1	14.2	15.1	16.2	16.1	16.0	16.2	15.5	14.8	14.2	14.1	12.1	8.1	9.5	13.4
3	10.9	14.1	11.2	10.5	9.7	9.8	10.0	9.7	10.3	12.0	14.1	15.1	15.2	15.9	17.0	17.1	16.1	16.3	10.9	12.0	14.0	14.2	12.9	10.3	12.9
4	9.1	11.4	12.3	16.2	15.4	11.7	11.1	11.0	11.2	11.6	13.0	14.2	15.9	16.3	17.5	18.3	18.3	15.2	14.1	2.5	12.9	14.0	13.7	13.4	13.3
5	14.2	13.1	12.1	12.1	10.9	12.0	14.9	9.9	9.6	11.2	13.9	15.2	18.1	20.0	19.5	18.2	17.1	16.1	15.0	13.9	7.7	10.4	14.9	15.1	14.0
6	12.3	18.0	17.2	12.9	11.3	10.1	8.1	8.0	8.2	11.7	15.3	16.2	19.0	19.0	17.6	17.4	15.9	14.2	13.7	12.2	11.2	13.1	13.9	16.1	13.9
7	19.2	12.4	11.4	10.5	10.6	9.0	8.6	10.2	11.2	12.3	14.6	17.0	18.5	18.7	16.3	14.2	13.3	12.5	12.4	12.4	13.2	13.2	13.2	13.3	13.3
8	13.3	14.3	13.4	12.5	12.1	10.2	9.2	8.3	10.1	11.4	13.5	16.1	17.4	18.0	17.0	15.5	15.0	13.2	13.3	13.2	13.9	14.0	13.6	13.3	13.4
9 Q	13.2	13.2	12.9	12.4	11.4	10.8	9.3	9.0	9.2	10.1	13.1	15.4	17.7	18.2	17.5	16.4	15.1	14.1	13.4	13.5	13.9	14.1	13.6	13.3	13.4
10 Q	13.1	13.0	12.1	12.4	11.5	10.2	8.4	8.2	10.3	11.8	14.1	16.3	18.4	18.4	17.8	16.4	15.2	14.1	13.2	13.2	13.2	13.1	13.2	13.2	13.4
11	13.2	15.3	12.2	12.3	12.4	11.1	10.1	9.4	10.7	13.3	17.2	20.1	22.0	21.9	20.4	19.0	16.3	15.2	12.5	12.9	13.1	13.2	13.2	13.2	14.6
12 Q	13.2	13.2	13.2	12.8	11.6	9.5	9.1	8.6	9.2	11.0	14.1	17.3	20.1	20.0	18.9	17.0	14.9	14.2	14.0	14.1	13.9	13.4	11.2	12.1	13.6
13	12.5	12.6	11.4	11.5	13.4	15.1	10.8	9.0	9.1	12.2	16.2	19.1	20.2	20.2	20.3	19.3	18.0	16.2	13.4	14.1	12.2	9.2	12.8	12.2	14.2
14	8.1	8.2	11.2	12.0	10.4	9.3	9.3	8.0	9.7	12.3	15.1	18.0	21.3	22.0	21.3	21.2	20.5	19.9	16.0	12.9	8.0	3.5	4.2	5.1	12.8
15	10.0	11.0	11.4	12.1	12.5	10.9	7.3	7.2	10.0	12.3	15.3	16.1	16.4	17.9	17.3	17.0	16.3	16.3	14.9	14.1	13.3	12.2	11.9	7.3	13.0
16	6.9	12.3	12.0	11.0	10.5	9.9	9.1	9.3	9.4	10.3	14.1	15.2	16.7	16.2	16.0	15.2	15.1	15.1	13.8	10.2	12.1	12.0	10.2	10.3	12.2
17	10.4	13.5	11.7	10.4	10.1	9.7	9.7	9.9	11.0	11.1	14.2	16.2	18.1	18.1	18.3	18.1	18.0	17.2	14.7	12.9	12.4	11.4	7.0	9.0	13.0
18 D	3.3	6.3	7.3	12.2	12.1	7.0	10.2	12.0	11.4	10.7	16.1	18.1	19.7	18.3	18.1	16.4	15.1	14.9	12.1	11.2	12.2	12.0	12.1	12.3	12.5
19	13.0	13.2	13.9	11.9	10.3	9.1	7.4	8.1	8.1	10.2	13.3	15.2	18.1	18.1	16.9	16.6	16.2	16.1	13.1	13.2	7.1	8.2	12.9	13.0	12.6
20	12.5	12.7	11.2	10.3	11.3	8.2	8.3	8.7	10.0	11.2	13.3	15.9	18.2	18.4	17.9	18.0	17.4	16.1	15.1	14.4	13.9	11.3	10.6	11.7	13.2
21	12.0	12.1	12.4	11.8	10.4	9.4	9.3	10.1	11.6	12.8	14.8	16.9	18.5	18.2	18.8	15.0	13.8	14.0	13.4	12.9	14.0	13.9	13.8	14.1	13.4
22	15.8	13.9	13.0	11.1	10.3	8.3	9.8	9.9	11.9	12.8	15.8	19.0	20.1	20.0	17.4	17.0	16.1	15.0	13.9	14.0	14.0	14.0	12.3	12.2	14.1
23	13.2	12.8	12.0	11.6	10.0	8.8	7.2	7.9	8.9	13.9	17.9	19.6	19.5	19.8	18.0	16.2	14.1	12.8	13.0	12.9	13.0	12.3	10.4	10.7	13.2
24 Q	11.0	10.9	11.3	10.4	9.1	7.8	6.8	6.6	8.5	11.7	14.8	18.9	20.3	20.1	19.1	17.8	16.2	15.1	14.8	14.1	13.7	12.3	12.8	12.9	13.2
25	12.2	15.1	10.0	10.2	9.2	8.0	7.2	6.8	7.1	8.3	12.2	16.3	18.1	19.0	19.0	17.8	16.1	15.0	14.1	14.0	13.9	13.6	12.8	12.5	12.9
26 Q	12.0	12.0	12.1	11.9	10.0	8.8	7.9	7.3	8.2	10.1	14.1	16.0	17.4	18.1	17.7	16.0	14.2	13.9	13.9	13.3	13.0	13.0	12.8	12.5	12.8
27	12.8	12.6	12.0	11.3	10.3	8.9	8.5	8.2	8.8	10.2	12.8	15.6	18.3	19.2	19.0	19.6	18.8	16.8	14.0	12.1	14.2	14.0	9.6	11.0	13.3
28	11.1	11.0	1.5	4.9	5.3	4.8	5.1	5.7	7.7	9.7	12.7	15.5	16.5	16.9	17.1	16.5	15.9	15.8	15.1	14.2	13.7	13.0	12.9	12.9	11.3
29 D	12.3	12.4	11.9	11.8	9.9	8.7	7.9	7.2	7.1	9.4	12.8	15.2	18.2	19.3	19.7	19.9	19.9	17.0	17.5	15.0	6.0	7.9	11.7	11.9	12.9
30 D	10.3	11.9	12.9	11.1	10.7	6.9	6.1	7.1	9.1	12.2	14.9	17.0	21.8	23.8	23.7	22.9	23.9	20.1	18.0	15.2	14.7	14.0	14.0	11.9	14.8
31 D	9.7	11.9	10.5	13.2	16.9	15.0	8.5	9.1	7.9	9.4	11.9	14.8	16.0	17.9	19.1	18.2	17.8	16.8	15.9	12.9	14.0	12.8	11.9	12.0	13.5
Mean	12.1	12.5	11.6	11.4	11.0	9.6	8.8	8.8	9.6	11.4	14.3	16.6	18.6	19.1	18.6	17.8	17.1	16.2	14.1	13.0	12.3	12.3	11.7	12.1	13.4



**TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT.**  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

255

287. ESKDALEMUIR. (V.)

44,000  $\gamma$  (+44 C.G.S.unit) +

MAY, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$
1 D	886	889	892	892	893	893	885	882	878	876	874	874	876	888	918	1036	1084	1078	1094	958	860	713	812	815	906
2	713	786	862	881	892	896	900	898	896	896	899	894	892	896	900	903	906	904	903	902	901	900	893	885	883
3	874	865	860	879	883	888	886	889	888	884	882	885	889	889	891	889	892	900	912	909	900	896	892	884	888
4	884	886	887	875	870	871	879	881	878	877	875	877	877	877	883	894	903	911	918	925	903	897	893	890	888
5	886	883	885	886	886	883	876	879	880	877	874	872	875	881	883	889	892	896	897	900	902	893	884	884	884
6	868	861	812	831	851	863	875	879	882	879	879	882	882	893	899	893	893	894	895	897	896	890	887	875	877
7	831	835	861	872	879	879	882	882	876	872	869	867	870	881	886	889	889	889	889	889	886	886	885	885	876
8	885	883	883	883	886	887	886	885	879	876	875	875	875	879	885	887	890	891	894	893	889	885	885	885	884
9 Q	885	884	884	884	885	885	884	882	878	875	870	867	867	871	876	887	884	885	884	881	880	879	881	881	880
10 Q	881	881	882	881	881	882	882	881	876	870	867	863	864	867	870	872	877	879	881	881	881	881	881	881	877
11	881	878	874	878	877	878	881	881	876	874	871	870	868	870	876	881	888	889	892	887	882	881	879	880	879
12 Q	881	881	881	881	883	884	881	881	878	875	868	863	863	867	875	878	883	881	879	878	878	878	880	878	877
13	877	876	877	878	879	886	882	885	864	864	863	862	866	872	879	884	888	891	895	889	886	884	880	877	876
14	861	866	871	876	878	878	877	876	873	869	861	856	858	861	865	877	895	901	915	914	913	888	878	880	879
15	880	880	882	876	849	845	858	856	869	866	862	861	861	867	873	877	883	888	890	890	888	878	850	851	870
16	859	863	869	875	879	879	880	878	874	873	866	863	863	871	876	878	882	887	894	895	891	884	881	876	877
17	873	866	865	872	876	879	876	874	872	869	868	868	868	869	871	882	881	887	901	908	902	894	883	854	877
18 D	843	853	851	847	825	827	840	845	855	865	872	872	868	876	883	886	887	887	894	898	890	887	879	872	887
19	871	873	876	876	880	879	881	882	876	874	876	876	878	887	887	889	891	892	894	890	892	887	883	883	882
20	881	878	875	875	876	876	875	874	869	866	865	865	869	876	880	883	887	890	888	886	883	882	882	879	878
21	878	878	879	879	878	879	878	878	868	863	856	856	860	867	871	878	882	885	886	886	882	882	882	879	875
22	878	871	872	878	880	882	880	876	868	867	859	854	857	870	878	882	890	893	891	886	883	881	878	875	876
23	874	877	879	880	881	882	879	875	868	861	858	860	860	867	873	879	886	886	885	885	883	878	874	875	875
24 Q	878	878	878	879	882	882	878	878	870	864	857	857	864	868	872	878	882	882	878	875	875	878	878	878	874
25	876	869	869	874	877	877	873	870	870	869	863	852	852	862	871	877	880	881	881	879	878	878	878	878	872
26 Q	878	878	879	881	882	883	882	881	879	873	870	864	864	870	874	877	880	882	881	881	879	877	877	877	877
27	877	877	876	876	877	879	877	876	869	862	854	851	854	862	868	869	879	887	896	897	884	880	873	874	874
28	867	836	840	854	864	869	869	865	863	862	858	858	862	868	872	876	879	880	880	880	878	877	876	876	867
29 D	877	877	877	879	879	880	876	874	876	873	866	861	862	869	877	893	905	909	903	904	909	884	876	872	882
30 D	865	836	821	822	835	850	860	862	861	857	861	864	868	877	884	889	890	912	901	897	887	883	879	873	868
31 D	868	868	870	868	846	843	857	861	866	864	864	864	868	882	900	895	894	890	896	900	894	890	876	867	875
Mean	868	868	870	873	874	875	876	876	874	871	868	866	868	874	881	888	894	897	900	895	888	879	878	874	878

**DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS.**  
MAGNETIC CHARACTER FIGURES: TEMPERATURE IN MAGNET HOUSE.

288. ESKDALEMUIR.

MAY, 1933.

Day	Terrestrial Magnetic Elements.															$\frac{H_H+V_R}{10,000 \gamma}$	Magnetic Character of Day. (0-2)	Temperature in Magnet House. 200 + °A												
	Horizontal Force.						Declination.						Vertical Force.																	
	Maximum 16,000 $\gamma$ +			Minimum 16,000 $\gamma$ +			Range			Maximum 14° +			Minimum 14° +						Range			Maximum 44,000 $\gamma$ +			Minimum 44,000 $\gamma$ +			Range		
	h.	m.	$\gamma$	$\gamma$	h.	m.	$\gamma$	h.	m.	$\gamma$	h.	m.	$\gamma$	h.	m.	$\gamma$	h.	m.	$\gamma$	$\gamma$	h.	m.	$\gamma$	$\gamma$	h.	m.	$\gamma$			
1 D	16	8	916	315	21	31	601	17	33	63.2	-6.6	20	17	69.8	16	18	1222	619	21	32	603									
2	22	4	574	306	0	43	268	0	24	34.1	5.3	22	0	28.6	16	27	907	658	0	43	249									
3	23	14	584	511	11	33	73	16	0	18.0	6.2	18	40	11.8	18	48	916	852	2	12	64									
4	19	18	648	528	18	58	120	16	0	19.7	-7.9	19	9	27.6	19	3	944	866	4	50	78									
5	17	18	601	528	10	26	73	13	30	20.6	3.1	20	43	17.5	20	0	904	861	23	39	43									
6	23	51	607	511	11	14	96	2	4	25.0	6.0	6	53	19.0	14	0	901	805	2	43	96									
7	0	1	599	521	10	7	78	0	1	24.2	7.9	6	32	16.3	15	30	889	824	0	55	65									
8	18	5	596	526	10	31	70	13	10	19.1	7.8	7	39	11.9	18	30	896	874	11	10	22									
9 Q	17	48	577	530	10	58	47	13	50	18.4	8.2	8	0	10.2	17	10	885	866	11	50	19									
10 Q	20	15	580	521	8	46	59	12	52	19.3	7.2	7	21	12.1	7	3	883	863	11	50	20									
11	18	44	585	522	10	20	63	13	6	22.3	9.0	7	23	13.3	18	28	894	867	12	40	27									
12 Q	21	20	585	538	10	48	47	13	17	20.4	8.3	7	1	12.1	16	20	884	862	12	10	22									
13	24	0	608	530	12	21	78	14	15	20.4	7.0	20	54	13.4	18	22	896	862	11	21	34									
14	18	51	613	531	21	56	82	16	10	22.2	0.8	21	7	21.4	19	10	921	854	11	52	67									
15	21	33	627	517	10	32	110	13	32	18.3	5.2	23	43	13.1	19	0	892	843	5	0	49									
16	18	32	609	527	9	58	82	12	36	17.1	6.0	0	10	11.1	19	10	895	854	0	1	41									
17	17	52	613	539	23	20	74	15	9	20.1	5.1	22	33	15.0	19	50	911	846	24	0	65									
18 D	17	58	598	495	9	50	103	12	21	21.2	1.0	0	58	20.2	19	5	901	814	4	55	87									
19	18	58	637	527	10	41	110	12	53	19.9	4.9	20	56	15.0	18	22	896	870	0	22	26									
20	22	32	584	536	8	20	48	13	30	19.1	7.3	5	42	11.8	17	38	890	864	10	45	26									
21	18	32	588	536	6	39	52	12	59	19.2	8.8	5	30	10.4	19	12	889	853	11	50	36									
22	22	48	593	533	9	9	60	13	18	20.8	7.9	5	22	12.9	17	38	894	853	11	40	41									
23	21	31	599	539	8	40	60	13	12	20.4	6.9	6	42	13.5	17	5	887	857	10	49	30									
24 Q	18	47	598	530	9	8	68	12	46	21.0	6.2	7	24	14.8	16	40	883	856	11	10	27									
25	18	51	616	530	10	52	86	14	39	19.9	6.1	7	32	13.8	18	40	881	861	12	12	30									
26 Q	19	58	581	541	10	42	40	13	48	18.2	7.0	7	14	11.2	5	28	884	863	12	0	21									
27	18	6	623	550	9	50	73	15	52	20.2	7.0	22	39	13.2	19	0	901	851	12	0	50									
28	17	47	592	540	10	14	52	13	32	17.9	0.5	2	52	17.4	17	36	881	828	1	40	53									
29 D	18	10	610	546	20	29	64	16	30	22.0	-0.9	20	43	22.9	20	40	916	858	11	38	58									
30 D	16	31	631	515	9	43	116	16	30	25.4	4.0	6	31	21.4	17	30	917	814	2	40	103									
31 D	17	38	617	492	17	29	125	14	17	21.9	6.9	6	51	15.0	14	30	902	842	5	30	60									
Mean	--	--	613	513	--	--	99	--	--	22.2	4.9	--	--	17.4	--	--	908	837	--	--	71									
No. of Days Used	--	--	31	31	--	--	31	--	--	331	31	--	--	31	--	--	31	31	--	--	31									



**TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT.**  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

289. ESKDALEMUIR. (H.)

16,000 γ (•16 C.G.S. unit) +

JUNE, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1 D	576	577	568	563	581	584	563	547	550	554	545	541	541	556	564	594	595	586	581	581	578	568	567	573	568
2	572	568	569	568	567	563	564	563	558	547	540	540	553	563	576	574	574	577	591	581	586	577	577	573	567
3	577	576	571	569	570	568	559	541	540	549	549	554	554	568	569	578	578	573	576	577	577	576	572	568	566
4	568	572	571	570	569	569	563	556	555	555	551	550	555	560	569	570	578	575	578	582	580	577	574	573	568
5 Q	574	569	566	567	569	566	560	555	551	549	546	551	559	569	570	573	573	577	577	575	574	574	573	573	566
6 Q	573	573	570	569	569	566	558	552	551	555	555	555	564	570	574	578	581	582	581	578	582	581	575	577	570
7	577	579	578	579	577	569	560	559	553	552	552	555	568	574	578	586	591	588	584	582	583	585	586	586	574
8	576	566	570	575	570	570	565	556	539	539	547	552	569	582	589	587	587	592	611	580	583	561	564	560	570
9	551	561	561	551	546	557	552	554	548	547	538	533	529	543	548	572	570	570	580	579	572	569	566	566	557
10	570	561	564	565	562	561	556	552	548	547	538	542	542	551	565	589	585	583	589	584	579	574	570	569	564
11	569	567	567	567	571	567	561	553	544	541	543	544	551	555	566	574	582	585	583	583	580	579	570	570	565
12	566	566	565	565	566	569	566	561	551	547	542	543	547	557	571	579	587	588	594	589	587	581	570	566	569
13 D	584	567	576	598	564	553	557	544	536	537	531	525	535	556	558	587	583	584	598	588	585	566	534	557	563
14 D	543	567	556	564	557	557	557	526	525	534	542	530	544	557	554	560	573	585	582	586	586	579	575	584	559
15	562	562	566	574	562	561	550	557	552	543	534	538	545	557	562	572	576	585	589	588	582	585	580	576	565
16 Q	568	567	569	569	566	562	560	552	545	540	539	543	547	552	562	567	575	576	577	583	577	575	571	571	563
17	568	568	567	568	568	563	558	563	558	556	555	559	558	554	559	568	581	585	581	581	577	572	574	568	567
18 Q	568	567	567	567	565	563	563	559	554	553	558	555	558	566	576	577	577	580	581	577	573	577	580	581	568
19	574	565	568	568	563	569	567	559	558	552	553	558	559	573	582	586	594	595	597	599	585	576	571	572	573
20 D	572	591	559	580	571	563	563	573	549	524	532	543	555	572	563	574	604	594	599	594	589	586	594	583	572
21	583	572	571	568	567	563	553	547	549	550	543	542	534	557	567	580	581	588	587	586	585	585	585	586	568
22	583	582	576	571	572	565	559	554	544	539	536	545	559	570	579	581	586	579	583	581	580	576	573	573	569
23	573	573	573	572	573	569	563	550	543	538	542	553	563	576	582	583	586	583	583	583	582	582	577	572	570
24 Q	573	573	573	577	582	575	568	559	550	546	545	550	569	576	582	588	590	595	594	582	581	578	574	574	573
25	573	573	575	576	575	575	567	559	553	541	546	548	559	568	586	604	591	586	609	569	568	584	564	568	572
26	572	577	565	575	568	555	554	555	547	537	531	549	553	559	567	574	584	573	568	573	574	577	577	577	564
27	574	573	572	574	574	568	560	542	524	532	546	551	570	559	569	569	586	582	584	579	578	578	578	583	566
28 D	601	576	569	567	568	568	557	558	557	549	546	549	565	578	578	582	592	583	605	587	581	587	581	584	574
29	565	578	573	581	569	560	555	550	534	539	541	542	541	549	561	565	588	597	584	584	574	568	569	570	564
30	568	568	570	557	569	569	560	555	542	538	542	540	544	552	561	578	574	578	578	579	576	573	572	579	563
Mean	572	571	569	571	568	566	560	554	548	544	543	546	552	563	569	578	583	583	587	583	580	577	573	574	567

**MAGNETIC DECLINATION (WEST).**  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

290. ESKDALEMUIR. (D.)

14° +

JUNE, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day																									
1 D	10.8	11.1	15.1	13.9	8.5	14.9	8.9	8.7	7.7	9.1	12.2	14.7	16.9	18.4	18.1	17.9	15.3	15.8	14.3	11.5	12.2	12.8	12.8	13.0	13.1
2	12.9	14.8	12.5	10.6	11.1	9.3	8.8	7.8	8.2	11.0	14.0	14.8	16.2	18.0	17.6	15.6	14.1	13.5	13.1	13.7	13.0	12.8	13.3	12.9	12.9
3	12.5	12.1	11.1	9.8	9.8	8.1	8.3	10.8	12.0	12.3	14.4	15.8	18.0	19.0	17.8	15.7	14.9	14.3	13.8	13.0	12.9	13.1	12.8	12.8	13.1
4	12.2	14.1	12.0	11.4	11.0	9.9	8.2	8.1	9.1	11.5	14.0	16.8	17.0	18.0	17.8	15.8	14.1	13.8	13.2	13.0	13.2	12.6	12.9	12.5	13.0
5 Q	14.1	14.0	11.8	10.9	8.2	6.1	6.0	6.6	8.2	10.8	12.3	15.2	17.0	17.1	17.1	15.8	14.1	13.9	13.3	13.0	12.3	12.1	12.1	12.1	12.3
6 Q	12.6	12.4	12.6	11.9	11.1	8.2	7.6	8.9	8.1	9.2	11.9	13.9	16.0	16.1	16.1	15.9	14.9	14.0	13.2	13.1	13.4	13.3	13.0	12.1	12.5
7	12.4	12.1	11.9	11.3	8.9	7.8	8.2	9.0	9.9	11.9	15.0	17.1	18.9	19.3	18.3	16.8	14.9	13.9	14.0	14.0	14.0	13.9	13.1	12.2	13.3
8	10.5	8.5	7.2	7.9	5.2	8.0	8.8	8.1	9.8	12.9	17.0	21.0	20.1	20.0	19.9	18.6	17.3	15.9	16.1	13.8	12.9	9.9	8.9	8.0	12.8
9	10.8	9.6	9.8	10.0	11.0	9.1	7.1	10.0	10.0	12.1	14.1	16.8	19.1	19.3	19.0	18.0	17.1	15.9	14.4	13.3	12.5	12.1	12.1	12.0	13.1
10	12.6	11.6	11.6	10.5	9.1	8.1	7.9	8.0	7.7	7.9	10.2	12.1	15.3	17.9	18.8	18.8	16.2	14.9	14.5	13.0	11.9	12.1	11.7	11.3	12.2
11	11.1	11.5	11.7	10.6	8.9	7.1	7.9	7.9	8.9	9.5	11.9	14.1	14.7	14.2	16.0	16.3	15.8	15.1	14.1	13.2	12.0	11.8	11.4	11.6	12.0
12	11.9	12.8	10.9	9.9	11.5	8.3	7.9	7.9	9.2	10.0	11.1	13.9	16.1	17.3	16.9	16.0	16.1	15.1	15.2	15.2	14.0	12.2	9.6	6.2	12.3
13 D	8.2	2.8	7.9	4.9	3.2	6.0	6.1	5.0	10.1	9.0	11.9	15.6	19.1	21.1	22.1	17.9	18.1	17.0	11.1	14.8	13.2	14.1	10.0	1.3	11.3
14 D	2.0	3.2	6.9	8.3	8.0	9.0	8.5	9.0	8.1	10.3	12.0	13.3	15.2	17.0	16.6	15.1	15.1	15.2	13.3	12.8	12.9	12.2	10.2	10.6	11.0
15	9.1	11.9	4.0	9.6	8.1	7.6	7.0	8.0	8.1	9.1	12.2	14.1	14.9	16.2	17.0	16.9	15.9	14.0	14.1	14.0	13.8	12.0	12.6	11.9	11.8
16 Q	11.2	11.5	11.2	11.1	10.0	8.3	7.1	6.8	7.1	9.3	12.2	15.1	17.8	18.2	17.9	16.9	14.9	13.9	12.8	12.9	11.9	11.6	11.8	12.6	12.3
17	12.0	11.9	11.9	11.0	9.2	7.0	7.1	8.8	9.0	11.0	13.0	15.6	17.6	18.1	17.2	15.7	15.4	14.8	13.7	13.4	13.0	12.2	11.9	12.0	12.6
18 Q	11.9	11.8	12.1	11.7	10.3	8.7	7.4	6.7	6.2	8.8	11.8	14.7	16.0	16.0	16.2	15.5	13.5	13.0	12.9	12.8	12.6	12.8	11.1	10.9	11.9
19	9.0	10.0	10.9	10.1	9.0	8.0	6.8	6.9	9.7	10.9	14.0	17.1	18.8	19.3	19.6	19.7	19.8	18.9	16.7	15.5	13.5	10.1	6.0	8.7	12.9
20 D	7.9	6.0	0.8	1.1	1.0	9.9	10.1	9.3	7.8	12.1	15.4	18.0	21.7	22.5	22.4	20.2	20.1	18.5	17.0	15.9	14.9	13.8	12.5	12.8	13.0
21	10.8	10.7	10.0	10.1	9.1	9.0	10.1	12.8	11.6	11.1	12.1	14.9	17.7	18.2	18.9	17.9	16.9	16.7	14.9	13.0	12.9	11.9	10.9	11.9	13.1
22	13.9	11.2	8.7	8.4	8.8	7.5	6.1	6.7	7.2	8.8	11.1	13.5	15.8	16.9	16.9	15.8	15.1	14.0	13.9	13.5	13.5	12.9	12.0	11.9	11.8
23	11.9	11.9	11.3	10.6	9.6	9.0	8.1	7.1	6.6	8.9	12.0	13.8	15.1	16.8	17.1	16.7	15.6	14.8	14.6	13.9	12.9	12.9	10.1	9.8	12.1
24 Q	10.8	9.8	9.8	9.8	8.8	8.1	8.8	7.9	7.9	8.7	12.1	15.9	16.7	16.8	16.9	16.8	15.1	14.9	14.8	14.1	13.7	12.8	11.9	11.7	12.3
25	11.8	11.8	11.0	10.0	8.7	8.0	6.9	6.0	6.5	8.8	10.9	14.1	17.8	20.7	20.8	20.0	17.6	15.8	14.3	11.7	10.1	12.9	6.4	9.8	12.2
26	10.8	9.9	7.2	8.0	6.9	6.9	8.0	7.9	7.0	9.0	12.0	13.9	16.3	18.2	18.9	18.0	16.4	14.4	12.8	12.1	12.8	12.9	12.3	12.7	11.9
27	11.9	11.8	10.9	9.9	8.9	7.8	6.9	7.8	7.9	8.8	13.8	13.9	17.8	20.8	23.3	21.9	18.9	16.0	14.0	12.9	12.5	12.5	12.0	13.1	13.2
28 D	9.9	5.2	6.9	7.5	9.1	7.9	6.8	6.9	7.7	9.7	10.9	12.7	15.0	18.0	20.8	19.7	18.9	17.1	17.0	14.9	13.0	11.9	12.8	9.9	12.1
29	7.8	12.0	10.9	7.2	5.5	6.9	7.9	7.0	8.1	8.1	10.1	11.9	14.9	16.1	17.5	15.2	14.0	15.2	13.5	13.0	12.8	12.0	11.9	10.8	11.3
30	10.2	10.7	11.5	13.2	13.1	8.2	6.0	5.7	6.5	8.0	10.5	13.2	15.9	17.0	17.0	16.9	15.9	14.7	12.9	12.9	12.8	11.9	11.5	12.1	12.0
Mean	10.9	10.6	10.1	9.7	8.7	8.3	7.7	7.9	8.4	10.0	12.5	14.9	17.0	18.1	18.3	17.3	16.1	15.2	14.1	13.5	12.9	12.4	11.4	11.0	12.4



TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT.  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

257

291. ESKDALEUIR. (V.)

44,000  $\gamma$  ( $\cdot 44$  C.G.S. unit) +

JUNE, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$
1 D	873	877	867	815	832	838	852	861	866	868	871	870	873	878	883	891	905	905	903	901	888	884	883	882	874
2	879	877	875	879	882	882	882	883	879	876	875	875	882	880	878	883	887	890	888	888	886	883	877	878	881
3	875	871	873	876	878	877	879	879	879	877	873	874	877	876	882	885	885	888	888	886	886	884	882	882	880
4	882	879	878	881	883	883	882	883	882	879	877	877	878	880	880	882	885	886	888	886	885	885	883	882	882
5 Q	877	874	875	880	884	885	882	882	878	876	873	867	869	875	878	880	880	880	881	883	883	882	882	881	879
6 Q	880	880	879	880	880	881	881	881	880	877	872	872	872	873	881	884	888	888	886	884	881	881	883	883	881
7	882	881	881	881	884	885	882	876	873	873	869	869	875	881	889	888	887	887	887	883	880	880	880	880	881
8	879	880	880	883	882	880	879	880	877	869	863	861	865	873	879	880	883	884	886	898	898	897	886	874	880
9	860	845	861	870	863	867	872	870	871	867	861	861	865	878	883	889	897	900	900	897	891	889	886	885	877
10	880	879	882	886	889	889	886	882	880	878	878	878	878	879	882	886	893	896	893	891	886	885	885	884	884
11	885	885	883	885	885	885	882	881	881	877	878	878	878	878	881	885	886	888	888	888	886	884	882	882	883
12	881	878	881	883	884	882	881	882	881	878	873	873	880	882	882	885	889	889	889	889	889	888	885	878	883
13 D	865	858	829	776	804	851	865	876	874	872	869	866	863	864	873	902	912	910	906	899	895	870	837	826	865
14 D	807	835	847	867	877	880	884	881	881	877	873	875	881	877	873	880	888	888	889	891	891	891	882	870	874
15	869	856	831	835	851	864	869	872	872	874	875	867	868	869	875	882	883	887	891	894	893	889	878	877	872
16 Q	880	883	883	884	886	883	884	883	883	877	869	867	868	868	871	875	881	887	888	886	885	885	883	880	880
17	880	879	879	880	880	880	878	875	875	873	868	863	863	872	876	879	887	888	888	886	886	886	884	879	879
18 Q	883	883	883	882	884	882	880	878	878	876	870	869	874	880	883	885	887	889	890	887	885	882	879	882	882
19	872	874	878	881	881	876	873	874	870	862	861	851	856	869	877	885	892	896	896	899	899	895	892	885	878
20 D	874	847	840	839	840	840	837	839	849	854	854	851	854	864	876	888	890	887	883	881	881	881	880	881	863
21	880	881	884	884	886	886	886	883	883	880	880	879	880	882	886	886	887	886	883	884	882	883	883	883	882
22	871	874	879	883	886	886	883	882	879	874	867	864	868	872	879	882	886	887	886	886	884	883	883	883	879
23	884	884	885	886	887	886	886	885	882	878	878	874	873	875	882	885	885	888	885	885	883	883	885	882	883
24 Q	881	879	879	881	882	882	878	878	878	875	869	865	865	870	878	880	885	888	888	887	882	881	881	881	879
25	882	882	884	884	884	882	880	877	875	874	866	860	862	866	870	878	886	892	899	910	905	892	888	881	882
26	875	865	867	874	881	884	880	879	876	875	879	876	871	872	873	884	894	894	895	893	890	884	884	883	880
27	883	884	886	887	887	887	884	880	876	874	872	867	868	875	882	886	886	886	886	886	882	882	880	879	881
28 D	863	854	863	872	872	872	875	875	875	874	868	868	871	876	885	898	912	916	905	904	898	893	886	872	881
29	864	864	870	871	879	885	883	883	879	872	875	868	878	878	881	886	895	893	895	893	891	888	885	882	881
30	881	881	881	878	878	876	877	879	881	878	875	874	877	880	880	881	888	891	893	891	888	885	884	881	882
Mean	874	872	872	871	875	877	877	877	876	874	871	869	871	875	879	885	890	891	891	891	888	885	882	879	879

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS:  
MAGNETIC CHARACTER FIGURES: TEMPERATURE IN MAGNET HOUSE.

292. ESKDALEUIR.

JUNE, 1933.

Day	Terrestrial Magnetic Elements.															HR <sub>m</sub> +VR <sub>v</sub> § 10,000 γ	Magnetic Character of Day. (0-2)	Temperature in Magnet House. 200 +						
	Horizontal Force.						Declination.			Vertical Force.														
	Maximum 16,000 γ +			Minimum 16,000 γ +		Range	Maximum 14° +		Minimum 14° +	Range	Maximum 44,000 γ +			Minimum 44,000 γ +					Range					
	h.	m.	γ	γ	h.	m.	γ	h.	m.		h.	m.	γ	γ	h.	m.	γ							
1 D	19	59	609	519	12	48	90	3	3	24.7	4.3	4	8	20.4	18	3	907	809	3	46	98	589	1	82.9
2	18	29	595	523	11	14	72	13	42	19.1	6.9	7	33	12.2	17	21	891	873	2	14	18	201	0	83.1
3	19	10	586	528	8	39	58	13	38	19.8	3.7	5	8	12.1	18	0	888	870	1	40	18	181	0	83.2
4	19	57	583	539	11	41	44	13	31	18.1	7.8	7	51	10.3	18	47	889	876	2	8	13	131	0	83.2
5 Q	13	22	582	542	10	13	40	14	21	17.6	4.9	7	20	12.7	20	12	884	866	11	30	18	151	0	83.3
6 Q	21	4	579	542	7	36	37	14	4	16.6	7.1	6	19	9.5	17	0	888	869	11	50	19	146	0	83.3
7	16	5	592	546	9	47	46	13	23	20.0	6.9	5	59	13.1	15	4	891	869	11	22	22	175	0	83.3
8	18	23	620	529	10	10	91	11	42	21.9	4.6	4	50	17.3	19	44	901	861	11	40	40	335	1	83.3
9	18	54	581	516	12	11	65	14	30	20.1	4.1	6	29	16.0	17	28	901	841	1	38	60	377	1	83.5
10	15	26	604	530	13	20	74	15	24	19.9	7.0	7	0	12.9	17	28	915	893	10	18	22	222	0	83.5
11	16	36	588	534	9	11	54	15	4	16.9	6.9	7	49	10.0	17	20	889	875	9	30	14	153	0	83.6
12	17	58	598	536	10	50	62	13	50	17.6	5.3	23	10	12.3	19	0	890	873	10	20	17	179	1	83.7
13 D	18	44	621	463	22	50	158	14	36	22.0	-5.0	23	12	27.0	16	20	913	769	3	40	144	909	2	83.7
14 D	23	4	598	482	0	14	116	13	42	18.0	-3.3	0	40	21.3	20	39	892	781	0	20	111	691	2	83.7
15	22	3	598	526	2	10	72	1	50	19.0	-0.4	2	25	19.4	19	30	895	824	2	4	71	439	1	83.7
16 Q	16	47	583	530	10	30	53	13	28	18.7	6.0	8	12	12.7	18	40	889	867	11	44	22	187	0	83.7
17	17	24	590	545	13	22	45	13	42	18.7	6.1	6	24	12.6	18	0	889	861	12	3	28	201	0	83.7
18 Q	22	28	582	546	9	28	36	14	38	16.7	5.8	8	21	10.9	18	41	890	868	11	0	22	159	0	84.0
19	16	34	603	524	11	21	79	16	4	20.4	5.5	22	22	14.9	20	25	899	848	11	11	51	360	1	84.0
20 D	16	33	613	514	9	30	99	15	2	23.8	-0.7	4	52	24.5	15	50	891	836	4	5	55	411	1	84.1
21	23	49	605	519	12	30	86	14	32	19.8	8.3	6	0	11.5	16	31	889	877	11	20	12	197	1	84.2
22	18	10	598	529	10	47	69	13	59	17.1	4.9	7	49	12.2	17	38	888	863	11	10	25	227	1	84.2
23	16	40	590	533	10	0	57	14	8	17.7	6.8	8	12	10.9	17	40	889	873	13	0	16	167	0	84.2
24 Q	18	32	592	538	10	33	54	15	0	17.3	7.2	7	40	10.1	18	0	889	863	12	15	26	205	0	84.2
25	18	18	622	515	10	6	107	13	47	21.4	3.9	22	40	17.5	19	45	914	859	11	52	55	425	1	84.4
26	15	55	585	518	10	18	67	14	5	19.4	4.8	4	11	14.6	18	24	897	862	2	3	35	273	1	84.3
27	16	30	595	510	9	57	85	15	12	24.9	6.6	6	20	18.3	15	34	887	865	11	47	22	240	1	84.3
28 D	18	24	619	524	14	6	95	15	16	22.9	4.0	1	30	18.9	17	10	919	852	1	20	67	459	1	84.3
29	17	35	601	523	9	10	78	14	16	18.2	3.9	4	30	14.3	18	53	896	863	0	30	33	282	1	84.4
30	15	48	591	524	11	29	67	13	47	17.9	4.7	7	22	13.2	18	11	895	873	10	35	22	210	0	84.4
Mean	--	--	597	525	--	--	72	--	--	19.5	4.8	--	--	14.8	--	--	895	856	--	--	39	296	0.60	83.8
No. of Days Used	--	--	30	30	--	--	30	--	--	30	30	--	--	30	--	--	30	30	--	--	30	30	30	30



TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT.  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

293. ESKDALEMUIR. (H.)

16,000 γ (•16 C.G.S.unit) +

JULY, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1	570	569	565	564	565	564	563	559	555	546	539	543	542	560	569	574	578	592	596	592	583	574	575	575	567
2	569	570	569	570	569	561	567	551	548	539	539	545	549	544	550	561	564	574	579	578	578	576	575	572	561
3	574	580	570	574	580	574	566	560	555	551	551	555	557	559	560	566	570	579	587	588	573	573	571	574	568
4	571	574	571	571	570	562	561	561	556	556	556	552	550	570	561	563	576	581	588	586	580	574	571	567	568
5	566	559	570	574	562	566	558	552	553	551	551	555	561	566	567	561	565	579	578	576	580	578	579	579	566
6	577	575	570	566	561	566	568	561	544	535	530	537	555	561	559	562	562	571	576	584	579	578	574	571	563
7	570	570	570	571	571	566	561	547	539	538	542	557	565	571	581	588	580	584	584	581	572	574	584	584	568
8	578	571	572	576	575	568	561	550	539	525	520	528	543	556	575	586	594	589	591	585	602	615	619	603	571
9 D	568	562	562	566	570	567	558	545	534	509	540	547	515	544	561	558	575	580	579	581	567	570	565	566	559
10	562	563	561	561	560	555	552	551	537	526	534	533	541	548	552	566	585	593	593	602	575	584	575	566	561
11	557	550	556	569	565	562	556	547	541	524	519	517	533	566	578	557	573	575	575	571	570	570	570	571	557
12	572	561	551	549	565	561	552	543	543	541	535	535	539	552	565	577	584	593	577	580	577	568	566	568	561
13 Q	562	561	560	561	561	566	555	551	544	539	534	542	552	556	569	588	576	573	571	575	576	571	571	571	561
14 Q	574	564	561	559	555	557	556	551	547	543	543	536	533	544	556	581	566	578	584	582	572	571	565	566	559
15 Q	565	562	561	561	561	561	562	551	551	547	538	539	543	551	562	571	575	579	581	579	576	571	571	568	561
16	566	566	565	565	566	563	561	557	549	537	533	535	542	555	560	570	579	592	588	586	578	566	570	567	563
17 D	579	572	569	570	575	572	565	562	559	562	556	553	549	556	542	566	579	579	583	586	583	581	576	572	569
18	576	588	566	575	561	566	557	545	543	534	540	548	547	550	575	562	585	569	579	577	575	565	565	566	563
19	567	564	565	567	562	562	557	550	553	547	539	535	549	569	578	582	586	581	575	568	569	567	572	563	564
20	559	567	566	562	567	567	566	558	548	531	544	545	543	543	549	564	566	562	571	567	567	568	567	567	568
21 Q	562	559	562	556	563	560	556	544	537	531	528	535	539	548	558	571	567	569	563	566	571	571	571	571	557
22	568	568	580	567	565	567	563	560	554	543	541	541	556	557	559	568	572	581	582	581	575	570	569	571	565
23 D	571	580	566	562	562	562	557	549	543	540	536	539	563	563	527	589	580	575	575	582	589	585	580	567	564
24 D	552	558	548	525	553	557	557	511	513	530	535	521	515	539	562	548	572	569	571	568	566	562	564	564	548
25	557	563	552	553	556	549	544	539	533	530	524	534	526	550	559	563	558	564	562	563	564	566	562	562	551
26	557	554	552	551	552	553	551	552	546	535	525	529	539	547	558	572	560	567	570	568	572	571	568	580	555
27 D	558	553	557	563	572	567	553	548	536	521	522	541	534	537	557	567	557	566	575	573	571	558	561	564	554
28	556	559	560	559	558	557	553	541	534	526	529	526	534	543	556	562	566	571	576	577	571	564	566	563	554
29	561	562	559	566	562	562	559	553	546	538	531	529	525	533	554	557	566	571	575	574	572	570	570	567	557
30 Q	562	557	557	556	557	555	552	549	545	541	527	525	538	552	562	561	572	575	571	576	572	567	563	566	557
31	564	561	559	557	559	558	553	551	544	544	548	549	549	551	556	553	560	567	574	575	570	568	570	571	559
Mean	567	565	563	563	564	562	557	550	544	537	536	538	542	553	560	567	572	577	578	578	575	572	571	570	561

## MAGNETIC DECLINATION (WEST).

Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

294. ESKDALEMUIR. (D.)

14° +

JULY, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day																									
1	11.8	11.8	10.3	9.0	8.5	7.7	7.0	8.0	8.9	9.0	10.7	13.1	15.9	16.9	17.0	16.1	14.7	14.0	13.5	12.7	11.5	11.7	13.5	16.2	12.1
2	9.1	8.9	9.8	8.9	7.1	4.8	6.1	7.1	7.6	8.8	11.0	13.8	16.6	17.6	17.1	15.9	13.0	11.7	11.8	12.0	12.6	12.7	12.0	12.0	11.2
3	12.8	10.7	7.6	7.0	6.4	6.0	5.8	6.0	6.6	7.9	10.8	12.8	14.2	15.0	15.9	15.9	15.4	14.9	13.7	12.9	12.4	11.9	11.8	11.9	11.1
4	11.6	11.7	11.9	11.8	8.5	7.7	7.7	7.1	7.8	9.1	10.9	13.0	14.7	16.3	17.1	17.0	16.4	15.8	14.4	13.1	10.7	12.0	12.6	11.8	12.1
5	10.9	13.0	12.6	7.7	7.1	6.7	5.0	5.8	7.7	8.8	10.8	12.8	14.2	15.0	16.0	16.4	14.4	13.7	12.8	12.7	12.3	12.0	12.2	12.0	11.4
6	11.4	10.0	8.8	8.9	6.8	6.8	6.1	6.3	7.1	9.6	14.0	15.8	16.9	17.8	16.8	15.9	14.6	13.6	11.7	11.7	11.9	12.0	12.0	12.0	11.6
7	11.8	11.7	11.2	10.8	10.1	7.6	6.7	5.8	5.6	7.9	13.6	16.7	17.7	17.0	15.8	15.8	15.2	13.8	12.8	12.1	11.7	11.0	11.7	11.8	11.9
8	11.6	10.4	10.7	9.7	8.3	7.8	6.6	6.6	6.8	8.8	12.2	14.9	18.3	20.9	21.4	19.6	17.3	14.2	13.5	12.9	14.1	15.0	14.4	7.8	12.7
9 D	9.7	6.8	6.5	6.6	6.6	6.6	6.0	10.9	14.2	14.2	14.0	17.3	21.1	19.9	17.8	15.2	13.8	14.1	11.0	10.2	12.9	13.3	12.6	12.3	12.3
10	11.3	10.2	10.0	9.2	11.1	9.2	6.1	7.0	7.3	9.9	12.9	15.7	17.3	17.8	17.0	15.7	15.7	15.7	14.6	7.7	10.7	13.9	9.8	9.5	11.9
11	10.0	13.7	10.0	7.0	6.1	6.6	6.3	6.7	6.6	8.0	11.6	14.7	16.5	19.7	20.7	18.7	17.7	15.7	14.6	13.2	12.6	11.8	11.6	10.9	12.1
12	8.1	9.3	10.8	12.7	8.7	6.1	6.1	6.6	6.7	8.6	10.7	13.6	15.5	17.6	16.7	14.6	13.8	13.7	12.6	11.6	12.0	11.6	11.7	12.3	11.3
13 Q	11.2	10.0	9.0	8.8	8.0	7.5	7.1	6.9	7.6	7.8	9.9	10.7	12.6	14.5	15.8	15.0	13.7	13.1	13.5	13.5	12.9	12.6	11.8	11.6	11.0
14 Q	11.9	9.3	7.5	7.5	7.6	7.6	7.0	7.6	6.8	7.8	10.8	13.5	14.8	15.6	14.6	14.1	14.0	13.8	13.7	11.7	12.3	11.9	11.3	11.6	11.0
15 Q	10.3	10.5	10.0	9.8	8.8	7.6	6.6	5.6	5.7	7.3	10.9	12.9	14.5	15.6	15.3	14.1	13.1	13.6	13.8	13.5	12.9	12.6	11.1	9.8	11.1
16	10.3	9.6	9.0	8.9	8.5	7.2	5.8	6.3	6.8	9.7	11.9	13.5	16.6	16.8	17.0	16.9	16.5	15.5	13.5	12.3	11.5	11.5	11.6	11.6	11.6
17 D	11.7	9.3	8.8	7.8	7.7	5.7	6.9	7.8	7.8	9.5	13.5	15.7	17.9	20.4	21.6	18.6	16.5	14.7	13.6	13.0	11.1	12.4	8.1	10.0	12.1
18	9.7	11.9	8.6	7.5	4.9	7.7	7.8	9.5	7.7	8.9	10.7	13.8	15.7	15.7	15.5	15.5	14.7	13.8	12.6	10.6	10.5	11.9	11.8	11.7	11.2
19	10.9	10.8	11.3	11.7	9.0	8.3	8.7	8.9	7.7	7.7	9.9	12.7	15.5	16.6	16.6	12.9	13.5	13.2	12.6	11.8	11.5	9.6	9.7	10.0	11.3</



TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT.  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

259

295. ESKDALEUIR. (V.)

44,000  $\gamma$  (-44 C.G.S.unit) +

JULY, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day.	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$
1	878	878	881	884	886	886	883	883	883	878	878	871	872	873	874	880	886	887	893	895	896	892	883	871	882
2	861	870	878	882	885	885	885	885	883	877	874	871	869	871	877	881	887	885	888	888	886	885	883	883	880
3	880	864	870	876	877	876	877	877	874	873	874	871	870	869	869	872	878	879	883	885	883	882	881	879	876
4	879	879	879	876	878	879	877	876	873	869	872	869	869	870	871	877	882	883	887	891	887	887	883	883	877
5	883	880	872	872	876	876	873	875	872	876	876	872	869	869	876	879	885	885	883	883	882	883	882	880	877
6	879	878	879	880	882	880	876	873	868	865	866	862	861	869	876	879	883	886	886	886	886	884	882	882	877
7	882	882	882	882	882	882	880	878	881	882	875	868	866	867	869	872	879	885	883	885	883	882	880	877	879
8	873	874	877	880	881	881	881	878	879	880	877	871	866	866	873	878	884	890	889	888	882	876	874	877	878
9 D	867	868	867	877	881	881	881	881	875	875	871	872	861	861	868	892	897	897	902	902	895	888	885	883	882
10	884	884	885	885	881	878	879	879	876	874	866	866	872	874	880	884	888	891	891	898	893	878	865	869	880
11	872	862	857	872	877	878	880	880	880	879	871	868	869	871	875	887	887	890	890	889	886	884	883	881	878
12	878	879	879	871	875	880	883	886	886	881	878	873	872	874	872	875	886	889	894	895	891	888	885	883	881
13 Q	880	881	884	886	887	888	884	886	884	879	875	873	875	877	879	879	890	893	891	887	886	884	883	882	883
14 Q	876	875	879	882	883	882	881	881	881	878	874	863	862	865	870	876	880	883	886	885	886	884	881	880	878
15 Q	877	878	881	882	885	885	885	881	876	873	869	863	869	873	877	885	889	886	883	884	882	881	882	882	879
16	881	881	882	884	885	885	885	884	884	878	873	871	870	873	877	877	881	885	891	891	891	888	885	885	882
17 D	880	876	877	880	881	882	877	874	877	875	870	869	869	871	880	887	890	893	892	890	891	888	884	884	881
18	875	858	854	861	866	870	876	880	881	881	869	862	872	872	874	881	884	890	891	895	896	892	888	886	877
19	884	883	882	879	882	882	882	881	879	880	877	875	867	868	879	883	891	892	889	886	886	887	883	876	881
20	876	869	876	879	875	874	872	874	877	877	870	861	857	867	876	885	894	897	894	890	886	886	886	884	878
21 Q	883	880	879	878	882	885	885	885	882	879	878	875	875	878	882	889	893	894	893	889	887	885	885	885	884
22	884	882	873	873	878	880	880	878	877	880	877	874	873	880	884	884	890	892	891	887	885	885	884	884	881
23 D	884	878	878	881	886	884	887	889	885	881	876	877	878	884	896	896	914	922	922	920	904	893	887	869	890
24 D	864	873	869	828	835	863	874	873	873	879	876	876	880	891	899	924	918	904	897	891	890	891	886	884	881
25	883	884	887	888	890	891	891	889	886	882	882	883	883	887	894	896	900	901	897	894	893	890	890	886	889
26	886	886	888	890	891	891	893	890	890	890	886	875	875	878	880	887	896	901	897	891	891	889	888	877	888
27 D	863	865	874	878	874	873	879	885	887	883	880	878	877	878	878	882	889	894	898	899	899	896	888	846	880
28	871	881	884	886	887	889	893	897	893	889	884	878	874	874	878	885	892	893	896	896	892	889	889	888	887
29	887	886	886	886	889	889	889	889	888	885	882	879	883	888	884	891	896	897	896	895	892	891	888	888	889
30 Q	886	886	888	890	891	890	889	890	886	883	874	873	871	878	884	888	892	892	892	891	890	889	888	887	886
31	886	887	887	888	889	888	887	885	882	876	871	869	872	873	882	884	885	887	891	895	890	887	886	884	884
Mean	878	877	878	879	881	882	882	882	881	879	875	871	872	874	879	884	890	892	892	892	889	887	883	880	881

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS:  
MAGNETIC CHARACTER FIGURES: TEMPERATURE IN MAGNET HOUSE.

296. ESKDALEUIR.

JULY, 1933.

Day	Terrestrial Magnetic Elements.															HR <sub>H</sub> +VR <sub>S</sub> 10,000 γ	Magnetic Character of Day. (0-2)	Temperature in Magnet House. 200 +							
	Horizontal Force.						Declination.			Vertical Force.															
	Maximum 16,000 γ +			Minimum 16,000 γ +			Range	Maximum 14° +		Minimum 14° +	Range	Maximum 44,000 γ +		Minimum 44,000 γ +		Range									
	h.	m.	γ	γ	h.	m.	γ	h.	m.	γ	h.	m.	γ	γ	h.	m.	γ			°A					
1	19	6	606	533	11	4	73	23	36	20.2	6.8	8	38	13.4	20	46	897	859	24	0	38	292	1	84.5	
2	18	14	589	533	9	10	56	13	52	17.9	3.9	5	50	14.0	19	15	888	859	0	10	29	228	1	84.5	
3	1	4	601	546	13	11	55	15	32	16.2	5.1	6	53	11.1	19	22	885	861	1	30	24	203	1	84.5	
4	18	39	595	543	12	52	52	14	28	17.8	6.7	7	48	11.1	20	20	892	867	11	38	25	198	0	84.5	
5	20	28	584	543	<sup>10</sup> <sub>15</sub> <sup>30</sup> <sub>18</sub>	<u>41</u>	15	30	16.8	4.8	6	8	12.0	17	18	897	878	12	52	<u>19</u>		153	0	84.5	
6	18	54	588	524	10	30	64	13	30	17.9	5.8	6	49	12.1	18	40	888	859	12	4	29	236	0	84.5	
7	17	17	593	531	10	23	62	12	30	17.9	4.9	8	30	13.0	17	40	889	866	12	40	23	206	0	84.5	
8	20	43	<u>633</u>	519	10	22	114	14	22	21.8	5.3	7	25	16.5	18	3	892	865	13	3	27	315	0	84.7	
9 D	0	28	611	484	12	29	127	12	40	22.8	4.5	1	59	18.3	19	22	903	866	1	25	47	427	1	84.7	
10	19	43	620	519	11	1	101	13	39	18.7	5.4	19	27	13.3	19	37	902	865	11	30	37	334	1	84.8	
11	14	2	597	506	11	48	91	14	51	<u>23.4</u>	2.7	8	4	20.7	10	12	891	863	2	6	38	322	1	84.8	
12	17	10	597	529	11	13	68	13	32	17.9	5.1	5	37	12.8	19	10	896	868	3	32	28	239	0	84.9	
13 Q	15	41	592	532	10	20	60	14	25	15.9	6.7	7	20	<u>9.2</u>	17	46	894	872	11	48	22	199	0	85.1	
14 Q	19	19	587	529	12	10	58	12	50	15.8	6.5	8	20	9.3	20	0	886	859	12	0	27	217	0	85.1	
15 Q	18	50	588	537	10	36	51	13	40	15.7	5.3	7	39	10.4	16	16	889	862	11	45	27	206	0	85.1	
16	17	40	600	526	11	24	74	14	7	17.7	5.1	8	41	12.6	18	35	892	868	12	0	24	231	0	85.1	
17 D	20	10	607	524	13	4	83	14	10	22.9	5.1	5	19	17.8	17	38	895	868	13	23	27	259	1	85.1	
18	1	33	616	528	9	23	88	1	33	16.7	3.3	4	0	13.4	20	8	898	849	1	50	49	366	1	85.2	
19	16	10	590	530	11	17	60	13	44	16.8	6.8	8	56	10.0	17	48	894	866	13	10	28	226	1	85.3	
20	20	55	575	525	9	10	50	13	28	20.9	6.5	7	48	14.4	17	25	897	866	12	22	41	267	0	85.3	
21 Q	16	56	576	525	11	48	51	13	30	16.6	3.8	5	50	12.8	17	50	895	874	11	35	21	179	0	85.3	
22	2	31	589	534	11	28	55	14	18	19.7	7.5	6	30	12.2	17	50	892	870	2	50	22	194	0	85.4	
23 D	15	29	612	504	14	19	108	13	56	21.8	<u>-7.3</u>	22	18	<u>22.1</u>	17	53	926	862	24	0	64	466	1	85.4	
24 D	16	0	614	<u>473</u>	7	58	<u>141</u>	14	58	19.7	3.5	0	18	16.2	15	39	<u>930</u>	<u>814</u>	3	50	<u>116</u>	759	2	85.4	
25	15	12	577	512	12	43	65	12	31	18.9	6.7	7	49	12.2	17	5	901	881	10	30	20	198	1	85.4	
26	23	36	603	521	10	34	82	<sup>13</sup> <sub>22</sub> <sup>20</sup> <sub>24</sub>	17	18.9	4.7	23	52	14.2	17	28	903	864	24	0	39	311	1	85.4	
27 D	22	50	612	514	9	48	98	<sup>22</sup> <sub>24</sub>	17	19.7	3.1	7	32	16.6	20	0	901	833	22	59	68	468	1	85.6	
28	18	53	582	520	9	20	62	14	53	18.7	5.7	7	38	13.0	19	6	898	860	0	1	38	278	0	85.6	
29	18	32	579	517	11	50	62	13	24	18.7	5.9	8	7	12.8	17	30	899	877	11	40	22	202	0	85.7	
30 Q	19	37	579	517	11	0	62	12	25	16.5	6.0	6	43	10.5	18	0	894	870	12	29	24	211	0	85.7	
31	18	20	581	536	14	52	45	14	29	15.6	5.7	6	5	9.9	19	12	897	868	11	10	29	210	0	85.7	
Mean	--	--	596	523	--	--	73	--	--	18.6	4.9	--	--	13.7	--	--	897	862	--	--	35	277	0.48	85.1	
No. of Days Used	--	--	31	31	--	--	31	--	--	31	31	--	--	31	--	--	31	31	--	--	31	31	31		31



TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT.  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

297. ESKDALEMUIR. (H.)

16,000γ (·16 C.G.S. unit) +

AUGUST, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1 Q	569	567	563	562	559	559	557	551	544	535	532	532	540	552	587	580	582	579	575	575	571	566	564	565	560
2	563	562	563	565	565	560	556	550	543	535	539	536	552	566	568	566	566	571	573	571	573	572	566	562	560
3	566	562	566	568	559	553	549	545	542	538	544	588	567	571	574	572	573	575	576	576	575	576	571	570	563
4	567	571	570	568	570	567	565	562	554	553	550	552	563	571	575	579	577	575	576	575	575	581	577	581	569
5 D	575	572	572	573	577	572	579	565	557	565	564	561	547	559	584	589	609	590	593	587	584	566	547	548	570
6 D	539	541	525	521	540	522	509	521	515	498	498	500	519	552	552	548	560	553	583	562	562	561	559	561	538
7	558	555	552	539	548	544	544	536	523	514	512	520	534	551	562	571	565	572	567	561	560	562	570	561	549
8	566	554	562	562	567	558	562	543	530	515	520	530	547	560	571	571	568	564	564	570	569	570	564	575	565
9 Q	565	559	558	563	563	556	547	537	529	521	525	531	542	557	561	564	572	571	568	573	574	568	572	575	556
10 Q	567	565	563	564	564	565	557	549	537	529	533	537	545	548	556	565	569	570	571	574	571	571	569	569	569
11 Q	569	570	564	564	563	561	558	556	547	536	535	536	544	552	569	567	573	578	576	573	568	569	573	566	561
12	562	561	562	563	563	560	554	548	543	541	537	537	543	552	558	573	581	580	591	585	583	581	573	574	563
13 D	577	565	564	565	565	565	565	560	549	543	532	529	549	561	561	574	574	568	583	586	571	570	582	571	564
14	560	563	553	559	558	559	541	527	532	537	537	536	545	543	537	550	561	562	570	573	573	568	567	560	553
15	563	565	572	564	559	554	556	548	532	532	533	526	535	541	563	574	573	569	572	581	575	573	571	568	568
16	569	561	564	561	564	563	561	548	541	540	536	533	540	548	558	559	560	562	568	570	571	565	581	562	557
17	564	560	555	558	558	559	559	538	533	551	549	546	547	539	523	545	559	573	564	559	559	580	563	568	555
18 D	573	555	554	554	555	555	546	559	553	545	540	543	545	548	570	573	568	584	581	595	569	554	558	550	559
19	559	550	541	564	564	560	537	550	556	550	538	533	537	545	555	569	575	577	569	567	559	560	564	568	556
20	570	561	563	561	568	568	551	555	554	547	537	543	547	551	561	567	584	596	578	575	578	575	596	555	564
21 D	562	556	555	563	550	555	537	546	537	511	505	519	519	547	570	570	602	565	560	560	575	560	561	563	552
22	561	556	560	556	555	552	548	533	533	534	531	532	532	538	546	550	558	564	569	574	572	571	570	569	553
23	569	570	570	567	566	569	569	560	528	525	542	548	549	570	532	556	580	570	561	587	573	565	565	562	561
24	565	569	570	570	560	560	566	547	501	524	542	529	542	550	560	547	538	569	575	565	547	560	560	545	552
25	560	551	560	564	560	551	546	522	534	533	525	523	528	537	546	556	565	565	565	575	574	578	569	573	553
26	579	577	565	555	578	570	555	554	545	539	537	541	537	547	560	561	572	574	583	582	578	575	577	576	563
27	570	576	570	565	566	564	556	548	541	528	541	544	554	564	564	565	565	567	574	571	570	570	573	573	562
28	572	570	570	569	569	569	561	557	551	542	539	541	554	559	569	578	577	576	582	578	574	568	542	539	562
29	578	569	565	565	565	564	548	546	549	547	546	543	548	551	560	565	565	569	571	573	573	573	571	572	561
30	575	572	571	570	566	561	558	553	547	547	556	560	566	567	568	567	567	571	575	579	578	575	574	574	567
31 Q	566	566	566	565	563	562	561	558	547	542	543	547	559	566	565	561	566	574	579	580	576	575	566	567	563
Mean	566	563	562	562	562	559	553	547	540	535	535	537	544	554	560	565	571	572	574	574	571	569	568	565	559

## MAGNETIC DECLINATION (WEST).

Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

298. ESKDALEMUIR. (D.)

14° +

AUGUST, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day																									
1 Q	11.2	10.7	10.6	10.2	8.9	6.8	5.7	5.0	6.2	8.4	11.4	13.9	16.2	17.0	15.8	13.9	12.6	11.3	11.5	12.5	12.3	12.3	11.7	11.2	11.1
2	10.7	10.0	9.7	10.0	7.9	6.1	6.2	6.8	7.9	9.7	12.3	14.7	17.5	17.5	16.0	14.6	12.7	11.7	11.4	11.7	11.7	9.5	10.6	10.9	11.2
3	11.0	10.2	9.7	7.6	6.2	4.5	5.5	5.9	7.4	9.7	11.9	13.9	15.3	15.7	14.8	13.7	12.4	10.9	10.7	10.6	10.9	10.6	10.1	9.9	10.4
4	9.7	9.7	8.9	9.2	8.9	7.7	6.9	6.9	7.6	9.5	11.5	12.7	14.2	14.7	14.4	13.3	12.7	13.0	12.5	12.6	12.4	12.7	11.5	8.8	10.9
5 D	7.1	8.4	7.8	7.6	6.6	5.8	7.2	8.2	7.8	9.7	12.0	17.7	22.4	27.5	33.4	32.0	31.7	25.4	9.8	-2.5	7.3	11.9	11.7	10.0	13.6
6 D	8.2	6.9	3.8	7.5	5.9	4.7	6.2	6.5	7.7	8.5	11.4	13.9	14.9	16.5	16.7	15.2	12.7	11.3	6.9	8.9	10.1	11.1	11.4	10.7	9.9
7	10.7	10.8	11.9	9.2	7.7	6.5	6.7	7.7	8.7	9.5	11.8	13.4	14.5	14.5	14.3	13.1	12.4	10.8	10.1	10.6	10.6	9.9	7.8	4.7	10.3
8	8.7	9.2	9.7	6.0	5.6	5.4	5.4	5.7	6.8	8.4	11.7	15.4	17.7	17.7	15.9	13.7	11.7	10.6	9.8	10.6	10.8	11.3	8.7	6.5	10.1
9 Q	7.2	7.9	8.1	7.8	7.6	6.1	6.1	5.9	6.7	8.2	12.6	16.1	18.1	18.9	17.1	14.7	13.0	11.8	11.3	11.2	11.1	10.7	10.6	11.5	10.8
10 Q	9.6	9.4	11.2	10.4	8.5	7.4	6.7	6.8	7.6	9.4	12.0	15.2	18.7	19.7	18.0	15.9	14.0	11.8	10.6	10.7	11.0	10.8	10.6	10.3	11.5
11 Q	10.3	9.6	8.7	9.0	8.8	7.6	7.1	5.2	4.7	6.3	9.5	12.5	14.8	14.9	14.6	13.2	11.9	11.2	10.6	10.7	11.1	11.1	9.9	8.9	10.1
12	8.9	9.2	8.7	8.3	7.6	6.7	5.9	6.2	7.8	10.4	12.0	14.6	16.6	16.4	14.9	13.7	12.0	10.8	11.7	12.4	12.5	12.2	11.5	9.9	10.9
13 D	8.5	6.6	7.6	7.0	6.6	4.6	3.6	4.0	5.8	10.3	12.5	16.7	18.6	19.1	18.6	18.2	14.5	11.7	12.8	-1.8	1.5	5.4	3.0	1.8	2.0
14	8.2	8.3	9.6	11.2	7.4	6.6	6.1	7.8	7.1	9.8	13.2	15.8	16.1	17.6	16.1	14.8	13.7	11.9	11.6	12.1	12.0	7.8	8.3	10.4	11.0
15	10.5	11.0	12.4	8.8	7.7	8.8	6.9	5.9	8.8	10.1	12.9	16.6	18.2	16.9	13.8	12.4	10.6	10.3	5.3	9.9	11.6	11.9	11.2	10.5	11.0
16	11.0	10.6	9.6	9.4	8.4	6.9	6.6	6.7	8.3	9.1	10.8	12.7	14.5	15.3	13.7	11.9	10.6	9.8	9.4	10.5	10.4	10.0	8.9	9.5	10.2
17	9.8	8.7	12.7	10.4	5.9	6.4	8.8	11.4	13.2	13.5	13.1	14.7	17.4	16.7	14.7	12.8	12.6	11.2	7.8	7.5	7.5	9.7	10.0	9.7	11.1
18 D	7.4	7.5	8.5	8.5	8.1	7.9	14.9	11.6	9.5	10.7	11.6	13.7	14.9	14.9	14.8	15.7	16.2	13.7	9.9	2.8	1.6	0.7	6.5	9.4	10.0
19	7.7	1.8	11.0	9.9	11.3	10.3	12.6	14.8	11.5	10.7	11.7	14.7	14.8	15.7	15.9	14.5	13.8	13.1	11.9	10.9	7.8	6.8	8.8	8.5	11.3
20	8.5	10.1	10.6	9.4	9.8	7.9	7.6	6.8	7.1	8.7	12.4	14.3	15.8	15.8	14.1	14.0	12.6	14.5	10.7	6.6	11.1	4.6	3.6	6.4	10.1
21 D	8.6	9.4	13.1	8.7	7.3	8.3	7.5	7.6	9.4	11.5	13.6	17.5	17.7	15.5	18.3	17.6	7.5	11.0	10.7	6.8	4.5	9.8	9.6	10.8	10.9
22	12.3	11.5	10.1	8.7	7.6	6.8	6.1	6.7	7.7	9.3	11.5	12.7	14.3	14.0	13.3	11.6	10.5	10.4	10.7	11.4	10.8	10.5	9.6	9.4	10.3
23	9.5	9.4	9.5	9.3	8.3	7.7	7.5	8.3	8.7	11.1	12.5	14.7	16.5	17.8	19.6	14.9	14.1	11.5	7.7	8.1	9.7	7.5	6.4	8.5	10.8
24	9.5	9.7	10.6	9.9	7.6	6.7	5.8	5.7	10.5	14.5	15.4	17.6	18.3	17.7	17.6	15.4	11.7	8.9	7.6	1.5	4.2	8.1	7.3	7.4	10.4
25	8.5	13.5	9.6	7.4	10.7	10.5	8.9	9.1	8.3	9.5	12.4	14.5	15.6	14.7	13.3	11.7	10.5	9.7	8.8	9.6	10.5	11.0	10.3	10.4	10.8
26	10.5	11.3	6.5	2.5	4.7	2.8	3.6	5.6	7.5	9.6	13.3	16.3	17.6	16.7	14.9	13.3	12.5	11.5	10.6	10.6	9.5	8.5	9.8	9.1	9.5
27	8.9	10.6	8.7	8.5	8.9	7.7	8.4	6.5	7.1	8.5	10.3	12.5	14.5	15.4	13.3	11.5	10.6	10.4	10.1	9.4	10.1	9.5	8.3	9.4	10.0
28	9.4	9.6	9.5	8.9	8.3	7.7	7.6	7.5	7.5	9.4	12.3	15.3	16.8	17.3	15.6	14.5	13.0	11.8	11.6	11.5	12.1	9.7	9.4	8.4	11.0
29	8.5	7.5	7.8	7.6	6.9	6.6	6.3	7.4	7.6	9.6	12.8	15.4	16.5	15.7	13.9	12.4	10.5	9.8	10.6	10.4	10.5	9.9	9.5	9.4	10.1
30	8.7	9.4	8.5	8.4	7.8	6.7	5.0	6.1	5.4	6.5	10.3	12.4	13.9	13.6	12.7	10.7	10.4	10.6	11.4	11.4	10.7	10.5	10.1	8.3	9.6
31 Q	8.2	8.4	7.7	7.5	7.5	7.5	6.9	6.6	7.0	8.7	12.3	13.5	14.1	13.1	11.3	9.7	9.4	9.7	10.6	10.5	9.5	8.4	7.4	8.8	9.3
Mean	9.3	9.2	9.4	8.5	7.8	6.9	7.0	7.2	7.9	9.6	12.1	14.7	16.3	16.6	15.8	14.3	12.7	11.7	10.2	9.0	9.6	9.5	9.1	9.0	10.6



TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT.  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

261

299. ESKDALEMUIR. (V.)

44,000  $\gamma$  ( $\cdot 44$  C.G.S. unit) +

AUGUST, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1 Q	884	884	886	885	887	888	888	887	887	883	878	875	869	870	874	881	886	889	887	886	886	886	886	885	883
2	884	884	883	882	885	886	886	885	883	880	875	874	872	872	881	886	889	892	891	889	887	885	883	883	883
3	883	883	883	883	886	886	883	881	879	876	871	868	871	875	880	883	883	884	884	884	884	884	884	884	881
4	883	882	882	882	882	883	884	882	880	881	877	870	867	871	873	883	887	887	884	884	884	884	883	881	881
5 D	882	880	882	884	884	882	877	876	876	875	875	866	865	880	907	936	936	938	991	965	934	918	906	896	900
6 D	898	896	871	854	878	885	887	891	888	888	886	885	887	895	900	897	903	910	912	904	897	893	892	891	891
7	891	887	880	880	888	893	895	894	892	891	888	889	890	893	896	900	901	900	897	892	890	890	890	888	891
8	886	884	882	883	892	893	892	894	888	875	871	872	875	880	887	893	897	896	891	889	887	887	890	884	886
9 Q	880	882	885	887	891	893	891	891	890	887	884	882	880	883	888	892	896	902	902	897	892	891	889	883	889
10 Q	885	887	888	888	891	893	893	893	891	886	879	875	872	878	886	885	886	890	892	890	889	889	887	887	887
11 Q	887	887	886	887	891	893	894	894	893	889	882	878	878	883	889	892	893	895	893	893	891	890	887	886	889
12	887	888	888	888	891	892	892	891	886	874	869	869	870	874	880	883	887	887	885	886	887	887	888	888	884
13 D	881	883	884	886	887	887	885	882	878	868	866	871	875	879	883	891	896	901	908	920	907	895	863	849	884
14	869	878	876	871	881	887	888	884	879	876	872	871	871	882	899	903	905	910	901	896	893	891	885	884	885
15	886	886	879	882	885	884	886	886	881	877	879	875	875	879	888	894	898	900	901	897	890	888	887	887	886
16	883	885	883	885	885	887	889	890	885	878	875	874	872	875	882	886	889	891	892	890	889	889	882	882	884
17	882	883	880	871	875	876	873	870	874	874	878	875	870	882	891	889	894	897	907	909	905	896	890	888	885
18 D	882	882	885	887	889	888	879	871	871	871	874	875	877	879	886	897	905	920	924	909	879	878	878	870	886
19	847	854	855	858	860	864	867	861	862	862	869	869	877	883	883	889	891	889	891	892	896	893	889	888	875
20	881	881	880	880	883	882	887	886	883	879	873	869	873	879	886	892	891	893	905	907	895	887	872	872	884
21 D	872	876	872	871	877	881	885	886	882	876	874	876	886	893	894	906	928	920	906	906	896	889	887	886	889
22	880	883	884	887	891	891	893	889	883	874	873	876	879	883	888	891	891	889	887	887	887	887	887	888	885
23	887	887	887	887	887	885	882	882	881	874	868	864	867	879	894	897	901	908	906	901	891	891	888	886	887
24	886	886	880	876	883	886	888	885	881	870	866	866	868	874	888	898	907	914	919	918	907	896	885	877	888
25	866	869	873	878	876	877	882	887	885	881	879	879	884	889	893	893	894	895	894	891	888	886	888	886	884
26	881	866	867	878	879	884	885	885	885	885	881	879	881	881	885	888	889	889	888	889	888	885	885	884	883
27	884	881	884	885	884	885	887	888	881	877	871	870	872	872	880	884	887	887	889	890	889	888	885	884	883
28	884	884	883	885	885	885	886	888	885	881	873	872	873	876	881	884	888	887	885	884	884	886	886	886	883
29	879	878	882	884	884	884	887	884	877	876	873	875	880	878	883	885	887	884	883	884	884	884	884	884	882
30	881	880	877	877	881	883	884	883	880	880	871	868	868	871	876	879	883	883	879	879	879	881	883	883	879
31 Q	884	883	883	883	883	883	883	884	883	879	875	874	873	873	881	883	882	878	876	879	883	884	884	883	881
Mean	881	882	880	880	884	885	886	885	882	878	875	874	875	879	887	892	895	897	898	896	892	889	886	883	885

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS:  
MAGNETIC CHARACTER FIGURES: TEMPERATURE IN MAGNET HOUSE.

300. ESKDALEMUIR.

AUGUST, 1933.

Day	Terrestrial Magnetic Elements.															HR <sub>H</sub> + VR <sub>V</sub> 10,000 γ	Magnetic Character of Day. (0-2)	Temperature in Magnet House. 200 + °A			
	Horizontal Force.						Declination.						Vertical Force.								
	Maximum 16,000 γ +			Minimum 16,000 γ +			Range	Maximum 14° +			Minimum 14° +			Range	Maximum 44,000 γ +				Minimum 44,000 γ +		
1 Q	h. m.	γ	γ	h. m.	γ	γ	h. m.	γ	γ	h. m.	γ	γ	h. m.	γ	γ	h. m.	γ	γ	h. m.	γ	γ
2	15 22	585	530	11 30	55	13 39	17.5	4.7	7 41	12.8	17 57	889	867	12 36	22	194	0	85.9			
3	20 57	580	530	11 28	50	13 10	18.3	5.6	6 3	12.7	17 37	893	871	13 2	22	182	0	85.8			
4	17 18	581	535	9 52	46	13 40	16.1	4.7	5 14	11.4	18 30	886	867	11 10	19	175	0	85.8			
5 D	18 21	588	548	10 20	40	13 23	15.2	6.5	7 14	8.7	16 58	889	866	12 15	23	169	0	85.8			
6 D	18 22	585	547	18 40	218	14 36	26.4	-11.5	19 0	47.9	18 39	1026	862	12 0	164	1098	2	85.9			
7	18 23	592	482	11 28	110	13 55	17.7	-4.8	2 54	22.5	18 2	915	848	3 22	67	484	1	85.8			
8	17 50	581	507	10 9	74	14 10	14.8	3.7	23 12	11.1	16 10	903	876	2 40	27	244	1	85.9			
9 Q	23 23	587	511	9 50	76	13 30	18.6	3.8	3 53	14.8	16 33	899	869	10 47	30	261	0	85.9			
10 Q	22 54	580	521	10 4	59	13 27	19.7	5.6	7 42	14.1	17 50	903	879	12 20	24	206	0	86.0			
11 Q	18 59	577	526	10 1	51	13 2	20.6	6.6	7 20	14.0	8 0	893	871	12 39	22	184	0	86.0			
12	17 47	581	531	11 4	50	12 53	15.7	3.9	8 12	11.8	17 12	896	877	12 0	19	168	0	86.0			
13 D	18 20	599	535	11 8	64	13 2	16.8	5.7	7 20	11.1	6 40	892	867	11 0	25	218	0	86.0			
14	19 40	609	518	11 23	91	15 20	20.9	-12.4	19 34	33.3	19 38	928	838	22 58	90	555	2	86.1			
15	21 53	586	514	7 50	72	13 13	18.2	1.5	21 52	16.7	17 25	912	857	0 1	55	367	1	86.1			
16	18 49	600	522	11 37	78	12 50	19.0	0.6	18 48	18.4	18 58	902	872	11 49	30	264	1	86.1			
17	22 16	595	531	11 50	64	13 29	15.6	5.5	6 59	10.1	18 10	893	871	12 28	22	205	1	86.1			
18 D	17 22	584	517	14 31	67	12 55	17.9	5.4	19 50	12.5	19 58	911	869	12 32	42	300	1	86.1			
19	16 54	584	522	16 24	142	17 3	18.7	-9.3	19 55	28.0	18 22	934	844	24 0	90	640	2	86.1			
20	16 40	587	513	12 8	74	14 18	17.4	-1.2	0 59	18.6	20 40	897	844	0 1	53	365	1	86.1			
21 D	22 12	616	532	10 14	84	13 8	17.8	-4.5	22 4	22.3	19 3	912	869	11 42	43	332	1	86.2			
22	16 37	638	496	12 38	142	14 57	19.8	-4.3	19 51	24.1	16 30	934	870	3 0	64	523	1	86.2			
23	19 14	583	527	10 52	56	12 48	14.6	5.5	6 30	9.1	6 20	894	872	10 0	22	192	0	86.2			
24	19 3	610	506	8 58	104	14 30	21.4	-2.9	18 58	24.3	18 53	909	863	11 29	46	380	1	86.2			
25	19 3	588	482	8 42	106	11 40	18.7	-2.6	20 6	21.3	18 58	922	866	10 30	56	427	1	86.2			
26	21 36	583	514	7 40	69	1 32	17.7	4.6	0 20	13.1	18 20	896	865	0 20	31	254	1	86.2			
27	1 1	601	547	12 33	54	12 12	18.5	-0.8	5 10	19.3	20 0	890	865	2 0	25	202	1	86.3			
28	22 13	589	520	9 48	69	13 9	15.5	6.4	7 47	9.1	19 30	890	869	11 25	21	209	0	86.4			
29	18 48	587	534	10 43	53	13 42	17.4	7.3	7 53	10.1	16 20	888	870	11 52	18	169	0	86.4			
30	0 15	583	539	11 48	44	12 33	17.4	5.3	6 18	12.1	6 28	889	872	10 30	17	149	0	86.4			
31 Q	23 13	580	544	9 24	36	13 10	14.7	4.5	6 40	10.2	16 35	883	868	12 0	15	127	0	86.5			
Mean	21 40	584	535	10 9	49	12 6	14.6	6.4	22 14	8.2	21 26	886	872	13 10	14	144	0	86.5			
No. of Days Used	-- --	31	31	-- --	31	-- --	31	31	-- --	31	-- --	31	31	-- --	31	31	31	31	31	31	



**TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT.**  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

301. ESKDALEMUIR. (H.)

16,000  $\gamma$  ( $\cdot 16$  C.G.S. unit) +

SEPTEMBER, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1	571	578	566	565	569	567	565	555	548	538	539	547	557	556	561	575	570	567	580	584	581	584	580	574	566
2	572	584	566	572	570	565	562	557	542	543	549	556	555	566	568	570	571	571	575	581	584	576	584	570	567
3 Q	566	569	567	568	565	561	556	548	546	538	534	545	565	567	566	565	562	569	574	579	574	572	571	575	563
4	576	579	566	568	565	564	570	557	549	540	540	548	561	566	566	568	570	574	575	575	575	580	571	570	566
5 Q	571	574	574	570	570	570	556	546	534	533	531	537	552	566	565	566	568	575	576	579	583	576	571	571	563
6 Q	575	574	574	572	571	571	568	547	540	538	540	549	563	570	570	566	570	575	583	586	579	579	574	575	566
7	574	572	568	561	570	564	557	544	542	543	546	547	556	569	573	566	570	566	573	575	572	570	580	570	564
8	575	570	557	568	566	570	562	553	533	531	538	543	557	561	566	561	569	567	574	575	576	584	576	578	563
9 D	575	579	578	586	570	625	496	424	420	447	516	503	97	485	493	521	519	534	537	530	537	552	535	526	524
10 D	557	520	511	520	529	510	535	541	524	503	502	497	526	529	524	538	539	547	556	555	561	553	552	561	533
11	544	547	547	547	552	547	547	530	518	520	516	515	520	525	531	539	545	546	550	555	553	556	561	566	541
12	552	547	530	538	534	543	548	542	527	520	513	517	521	542	548	553	548	551	551	556	555	553	551	548	541
13 D	546	547	546	546	548	550	546	542	534	529	523	524	542	546	561	560	554	528	537	570	523	524	528	542	541
14 D	547	532	539	546	550	546	542	538	533	516	515	505	542	546	542	545	551	550	546	570	536	531	532	544	539
15 D	542	546	555	510	537	515	565	554	542	532	514	510	510	504	537	548	542	560	546	546	560	557	565	554	540
16	551	560	542	548	546	551	546	542	537	510	515	533	541	542	546	538	556	555	555	560	561	570	546	556	546
17	554	549	554	561	555	560	555	537	547	537	541	548	560	560	560	556	560	554	565	564	546	555	561	560	554
18	563	577	546	532	539	547	546	545	527	526	518	540	549	569	568	558	550	548	550	555	560	559	557	559	549
19	555	557	550	550	555	560	564	550	545	545	541	543	550	559	569	555	544	550	550	559	556	564	559	573	554
20	563	555	553	559	541	555	559	554	541	541	533	538	545	549	550	556	551	551	555	556	553	559	559	562	552
21	567	562	549	552	563	571	563	553	545	535	525	533	544	542	553	556	558	563	563	562	567	575	563	561	555
22	560	562	562	563	562	558	558	547	537	527	526	530	540	550	555	552	553	558	562	562	562	566	572	563	554
23 Q	554	554	564	562	564	558	557	539	527	527	527	529	537	549	549	552	553	555	562	569	568	567	572	559	552
24 Q	557	570	562	557	561	562	559	547	534	524	521	520	531	548	548	544	547	561	566	566	566	566	566	566	552
25	570	557	562	553	557	557	553	548	534	525	526	530	538	544	562	547	548	539	538	557	562	551	557	560	549
26	556	556	556	554	552	552	552	546	541	541	543	541	546	546	554	561	565	570	565	565	560	565	556	552	554
27	560	559	562	566	562	556	556	550	545	537	532	533	541	551	556	561	561	566	570	560	560	561	567	554	555
28	561	557	553	556	561	561	556	556	542	535	533	533	537	543	548	556	561	570	573	566	561	560	571	565	555
29	550	546	555	556	555	564	565	564	556	539	535	537	536	542	546	560	560	565	541	559	560	560	564	563	553
30	560	560	559	559	560	559	557	558	555	546	541	541	542	546	547	545	551	559	556	555	556	555	557	556	553
Mean	561	560	556	555	557	558	554	544	535	529	529	532	542	548	553	555	556	558	560	564	562	563	562	561	552

**MAGNETIC DECLINATION (WEST).**  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

302. ESKDALEMUIR. (D.)

14° +

SEPTEMBER, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day																									
1	8.6	7.6	5.8	4.6	5.7	6.6	6.5	6.4	7.6	10.5	14.8	16.5	16.7	16.6	14.5	13.3	10.9	9.5	10.1	10.6	9.0	6.8	9.6	9.4	9.9
2	9.1	8.9	9.4	7.7	5.7	6.5	5.3	5.4	5.8	8.6	12.4	15.6	16.8	17.3	14.6	12.5	10.6	10.4	10.5	11.3	10.6	9.6	2.7	4.5	9.7
3 Q	9.0	9.3	8.5	8.7	8.1	7.5	6.5	5.6	5.5	8.7	11.7	15.1	16.3	14.8	12.9	11.3	9.7	10.3	10.4	10.7	10.3	10.3	9.5	9.4	10.0
4	8.5	10.0	7.9	7.7	6.8	7.6	6.7	6.5	8.3	10.5	12.5	14.4	16.3	16.0	13.7	11.7	11.1	10.4	9.8	7.1	6.5	8.7	8.9	9.3	9.9
5 Q	8.7	8.7	8.3	8.1	6.9	6.4	5.7	5.8	7.4	9.3	12.1	15.4	15.9	15.4	12.3	11.4	11.2	11.3	11.2	10.6	10.5	9.7	9.5	9.4	10.1
6 Q	9.4	9.4	9.3	8.4	8.1	6.7	5.6	6.2	7.4	9.4	11.6	13.4	15.4	14.7	13.5	12.4	11.2	10.4	10.4	10.6	9.7	5.2	9.4	8.5	9.8
7	7.0	7.4	5.8	6.2	6.3	5.4	4.5	6.3	8.2	9.5	13.4	16.2	18.3	18.1	15.2	11.7	10.4	10.4	10.5	10.6	10.7	9.4	9.4	8.6	10.0
8	7.3	5.6	9.0	6.9	4.1	4.0	4.4	5.6	7.5	11.7	14.4	16.6	17.6	17.4	16.6	13.5	12.2	11.6	10.4	10.6	11.2	9.3	9.3	5.4	10.1
9 D	3.3	5.5	6.8	4.6	13.4	23.2	21.6	19.5	12.4	14.5	11.4	13.2	18.4	18.7	17.4	14.8	12.2	8.6	6.3	7.9	5.5	10.3	6.4	3.5	11.6
10 D	7.2	7.6	12.5	7.3	8.4	11.5	6.6	5.8	6.4	8.2	9.6	11.4	12.2	13.4	12.6	11.3	9.4	6.4	7.0	8.4	8.8	8.9	8.3	11.4	9.2
11	8.5	10.6	8.3	8.8	8.2	8.4	9.2	9.3	10.4	9.3	10.4	11.4	14.4	13.5	13.4	12.2	10.0	9.3	8.4	8.5	8.6	8.7	9.4	9.2	9.9
12	8.4	5.8	11.3	11.7	9.5	6.5	6.7	7.4	8.2	10.6	12.4	13.4	13.7	14.3	13.3	10.6	8.5	8.4	9.2	9.0	8.3	8.4	8.5	7.8	9.7
13 D	8.3	8.4	8.5	8.4	8.2	7.6	7.0	6.5	7.7	9.4	10.8	15.5	19.1	22.3	21.4	14.5	14.3	14.4	10.5	13.6	0.8	3.6	3.7	5.0	9.3
14 D	7.4	9.4	6.5	7.7	6.7	7.2	8.3	7.8	8.4	9.4	12.4	14.4	14.3	15.4	13.4	12.5	9.6	3.5	5.2	3.4	7.4	4.4	4.6	8.4	8.7
15 D	14.5	7.5	9.4	11.3	18.4	18.4	9.2	7.0	7.5	8.4	12.3	15.3	18.5	18.8	15.6	13.3	11.3	4.0	7.6	8.7	9.4	5.6	8.2	6.0	11.1
16	9.2	7.8	7.2	7.5	6.6	6.6	7.2	7.5	7.4	9.3	12.9	14.3	15.3	14.3	13.4	12.2	4.6	8.4	10.4	10.3	7.5	2.2	7.3	7.0	9.0
17	7.3	10.3	11.0	6.1	5.5	5.5	6.4	6.3	7.4	9.4	12.4	13.7	15.7	14.4	12.6	10.4	10.3	10.2	10.2	9.3	1.7	8.6	9.4	9.3	9.3
18	10.2	4.3	-5.6	-1.6	5.4	6.0	5.6	6.4	7.4	10.3	11.6	15.3	15.4	15.0	13.4	10.8	9.3	8.4	8.7	8.7	8.0	8.7	8.8	9.4	8.3
19	9.4	9.0	9.4	8.9	8.4	7.7	8.0	8.4	8.6	8.9	12.4	14.5	14.5	13.6	13.4	13.3	10.6	12.2	10.7	10.2	5.5	5.5	5.2	12.4	10.0
20	2.8	3.3	8.4	7.4	11.3	10.4	6.7	6.4	6.4	8.2	11.3	14.2	16.0	15.7	13.4	10.5	10.2	6.6	8.4	8.4	8.2	8.3	8.4	8.4	9.1
21	14.5	8.0	8.5	12.4	6.6	6.5	6.8	7.2	8.3	9.4	11.9	14.2	15.3	14.0	12.0	10.3	9.1	8.6	8.8	9.0	9.1	3.5	5.4	7.5	9.5
22	8.3	13.5	8.6	6.8	7.5	8.0	7.3	6.7	8.1	9.8	14.3	17.4	18.2	15.5	13.4	11.4	10.0	9.4	9.3	9.4	9.3	8.4	8.3	6.3	10.2
23 Q	6.0	9.3	6.4	7.4	7.3	7.5	7.8	7.5	7.4	8.4	11.3	13.5	14.5	15.3	13.7	12.4	10.7	11.4	10.6	10.4	10.2	9.4	7.4	7.4	9.7
24 Q	10.4	11.5	10.5	7.8	7.6	6.7	7.4	7.2	7.0	8.4	11.0	14.0	15.0	16.1	14.5	13.0	11.4	10.6	10.3	9.4	9.3	9.4	9.2	8.6	10.3
25	8.3	8.4	8.8	6.5	7.5	7.7	7.2	6.2	6.4	8.4	13.4	15.3	16.9	16.7	16.4	14.8	14.0	11.3	9.3	10.2	10.2	8.3	3.4	5.5	10.0
26	6.6	6.6	7.2	6.8	7.2	6.6	6.4	6.4	7.3	8.3	10.5	12.3	13.7	13.2	12.5	11.3	10.4	10.3	9.4	9.4	9.5	6.3	1.5	4.2	8.5
27	5.5	6.6	6.5	6.4	6.7	6.9	7.3	7.5	7.4	8.4	10.4	12.3	13.3	13.4	12.8	12.6	11.6	11.0	9.4	9.2	10.0	7.2	6.4	9.2	8.6
28	8.5	8.6	3.8	6.4	6.4	7.3	7.4	6.6	6.4	6.6	9.3	11.3	12.3	12.4	11.4	10.6	10.2	10.2	10.0	9.4	6.4	6.3	12.2	6.6	8.6
29	3.7	5.0	7.9	7.4	6.4	8.4	6.6	6.2	6.3	7.5	10.3	12.2	13.2	13.3	13.3	13.0	11.9	10.6	9.5	8.4	10.4	9.6	9.2	9.4	9.2
30	8.6	8.5	8.4	8.0	7.8	7.8	7.6	7.0	6.6	7.3	9.2	10.6	12.3	13.0	12.4	11.5	9.4	9.5	8.2	2.3	4.4	6.6	8.4	8.6	8.5
Mean	8.1	8.1	7.8	7.4	7.8	8.1	7.3	7.2	7.6	9.2	11.8	14.1	15.5	15.4	13.9	12.2	10.5	9.6	9.4	8.3	8.2	7.7	7.6	7.8	9.6



**TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT.**  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

263

303. ESKDALEMUIR. (V.)

44,000 γ (·44 C.G.S. unit) +

SEPTEMBER, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1	882	879	879	879	879	879	879	878	875	871	869	872	872	878	884	887	889	889	883	883	884	881	879	880	880
2	881	877	878	875	878	880	882	881	879	878	876	874	873	874	882	883	882	879	878	878	878	882	882	879	879
3 Q	880	881	882	881	881	882	884	884	883	879	874	867	868	872	881	884	883	881	878	878	879	880	882	881	879
4	878	875	876	876	878	875	873	872	872	872	871	870	869	872	878	879	882	882	886	889	882	882	882	882	877
5 Q	882	882	880	878	878	878	880	879	876	871	870	868	868	871	880	882	878	878	878	878	878	881	882	882	877
6 Q	882	882	882	882	881	881	879	878	874	868	866	867	867	871	877	878	879	879	878	878	882	882	882	882	877
7	882	882	883	884	882	883	882	880	875	872	868	867	869	870	881	891	893	890	889	888	889	888	882	878	881
8	877	874	880	878	880	879	877	875	874	871	871	867	868	878	886	889	890	890	893	890	886	883	882	883	880
9 D	886	886	886	884	874	793	792	804	833	863	899	895	905	927	941	934	934	934	934	925	912	886	885	880	887
10 D	863	863	822	826	849	853	878	884	889	893	897	896	857	895	900	904	908	915	908	904	896	893	890	879	883
11	884	886	890	892	891	892	890	893	890	890	890	889	890	893	897	901	908	906	905	900	897	894	893	879	893
12	877	880	877	857	863	872	884	885	888	890	890	889	889	890	891	892	896	898	898	897	896	893	893	890	887
13 D	890	890	890	890	891	893	894	893	890	890	889	889	880	881	886	905	961	979	979	949	939	868	886	885	860
14 D	841	848	871	885	888	890	890	893	892	893	893	897	896	892	902	903	920	930	923	905	886	886	864	861	890
15 D	857	867	871	856	800	830	846	869	975	880	889	889	890	908	912	909	920	924	920	916	905	898	882	881	883
16	883	878	875	884	889	890	890	893	890	893	893	889	889	891	899	904	912	905	900	897	897	880	878	879	891
17	886	887	871	875	881	882	885	890	889	889	884	880	879	885	887	893	893	890	889	894	905	898	893	894	887
18	890	870	855	889	869	877	885	888	892	889	889	885	888	887	888	889	891	892	892	892	892	891	892	891	885
19	890	889	889	888	886	888	886	886	888	888	883	880	883	885	892	899	907	904	904	900	900	888	886	863	889
20	862	866	875	879	874	870	878	881	882	881	877	875	881	885	889	895	900	904	897	893	895	892	890	888	884
21	879	874	880	877	878	881	884	888	888	888	883	882	883	888	892	894	895	892	889	890	889	888	883	884	885
22	884	874	867	877	882	885	888	889	891	890	885	885	889	896	903	907	902	896	892	892	890	889	881	881	888
23 Q	882	882	881	884	884	885	886	889	892	889	884	881	882	885	890	896	898	896	895	892	889	889	886	885	888
24 Q	883	871	874	880	884	886	886	886	884	881	877	874	875	881	889	896	896	892	890	889	889	888	888	888	884
25	883	881	879	882	884	886	889	889	889	883	877	876	878	878	879	889	903	919	922	912	911	910	907	896	892
26	893	893	893	893	893	892	892	889	886	882	878	878	880	882	885	889	889	889	890	890	892	893	885	885	888
27	885	885	884	885	884	885	885	884	884	882	878	878	878	878	879	884	885	888	889	892	894	891	884	884	884
28	881	866	873	874	878	881	882	884	886	882	880	878	881	884	884	885	886	885	885	889	892	889	877	856	881
29	870	877	878	881	881	879	879	879	878	878	877	877	878	878	880	881	884	888	895	892	889	889	889	889	882
30	889	888	887	886	885	885	885	885	883	882	879	877	876	878	881	885	889	888	889	892	889	886	886	886	885
Mean	879	878	877	878	877	877	880	882	882	882	881	879	881	885	891	896	899	899	897	895	891	889	885	881	885

**DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS:**  
MAGNETIC CHARACTER FIGURES: TEMPERATURE IN MAGNET HOUSE.

304. ESKDALEMUIR.

SEPTEMBER, 1933.

Day	Terrestrial Magnetic Elements.																HR <sub>H</sub> +VR <sub>V</sub> § 10,000 γ <sup>2</sup>	Magnetic Character of Day. (0-2)	Temperature in Magnet House. 200 +  °A						
	Horizontal Force.						Declination.						Vertical Force.												
	Maximum 16,000 γ +			Minimum 16,000 γ +			Range	Maximum 14° +			Minimum 14° +			Range	Maximum 44,000 γ +					Minimum 44,000 γ +			Range		
1	h.	m.	γ	γ	h.	m.	γ	h.	m.		h.	m.		h.	m.	γ	γ	h.	m.	γ					
2	21	8	601	533	10	15	68	12	58	18.4	3.5	3	50	14.9	17	32	890	868	10	38	22	212	1	86.5	
3 Q	22	41	607	538	8	26	69	13	29	18.1	-1.6	22	40	19.7	22	27	885	871	12	52	14	178	1	86.6	
4	19	4	589	529	10	24	60	12	28	16.6	5.0	8	0	11.6	15	40	885	867	12	0	18	181	0	86.6	
5 Q	13	58	602	538	9	30	64	13	58	16.6	4.9	19	30	11.7	19	16	889	868	12	0	21	200	1	86.7	
	21	3	585	529	10	8	56	12	10	16.6	5.4	7	16	11.2	15	10	882	867	12	0	15	160	0	86.7	
6 Q	21	25	589	534	9	22	55	12	42	15.7	3.5	21	39	12.2	21	58	885	865	10	8	20	181	0	86.7	
7	22	20	593	539	8	18	54	12	48	19.4	4.3	6	15	15.1	16	4	894	867	11	10	27	211	1	86.7	
8	21	29	607	519	8	39	88	13	22	18.3	3.4	4	44	14.9	18	24	895	865	11	48	30	281	1	86.7	
9 D	5	23	665	333	8	22	332	5	9	31.3	1.6	0	4	29.7	17	58	946	788	5	48	158	1260	2	86.6	
10 D	0	31	573	483	11	42	90	2	53	17.3	3.4	7	18	13.9	17	16	916	810	3	3	106	625	1	86.6	
11	23	35	578	509	9	57	69	12	35	16.3	6.3	0	10	10.0	17	11	908	875	23	55	33	263	1	86.6	
12	19	50	566	509	11	2	57	2	55	16.3	5.3	1	51	11.0	17	4	900	856	3	33	44	293	1	86.6	
13 D	19	46	660	459	20	30	201	13	17	23.5	-23.7	19	42	57.2	16	12	984	856	23	51	128	909	2	86.6	
14 D	19	42	642	491	11	50	151	13	32	15.5	-9.5	19	39	25.0	17	41	934	831	0	32	103	713	2	86.5	
15 D	22	10	601	460	3	52	141	4	11	24.0	1.2	21	42	22.8	17	15	930	792	4	30	138	854	2	86.5	
16	21	20	615	501	9	54	114	12	50	15.7	-3.7	21	42	19.4	16	43	915	873	2	30	42	378	1	86.5	
17	18	54	578	533	10	59	45	12	22	16.7	-0.6	20	28	17.3	20	40	908	870	2	30	38	246	1	86.5	
18	1	45	590	502	10	36	88	12	5	17.4	-6.9	2	36	24.3	19	24	893	851	2	50	42	335	1	86.5	
19	23	50	601	513	16	3	88	23	10	16.3	2.2	20	58	14.1	16	18	908	856	23	58	52	379	1	86.5	
20	23	18	568	527	11	14	41	13	0	16.6	1.3	0	31	15.3	17	22	905	856	0	1	49	288	1	86.5	
21	21	23	582	516	10	49	66	0	37	17.3	0.5	21	36	16.8	16	15	896	870	1	0	26	227	1	86.5	
22	22	8	603	521	10	0	82	12	22	18.4	4.9	23	42	13.5	15	35	907	866	2	20	41	320	1	86.5	
23 Q	22	33	590	518	11	0	72	12	50	15.5	4.5	23	5	11.0	16	43	899	877	2	8	22	219	0	86.5	
24 Q	24	0	580	517	11	27	63	13	20	16.5	5.4	8	8	11.1	16	0	897	870	1	32	27	226	0	86.5	
25	0	1	580	520	9	50	60	13	0	17.5	2.4	22	32	15.1	18	22	926	874	11	9	52	333	1	86.5	
26	22	5	597	533	12	8	64	12	47	15.4	-0.2	22	24	15.6	21	20	896	877	11	0	19	191	1	86.5	
27	22	0	584	525	10	30	59	13	29	14.4	2.2	19	58	12.2	20	8	899	877	11	22	22	197	1	86.5	
28	22	41	611	524	11	29	87	22	47	16.6	-2.7	20	52	19.3	20	42	893	855	23	10	38	315	1	86.5	
29	15	28	578	532	12	24	46	15	28	15.3	0.2	0	10	15.1	18	45	896	865	0	1	31	215	1	86.5	
30	17	40	568	530	16	20	38	13	22	13.5	-1.7	19	34	15.2	19	28	895	875	12	34	20	153	0	86.5	
Mean	--	--	596	511	--	--	86	--	--	17.6	0.4	--	--	17.2	--	--	905	859	--	--	46	351	0.93	86.6	
No. of Days Used	--	--	30	30	--	--	30	--	--	30	30	--	--	30	--	--	30	30	--	--	30	30	30	30	



**TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT.**  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

305. ESKDALEMUIR. (H.)

16,000  $\gamma$  ( $\cdot 16$  C.G.S. unit) +

OCTOBER, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	
Day	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
1 Q	556	558	558	556	558	556	554	551	547	541	536	537	543	552	558	559	560	560	563	560	565	570	569	565	565	555
2	562	565	564	564	569	564	564	555	547	537	530	530	541	542	547	551	556	558	563	560	564	564	564	564	564	555
3	560	562	564	565	564	565	564	560	552	544	537	537	545	555	560	562	564	565	569	569	569	569	564	572	560	560
4	564	562	564	563	558	566	569	570	552	538	531	530	531	541	558	557	554	552	554	555	558	565	573	550	555	555
5 D	545	526	559	563	573	553	566	546	545	536	518	473	533	545	555	554	554	560	547	551	554	582	544	548	547	547
6	558	548	540	562	562	558	558	555	530	507	527	527	521	549	551	551	549	547	552	550	551	554	554	554	546	546
7 D	558	565	577	568	563	549	536	549	540	518	498	503	549	549	553	545	544	540	530	545	544	576	548	535	544	544
8	553	544	544	535	557	557	550	526	521	494	503	516	526	539	538	548	540	553	550	551	540	563	560	553	540	540
9 D	553	549	545	530	563	558	557	545	522	517	522	519	532	539	549	549	548	547	555	581	549	554	576	549	546	546
10	533	521	553	535	554	551	544	535	521	508	494	525	540	545	550	549	540	531	539	576	544	557	548	550	539	539
11	548	548	550	548	544	556	548	539	543	529	520	534	543	548	544	548	552	552	552	543	549	548	542	534	544	544
12	497	521	544	540	568	539	553	549	545	533	528	520	520	539	547	549	550	553	554	554	555	556	552	552	542	542
13 D	551	552	552	553	553	556	554	553	552	535	525	522	525	534	520	529	553	551	561	557	557	556	557	590	548	548
14 D	539	544	556	539	548	555	546	548	537	534	511	516	525	530	548	543	545	519	548	526	562	539	548	548	540	540
15	538	534	538	538	547	547	547	543	540	538	537	535	542	542	542	540	528	542	548	563	551	548	547	546	543	543
16 Q	551	542	545	545	547	552	551	543	541	534	533	525	533	546	548	547	542	547	556	557	556	554	552	552	546	546
17	556	548	549	553	555	556	555	549	543	538	535	538	538	545	546	543	542	549	551	551	552	555	579	560	549	549
18	562	543	548	551	554	560	515	523	528	533	538	528	524	520	525	519	547	547	547	546	561	538	538	546	539	539
19	545	545	545	545	545	546	546	542	537	536	532	532	537	541	542	542	541	548	551	548	549	548	551	559	544	544
20	546	546	548	550	554	556	546	544	537	534	528	533	546	554	553	550	541	551	554	550	550	550	546	547	546	546
21 Q	542	551	550	550	553	555	557	559	550	542	536	533	537	542	550	555	556	559	551	552	555	555	555	554	550	550
22	554	555	554	551	554	555	559	557	540	545	536	532	532	543	547	550	552	554	555	555	555	551	550	556	550	550
23	550	548	547	550	554	559	557	554	542	536	532	532	540	546	550	551	554	559	559	559	555	560	560	556	550	550
24	548	550	552	554	554	551	550	555	551	542	537	541	541	547	564	545	537	555	560	559	556	559	559	560	551	551
25	546	542	550	559	546	542	546	545	528	527	547	550	551	554	550	537	531	550	555	559	553	552	569	546	547	547
26	560	546	545	547	554	555	551	547	550	545	541	541	537	537	544	532	550	554	555	556	555	582	546	550	549	549
27	551	555	570	550	565	559	555	551	545	546	545	545	546	548	550	553	550	555	555	555	557	555	559	556	553	553
28 Q	560	555	551	551	555	561	560	556	555	555	546	545	545	547	546	554	554	555	557	559	559	556	556	559	554	554
29 Q	554	556	554	552	554	555	558	558	550	541	531	535	540	543	545	549	550	554	555	555	556	558	560	558	551	551
30	556	554	550	552	553	554	558	558	549	541	541	544	548	553	554	551	539	547	553	554	559	559	558	558	552	552
31	556	558	558	558	558	559	559	557	551	545	544	546	562	563	564	567	566	568	567	564	565	563	562	559	559	559
Mean	550	548	552	551	556	555	553	549	542	534	530	530	538	544	548	548	548	551	554	556	555	558	556	554	548	548

**MAGNETIC DECLINATION (WEST).**

Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time

306. ESKDALEMUIR. (D.)

14° +

OCTOBER, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	
Day																										
1 Q	8.6	8.6	8.3	8.6	8.4	7.5	6.6	5.7	5.6	6.4	8.3	10.5	13.3	13.2	11.7	10.7	10.2	10.2	10.0	10.1	9.7	9.5	8.5	8.3	9.1	
2	9.2	9.0	9.4	8.4	7.5	7.0	6.9	6.2	6.7	8.2	10.3	13.3	14.6	14.6	13.3	11.9	10.7	10.5	10.4	9.8	9.4	8.4	7.3	7.2	9.6	
3	7.5	8.3	8.5	8.5	8.4	8.4	7.9	7.0	5.5	5.9	7.7	10.5	13.1	14.0	13.3	12.3	11.3	10.4	10.4	10.2	9.5	9.3	8.4	7.5	9.3	
4	7.2	8.6	8.1	8.4	8.6	10.4	8.4	6.5	4.5	4.6	7.2	10.7	13.4	14.4	15.3	14.3	13.0	10.6	10.5	8.5	8.3	7.5	10.0	5.4	9.3	
5 D	6.6	3.2	3.6	6.7	5.4	7.0	8.2	6.8	7.6	8.4	12.2	16.5	16.7	17.4	14.2	13.4	10.6	10.0	7.5	7.8	7.5	-0.7	4.4	4.9	8.7	
6	9.4	7.0	9.5	10.4	6.2	7.3	7.0	7.4	7.4	10.4	10.8	14.1	14.7	15.5	14.5	12.4	9.5	7.7	7.7	7.9	8.5	8.8	8.5	8.4	9.6	
7 D	9.4	9.3	7.2	2.7	7.7	9.5	12.9	15.4	12.4	11.6	12.9	12.3	12.6	14.4	13.7	12.4	9.6	-5.4	8.4	9.3	1.5	-0.5	2.5	5.3	8.6	
8	13.4	9.4	7.4	12.3	11.5	7.9	8.0	7.2	8.4	9.0	11.6	12.4	13.7	13.2	11.4	10.4	9.5	5.4	8.1	6.7	7.5	7.7	7.3	6.6	9.4	
9 D	7.6	8.3	10.5	13.5	15.4	8.4	8.0	7.5	7.4	6.4	10.4	14.2	16.4	14.3	13.0	11.4	10.4	8.0	4.4	-0.6	5.4	8.5	9.4	3.3	9.2	
10	1.4	12.5	7.4	7.8	9.6	8.5	11.6	14.2	13.2	10.4	11.6	13.4	15.3	15.0	12.2	10.9	4.3	5.5	3.4	5.5	6.4	5.3	8.3	11.5	9.4	
11	10.1	8.6	11.5	10.2	8.2	9.2	9.0	10.3	8.6	9.4	10.3	11.6	13.2	13.4	11.7	10.3	8.7	8.4	8.2	5.4	5.8	7.5	6.4	-4.6	8.8	
12	10.4	9.4	0.6	5.4	6.4	13.5	16.3	11.2	7.4	7.5	10.5	13.4	15.3	14.0	11.7	10.2	8.5	8.5	8.4	8.3	8.3	8.4	8.4	8.4	9.6	
13 D	8.3	8.4	8.4	8.4	7.8	8.2	7.4	6.7	6.0	6.7	9.4	13.4	13.7	17.3	17.6	11.5	12.3	11.3	10.2	9.3	8.4	8.3	8.2	1.4	9.5	
14 D	3.4	9.5	6.4	5.7	6.5	6.6	7.5	8.3	6.6	7.4	10.3	10.5	14.5	12.7	11.3	9.7	8.2	1.5	-2.6	4.5	-0.5	6.4	8.5	7.4	7.1	
15	8.3	8.7	10.3	11.3	7.7	7.1	7.4	7.4	7.2	7.7	9.4	12.3	13.0	11.7	11.8	9.2	8.5	8.3	8.4	4.4	7.1	7.3	7.4	7.5	8.7	
16 Q	7.6	7.3	8.5	7.9	7.4	7.0	7.1	7.5	7.6	7.9	10.1	11.4	11.4	11.5	11.1	9.6	9.5	9.7	9.3	8.6	8.3	7.6	7.4	8.3	8.7	
17	7.7	8.0	8.4	8.3	7.8	7.3	7.4	6.6	5.7	6.5	8.6	10.7	12.2	12.3	11.5	10.8	8.7	8.6	8.2	8.4	7.6	5.1	3.3	1.7	8.0	
18	-3.2	0.4	4.1	4.3	5.5	7.0	11.5	10.1	10.3	8.5	10.4	12.4	13.7	14.3	13.7	8.0	8.5	9.1	8.4	8.4	1.6	2.5	5.3	6.1	7.5	
19	10.5	7.5	7.9	7.9	7.5	7.3	6.7	6.5	5.8	6.1	8.3	10.4	11.5	11.8	11.1	10.1	9.1	9.0	8.4	8.3	8.1	7.5	6.0	5.8	8.3	
20	5.7	7.9	8.3	8.4	8.4	7.6	7.5	7.4	5.7	6.5	9.6	11.7	13.4	13.4	12.5	11.4	10.5	10.5	10.5	9.5	8.3	6.5	5.7	5.7	8.9	
21 Q	6.3	6.7	7.6	8.4	7.5	7.6	7.5	6.5	5.7	6.5	8.8	11.7	12.9	12.6	11.8	10.8	9.5	10.4	9.5	8.7	8.5	8.3	8.0	7.8	8.7	
22	8.0	7.6	7.4	7.7	7.7	7.2	7.1	6.6	7.6	7.9	8.9	11.0	12.3	12.8	11.6	9.7	9.0	8.7	8.5	8.4	8.1	7.7	6.9	6.7	8.5	
23	6.5	7.7	7.5	7.7	7.8	7.5	7.4	6.9	6.6	6.9	8.5	10.5	12.3	11.8	11.1	10.6	10.5	10.0	9.6	9.4	8.2	4.4	6.6	7.5	8.5	
24	7.5	7.7	7.8	7.8	7.7	7.6	7.6	7.4	6.5	6.5	8.4	10.7	11.7	11.7	16.5	16.9	15.7	12.4	10.6	9.6	8.2	7.5	5.8	3.8	9.3	
25	0.5	2.7	7.6	4.6	6.7	8.2	7.9	7.5	8.4	7.0	9.7	10.4	11.6	12.5	11.8	13.2	10.7	9.7	9.7	5.6	7.7	7.6	5.6	5.8	8.0	
26	8.5	6.6	6.2	5.7	6.6	6.6	7.7	8.6	6.0	6.4	8.2	10.8	11.2	10.9	11.6	6.4	9.3	9.5	8.7	8.6	7.6	-0.4	5.5	7.5	7.7	
27	7.6	7.6	8.5	6.6	7.5	6.8	7.7	7.6	6.4	5.9	7.8	9.8	11.4	11.7	10.8	9.7	9.2	8.7	8.6	8.4	7.7	7.4	6.6	6.7	8.2	
28 Q	7.0	6.5	5.5	6.6	7.4	6.9	7.5	7.7	7.2	7.5	9.6	11.7	11.4	10.9	9.8	9.2	8.8	8.5	7.8	7.9	6.8	7.4	7.5	7.0	8.1	
29 Q	8.0	7.7	7.5	8.7	7.7	7.1	6.9	6.6	5.9	6.4	7.8	9.7	10.6	10.5	10.2	9.2	8.5	8.4	8.0	7.3	7.5	7.5	7.2	7.3	8.0	
30	7.8	7.7	7.2	6.9	6.6	6.5	7.5	6.9	6.5	7.4	9.2	12.4	12.6	13.5	13.4	12.5	9.9	10.2	8.7	8.5	7.7	7.5	6.9	7.3	8.6	
31	7.6	7.7	7.7	7.7	7.7	7.7	7.6	7.2	6.6	6.6	8.9	11.0	13.2	12.6	12.4	11.9	10.5	10.1	9.4	8.5	7.6	7.5	7.5	7.5	8.9	
Mean	7.2	7.6	7.6	7.9	7.8	7.8	8.2	7.9	7.2	7.4	9.5	11.8	13.1	13.2	12.6	11.0	9.8	8.5	8.3	7.8	7.2	6.6	6.9	6.2	8.7	



TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT.  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

265

307. ESKDALEUIR. (V.)

44,000  $\gamma$  ( $\cdot 44$  C.G.S. unit) +

OCTOBER, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$
1 Q	888	886	886	885	884	886	886	885	882	878	875	874	874	877	881	885	886	886	886	886	886	886	886	888	883
2	889	886	886	883	882	882	882	885	884	884	881	878	878	882	886	888	889	889	889	889	889	886	885	886	885
3	886	886	886	885	885	884	883	883	881	880	878	875	871	871	878	883	884	883	883	884	885	886	886	883	882
4	884	886	882	882	882	878	877	879	882	880	878	874	874	877	882	890	897	900	897	898	897	893	878	889	884
5 D	859	833	856	857	851	862	867	872	878	880	882	889	885	888	891	892	896	894	897	897	894	878	879	882	877
6	873	870	867	852	863	871	877	882	886	890	886	882	886	886	889	893	896	897	896	894	893	890	889	889	883
7 D	889	880	857	862	864	866	872	875	878	882	882	886	883	883	888	892	908	935	919	904	901	889	874	868	885
8	856	863	871	874	871	878	882	889	892	894	894	889	886	889	894	898	898	901	893	894	888	876	877	881	885
9 D	884	882	876	863	854	871	878	885	886	889	885	883	884	887	891	895	895	898	903	879	855	858	864	852	879
10	853	837	838	859	870	876	876	881	883	888	889	882	881	886	892	897	912	915	913	896	885	883	880	871	881
11	871	875	870	874	880	882	883	887	886	888	889	885	882	885	889	893	893	892	892	896	893	890	887	869	885
12	833	815	860	874	873	866	859	870	878	882	881	884	890	889	892	897	896	893	891	890	889	889	889	889	878
13 D	889	889	889	888	888	888	889	890	889	887	885	881	886	893	913	923	898	891	890	889	889	889	889	867	890
14 D	851	851	852	867	877	879	883	884	884	882	882	888	885	891	890	890	894	904	901	896	882	879	880	878	881
15	882	883	882	880	883	886	886	887	886	884	882	879	883	886	895	902	905	899	894	890	886	886	887	888	888
16 Q	887	887	887	887	887	887	887	887	887	887	884	884	888	891	895	898	898	894	891	890	890	890	890	890	889
17	886	887	887	886	885	885	886	887	886	884	881	879	879	881	887	893	892	891	890	891	893	891	886	865	885
18	857	861	865	868	869	867	872	873	880	887	890	892	901	913	921	910	899	896	895	891	887	890	887	887	887
19	882	877	884	886	887	888	888	888	888	890	888	888	886	886	891	894	895	892	891	891	891	891	891	884	888
20	885	888	888	888	888	888	888	888	888	888	888	888	886	888	895	899	899	897	895	895	896	898	898	896	891
21 Q	896	893	892	891	890	888	888	887	888	887	887	885	884	886	888	892	892	891	891	891	890	889	889	889	889
22	890	890	889	888	887	885	884	884	884	882	884	887	885	884	888	891	891	889	888	888	888	888	888	888	887
23	888	888	889	889	888	887	887	887	888	888	887	885	885	888	890	892	890	889	888	888	889	889	885	883	888
24	885	888	888	888	888	888	889	887	885	886	885	881	881	881	885	892	897	895	893	895	899	894	892	891	889
25	884	887	882	875	882	887	889	890	891	893	886	886	886	887	889	898	902	901	897	897	894	893	886	883	889
26	882	882	885	886	886	886	886	883	887	886	882	882	882	886	888	899	894	890	890	890	890	887	835	886	887
27	886	885	873	871	867	867	871	876	881	880	878	876	879	882	885	887	887	887	886	886	886	886	886	886	881
28 Q	883	881	882	882	882	882	882	882	882	880	878	879	882	882	887	887	886	886	886	886	886	886	885	885	883
29 Q	882	882	882	882	882	882	882	886	887	887	886	883	884	884	886	888	886	886	886	886	886	885	885	884	885
30	883	882	884	884	884	884	882	886	889	885	879	878	879	882	888	890	894	894	892	890	889	889	889	887	886
31	886	886	886	884	882	882	882	884	886	886	881	879	879	879	881	882	882	882	882	882	883	884	885	885	883
Mean	878	876	877	878	879	880	881	884	885	885	884	883	883	885	890	894	895	895	893	891	889	887	885	882	885

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS.  
MAGNETIC CHARACTER FIGURES: TEMPERATURE IN MAGNET HOUSE.

308. ESKDALEUIR.

OCTOBER, 1933.

Day	Terrestrial Magnetic Elements.															HR <sub>H</sub> +VR <sub>V</sub> \$ 10,000 γ	Magnetic Character of Day. (0-2)	Temperature in Magnet House. 200 +						
	Horizontal Force.						Declination.						Vertical Force.											
	Maximum 16,000 γ +			Minimum 16,000 γ +			Range	Maximum 14° +			Minimum 14° +			Range	Maximum 44,000 γ +				Minimum 44,000 γ +			Range		
	h.	m.	γ	γ	h.	m.	γ	h.	m.	γ	h.	m.	γ	h.	m.	γ	γ	h.	m.	γ			°A	
1 Q	21	51	574	533	10	30	41	13	6	13.6	5.4	8	12	8.4	0	30	889	874	11	30	15	135	0	86.5
2	21	0	578	519	10	40	59	12	50	15.4	5.3	7	38	10.1	16	40	890	877	12	21	13	156	0	86.5
3	23	15	597	534	10	48	63	13	25	14.3	5.3	9	15	9.0	22	25	887	870	12	50	17	181	0	86.5
4	22	19	582	523	11	46	59	14	20	15.5	3.3	8	34	12.2	17	12	903	866	23	6	37	264	0	86.5
5 D	21	14	623	458	11	42	165	11	50	19.3	-2.7	21	40	22.0	18	54	901	818	1	11	83	647	2	86.5
6	5	7	577	498	9	37	79	13	23	16.5	5.3	4	10	11.2	17	59	897	849	3	40	48	347	1	86.5
7 D	21	34	594	468	10	59	126	7	30	18.1	-11.1	17	30	22.2	17	29	945	855	0	25	90	613	2	86.5
8	21	9	594	470	9	43	124	4	0	16.4	-0.5	17	9	16.9	17	19	904	855	0	33	49	426	1	86.5
9 D	19	12	622	503	9	10	119	12	40	18.6	-7.8	19	2	26.4	18	30	909	849	23	20	60	467	1	86.5
10	19	33	611	483	10	26	128	12	51	16.6	-2.8	19	33	19.4	18	5	916	830	2	0	86	598	1	86.5
11	23	7	584	512	10	40	72	2	11	15.6	-7.7	23	40	23.3	19	20	897	859	24	0	38	291	1	86.5
12	4	51	579	479	0	28	100	1	0	20.2	-0.4	2	12	20.6	16	16	897	801	1	18	92	597	1	86.5
13 D	23	50	635	486	14	46	149	14	8	21.3	-3.7	23	36	25.0	15	5	939	848	24	0	91	656	2	86.5
14 D	20	20	617	488	10	53	129	13	4	17.3	-11.3	20	17	28.6	17	56	912	844	0	10	68	519	1	86.5
15	19	59	580	518	16	52	62	11	50	15.3	2.3	19	22	13.0	16	52	907	878	11	28	29	233	1	86.6
16 Q	19	28	561	514	11	58	47	13	51	11.8	6.5	6	21	5.3	16	2	898	883	11	1	15	145	0	86.5
17	22	12	604	528	10	49	76	13	28	12.5	-0.5	23	6	13.0	21	25	895	860	24	0	35	283	1	86.4
18	20	20	591	501	15	11	90	13	18	18.4	-4.5	0	59	22.9	15	42	924	856	0	40	68	454	1	86.3
19	22	58	574	532	11	5	42	0	42	14.1	3.4	22	54	10.7	16	15	896	873	1	5	23	173	0	86.3
20	21	55	562	528	9	51	34	12	54	13.7	4.5	22	20	9.2	16	20	900	884	0	1	16	128	0	86.3
21 Q	16	53	564	529	11	30	35	12	24	13.4	5.4	8	30	8.0	0	41	897	884	12	40	13	116	0	86.3
22	23	40	569	527	11	56	42	13	21	13.6	5.5	23	59	8.1	15	35	892	881	9	25	11	119	0	86.3
23	21	29	582	527	9	58	55	12	6	13.2	0.5	21	28	12.7	15	20	892	881	23	32	11	140	0	86.1
24	14	23	583	519	16	13	64	14	58	18.5	2.5	24	0	16.0	15	54	900	877	11	57	23	209	1	86.1
25	22	16	596	513	8	50	83	16	3	13.7	-3.9	0	28	17.6	16	50	905	873	3	24	32	282	1	86.0
26	21	22	611	518	15	16	93	12	11	13.5	-6.3	21	18	19.8	15	40	902	879	0	55	23	257	1	86.0
27	2	21	574	542	11	49	32	13	35	12.5	4.5	3	10	8.0	15	48	888	868	4	54	22	152	0	85.9
28 Q	0	30	569	537	12	9	32	12	4	12.7	4.8	2	5	7.9	15	25	888	878	10	33	10	98	0	85.6
29 Q	22	54	566	531	10	55	35	13	39	11.0	5.7	8	50	5.3	15	23	889	881	4	10	8	94	0	85.7
30	20	56	563	531	16	28	32	13	20	13.7	5.8	5	20	7.9	16	38	896	878	11	12	18	134	0	85.7
31	13	52	582	540	9	36	42	12	39	14.9	5.6	9	33	9.3	9	13	887	878	12	31	9	110	0	85.6
Mean	--	--	587	513	--	--	74	--	--	15.3	0.6	--	--	14.7	--	--	901	864	--	--	37	291	0.61	86.3
No. of Days Used	--	--	31	31	--	--	31	--	--	31	31	--	--	31	--	--	31	31	--	--	31	31	31	31



**TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT.**  
Mean values for the periods of sixty minutes ending at the hours of Greenwich Mean Time.

309. ESKDALEMUIR. (H.)

16,000  $\gamma$  ( $\cdot 16$  C.G.S. unit) +

NOVEMBER, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1	559	560	561	561	561	568	559	554	553	545	544	550	545	539	552	550	553	554	554	549	562	552	554	554	554
2	556	557	555	554	557	559	561	559	548	544	531	540	549	552	550	554	555	543	544	555	544	549	554	557	551
3	556	556	558	558	558	555	561	557	553	545	545	554	553	552	554	545	558	563	538	548	548	549	539	548	552
4	554	554	554	553	555	555	561	560	549	536	531	540	542	527	522	526	553	536	545	549	537	544	572	553	546
5	553	554	557	555	562	558	562	553	549	544	537	542	539	544	549	549	554	558	555	548	535	539	557	553	550
6 D	545	549	562	566	558	577	563	557	550	543	545	541	548	535	517	521	526	494	517	531	538	567	544	553	544
7 D	534	561	539	538	548	552	552	553	539	526	517	504	528	529	534	526	527	530	534	534	575	531	536	544	537
8 D	552	547	543	548	544	550	552	509	509	503	516	530	537	534	501	546	530	546	541	548	580	555	525	538	537
9	543	547	547	544	554	548	553	547	546	534	534	524	526	538	541	538	557	548	553	552	570	549	547	547	545
10	548	552	556	548	567	558	549	548	544	543	543	530	520	524	526	544	552	552	553	550	554	551	557	566	547
11 D	543	557	549	535	548	566	557	561	547	525	543	544	525	538	542	543	548	543	533	539	552	552	548	558	546
12	565	544	552	554	547	553	553	553	545	543	543	539	548	552	549	553	551	547	561	552	548	552	552	548	550
13	546	550	549	552	557	555	552	552	552	549	543	549	556	556	556	555	553	547	556	560	561	562	561	561	554
14 Q	560	560	561	562	565	568	564	561	560	561	557	553	555	557	557	555	549	554	556	557	561	554	558	554	558
15 Q	552	557	553	557	564	566	565	563	557	549	547	544	548	554	554	552	551	549	563	564	561	561	563	562	557
16	562	561	561	561	561	563	569	570	564	558	556	553	549	552	560	561	561	561	561	557	556	556	556	557	559
17 Q	557	561	554	557	561	562	565	562	561	556	553	558	562	561	557	559	561	561	557	557	552	553	556	556	558
18	560	551	552	555	557	560	566	559	557	557	560	562	564	565	556	561	569	549	548	556	560	560	557	557	558
19	556	556	556	559	556	564	564	560	559	554	547	550	554	559	560	560	561	556	551	549	551	568	556	553	557
20	543	546	547	551	566	556	556	556	555	555	552	552	555	555	556	556	560	560	560	560	547	538	544	550	553
21	548	564	546	547	551	555	556	557	556	555	557	552	553	552	548	523	555	560	560	556	554	552	551	568	553
22	551	548	551	555	560	557	560	560	560	559	552	553	557	559	565	561	560	560	559	564	560	560	556	556	558
23	560	554	548	551	552	556	560	563	560	556	556	555	560	560	559	551	556	557	552	551	556	571	555	557	557
24 Q	555	555	562	558	559	560	563	561	560	555	554	555	557	559	558	551	560	561	560	557	556	556	559	558	558
25	559	556	556	559	559	559	560	563	560	555	558	558	560	564	564	560	559	561	556	560	556	556	564	563	559
26 Q	558	558	559	559	560	561	564	564	564	563	560	563	561	560	560	561	561	562	563	560	559	556	559	559	561
27 D	556	557	559	564	559	560	562	564	565	564	562	562	563	566	565	567	571	562	543	541	545	533	528	541	557
28	540	540	545	549	550	558	558	546	558	547	547	545	553	545	530	545	545	541	551	558	556	552	550	553	548
29	554	547	549	550	557	558	558	557	555	551	555	558	553	549	550	545	546	539	539	550	548	552	553	552	551
30	550	548	550	556	559	557	557	553	553	550	552	549	553	557	557	557	559	557	557	539	546	550	554	555	553
Mean	553	554	553	554	557	559	559	556	553	547	547	547	549	550	548	549	553	550	551	552	554	553	552	554	552

**MAGNETIC DECLINATION (WEST).**  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

310. ESKDALEMUIR. (D.)

14° +

NOVEMBER, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day																									
1	7.6	7.6	8.0	8.2	8.6	8.6	7.5	8.5	8.8	8.6	9.8	12.1	13.8	13.5	10.7	9.7	9.1	8.7	8.1	5.7	5.3	5.7	6.2	6.5	8.6
2	7.4	7.8	7.7	6.8	6.9	7.1	6.6	6.6	6.5	8.6	10.7	12.6	11.6	11.9	10.6	10.2	10.5	8.6	6.8	2.4	4.4	5.6	7.8	7.7	8.1
3	8.2	7.9	8.5	8.0	5.6	7.1	7.4	7.4	6.8	7.6	8.8	10.6	12.4	11.0	11.0	11.4	10.1	9.9	-0.4	7.7	6.2	-1.0	4.6	6.4	7.6
4	8.6	8.6	7.0	8.4	9.2	8.7	7.6	6.9	6.8	7.8	8.5	9.8	11.5	11.6	9.9	9.9	10.7	10.6	9.6	6.5	-2.6	2.6	5.3	5.6	7.9
5	7.6	8.5	8.6	8.6	8.2	8.8	8.2	7.2	7.1	8.1	9.4	11.7	11.6	10.8	10.2	9.4	8.2	4.8	3.9	4.8	3.7	4.1	6.7	5.5	7.7
6 D	4.8	6.6	11.6	6.6	6.6	5.6	10.5	7.7	5.6	5.0	7.2	10.5	12.8	13.7	12.6	14.5	13.2	7.1	4.4	6.5	3.6	0.6	1.6	2.0	7.5
7 D	8.4	9.5	7.6	8.7	8.7	8.8	9.6	11.1	8.3	7.6	8.8	8.5	11.7	11.0	10.4	9.9	-3.2	7.8	5.5	3.7	-6.3	0.2	3.4	6.5	6.9
8 D	8.5	13.6	6.6	5.4	7.5	18.6	19.2	18.7	14.6	14.6	9.6	10.1	10.6	12.2	9.3	9.8	8.2	6.9	8.6	4.8	2.9	2.6	0.4	7.6	9.6
9	8.6	7.0	6.6	7.5	9.6	8.9	10.2	8.5	8.6	8.6	10.6	10.2	10.7	10.9	9.6	8.6	7.7	8.5	6.5	7.9	0.6	4.5	6.9	6.9	8.1
10	7.5	7.6	7.4	8.6	13.7	8.6	8.6	8.6	7.4	7.7	9.2	10.8	11.5	12.6	11.6	10.7	9.4	8.7	7.6	4.9	5.7	6.6	4.2	3.6	8.5
11 D.	3.5	8.6	6.5	8.6	8.1	6.9	8.0	8.6	9.1	8.9	9.6	12.6	12.8	10.3	11.5	8.0	8.3	9.1	6.0	6.0	4.8	5.9	4.6	7.2	8.1
12	8.5	7.5	7.4	6.6	8.5	7.4	6.5	6.5	6.5	7.5	9.4	9.5	11.1	10.4	8.5	8.2	8.0	6.8	2.0	5.5	6.6	6.1	6.6	4.1	7.3
13	5.6	6.7	7.1	6.9	7.0	7.5	7.4	7.6	7.7	8.0	7.6	7.8	9.2	9.4	8.5	8.0	7.5	4.5	7.4	7.5	7.2	7.2	7.0	7.1	7.4
14 Q	7.3	7.3	7.5	7.5	7.6	7.4	7.7	7.5	7.4	7.9	8.5	8.5	9.1	8.7	8.4	7.6	7.1	7.6	7.7	7.6	5.5	6.4	6.4	5.5	7.5
15 Q	6.5	7.4	6.9	7.6	7.5	7.5	7.4	6.6	6.1	6.4	7.7	8.5	9.4	10.1	9.3	8.5	8.6	7.8	7.9	7.5	7.3	6.6	6.9	7.0	7.6
16	7.5	7.4	7.4	7.6	7.7	7.6	7.0	8.4	8.4	7.8	8.5	10.5	11.3	11.7	10.3	8.9	7.9	7.4	7.5	7.4	6.7	6.8	6.5	6.8	8.1
17 Q	6.6	4.7	5.7	7.4	7.5	7.4	6.7	6.6	6.4	6.9	8.5	9.4	9.3	8.8	8.1	8.4	8.5	8.5	9.6	8.3	7.1	6.7	6.5	6.6	7.5
18	4.5	4.5	6.6	7.6	6.7	4.8	4.6	5.5	6.3	7.1	8.5	9.3	9.5	9.7	8.7	8.7	9.6	9.4	8.9	8.3	6.7	6.7	6.5	6.7	7.3
19	6.7	6.8	7.4	7.8	7.2	6.6	5.4	5.6	6.4	7.5	9.4	9.4	10.0	9.5	8.8	8.3	8.3	9.3	8.2	7.4	6.4	4.4	2.9	-1.3	7.0
20	-4.0	2.1	4.7	6.6	7.4	7.3	7.0	7.1	6.6	6.5	7.2	8.2	9.3	9.5	8.8	8.4	8.3	8.3	7.5	7.5	3.4	-1.9	5.6	5.6	6.1
21	2.2	-2.9	2.5	5.3	6.6	6.8	6.7	6.7	6.6	6.7	8.5	9.7	9.6	10.4	11.3	3.9	9.3	9.1	8.0	7.4	6.9	3.6	2.4	5.4	6.4
22	3.4	5.4	8.3	7.7	6.4	6.5	7.2	7.4	7.3	7.4	8.5	9.2	10.4	10.4	9.7	9.5	9.8	9.5	8.5	6.3	5.8	6.4	6.2	5.5	7.6
23	4.5	4.4	4.2	4.8	4.4	3.5	5.1	5.7	6.3	6.6	8.5	8.5	9.6	10.4	10.2	8.4	6.7	6.8	5.8	6.6	4.1	1.9	5.4	6.4	6.2
24 Q	6.4	6.4	7.3	6.6	5.6	5.7	6.0	6.7	6.5	7.2	8.3	9.2	9.6	9.5	9.1	7.6	7.7	7.4	7.4	7.3	6.8	6.3	6.4	6.0	7.2
25	7.2	6.6	6.6	6.7	6.8	7.1	7.0	7.0	7.0	7.4	8.5	9.2	10.4	9.6	9.3	8.6	8.4	7.7	5.4	6.3	5.4	6.5	5.9	5.9	7.4
26 Q	6.3	6.5	7.2	6.6	7.4	6.9	6.8	7.0	7.3	7.5	8.2	8.6	9.6	9.3	8.4	7.9	8.4	8.2	7.6	7.4	6.8	6.6	6.4	6.4	7.5
27 D	6.3	7.3	6.4	6.2	6.4	6.4	6.8	6.6	7.2	7.4	8.3	9.6	10.0	9.4	8.3	8.2	8.3	8.9	8.9	8.4	0.4	-2.3	3.4	3.5	6.7
28	4.5	6.4	6.7	6.6	6.4	6.3	6.4	12.4	12.3	10.5	10.7	9.9	9.5	10.0	11.5	9.6	8.2	9.3	7.7	6.9	6.6	6.4	6.3	5.4	8.2
29	5.2	5.4	6.0	7.7	6.4	6.0	6.3	6.5	7.3	7.6	8.3	9.4	9.7	10.3	10.0	9.0	7.8	4.4	7.3	6.3	5.3	5.8	5.8	6.4	7.1
30	5.0	6.6	7.5	7.3	6.0	6.3	6.0	6.0	5.9	6.3	7.5	8.3	9.0	8.6	7.7	7.4	7.2	7.0	7.0	4.0	4.7	6.3	6.3	6.4	6.7
Mean	6.0	6.7	7.0	7.2	7.4	7.4	7.6	7.6	7.5	7.8	8.8	9.7	10.6	10.5	9.7	8.9	8.3	9.0	6.9	6.5	4.6	4.5	5.4	5.7	7.5



TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT.  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

287

311. ESKDALEMUIR. (V.)

44,000  $\gamma$  (=44 C.G.S. unit) +

NOVEMBER, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$
1	885	884	883	883	883	880	880	881	882	883	883	881	884	888	890	891	891	889	888	890	888	888	888	887	885
2	884	883	881	883	883	881	880	880	883	880	880	881	885	886	888	888	888	892	894	891	891	890	888	888	885
3	888	888	884	881	880	880	880	880	883	883	884	884	886	885	889	893	890	889	902	894	892	892	889	885	887
4	882	882	886	885	885	885	885	886	889	889	888	887	889	897	906	910	901	905	904	901	905	899	880	878	892
5	883	886	886	886	886	886	884	886	886	883	883	883	888	893	894	894	894	894	891	892	893	890	882	874	887
6 D	881	881	867	864	872	874	874	879	887	890	887	886	887	893	917	936	929	943	939	919	913	892	883	875	894
7 D	861	842	859	873	880	883	883	882	886	891	893	898	895	895	906	910	924	909	910	903	888	876	880	880	888
8 D	877	846	857	872	876	868	860	874	883	892	898	894	894	901	921	912	911	907	903	903	888	873	881	877	886
9	872	881	887	888	882	884	883	889	892	891	891	893	896	896	899	903	899	898	897	895	893	888	888	889	891
10	889	888	888	888	871	875	881	885	888	888	888	889	894	899	905	899	896	897	896	897	894	893	889	882	890
11 D	879	869	864	869	871	875	880	881	882	888	885	885	892	900	897	901	903	901	908	908	903	887	885	883	887
12	872	879	884	886	889	889	890	891	892	891	890	890	892	895	897	896	896	898	897	894	894	894	893	890	891
13	887	887	890	890	890	890	890	890	891	890	890	890	887	890	892	894	894	896	892	892	892	891	891	891	891
14 Q	890	888	887	887	887	887	887	887	887	884	884	884	885	887	890	891	892	891	891	891	891	892	892	891	888
15 Q	891	888	888	887	885	885	885	886	887	888	888	888	888	889	892	892	892	892	891	891	890	890	889	889	889
16	888	888	888	886	885	885	884	881	883	883	883	884	888	888	891	892	891	891	891	891	892	892	892	889	888
17 Q	886	886	887	887	887	886	886	886	886	885	886	887	890	892	893	893	892	893	893	893	897	897	897	896	890
18	894	894	893	891	890	887	884	885	887	884	881	883	887	889	891	893	891	895	898	895	894	891	891	891	890
19	891	890	887	886	884	883	883	883	884	883	882	885	887	889	890	891	892	893	894	894	898	894	882	881	888
20	880	880	884	886	887	888	888	887	886	882	881	880	883	886	889	891	891	891	891	891	897	902	897	895	888
21	891	882	880	884	888	889	889	888	886	884	883	884	886	890	897	912	901	896	895	895	896	896	896	888	891
22	879	881	886	889	890	890	890	888	887	886	885	886	886	888	890	893	893	894	896	897	895	893	893	891	889
23	888	887	889	891	885	886	887	887	887	887	885	886	886	886	891	893	895	897	898	900	898	891	888	888	890
24 Q	890	890	887	887	888	888	888	888	888	887	887	887	888	891	894	895	894	894	894	895	894	894	891	891	890
25	890	887	888	888	891	891	891	889	888	888	888	888	888	888	892	892	892	892	895	893	893	893	892	890	890
26 Q	888	888	888	888	888	889	889	889	888	888	888	888	889	890	892	892	892	893	893	893	893	894	893	892	890
27 D	892	891	889	885	888	889	889	888	887	888	884	884	885	888	889	889	888	889	897	908	918	897	894	892	891
28	892	892	892	892	890	890	890	888	883	886	889	889	890	894	902	901	901	902	903	901	900	900	900	898	894
29	894	893	890	887	888	889	889	891	889	888	888	889	891	895	897	898	899	903	904	902	901	898	896	894	894
30	891	890	889	890	891	891	891	891	892	892	891	892	892	893	893	893	893	893	893	899	897	895	894	892	892
Mean	885	883	884	885	885	885	885	886	887	887	886	887	889	891	896	898	897	897	898	897	896	892	890	888	890

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS.  
MAGNETIC CHARACTER FIGURES: TEMPERATURE IN MAGNET HOUSE.

312. ESKDALEMUIR.

NOVEMBER, 1933.

Day	Terrestrial Magnetic Elements.															$H_R + V_R$ , \$ 10,000 $\gamma^2$	Magnetic Character of Day. (0-2)	Temperature in Magnet House. 200 +  °A						
	Horizontal Force.						Declination.						Vertical Force.											
	Maximum 16,000 $\gamma$ +			Minimum 16,000 $\gamma$ +			Range	Maximum 14° +			Minimum 14° +			Range	Maximum 44,000 $\gamma$ +				Minimum 44,000 $\gamma$ +			Range		
	h.	m.	$\gamma$	$\gamma$	h.	m.	$\gamma$	h.	m.	$\gamma$	h.	m.	$\gamma$	$\gamma$	h.	m.	$\gamma$	$\gamma$	h.	m.	$\gamma$			
1	20	34	572	531	13	12	41	12	53	14° 7	3° 6	20	43	11° 1	19	50	892	879	5	30	13	122	0	85° 7
2	19	6	567	517	10	43	50	11	18	13° 6	0° 4	19	50	13° 2	18	10	895	877	10	20	18	164	0	85° 7
3	17	42	571	521	18	30	50	12	38	13° 5	-9° 3	18	41	22° 8	18	50	907	880	6	20	27	200	1	85° 5
4	22	44	594	498	14	52	96	13	28	13° 5	-13° 5	20	46	27° 0	14	58	915	874	22	51	41	343	1	85° 5
5	22	54	590	519	21	1	71	11	46	13° 5	2° 2	20	30	11° 3	14	49	897	869	23	12	28	244	1	85° 5
6 D	21	20	599	467	14	38	132	14	11	20° 5	-4° 3	23	55	24° 8	17	46	957	860	2	50	97	650	2	85° 5
7 D	20	37	633	475	16	16	158	1	1	16° 8	-18° 9	20	30	35° 7	16	28	929	839	1	12	90	666	2	85° 4
8 D	20	33	607	466	14	22	141	7	52	21° 6	-4° 3	22	9	25° 9	14	35	928	841	1	36	87	625	2	85° 4
9	20	33	595	511	11	42	84	13	0	12° 5	-4° 8	20	52	17° 3	15	43	905	870	0	15	35	296	1	85° 5
10	23	23	584	515	13	34	69	4	12	17° 6	1° 7	23	18	15° 9	14	38	907	869	4	42	38	286	1	85° 5
11 D	20	56	589	509	12	59	80	12	41	13° 8	1° 5	0	30	12° 3	18	46	908	862	2	4	46	340	1	85° 4
12	0	10	571	538	11	52	33	0	14	11° 7	-0° 9	18	28	12° 6	18	0	898	871	0	40	27	176	0	85° 4
13	22	56	565	536	17	24	29	13	9	9° 7	1° 6	17	39	8° 1	17	36	898	866	1	20	12	102	0	85° 3
14 Q	20	43	575	539	16	29	36	12	43	9° 4	3° 5	20	38	5° 9	16	38	894	883	10	50	11	109	0	85° 2
15 Q	5	20	571	543	11	9	28	13	34	11° 4	5° 8	8	38	5° 6	17	45	893	885	6	0	8	82	0	85° 1
16	7	10	575	544	12	46	31	13	10	12° 5	5° 6	6	26	6° 9	22	26	893	881	7	40	12	100	0	85° 1
17 Q	1	41	568	548	20	50	20	18	49	10° 4	4° 3	2	0	6° 1	20	50	898	882	9	50	16	105	0	85° 1
18	12	50	574	541	14	19	33	12	55	10° 5	3° 0	1	4	7° 5	18	12	899	881	10	48	18	136	0	85° 1
19	22	3	588	537	23	48	51	12	14	10° 8	-6° 6	24	0	17° 4	20	3	898	879	23	32	19	170	1	85° 1
20	22	43	570	523	21	51	47	13	12	9° 9	-6° 6	0	1	16° 5	21	40	903	879	0	30	24	186	1	85° 1
21	1	12	601	496	15	24	105	14	11	12° 4	-6° 5	1	10	18° 9	15	30	918	876	24	0	42	363	1	85° 1
22	14	49	573	549	11	51	24	12	44	11° 3	-0° 5	0	21	11° 8	19	4	900	875	0	6	25	148	0	84° 9
23	21	5	585	537	19	10	48	13	27	11° 4	-2° 7	21	0	14° 1	19	18	902	883	4	40	19	165	0	84° 8
24 Q	5	54	569	549	15	48	20	12	44	10° 4	4° 4	5	59	6° 0	15	50	896	886	9	50	10	78	0	84° 7
25	22	46	578	550	18	32	28	12	37	11° 3	3° 3	18	42	8° 0	18	50	896	885	1	8	11	91	0	84° 7
26 Q	16	5	565	554	23	19	11	12	35	10° 4	5° 3	0	1	5° 1	21	32	894	887	10	0	7	49	0	84° 6
27 D	20	43	609	504	20	10	105	19	17	12° 3	-9° 7	21	15	22° 0	20	29	931	882	11	23	49	394	1	84° 6
28	6	20	563	525	14	30	38	7	58	14° 2	1° 4	0	1	12° 8	18	19	905	883	8	33	22	162	0	84° 5
29	23	37	562	527	17	18	35	13	11	10° 5	2° 4	17	30	8° 1	18	20	906	887	10	22	19	143	0	84° 5
30	17	37	561	534	19	54	27	11	10	9° 4	1° 3	20	6	8° 1	20	19	899	888	2	25	11	90	0	84° 5
Mean	--	--	581	523	--	--	57	--	--	12° 7	-1° 2	--	--	14° 0	--	--	905	876	--	--	29	226	0.53	85° 1
No. of Days Used	--	--	30	30	--	--	30	--	--	30	30	--	--	30	--	--	30	30	--	--	30	30	30	30



TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT.  
Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

313. ESKDALEMUIR. (H.)

16,000  $\gamma$  ( $\cdot 16$  C.G.S. unit) +

DECEMBER, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1 Q	551	554	552	552	556	556	556	556	555	555	556	552	554	556	556	555	549	555	555	556	558	556	555	555	555
2	554	554	558	559	561	569	565	564	560	555	548	549	548	560	560	560	560	554	546	550	550	568	553	546	556
3 D	555	555	556	561	565	569	569	568	562	550	546	534	515	536	547	550	556	558	542	522	542	537	528	545	549
4 D	546	551	552	551	560	564	552	564	550	541	539	506	507	537	532	546	537	546	533	526	542	551	547	550	543
5 D	551	551	553	554	559	572	564	564	534	526	532	531	536	540	504	541	530	504	528	549	549	554	549	540	542
6	546	544	555	552	545	553	553	551	541	545	547	548	537	551	553	540	551	550	550	553	553	542	548	549	548
7	551	548	550	552	554	558	557	548	555	553	549	548	544	512	552	557	557	556	542	527	545	545	552	545	548
8	544	543	544	545	548	549	549	548	548	545	547	549	552	549	549	549	553	551	550	558	550	549	553	550	549
9 D	549	548	550	552	554	558	562	559	556	553	551	547	553	560	532	501	492	504	498	494	490	503	527	531	534
10 D	540	530	536	540	548	548	556	553	554	554	547	537	545	552	549	535	517	498	512	526	523	535	548	545	539
11	538	538	538	542	543	550	547	547	550	548	547	544	544	547	546	548	548	549	557	544	546	544	551	540	546
12	543	546	547	550	554	552	554	551	549	548	547	551	556	557	557	554	548	547	556	558	557	550	551	552	551
13	551	553	557	553	558	562	563	565	561	557	556	553	555	556	550	551	552	560	557	557	557	555	549	550	556
14 Q	550	548	552	555	556	559	560	560	560	550	548	554	560	561	559	556	556	556	556	555	552	555	556	556	555
15 Q	556	556	558	560	565	565	566	569	565	560	558	553	561	561	563	560	557	562	564	559	555	552	559	560	560
16	560	561	565	561	565	569	570	570	569	565	566	564	560	562	564	568	569	565	553	543	550	550	555	551	561
17	551	554	553	556	557	561	560	560	563	560	560	560	559	550	564	564	563	561	560	556	554	555	546	550	557
18	550	552	555	555	555	563	555	559	560	553	556	559	564	560	561	566	565	563	555	546	556	545	551	545	556
19	549	552	559	559	559	559	556	555	553	561	554	549	554	555	552	549	559	559	556	557	552	553	555	552	555
20	548	548	550	554	559	559	559	559	555	555	549	553	555	555	557	560	560	563	560	560	554	555	555	551	556
21	558	554	554	555	559	560	560	559	555	558	560	563	564	567	564	564	564	561	555	552	554	555	559	557	559
22	555	559	556	556	560	564	564	566	563	558	554	553	559	563	557	565	564	559	559	560	556	555	555	554	559
23	555	555	555	555	559	559	560	559	556	553	550	553	556	560	563	560	550	555	556	555	550	557	559	556	556
24 Q	554	554	554	554	555	557	558	558	558	558	558	554	554	558	562	562	557	558	562	561	561	562	562	559	558
25	559	558	558	558	560	566	565	569	568	565	558	554	558	563	567	568	558	554	553	558	559	565	571	564	561
26	559	558	559	559	563	569	571	566	559	559	559	557	558	563	564	562	559	562	562	555	553	554	558	554	560
27	558	560	557	559	562	562	558	559	559	556	556	554	554	560	566	564	550	543	541	544	554	555	554	554	556
28	558	555	554	556	558	559	559	562	558	556	555	559	559	559	563	559	562	559	561	561	556	551	542	575	558
29	539	544	584	547	548	554	558	558	555	554	553	554	554	559	562	562	555	554	554	554	553	554	554	554	555
30 Q	554	555	554	554	558	559	562	561	558	555	558	558	562	563	559	562	562	562	563	563	563	562	559	559	559
31	558	557	561	565	568	571	573	572	567	562	558	559	563	566	562	565	558	558	553	557	558	559	562	561	562
Mean	551	551	554	554	557	560	560	560	557	554	552	550	552	555	555	555	552	551	550	549	550	551	552	552	554

560 at 0-lh. Jan. 1st. 1934.

## MAGNETIC DECLINATION (WEST).

Mean values for periods of sixty minutes ending at the hours of Greenwich Mean Time.

314. ESKDALEMUIR. (D.)

14° +

DECEMBER, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Day	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
1 Q	6.5	7.5	6.8	7.4	6.7	6.7	6.4	6.4	6.3	7.1	8.4	9.4	9.3	8.7	7.7	7.5	6.7	7.4	7.4	6.7	6.3	6.3	6.4	6.5	7.2
2	6.7	7.2	7.8	8.4	6.5	5.8	7.2	7.3	7.2	7.4	8.3	8.7	8.6	8.7	7.8	8.0	7.7	8.3	7.0	6.6	5.5	3.6	2.4	5.5	7.0
3 D	9.3	7.6	7.5	7.7	7.6	7.5	7.3	6.8	7.6	8.5	9.6	10.6	13.6	14.7	13.1	11.4	9.4	7.6	7.5	-3.5	4.5	-4.4	0.3	5.7	7.4
4 D	6.9	7.1	7.3	8.2	9.5	11.4	15.5	13.7	9.6	7.3	9.5	10.7	13.5	11.4	10.5	5.3	7.8	0.5	2.6	4.6	4.5	4.4	6.4	6.5	8.1
5 D	6.7	6.6	7.5	7.8	11.6	9.6	9.3	10.5	10.4	8.7	10.3	9.6	10.4	10.5	-0.5	4.5	7.5	0.4	7.3	4.9	0.5	-0.3	-0.5	3.5	8.5
6	3.6	6.8	5.7	4.6	7.4	6.7	6.7	7.4	7.3	6.8	7.7	9.5	8.7	9.5	7.8	5.5	6.8	7.4	6.9	5.8	5.6	2.5	3.5	5.4	6.5
7	6.6	9.3	7.6	6.6	6.5	7.0	7.5	7.7	7.5	7.5	8.5	8.5	9.5	6.4	8.1	7.1	6.7	6.5	5.7	-1.5	6.5	5.3	2.5	4.6	6.6
8	5.4	6.4	7.4	6.7	6.5	6.5	6.5	6.3	6.1	6.6	7.7	8.5	8.7	9.3	7.9	6.6	7.4	6.6	6.3	5.1	5.4	5.7	4.8	5.4	6.7
9 D	6.3	6.5	6.6	6.7	7.1	6.7	6.4	6.5	6.1	6.5	8.3	9.1	10.4	10.5	10.4	8.8	7.5	4.6	4.6	-4.3	-6.7	-4.5	-7.5	1.4	4.9
10 D	2.6	6.3	6.8	7.4	7.6	7.4	7.6	7.3	7.5	8.2	9.4	9.6	9.4	9.0	8.6	8.6	8.6	4.6	2.0	-0.4	1.6	2.7	5.5	1.6	6.2
11	5.2	5.2	6.5	7.5	7.4	7.4	6.6	6.2	5.5	5.9	7.5	7.7	8.4	8.7	7.9	6.8	8.5	8.4	3.6	7.4	5.6	5.2	3.1	5.1	6.5
12	5.6	6.6	7.5	7.4	6.9	6.8	6.6	6.6	6.6	6.8	7.7	8.8	9.0	9.2	8.4	8.3	9.5	9.6	7.7	6.9	6.1	5.2	5.7	5.6	7.3
13	5.6	8.2	7.0	7.4	6.6	6.5	6.6	6.6	6.6	7.2	8.5	9.6	9.7	9.6	8.7	8.6	6.8	7.6	7.5	5.9	6.2	5.6	5.5	5.6	7.2
14 Q	5.6	6.6	6.7	6.6	6.6	6.6	6.6	6.6	6.7	6.9	8.6	9.6	9.5	9.2	8.1	7.4	6.8	6.6	6.6	6.6	5.6	5.6	6.2	6.5	7.0
15 Q	6.6	6.8	7.4	7.4	6.9	6.8	6.6	6.6	6.7	7.2	8.2	8.8	9.6	9.7	9.0	8.6	7.5	6.6	6.6	6.6	6.2	4.1	5.2	6.5	6.9
16	7.4	7.5	7.2	7.5	7.6	7.5	6.9	6.7	6.7	6.6	7.4	7.7	9.4	8.9	8.5	8.2	7.9	8.7	8.5	9.5	6.7	5.6	4.2	5.5	7.4
17	6.5	6.7	7.4	7.4	6.8	6.8	6.5	6.2	6.6	7.4	8.6	8.7	10.6	8.6	7.6	7.6	7.5	7.7	8.0	7.6	6.5	2.5	3.6	4.5	7.0
18	5.2	4.4	0.9	0.4	3.7	3.6	5.8	6.4	6.5	7.6	7.9	8.4	8.6	8.5	7.8	7.4	7.5	7.3	8.2	2.7	7.6	4.6	-3.4	3.7	5.5
19	4.6	6.8	10.8	5.6	6.6	6.1	6.6	6.9	7.6	7.2	7.4	7.9	7.9	8.8	9.8	6.9	7.6	7.5	6.6	6.6	3.8	4.9	4.9	3.5	6.8
20	4.7	5.2	5.9	5.8	6.5	6.6	6.5	5.9	5.8	6.7	7.6	8.5	9.5	9.6	7.9	6.6	5.6	6.5	6.5	6.5	4.6	1.7	4.6	4.8	6.3
21	5.6	9.9	5.6	5.4	5.4	5.6	6.4	6.3	5.8	6.6	7.5	7.9	8.0	7.9	8.0	6.6	6.6	7.1	6.5	3.4	6.4	5.6	5.4	5.6	6.3
22	6.3	6.9	6.6	5.8	7.3	6.8	5.8	5.8	5.8	6.5	6.8	7.8	8.9	9.6	8.8	7.2	8.6	8.6	7.0	6.6	5.9	2.6	-0.9	3.8	6.5
23	6.2	6.8	6.8	6.5	6.6	6.4	6.3	6.0	5.7	5.8	7.6	8.0	9.0	8.6	7.8	7.4	6.9	7.7	7.6	6.7	6.4	5.4	4.5	5.9	6.8
24 Q	6.4	5.8	6.0	6.0	6.2	6.0	6.0	6.2	6.4	6.5	6.6	7.4	8.3	8.5	7.8	7.4	7.4	7.4	7.3	7.2	6.2	5.1	5.1	5.4	6.6
25	6.3	6.8	6.5	5.8	6.3	6.2	6.3	5.8	6.2	7.3	8.2	8.7	9.6	9.7	8.6	7.9	8.4	8.5	5.9	5.9	6.1	5.0	3.1	3.5	6.8
26	5.9	6.6	7.8	7.0	6.4	5.8	6.0	6.0	6.7	7.2	7.6	8.4	9.4	9.1	7.6	6.8	6.6	6.6	6.0	5.5	3.9	3.5	5.2	5.7	6.6
27	7.0	7.6	5.8	5.5	5.9	6.3	6.1	5.7	5.4	6.2	6.7	7.6	8.7	8.6	7.8	7.5	7.2	7.0	8.5	8.5	6.5	5.5	5.3	5.5	6.8
28	5.6	5.6	5.6	5.9	6.4	6.3	5.9	5.7	5.2	5.4	5.9	7.1	8.1	8.1	7.4	7.8	7.2	7.4	7.0	5.9	4.3	3.2	3.2	-7.6	5.5
29	-0.4	3.3	2.5	-0.3	3.7	5.3	5.3	5.3	4.8	5.1	6.1	6.2	7.1	7.1	6.6	6.8	6.9	7.0	6.7	4.3	5.0	5.0	5.1	5.2	5.0
30 Q	6.1	6.3	6.1	6.2	6.1	5.8	5.6	5.3	5.2	5.7	6.9	7.1	8.1	8.1	7.1	6.4	6.9	7.0	6.4	6.3	6.1	5.0	4.9	5.9	6.3
31	6.3	6.4	7.2	7.2	7.1	7.0	6.4	6.2	5.8	6.3	7.2	7.5	8.7	8.5	7.6	7.2	7.6	7.3	7.5	6.6	6.0	5.8	5.5	6.2	6.9
Mean	5.8	6.6	6.6	6.3	6.8	6.7	6.8	6.7	6.6	6.9	7.9	8.5	9.3	9.1	8.1	7.4	7.5	6.8	6.6	5.1	4.9	3.8	3.6	4.6	6.6



315. ESKDALEUIR. (V.)

44,000  $\gamma$  ( $\pm 44$  C.G.S. unit) +

DECEMBER, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean		
Day	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
1 Q	894	891	889	890	890	890	891	890	888	887	885	887	888	889	892	893	896	894	893	893	893	893	892	892	891	891	
2	891	892	890	888	888	888	886	886	886	888	889	891	891	892	892	891	891	893	897	897	897	894	889	890	891	891	
3 D	886	888	890	890	889	888	887	887	887	889	890	893	902	902	904	903	902	899	902	920	906	906	903	896	896	896	
4 D	895	894	894	891	883	878	873	868	879	886	887	894	902	904	914	918	914	915	917	922	915	900	899	897	897	897	
5 D	895	895	893	885	878	877	879	881	888	892	892	895	895	900	927	922	913	934	921	908	902	898	894	892	898	898	
6	889	883	877	882	885	886	888	889	892	894	892	890	893	896	898	901	901	901	901	901	898	901	899	895	893	893	
7	893	887	886	890	893	893	893	893	890	890	887	890	891	905	901	900	899	899	902	914	902	901	898	896	896	896	
8	896	896	894	895	897	898	898	897	897	895	894	894	894	897	898	902	901	901	902	899	899	899	896	896	897	897	
9 D	896	896	896	896	896	896	895	895	895	893	892	892	892	892	903	929	970	965	974	958	935	904	877	884	892	892	
10 D	879	889	897	900	900	900	900	900	897	897	897	897	897	897	900	904	917	938	945	937	922	899	869	883	903	903	
11	895	901	901	898	901	901	902	902	902	901	898	898	898	900	905	909	906	906	909	908	910	911	910	907	903	903	
12	906	903	902	901	901	901	900	900	899	898	896	895	895	898	901	902	902	903	903	902	902	904	902	903	901	901	
13	900	896	893	896	896	896	896	896	896	896	895	893	893	896	903	904	904	903	903	903	903	903	904	904	898	898	
14 Q	904	903	901	900	899	898	898	897	897	899	897	897	898	900	900	902	901	901	901	901	903	903	901	900	900	900	
15 Q	899	898	897	897	896	896	894	894	894	894	893	894	894	896	897	900	900	899	897	898	900	900	898	897	897	897	
16	897	897	894	894	893	893	893	893	893	893	893	893	893	894	897	897	897	897	901	904	908	906	904	904	897	897	
17	901	901	899	898	898	897	895	895	894	893	892	894	895	901	901	902	901	901	899	900	902	906	906	905	899	899	
18	905	904	896	894	892	892	892	895	895	895	894	893	895	897	899	899	899	899	899	909	899	906	911	903	898	898	
19	899	889	884	886	887	889	892	892	889	888	891	889	891	894	899	903	900	899	899	899	901	899	899	899	894	894	
20	899	899	899	900	900	900	899	897	897	896	896	893	893	895	900	901	903	901	900	900	901	904	900	900	899	899	
21	899	899	899	900	899	898	898	897	897	894	894	890	891	894	897	898	898	898	900	904	900	898	898	898	897	897	
22	898	897	897	897	895	894	894	894	894	894	894	894	893	895	900	900	899	901	901	900	900	901	900	897	897	897	
23	894	894	896	897	897	897	897	897	897	897	897	895	892	894	897	898	901	901	901	902	905	904	901	898	898	898	
24 Q	897	897	897	896	896	897	898	898	897	898	899	899	897	895	896	897	898	898	898	898	898	898	897	895	897	897	
25	894	894	894	894	894	893	893	892	891	891	895	895	895	895	897	896	897	897	902	902	900	898	893	890	895	895	
26	890	891	891	891	891	891	891	892	892	894	894	895	894	891	891	892	893	895	899	902	904	906	903	903	902	896	896
27	894	890	892	892	892	892	892	894	894	894	895	894	892	892	893	893	893	893	893	896	897	900	905	897	895	895	
28	899	896	896	895	894	893	893	893	895	893	893	892	892	893	893	893	893	893	893	896	897	900	905	897	895	895	
29	889	886	877	883	887	890	890	892	893	892	895	895	893	895	897	897	897	897	897	897	897	897	897	897	893	893	
30 Q	897	896	896	894	893	893	893	893	893	893	894	894	891	894	898	898	897	895	894	894	894	894	897	897	897	895	895
31	895	894	893	892	891	890	890	890	893	894	894	893	891	893	897	896	894	894	895	896	897	897	897	895	894	894	
Mean	896	895	894	894	893	893	893	893	893	893	893	893	894	896	900	901	903	904	905	905	903	901	898	897	897	897	

894 at 0-lh. Jan. 1st. 1934.

DAILY EXTREMES OF TERRESTRIAL MAGNETIC ELEMENTS:  
MAGNETIC CHARACTER FIGURES: TEMPERATURE IN MAGNET HOUSE.

316. ESKDALEUIR.

DECEMBER, 1933.

Day	Terrestrial Magnetic Elements.															$\frac{HR_H + VR_V}{10,000 \gamma^2}$	Magnetic Character of Day. (0-2)	Temperature in Magnet House. 200 + °A	
	Horizontal Force.						Declination.			Vertical Force.									
	Maximum 16,000 $\gamma$ +		Minimum 16,000 $\gamma$ +		Range	Maximum 14° +		Minimum 14° +		Range	Maximum 44,000 $\gamma$ +		Minimum 44,000 $\gamma$ +		Range				
	h. m.	$\gamma$	$\gamma$	h. m.	$\gamma$		h. m.	$\gamma$	h. m.	$\gamma$		h. m.	$\gamma$	$\gamma$	h. m.	$\gamma$			
1 Q	10 53	561	546	16 32	15	11 43	10° 2	5° 5	8 30	4° 7	16 40	896	885	10 55	11	74	0	84° 5	
2	21 49	600	541	18 15	59	3 12	10° 4	0° 4	22 12	10° 0	18 35	898	886	22 0	12	152	0	84° 5	
3 D	5 47	573	504	19 16	69	13 12	15° 6	-8° 6	19 28	24° 2	19 34	924	886	0 51	38	281	1	84° 5	
4 D	5 53	578	468	11 56	110	6 50	17° 6	-2° 4	17 40	20° 0	19 38	925	865	7 4	60	448	1	84° 4	
5 D	5 37	581	472	17 16	109	4 44	15° 1	-6° 4	17 29	21° 5	17 34	939	876	4 48	63	459	1	84° 3	
6	1 54	564	531	12 22	33	11 52	10° 5	-1° 5	21 54	12° 0	15 39	906	874	2 18	32	190	1	84° 3	
7	5 48	562	488	13 18	74	12 58	10° 6	-8° 5	19 22	19° 1	19 20	918	884	2 10	34	271	1	84° 3	
8	20 9	566	541	15 2	25	13 20	9° 6	3° 6	19 8	6° 0	15 23	902	893	11 42	9	81	0	84° 3	
9 D	13 39	568	456	21 6	112	15 22	13° 0	-16° 9	22 16	29° 9	18 33	985	870	22 30	115	707	2	84° 3	
10 D	22 8	598	488	17 39	110	22 19	12° 7	-7° 4	19 28	20° 1	18 32	949	867	22 46	82	556	2	84° 3	
11	18 33	565	530	1 8	35	13 23	9° 5	0° 5	22 38	9° 0	21 30	912	890	0 1	22	157	0	84° 3	
12	19 12	570	542	0 54	28	17 46	10° 2	4° 5	0 1	5° 7	0 1	906	895	12 0	11	95	0	84° 2	
13	5 48	566	542	16 28	24	1 52	10° 7	4° 5	20 31	6° 2	16 34	907	892	12 18	15	107	0	84° 2	
14 Q	13 3	574	542	9 48	32	13 2	11° 4	3° 4	20 49	8° 0	20 50	904	897	10 55	7	84	0	84° 1	
15 Q	7 21	569	550	11 10	19	13 55	9° 8	2° 8	20 20	7° 0	20 40	901	892	10 30	9	72	0	84° 0	
16	7 0	574	537	19 41	37	19 32	10° 7	3° 5	22 59	7° 2	20 0	909	892	6 0	17	137	0	83° 9	
17	11 47	569	537	13 18	32	12 1	11° 6	1° 4	21 10	10° 2	21 18	909	891	9 11	18	134	0	83° 7	
18	1 59	572	527	18 59	45	18 42	9° 7	-11° 5	22 21	21° 2	22 20	914	891	5 29	23	178	1	83° 7	
19	7 0	569	537	15 22	32	2 8	14° 7	2° 1	23 59	12° 6	15 30	905	881	2 33	24	161	1	83° 7	
20	15 52	564	544	21 15	20	13 54	10° 5	-0° 1	21 7	10° 6	21 12	906	892	12 22	14	96	0	83° 7	
21	12 42	569	541	18 54	28	14 0	8° 8	-0° 1	19 11	8° 9	19 22	905	890	12 0	15	113	0	83° 7	
22	15 44	573	546	9 59	27	13 43	9° 9	-2° 7	22 5	12° 6	21 36	902	893	12 35	9	85	0	83° 7	
23	13 55	568	545	17 14	23	13 14	9° 4	3° 6	22 16	5° 8	20 12	905	891	12 23	14	101	0	83° 7	
24 Q	21 59	567	553	12 55	14	13 33	8° 8	3° 5	21 57	5° 3	20 38	899	895	13 40	4	41	0	83° 7	
25	22 46	580	549	18 24	31	13 15	9° 8	2° 2	23 7	7° 6	18 50	904	890	9 30	14	114	0	83° 7	
26	6 9	572	544	20 50	28	12 43	9° 7	1° 2	20 58	8° 5	21 3	903	889	0 30	14	104	0	83° 7	
27	14 35	568	536	19 0	32	18 54	10° 2	4° 8	8 30	5° 4	20 22	907	889	1 20	18	138	0	83° 6	
28	23 23	590	535	22 21	55	12 54	9° 0	-13° 6	23 50	22° 6	22 23	907	892	12 30	15	158	1	83° 7	
29	2 28	594	535	0 19	59	13 20	7° 3	-6° 1	0 1	13° 4	19 50	899	874	2 50	25	210	0	83° 5	
30 Q	13 50	568	553	0 8	15	13 12	8° 4	3° 9	22 40	4° 5	0 1	897	890	12 10	7	61	0	83° 4	
31	6 15	575	552	18 18	23	12 27	9° 0	5° 4	21 40	3° 6	14 40	898	890	6 18	8	74	0	83° 3	
Mean	-- --	573	529	-- --	44	-- --	10° 8	-0° 9	-- --	11° 7	-- --	911	887	-- --	24	182	0.39	84° 0	
No. of Days Used	-- --	31	31	-- --	31	-- --	31	31	-- --	31	-- --	31	31	-- --	31	31	31	31	



Departures from mean of the day adjusted for non-cyclic change †.

MONTH AND SEASON.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
317. ESKDALEMUIR. NORTH COMPONENT (ALL DAYS) 1933.																								
January	-0.4	-0.9	+1.0	+0.5	+3.0	+7.2	+10.1	+7.1	+1.8	-2.9	-6.7	-7.8	-8.2	-4.9	-2.7	-3.0	-2.8	-2.3	-0.4	+2.1	+3.9	+4.9	+1.2	+0.2
February	+2.2	-0.4	-1.7	+2.4	+4.9	+5.6	+6.2	+3.9	+1.2	-1.8	-8.5	-12.5	-10.8	-7.8	-6.4	-4.6	-1.0	-0.6	+3.5	+4.5	+2.8	+2.0	+7.5	+2.6
March	+3.9	+3.0	+2.0	+2.3	+5.0	+6.9	+6.1	+4.8	-1.0	-10.1	-18.8	-21.1	-18.4	-11.4	-7.3	-0.8	+1.6	+3.4	+6.0	+8.2	+7.8	+8.8	+12.1	+6.8
April	+8.0	+5.0	+4.5	+4.2	+4.0	+3.4	+4.0	-0.1	-7.8	-16.3	-25.0	-28.3	-24.8	-18.3	-9.7	+0.4	+8.4	+12.6	+14.3	+14.5	+14.7	+8.2	+12.6	+11.3
May	+2.2	+4.1	+3.7	+2.8	+3.1	+1.4	-0.8	-5.7	-12.9	-19.5	-24.1	-23.7	-19.7	-14.7	-5.1	+6.0	+14.8	+19.0	+20.0	+16.4	+10.1	+7.5	+8.7	+6.7
June	+5.8	+5.7	+4.1	+6.1	+5.2	+3.3	-1.5	-7.4	-14.3	-19.6	-23.5	-23.6	-19.8	-10.8	-5.1	+4.9	+11.4	+12.5	+17.0	+13.7	+11.7	+9.4	+7.1	+7.9
July	+6.5	+5.0	+3.8	+4.2	+6.4	+6.5	+2.1	-4.9	-11.5	-19.8	-24.0	-25.0	-23.9	-14.8	-7.5	+0.8	+7.4	+12.5	+15.2	+16.0	+13.5	+10.6	+10.8	+9.9
August	+8.9	+5.8	+4.3	+5.2	+6.4	+5.1	-1.3	-6.7	-15.0	-21.2	-24.0	-26.0	-21.0	-12.0	-5.0	+1.4	+9.4	+11.7	+14.8	+16.6	+12.8	+11.2	+10.9	+8.2
September	+9.8	+9.2	+5.4	+5.7	+6.4	+7.3	+4.4	-5.3	-14.5	-22.0	-24.2	+24.3	-16.9	-11.1	-4.6	-0.6	+2.3	+5.8	+7.9	+13.4	+10.9	+12.7	+11.9	+11.0
October	+3.5	+1.2	+5.2	+3.3	+8.3	+7.6	+5.0	+1.7	-4.7	-12.7	-19.1	-21.4	-15.4	-8.9	-4.5	-3.3	-1.5	+2.8	+5.7	+8.2	+5.3	+11.8	+9.8	+8.9
November	+1.9	+2.2	+1.4	+1.8	+4.3	+5.7	+6.8	+3.4	+0.7	-4.9	-7.0	-7.6	-6.7	-5.9	-6.4	-4.6	+0.2	-2.2	-0.7	+0.7	+5.5	+4.0	+2.5	+4.2
December	-1.1	-1.8	+0.9	+1.1	+3.3	+5.8	+6.0	+6.1	+2.9	0.0	-2.8	-5.4	-5.0	-1.6	-0.6	+0.4	-2.4	-2.4	-3.5	-2.8	-1.5	+0.9	+2.3	+0.8
Year	+4.3	+3.1	+2.9	+3.3	+5.0	+5.6	+3.9	-0.3	-6.3	-12.5	-17.3	-18.9	-15.9	-10.2	-5.5	-0.2	+4.0	+6.0	+8.3	+9.3	+8.2	+8.3	+8.1	+6.5
Winter	-0.6	-0.3	+0.3	+1.5	+3.9	+6.6	+7.3	+5.0	+1.7	-2.3	-6.2	-8.4	-7.8	-5.1	-4.1	-3.0	-1.4	-1.9	-0.3	+1.1	+2.7	+4.7	+3.4	+1.9
Equinox	+6.4	+4.6	+4.3	+3.9	+6.0	+6.2	+4.9	+0.3	-7.1	-15.3	-22.0	-23.8	-18.9	-12.4	-6.6	-1.0	+2.6	+6.1	+8.4	+11.1	+10.4	+10.4	+11.6	+9.5
Summer	+5.9	+5.1	+4.0	+4.6	+5.2	+4.0	-0.4	-6.2	-13.5	-20.0	-23.9	-24.6	-21.1	-13.2	-5.6	+3.3	+10.8	+13.9	+16.6	+15.7	+12.1	+9.7	+9.4	+8.2
318. ESKDALEMUIR. WEST COMPONENT (ALL DAYS) 1933.																								
January	-9.3	-2.8	-0.9	-1.8	0.0	+1.9	+1.7	+0.6	-1.9	-1.7	+2.4	+7.0	+13.6	+14.8	+11.2	+8.0	+6.1	+2.9	-0.3	+5.8	+8.7	+9.4	+14.4	-13.5
February	-8.8	-8.4	-3.9	-1.7	-3.5	-3.7	-1.7	-0.5	-0.1	-0.5	+3.7	+9.6	+14.8	+17.1	+15.0	+8.0	+3.6	+3.2	-6.8	-5.7	-4.6	-7.3	-8.3	-9.8
March	-8.8	-3.4	-6.8	-5.8	-6.1	-3.7	-3.6	-6.1	-11.4	-11.0	-4.1	+8.7	+18.5	+25.3	+25.1	+19.1	+9.7	+1.7	-2.1	-3.8	-4.9	-10.3	-8.5	-7.5
April	-9.3	-6.6	-7.1	-9.6	-9.4	-7.1	-9.2	-12.3	-15.9	-13.2	-4.4	+8.4	+23.6	+31.2	+28.5	+23.1	+17.7	+12.3	+4.6	-3.9	-8.0	-11.4	-8.8	-13.1
May	-5.8	-3.6	-8.1	-9.0	-11.3	-18.4	-22.8	-24.4	-21.7	-14.9	-1.5	+10.0	+20.7	+24.7	+24.8	+23.7	+22.1	+18.9	+9.2	+2.5	-2.3	-3.0	-6.0	-4.0
June	-5.8	-6.9	-10.0	-11.4	-16.6	-19.2	-23.4	-23.7	-23.2	-18.9	-5.1	+6.6	+17.8	+25.6	+28.3	+25.4	+21.1	+16.9	+12.6	+8.6	+5.3	+2.3	-3.4	-4.9
July	-3.1	-4.2	-7.1	-9.7	-15.2	-20.4	-23.8	-23.5	-22.0	-17.5	-5.8	+6.9	+17.9	+24.8	+26.1	+21.3	+17.1	+14.1	+10.5	+6.1	+4.5	+4.0	+0.2	-0.8
August	-4.4	-5.2	-4.8	-8.9	-12.3	-17.0	-18.2	-18.5	-17.1	-10.1	+1.5	+13.9	+23.3	+26.9	+24.9	+19.1	+13.3	+8.5	+2.2	-3.6	-1.7	-2.1	-4.1	-5.4
September	-4.7	-5.2	-7.6	-9.4	-7.5	-6.6	-10.3	-13.6	-13.8	-7.6	+4.6	+16.2	+25.0	+26.0	+20.2	+12.5	+5.2	+1.4	+1.1	-3.1	-4.2	-6.4	-6.9	-6.4
October	-6.4	-5.2	-4.4	-3.5	-2.4	-2.6	-1.1	-3.6	-8.7	-9.7	-0.8	+9.8	+18.0	+20.1	+18.0	+10.5	+5.0	-0.1	-0.6	-2.5	-5.5	-7.7	-6.2	-10.4
November	-7.0	-3.8	-2.4	-1.0	+0.5	+1.2	+2.0	+2.1	+0.1	+0.1	+4.4	+9.1	+13.4	+13.4	+9.3	+5.8	+3.8	+1.7	-3.2	-4.8	-13.1	-14.0	-9.9	-7.8
December	-4.5	-0.8	+0.2	-1.2	+1.6	+2.0	+2.6	+2.2	+0.5	+1.2	+5.6	+8.0	+12.0	+12.0	+7.1	+3.8	+3.7	+0.4	-1.2	-8.5	-8.7	-13.6	-14.5	-9.8
Year	-6.5	-4.7	-5.2	-6.1	-6.6	-7.7	-9.0	-10.1	-11.3	-8.4	+0.1	+9.6	+18.2	+21.8	+19.8	+15.1	+10.7	+6.8	+2.1	-2.0	-4.3	-6.6	-7.5	-7.8
Winter	-7.4	-3.9	-1.8	-1.4	-0.4	+0.4	+1.1	+1.1	-0.3	-0.2	+4.1	+8.4	+13.5	+14.4	+10.7	+6.5	+4.2	+2.1	-2.8	-6.2	-8.8	-11.0	-11.8	-10.1
Equinox	-7.3	-5.1	-6.5	-7.1	-6.4	-4.8	-6.1	-8.9	-12.4	-10.4	-1.2	+10.8	+21.5	+25.7	+22.9	+16.3	+9.4	+3.8	+0.7	-3.4	-5.7	-9.0	-7.6	-9.3
Summer	-4.8	-5.0	-7.5	-9.8	-13.9	-18.8	-22.0	-22.5	-21.0	-14.9	-2.8	+9.4	+20.0	+25.5	+26.0	+22.3	+18.4	+14.6	+8.6	+3.3	+1.6	+0.3	-3.4	-3.8
319. ESKDALEMUIR. VERTICAL COMPONENT (ALL DAYS) 1933.																								
January	-1.6	-4.7	-6.4	-5.1	-4.8	-5.6	-5.6	-4.5	-3.1	-2.7	-2.1	-1.9	+0.5	+3.6	+5.4	+7.2	+7.9	+7.9	+7.1	+5.1	+2.7	+1.9	+1.9	+0.9
February	-7.0	-6.5	-7.1	-8.3	-7.2	-5.4	-4.3	-3.4	-3.2	-2.6	-2.5	-2.2	-1.6	+1.0	+5.8	+11.0	+12.7	+10.3	+10.2	+8.3	+6.1	+2.9	-2.1	-4.9
March	-5.4	-9.1	-8.9	-9.2	-7.8	-7.8	-6.0	-3.1	-1.0	-1.0	-3.0	-5.6	-6.3	-3.6	+2.2	+9.3	+14.2	+15.5	+13.6	+10.5	+8.0	+5.5	+1.8	-2.8
April	-8.8	-9.6	-8.1	-5.3	-4.0	-4.1	-3.0	-1.9	-2.3	-3.7	-6.1	-8.9	-9.1	-4.6	+1.6	+6.8	+11.4	+14.2	+14.8	+15.0	+12.4	+8.3	+0.1	-5.1
May	-10.1	-10.1	-8.1	-5.0	-4.3	-3.1	-2.2	-2.2	-4.4	-7.4	-10.2	-11.8	-10.4	-3.8	+2.5	+10.2	+16.2	+18.9	+21.4	+16.8	+10.1	+0.9	-0.1	-3.8
June	-4.6	-6.4	-6.7	-7.2	-3.8	-1.6	-1.5	-1.4	-2.4	-4.7	-7.6	-9.7	-8.0	-4.2	+0.3	+5.7	+10.6	+12.2	+11.7	+11.8	+8.9	+6.3	+2.7	-0.4
July	-3.4	-4.9	-3.6	-2.9	+0.4	+0.4	+0.7	+0.6	-0.8	-2.7	-5.6	-10.2	-10.0	-7.1	-2.4	+2.6	+8.1	+10.1	+10.3	+9.9	+7.8	+5.0	+1.5	-1.5
August	-3.7	-3.4	-4.8	-4.5	-1.2	+0.4	+0.6	-0.2	-2.9	-6.8	-10.1	-11.3	-10.5	-5.5	+1.5	+6.5	+10.0	+12.0	+13.3	+11.4	+6.4	+4.0	+0.5	-1.7
September	-5.6	-7.2	-8.2	-7.5	-7.4	-7.6	-5.4	-3.4	-2.8	-3.0	-3.8	-5.8	-4.1	-0.2	+5.6	+10.7	+14.2	+14.6	+12.2	+10.0	+5.9	+3.5	-0.2	-4.3
October	-6.5	-8.7	-7.6	-6.9	-6.3	-4.8	-3.6	-1.7	-0.3	+0.2	-1.4	-2.5	-1.9	+0.5	+5.0	+9.4	+10.0	+9.9	+8.3	+6.3	+4.1	+1.9	-0.1	-3.3
November	-4.4	-6.5	-6.0	-4.8	-5.0	-4.8	-4.9	-3.9	-2.9	-2.8	-3.2	-2.8	-1.0	+1.8	+6.2	+8.0	+7.1	+7.6	+8.2	+7.3	+6.2	+2.5	+0.1	-2.0
December	-1.4	-2.4	-3.5	-3.4	-3.8	-4.0	-4.2	-4.2	-3.7	-3.6	-3.7	-3.6	-3.2	-1.0	+2.7	+4.4	+5.5	+6.6	+7.6	+8.3	+6.1	+3.8	+0.8	-0.1
Year	-5.2	-6.6	-6.6	-5.8	-4.7	-4.0	-3.3	-2.4	-2.5	-3.4	-5.0	-6.4	-5.7	-2.2	+2.9	+7.5	+10.6	+11.7	+11.6	+10.2	+7.2	+3.9	+0.6	-2.4
Winter	-3.6	-5.0	-5.7	-5.4	-5.2	-4.9	-4.7	-4.0	-3.2	-2.9	-2.9	-2.7	-1.9	+0.6	+4.6	+7.2	+8.1	+8.1	+8.5	+7.7	+5.9	+3.0	+0.2	-1.5
Equinox	-3.6	-8.7	-8.2	-7.2	-6.4	-6.1	-4.5	-2.5	-1.6	-1.9	-3.6	-5.7	-5.3	-2.0	+3.6	+9.1	+12.5	+13.5	+12.2	+10.5	+7.6	+4.8	+0.4	-3.9
Summer	-5.5	-6.2	-5.8	-4.9	-2.5	-1.0	-0.6	-0.8	-2.6	-5.4	-8.6	-10.7	-9.7	-5.1	+0.5	+6.3	+11.2	+13.3	+14.2	+12.5	+8.3	+4.1	+1.1	-1.9

† See page 21.



Departures from mean of the day adjusted for non-cyclic change †.

MONTH AND SEASON.	Hour 0-1	G.M.T. 1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
DECLINATION (measured positive towards the West) (ALL DAYS).																								
320. ESKDALEMUIR. 1933.																								
January	-1.85	-0.51	-0.24	-0.38	-0.15	+0.02	-0.18	-0.23	-0.48	-0.20	+0.83	+1.82	+3.18	+3.24	+2.40	+1.76	+1.35	+0.71	-0.04	-1.27	-1.96	-2.14	-2.96	-2.72
February	-1.88	-1.67	-0.71	-0.47	-0.96	-1.03	-0.66	-0.30	-0.09	+0.01	+1.17	+2.57	+3.54	+3.85	+3.35	+1.86	+0.78	+0.66	-1.50	-1.37	-1.07	-1.93	-2.06	-2.10
March	-1.97	-0.84	-1.47	-1.29	-1.48	-1.10	-1.05	-1.47	-2.26	-1.69	+0.13	+2.83	+4.67	+5.68	+5.43	+3.88	+1.86	+0.18	-0.75	-1.17	-1.39	-2.54	-2.34	-1.86
April	-2.29	-1.59	-1.66	-2.14	-2.10	-1.61	-2.05	-2.47	-2.79	-1.82	+0.39	+3.14	+6.02	+7.24	+6.24	+4.63	+3.13	+1.82	+0.20	-1.55	-2.36	-2.73	-2.43	-3.22
May	-1.29	-0.94	-1.82	-1.96	-2.43	-3.78	-4.56	-4.62	-3.72	-2.00	+0.94	+3.25	+5.20	+5.76	+5.26	+4.46	+3.72	+2.84	+0.81	-0.34	+0.99	+0.98	-1.66	-1.15
June	-1.45	-1.68	-2.24	-2.62	-3.60	-4.04	-4.63	-4.40	-3.95	-2.40	+0.18	+2.54	+4.61	+5.70	+5.96	+4.88	+3.67	+2.77	+1.67	+1.03	+0.48	-0.03	-1.05	-1.40
July	-0.96	-1.10	-1.63	-2.16	-3.40	-4.45	-4.92	-4.47	-3.86	-2.52	+0.06	+2.66	+4.82	+5.75	+5.64	+4.25	+3.06	+2.20	+1.32	+0.40	+0.24	+0.26	-0.52	-0.67
August	-1.34	-1.36	-1.19	-2.06	-2.81	-3.70	-3.61	-3.40	-2.69	-0.94	+1.52	+4.13	+5.78	+6.04	+5.28	+3.78	+2.20	+1.12	-0.33	-1.56	-0.98	-0.99	-1.39	-1.50
September	-1.46	-1.53	-1.80	-2.19	-1.86	-1.61	-2.29	-2.46	-2.04	-0.39	+2.20	+4.50	+5.91	+5.81	+4.32	+2.56	+0.93	-0.02	-0.20	-1.31	-1.49	-1.94	-1.99	-1.86
October	-1.48	-1.11	-1.15	-0.88	-0.90	-0.90	-0.48	-0.81	-1.62	-1.30	+0.82	+3.07	+4.42	+4.50	-3.86	+2.28	+1.07	-0.17	-0.41	-0.93	-1.53	-2.15	-1.75	-2.55
November	-1.50	-0.87	-0.66	-0.30	-0.11	-0.10	+0.06	+0.25	-0.03	+0.27	+1.25	+2.23	+3.04	+3.00	+2.22	+1.41	+0.76	+0.45	-0.60	-1.01	-2.91	-3.03	-2.13	-1.79
December	-0.85	-0.06	-0.01	-0.31	+0.15	+0.06	+0.21	+0.12	-0.04	+0.24	+1.26	+1.88	+2.68	+2.52	+1.45	+0.76	+0.85	+0.21	-0.06	-1.56	-1.67	-2.78	-3.04	-2.01
Year	-1.53	-1.11	-1.21	-1.40	-1.64	-1.85	-2.01	-2.02	-1.95	-1.06	+0.90	+2.89	+4.49	+4.92	+4.28	+3.04	+1.95	+1.06	+0.01	-0.89	-1.29	-1.75	-1.94	-1.90
Winter	-1.52	-0.78	-0.38	-0.37	-0.27	-0.26	-0.14	-0.04	-0.16	+0.08	+1.13	+2.13	+3.11	+3.15	+2.35	+1.45	+0.93	+0.51	-0.55	-1.30	-1.90	-2.47	-2.55	-2.15
Equinox	-1.80	-1.27	-1.52	-1.63	-1.58	-1.28	-1.47	-1.80	-2.15	-1.30	+0.89	+3.39	+5.25	+5.81	+4.96	+3.34	+1.77	+0.45	-0.29	-1.24	-1.67	-2.34	-2.13	-2.37
Summer	-1.26	-1.27	-1.72	-2.20	-3.06	-3.99	-4.43	-4.22	-3.55	-1.97	+0.67	+3.15	+5.10	+5.81	+5.53	+4.34	+3.16	+2.23	+0.87	-0.12	-0.31	-0.43	-1.15	-1.18

INCLINATION (ALL DAYS).

321. ESKDALEMUIR.

1933.

January	+0.14	0.00	-0.22	-0.14	-0.31	-0.84	-0.84	-0.59	-0.16	+0.17	+0.38	+0.38	+0.27	+0.10	+0.08	+0.20	+0.24	+0.30	+0.22	+0.13	0.00	-0.10	+0.20	+0.24
February	-0.18	-0.01	+0.01	-0.33	-0.43	-0.43	-0.50	-0.33	-0.16	+0.07	+0.43	+0.60	+0.41	+0.26	+0.30	+0.45	+0.34	+0.23	+0.13	0.00	+0.05	-0.40	-0.41	-0.12
March	-0.25	-0.38	-0.24	-0.28	-0.40	-0.59	-0.51	-0.30	+0.24	+0.81	+1.22	+1.10	+0.75	+0.24	+0.12	-0.02	+0.10	+0.14	-0.02	-0.21	-0.24	-0.28	-0.50	-0.40
April	-0.59	-0.46	-0.39	-0.26	-0.21	-0.20	-0.19	+0.18	+0.71	+1.20	+1.58	+1.50	+1.01	+0.58	+0.20	-0.25	-0.57	-0.68	-0.64	-0.53	-0.52	-0.16	-0.68	-0.66
May	-0.80	-0.03	-0.22	-0.18	-0.12	+0.13	+0.39	+0.74	+1.10	+1.35	+1.35	+1.10	+0.70	+0.46	-0.01	-0.55	-0.93	-1.09	-0.92	-0.70	-0.37	-0.40	-0.49	-0.48
June	-0.39	-0.41	-0.30	-0.39	-0.17	+0.07	+0.45	+0.85	+1.27	+1.45	+1.43	+1.20	+0.80	+0.18	-0.14	-0.60	-0.83	-0.80	-1.04	-0.74	-0.64	-0.50	-0.35	-0.43
July	-0.49	-0.38	-0.22	-0.20	-0.20	-0.07	+0.24	+0.74	+1.11	+1.54	+1.51	+1.29	+1.02	+0.39	0.00	-0.34	-0.57	-0.81	-0.90	-0.90	-0.68	-0.64	-0.68	-0.67
August	-0.60	-0.38	-0.32	-0.30	-0.25	+0.41	+0.75	+1.20	+1.40	+1.30	+1.20	+0.74	+0.22	-0.04	-0.25	-0.59	-0.60	-0.68	-0.75	-0.67	-0.60	-0.63	-0.67	-0.60
September	-0.70	-0.72	-0.43	-0.40	-0.49	-0.58	-0.26	+0.50	+1.10	+1.51	+1.51	+1.20	+0.58	+0.27	+0.08	+0.10	+0.11	-0.04	-0.27	-0.58	-0.50	-0.63	-0.67	-0.72
October	-0.30	-0.21	-0.46	-0.33	-0.64	-0.58	-0.40	-0.10	+0.46	+1.00	+1.23	+1.18	+0.67	+0.27	+0.12	+0.28	+0.27	+0.06	-0.17	-0.34	-0.35	-0.60	-0.55	-0.51
November	-0.11	-0.25	-0.20	-0.23	-0.42	-0.58	-0.60	-0.35	-0.13	+0.25	+0.30	+0.29	+0.20	+0.22	+0.41	+0.09	+0.32	+0.31	+0.21	+0.01	+0.03	+0.03	+0.01	-0.20
December	+0.12	+0.08	-0.15	-0.12	-0.35	-0.59	-0.54	-0.54	-0.30	-0.11	0.00	+0.14	+0.05	-0.13	-0.01	+0.02	+0.23	+0.32	+0.45	+0.53	+0.40	+0.28	+0.10	+0.12
Year	-0.35	-0.26	-0.26	-0.26	-0.33	-0.34	-0.20	+0.13	+0.54	+0.89	+1.02	+0.93	+0.60	+0.25	+0.09	-0.05	-0.18	-0.22	-0.29	-0.32	-0.30	-0.33	-0.40	-0.36
Winter	-0.01	-0.04	-0.14	-0.21	-0.38	-0.56	-0.62	-0.45	-0.19	+0.09	+0.28	+0.35	+0.23	+0.11	+0.19	+0.27	+0.23	+0.29	+0.28	+0.22	+0.11	-0.05	-0.03	+0.01
Equinox	-0.46	-0.44	-0.38	-0.32	-0.43	-0.49	-0.34	+0.07	+0.63	+1.13	+1.39	+1.25	+0.75	+0.34	+0.13	+0.03	-0.02	-0.13	-0.27	-0.41	-0.40	-0.42	-0.63	-0.57
Summer	-0.57	-0.30	-0.27	-0.27	-0.19	+0.02	+0.37	+0.77	+1.17	+1.43	+1.40	+1.20	+0.81	+0.31	-0.05	-0.43	-0.73	-0.83	-0.89	-0.77	-0.61	-0.53	-0.54	-0.52

HORIZONTAL FORCE (ALL DAYS).

322. ESKDALEMUIR.

1933.

January	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
February	-2.7	-1.6	+0.7	+0.1	+2.9	+7.4	+10.2	+7.0	+1.2	-3.2	-5.9	-5.9	-4.7	-1.1	+0.1	-0.9	-1.0	-1.6	-0.4	+0.6	+1.7	+2.5	-2.4	-3.1
March	0.0	-2.5	-2.6	+1.9	+3.9	+4.5	+5.6	+3.6	+1.1	-1.9	-7.3	-9.8	-6.8	-3.4	-2.5	-2.7	-0.1	+0.3	+1.8	+3.0	+1.6	+6.2	+5.3	+0.1
April	+1.7	+2.1	+0.3	+0.8	+3.4	+5.8	+5.1	+3.2	-3.8	-12.5	-19.2	-18.4	-1.3	-4.9	-0.9	+3.9	+3.9	+3.7	+5.3	+7.0	+6.4	+6.0	+9.6	+4.8
May	+5.5	+3.2	+2.6	+1.8	+1.6	+1.5	+1.7	-3.1	-11.5	-19.0	-25.3	-25.4	-18.3	-10.1	-2.4	+6.1	+12.5	+15.2	+15.0	+13.1	+12.3	+5.2	+10.0	+7.8
June	+0.7	+3.1	+1.7	+0.5	+0.2	-3.2	-6.4	-11.6	-19.9	-22.6	-23.8	-20.6	-14.1	-8.2	+1.1	+11.7	+19.9	+23.2	+21.7	+16.5	+9.2	+6.5	+6.9	+5.5
July	+4.2	+3.8	+1.5	+3.1	+1.0	-1.6	-7.2	-13.0	-19.7	-23.2	-24.1	-21.3	-14.9	-4.2	+2.0	+11.1	+16.2	+16.3	+19.7	+15.4	+12.7	+9.7	+6.1	+6.4
August	+5.7	+3.8	+2.0	+1.8	+2.5	+1.2	-3.8	-10.6	-16.7	-23.6	-24.7	-22.7	-18.8	-8.3	-0.8	+6.0	+11.4	+15.6	+17.4	+17.1	+14.3	+11.3	+10.5	+9.4
September	+7.5	+4.3	+3.0	+2.9	+3.2	+0.7	-5.8	-11.1	-18.8	-23.1	-23.0	-21.8	-14.7	-5.1	+1.2	+6.1	+12.4	+13.4	+14.9	+15.3	+12.0	+10.3	+9.6	+6.6
October	+8.4	+7.7	+3.4	+3.2	+4.3	+5.7	+1.8	-8.5	-17.5	-23.3	-23.1	-19.7	-10.2	-4.3	+0.5	+2.5	+3.5	+6.0	+8.0	+12.3	+9.5	+10.8	+9.9	+9.1
November	+1.9	-0.1	+4.0	+2.4	+7.4	+6.7	+4.5	+0.8	-6.7	-14.7	-18.7	-18.4	-10.5	-3.7	0.0	-0.6	-0.2	+2.7	+5.4	+7.3	+6.7	+9.6	+8.1	+6.1
December	+0.1	+1.2	+0.7	+1.5	+4.3	+6.8	+7.1	+3.8	+0.7	-4.8	-5.7	-6.2	-3.2	-2.5	-3.9	-3.1	+1.1	-1.8	-1.5	-0.5	+2.2	+0.5	0.0	+2.2
	-2.2	-2.0	+0.9	+0.7	+3.6	+7.1	+6.4	+6.4	+3.0	+0.3	-1.3	-3.3	-2.0	+1.3	+1.1	+1.3	-1.4	-2.3	-3.7	-4.8	-3.6	-2.5	-1.3	-1.7
Year	+2.6	+1.9	+1.5	+1.7	+3.2	+3.5	+1.6	-2.8	-8.9	-14.3	-16.8	-16.0	-11.0	-4.5	-0.4	+3.5	+6.5	+7.6	+8.6	+8.5	+7.1	+6.4	+6.0	+4.4
Winter	-1.2	-1.2	-0.1	+1.1	+3.7	+6.5	+7.3	+5.2	+1.5	-2.4	-5.1	-6.1	-4.2	-1.4	-1.3	-1.3	-0.3	-1.3	-0.9	-0.4	+0.5	+1.9	+0.4	-0.6
Equinox	+4.4	+3.2	+2.6	+2.1	+4.2	+4.9	+3.3	-1.9	-9.9	-17.4	-21.6	-20.5	-13.1	-5.7	-0.7	+3.0	+4.9	+6.9	+8.4	+9.9	+8.7	+7.9	+9.4	+6.9
Summer	+4.5	+3.7	+2.1	+2.1	+1.7	-0.7	-5.8	-11.6	-18.3	-23.1	-23.9	-21.6	-15.6	-6.5	+0.9	+8.7	+15.0	+17.1	+18.4	+16.1	+12.1	+9.5	+8.3	+7.0



DIURNAL INEQUALITIES OF THE GEOGRAPHICAL COMPONENTS OF MAGNETIC FORCE.  
INTERNATIONAL QUIET DAYS.

Departures from mean of the day adjusted for non-cyclic change.

MONTH AND SEASON.	Hour 0-1	G.M.T. 1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
323. ESKDALEUIR:																								
NORTH COMPONENT. (QUIET DAYS)																								
1933.																								
January	-1.5	-1.0	-0.9	+0.6	+1.8	+4.4	+6.3	+4.8	+3.4	-0.1	-5.4	-7.3	-7.3	-3.4	-1.7	-0.5	+0.4	+0.3	+0.8	+2.9	+2.1	+1.0	+0.3	-0.4
February	+2.2	+2.9	+2.5	+3.1	+3.7	+4.4	+5.8	+4.1	+0.2	-4.8	-9.9	-11.6	-9.0	-5.2	-3.0	-0.9	+0.2	+1.2	+2.0	+2.5	+2.2	+2.6	+2.0	+2.5
March	+3.1	+2.4	+2.5	+2.4	+4.4	+6.2	+6.8	+6.6	+4.3	-1.5	-10.5	-14.8	-14.1	-11.0	-8.0	-3.3	+0.3	+1.0	+2.0	+3.2	+4.2	+3.9	+5.9	+3.7
April	+7.1	+6.4	+5.0	+6.3	+6.7	+6.1	+5.2	+2.1	-7.2	-15.3	-21.0	-24.4	-22.9	-17.5	-7.7	+0.5	+6.6	+10.7	+9.3	+8.9	+9.0	+7.2	+9.0	+10.0
May	+7.3	+5.2	+3.6	+5.1	+7.3	+5.4	+0.6	-6.9	-17.3	-22.6	-23.7	-23.1	-19.6	-12.5	-2.8	+1.9	+6.9	+13.2	+15.0	+14.4	+14.0	+10.6	+9.6	+8.7
June	+4.4	+3.3	+2.9	+4.0	+6.1	+4.3	+0.4	-6.0	-11.2	-16.2	-18.4	-19.8	-13.7	-7.1	-1.1	+3.1	+7.6	+10.8	+11.4	+8.5	+7.4	+6.9	+5.4	+5.9
July	+6.2	+2.9	+3.4	+2.1	+4.5	+4.1	+1.2	-3.9	-8.6	-14.6	-24.2	-25.7	-21.7	-13.6	-2.8	+8.7	+8.6	+12.6	+11.7	+13.7	+11.4	+8.6	+7.5	+7.7
August	+7.2	+5.9	+3.2	+4.5	+4.2	+4.1	+0.3	-4.3	-14.1	-23.8	-26.8	-26.8	-20.1	-11.6	-3.7	+4.4	+10.8	+14.1	+13.8	+14.5	+12.3	+10.7	+10.5	+10.3
September	+8.1	+10.3	+11.5	+9.6	+10.4	+9.2	+4.6	-8.8	-18.4	-24.8	-29.5	-27.6	-16.0	-5.9	-4.1	-3.8	-1.1	+5.6	+10.8	+14.4	+13.0	+12.2	+10.8	+9.4
October	+4.3	+3.9	+2.5	+1.6	+4.3	+6.8	+7.1	+4.8	+0.5	-6.1	-14.5	-18.5	-15.2	-9.1	-4.9	-0.5	-0.4	+1.7	+3.7	+4.1	+6.0	+6.3	+6.4	+5.5
November	-0.5	+1.3	+0.4	+0.8	+3.9	+5.5	+6.5	+4.6	+3.0	-1.1	-4.9	-5.2	-3.9	-2.2	-2.5	-3.4	-2.6	-1.6	+0.7	+0.3	+0.2	-1.4	+1.5	+0.6
December	-2.0	-2.1	-1.7	-1.1	+2.0	+3.1	+4.3	+4.7	+2.8	-1.2	-2.6	-5.0	-1.8	-0.4	+0.6	+0.2	-2.2	+0.1	+1.5	+0.4	+0.5	+0.2	+0.3	-0.6
Year	+3.8	+3.4	+2.9	+3.2	+5.0	+5.3	+4.1	+0.2	-5.2	-10.9	-16.0	-17.5	-13.8	-8.2	-3.4	+0.5	+3.0	+5.8	+6.9	+7.3	+6.9	+5.7	+5.7	+5.3
Winter	-0.5	+0.3	+0.1	+0.9	+2.9	+4.4	+5.7	+4.6	+2.5	-1.8	-5.6	-7.3	-5.5	-2.7	-1.6	-1.1	-1.1	0.0	+1.3	+1.6	+1.2	+0.6	+1.1	+0.5
Equinox	+5.6	+5.7	+5.3	+5.0	+6.4	+7.1	+5.9	+1.3	-5.2	-11.9	-18.9	-21.3	-17.0	-10.9	-6.2	-1.8	+1.4	+4.8	+6.4	+7.6	+8.0	+7.4	+8.1	+7.1
Summer	+6.3	+4.3	+3.3	+3.9	+5.5	+4.5	+0.6	-5.3	-12.8	-19.0	-23.2	-23.9	-18.8	-11.2	-2.6	+4.5	+8.5	+12.7	+13.0	+12.9	+11.3	+9.2	+8.2	+8.1

324. ESKDALEUIR:																								
WEST COMPONENT. (QUIET DAYS)																								
1933.																								
January	-2.9	-2.8	+0.1	-0.2	+0.6	+0.4	-0.6	-2.4	-5.1	-4.6	-2.1	+2.4	+8.7	+12.2	+6.3	+4.3	+2.5	+1.0	+0.4	-0.4	-2.3	-5.3	-5.3	-4.8
February	-0.6	-0.4	+1.4	-0.6	-1.3	-2.2	-2.1	-2.5	-4.0	-5.2	-2.5	+1.6	+6.4	+8.2	+6.2	+1.7	0.0	+1.0	+1.1	+0.3	-1.8	-1.5	-1.7	-1.7
March	-4.4	-2.7	-4.5	-3.2	-4.5	-4.4	-5.0	-7.2	-11.9	-12.1	-4.5	+6.0	+15.6	+20.4	+17.2	+11.5	+3.4	+1.6	+0.5	0.0	-0.6	-2.4	-5.2	-3.4
April	-5.5	-2.8	+0.1	-5.6	-5.9	-9.0	-12.4	-17.5	-20.0	-15.5	-7.7	+4.1	+17.8	+25.7	+21.2	+16.6	+11.6	+8.6	+3.8	+1.0	-0.6	-2.1	-2.6	-2.8
May	-1.5	-2.2	-3.3	-4.7	-10.5	-17.4	-24.2	-28.0	-25.1	-17.2	-2.2	+11.6	+22.4	+25.0	+23.7	+17.4	+10.9	+8.1	+6.5	+5.2	+4.5	+2.7	-0.8	-0.7
June	+0.2	-1.2	-3.2	-4.9	-11.3	-20.8	-24.2	-25.7	-26.4	-18.2	-5.5	+8.5	+18.7	+21.1	+22.7	+20.5	+13.3	+11.4	+8.9	+7.2	+4.9	+3.6	+0.5	+0.1
July	+1.9	-2.8	-6.9	-8.6	-14.9	-19.9	-23.6	-24.0	-23.7	-18.6	-6.6	+4.7	+11.8	+17.3	+19.1	+18.5	+13.5	+12.8	+12.3	+10.5	+10.4	+8.8	+4.1	+3.9
August	-3.6	-4.6	-5.0	-6.2	-10.0	-15.8	-19.7	-24.0	-23.8	-17.7	-1.8	+11.4	+23.6	+27.4	+22.6	+15.2	+10.4	+6.0	+4.6	+5.8	+4.5	+2.3	-0.8	-0.6
September	-2.7	+2.3	-2.6	-5.9	-8.2	-11.7	-14.9	-19.0	-19.2	-11.6	+0.5	+14.4	+23.0	+24.5	+15.6	+9.2	+3.4	+4.8	+4.9	+4.4	+2.3	-4.0	-3.4	-5.7
October	-2.5	-3.4	-3.3	-1.0	-2.1	-3.9	-4.5	-6.8	-10.0	-9.1	-1.6	+7.7	+12.8	+13.4	+10.2	+6.1	+3.1	+4.2	+2.0	0.0	-1.5	-2.0	-3.8	-4.0
November	-4.6	-4.9	-2.8	-1.6	-0.9	-1.2	-1.2	-1.8	-2.9	-1.8	+2.6	+5.5	+8.6	+8.5	+5.3	+1.9	+3.4	+1.9	+3.2	+1.0	-3.4	-4.7	-4.0	-5.2
December	-2.7	-1.0	-1.0	-0.3	-0.7	-1.0	-1.6	-1.6	-2.0	-1.0	+3.8	+6.7	+9.8	+9.7	+5.3	+2.8	+0.1	+0.3	-0.2	-1.7	-6.5	-7.7	-5.9	-4.1
Year	-2.4	-2.2	-2.6	-3.5	-5.9	-8.9	-11.3	-13.4	-14.5	-11.1	-2.3	+7.1	+14.9	+17.8	+14.7	+10.5	+6.2	+5.1	+4.0	+2.7	+0.8	-1.0	-2.4	-2.4
Winter	-2.8	-2.3	-0.6	-0.6	-0.5	-1.0	-1.4	-2.0	-3.5	-3.1	+0.5	+4.0	+8.4	+9.7	+5.8	+2.7	+1.2	+1.2	+1.2	-0.1	-3.5	-4.8	-4.2	-4.0
Equinox	-3.8	-1.6	-2.6	-3.8	-5.2	-7.4	-9.1	-12.7	-16.3	-12.1	-3.3	+8.0	+17.3	+21.0	+16.0	+10.8	+5.4	+4.8	+2.8	+1.3	-0.1	-2.6	-3.8	-4.1
Summer	-0.8	-2.6	-4.6	-6.1	-11.7	-18.4	-22.9	-25.4	-24.7	-17.9	-4.1	+9.1	+19.1	+22.7	+22.0	+18.0	+11.9	+9.6	+8.1	+7.1	+6.1	+4.4	+0.7	+0.7

325. ESKDALEUIR.																								
VERTICAL COMPONENT. (QUIET DAYS).																								
1933.																								
	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
January	+0.2	-0.6	-0.7	-1.0	-1.4	-1.4	-1.5	-1.4	-1.4	-1.4	-0.9	-1.8	-1.6	+0.4	+1.7	+1.0	+1.4	+1.0	+1.1	+1.4	+1.8	+3.0	+1.1	+1.0
February	-0.3	0.0	-0.4	+0.1	+0.4	+0.4	-0.1	-0.4	-0.5	-0.3	-1.0	-1.7	-2.1	-1.4	+0.1	+1.5	+1.8	+1.9	+1.0	+0.8	+0.7	+0.8	-0.6	-0.7
March	+0.6	+0.1	+0.3	-0.2	-0.1	-0.4	-0.4	+0.5	+0.8	-0.8	-4.7	-7.7	-8.2	-6.0	-0.1	+4.1	+4.9	+4.1	+2.5	+2.3	+2.5	+1.6	+2.4	+1.9
April	-1.6	0.0	-1.0	+1.6	+2.8	+2.9	+3.0	+3.0	+0.8	-4.7	-6.0	-9.7	-11.7	-9.4	-3.0	+1.5	+3.8	+5.4	+6.1	+5.6	+4.5	+4.7	+2.6	+0.4
May	+3.0	+2.9	+3.5	+4.0	+5.4	+5.9	+4.3	+2.9	-1.0	-5.7	-10.7	-14.2	-12.7	-8.4	-3.6	-0.1	+4.3	+4.8	+3.8	+2.4	+1.7	+1.8	+2.8	+2.9
June	-0.1	-0.7	-0.7	+1.0	+2.8	+2.3	+0.8	+0.3	-0.5	-2.7	-7.2	-11.2	-10.6	-7.0	-1.9	+0.9	+4.3	+6.7	+6.8	+6.2	+3.8	+3.1	+2.5	+1.1
July	-1.4	-1.9	+0.4	+2.0	+4.0	+4.3	+3.2	+3.0	+0.3	-3.6	-8.1	-12.9	-11.9	-8.2	-4.1	+0.9	+6.4	+7.1	+6.6	+4.8	+3.8	+2.3	+1.8	+1.2
August	-1.2	-0.6	+0.2	+0.6	+3.2	+4.6	+4.5	+4.3	+3.3	-0.7	-6.1	-8.9	-12.1	-8.3	-2.1	+0.7	+2.7	+4.9	+4.0	+3.0	+2.2	+2.0	+0.8	-1.0
September	+0.9	-1.5	-1.4	-0.1	+0.4	+1.1	+1.8	+2.0	+0.4	-3.5	-6.8	-9.6	-9.1	-5.1	+2.2	+6.1	+5.6	+3.9	+2.4	+1.6	+1.8	+2.5	+2.4	+2.0
October	+0.8	-0.5	-0.6	-1.0	-1.3	-1.2	-1.4	-0.9	-1.0	-2.5	-4.1	-5.0	-3.7	-1.9	+1.6	+4.1	+3.9	+2.7	+2.1	+2.1	+2.1	+1.7	+2.1	+1.9
November	+0.3	-0.9	-1.3	-1.7	-2.1	-2.3	-2.3	-2.2	-1.8	-3.2	-3.0	-3.0	-1.5	+0.1	+2.5	+2.9	+2.6	+3.0	+2.6	+2.5	+3.0	+2.8	+2.0	+1.0
December	+1.2	+0.2	-0.8	-1.2	-1.7	-1.7	-1.7	-2.0	-2.2	-2.2	-2.8	-2.0	-2.5	-1.1	+0.7	+2.5	+3.0	+2.0	+1.4	+1.9	+2.7	+2.9	+2.3	+1.7
Year	+0.2	-0.3	-0.2	+0.3	+1.0	+1.2	+0.9	+0.8	-0.4	-2.6	-5.1	-7.3	-7.3	-4.7	-0.5	+2.2	+3.7	+4.0	+3.4	+2.9	+2.5	+2.4	+1.9	+1.1
Winter	+0.3	-0.3	-0.8	-0.9	-1.2	-1.3	-1.4	-1.5	-1.6	-1.8	-1.9	-2.1	-1.9	-0.5	+1.3	+2.0	+2.2	+2.0	+1.5	+1.7	+2.1	+2.4	+1.2	+0.7
Equinox	+0.2	-0.5	-0.7	+0.1	+0.5	+0.6	+0.7	+1.1	-0.1	-2.9	-5.4	-8.0	-8.2	-5.6	+0.2	+3.9	+4.5	+4.0	+3.3	+2.9	+2.7	+2.6	+2.4	+1.5
Summer	+0.1	-0.1	+0.9	+1.9	+3.9	+4.3	+3.2	+2.6	+0.5	-3.2	-8.0	-11.8	-11.8	-8.0	-2.9	+0.6	+4.4	+5.9	+5.3	+4.1	+2.9	+2.3	+2.0	+1.1



Departures from mean of the day adjusted for non-cyclic change.†

MONTH AND SEASON.	Hour 0-1	G.M.T. 1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
DECLINATION (measured positive towards the West) (QUIET DAYS).																								
326. ESKDALEMUIR.																								
January	-0.52	-0.51	+0.06	-0.07	+0.02	-0.16	-0.44	-0.73	-1.20	-0.93	-0.16	+0.86	+2.12	+2.60	+1.36	+0.91	+0.49	+0.20	+0.04	-0.24	-0.66	-1.11	-1.09	-0.94
February	-0.24	-0.23	+0.14	-0.27	-0.44	-0.66	-0.72	-0.71	-0.82	-0.79	0.00	+0.92	+1.74	+1.92	+1.40	+0.39	-0.01	+0.18	+0.12	-0.06	-0.48	-0.43	-0.45	-0.48
March	-1.05	-0.67	-1.02	-0.78	-1.14	-1.20	-1.36	-1.80	-2.61	-2.35	-0.37	+1.97	+3.87	+4.67	+3.88	+2.48	+0.66	+0.28	0.00	-0.18	-0.35	-0.69	-1.35	-0.89
April	-1.47	-0.90	-0.23	-1.45	-1.55	-2.18	-2.76	-3.62	-3.68	-2.35	-0.48	+2.08	+4.76	+6.07	+4.68	+3.32	+2.00	+1.17	+0.29	-0.25	-0.59	-0.80	-0.99	-1.07
May	-0.66	-0.71	-0.86	-1.21	-2.48	-3.78	-4.92	-5.29	-4.16	-2.31	+0.78	+3.51	+5.51	+6.68	+4.91	+3.42	+1.81	+0.97	+0.53	+0.30	+0.19	0.00	-0.66	-0.58
June	-0.19	-0.40	-0.80	-1.21	-2.60	-4.41	-4.89	-4.88	-4.75	-2.69	-0.18	+2.73	+4.47	+4.62	+4.63	+3.97	+2.30	+1.74	+1.22	+1.00	+0.61	+0.36	-0.18	-0.27
July	+0.07	-0.71	-1.57	-1.84	-3.25	-4.23	-4.80	-4.63	-4.34	-3.00	-0.10	+2.25	+3.49	+4.18	+3.99	+3.29	+2.27	+1.94	+1.89	+1.41	+1.51	+1.34	+0.45	+0.39
August	-1.09	-1.22	-1.17	-1.47	-2.23	-3.39	-4.00	-4.62	-4.08	-2.35	+1.00	+3.66	+5.79	+6.11	+4.74	+2.83	+1.52	+0.49	+0.22	+0.41	+0.28	-0.08	-0.71	-0.64
September	-0.96	-0.06	-1.11	-1.67	-2.18	-2.83	-3.23	-3.40	-2.94	-1.07	+1.61	+4.31	+5.44	+5.24	+3.34	+2.03	+0.74	+0.68	+0.42	+0.18	-0.20	-1.44	-1.25	-1.63
October	-0.73	-0.89	-0.80	-0.27	-0.65	-1.14	-1.27	-1.61	-2.04	-1.53	+0.43	+2.48	+3.37	+3.17	+2.32	+1.27	+0.65	+0.76	+0.21	-0.21	-0.60	-0.73	-1.09	-1.10
November	-0.90	-1.06	-0.59	-0.37	-0.38	-0.52	-0.57	-0.60	-0.74	-0.29	+0.77	+1.38	+1.94	+1.83	+1.21	+0.66	+0.62	+0.47	+0.62	+0.20	-0.71	-0.89	-0.88	-1.10
December	-0.44	-0.09	-0.11	0.00	-0.24	-0.37	-0.54	-0.56	-0.55	-0.13	+0.90	+1.62	+2.09	+1.97	+1.04	+0.56	+0.13	+0.07	-0.10	-0.37	-1.33	-1.56	-1.20	-0.79
Year	-0.68	-0.62	-0.67	-0.68	-1.43	-2.07	-2.49	-2.70	-2.66	-1.67	+0.35	+2.31	+3.72	+4.01	+3.13	+2.09	+1.10	+0.74	+0.45	+0.18	-0.19	-0.50	-0.78	-0.76
Winter	-0.53	-0.47	-0.13	-0.18	-0.26	-0.43	-0.57	-0.65	-0.83	-0.53	+0.38	+1.19	+1.97	+2.08	+1.25	+0.61	+0.31	+0.23	+0.17	-0.12	-0.77	-1.00	-0.91	-0.83
Equinox	-1.05	-0.63	-0.79	-1.04	-1.38	-1.84	-2.15	-2.61	-2.82	-1.83	+0.30	+2.71	+4.36	+4.79	+3.55	+2.28	+1.01	+0.72	+0.23	-0.12	-0.43	-0.91	-1.17	-1.17
Summer	-0.47	-0.76	-1.10	-1.43	-2.64	-3.95	-4.65	-4.85	-4.33	-2.64	+0.37	+3.04	+4.81	+5.15	+4.57	+3.38	+1.97	+1.29	+0.97	+0.78	+0.65	+0.41	-0.27	-0.27

INCLINATION (QUIET DAYS).

327. ESKDALEMUIR.																								
January	+0.13	+0.10	+0.05	-0.07	-0.16	-0.33	-0.45	-0.30	-0.18	+0.84	+0.37	+0.40	+0.30	-0.01	+0.03	-0.01	-0.02	0.00	-0.03	-0.12	-0.03	+0.10	+0.10	+0.12
February	-0.15	-0.19	-0.20	-0.20	-0.21	-0.25	-0.35	-0.24	+0.05	+0.39	+0.67	+0.70	+0.43	+0.18	+0.10	+0.06	+0.02	-0.04	-0.13	-0.15	-0.10	-0.13	-0.12	-0.17
March	-0.13	-0.11	-0.08	-0.11	-0.20	-0.34	-0.38	-0.31	-0.06	+0.27	+0.65	+0.69	+0.47	+0.23	+0.23	+0.12	+0.05	-0.01	-0.09	-0.15	-0.20	-0.18	-0.23	-0.13
April	-0.42	-0.38	-0.35	-0.29	-0.28	-0.18	-0.06	+0.24	+0.79	+1.15	+1.36	+1.30	+0.92	+0.50	+0.08	-0.26	-0.53	-0.71	-0.51	-0.46	-0.49	-0.33	-0.50	-0.60
May	-0.38	-0.26	-0.11	-0.16	-0.18	+0.08	+0.48	+0.98	+1.53	+1.63	+1.34	+0.99	+0.60	+0.21	-0.31	-0.41	-0.52	-0.88	-0.99	-0.97	-0.95	-0.70	-0.54	-0.50
June	-0.30	-0.22	-0.18	-0.17	-0.18	+0.11	+0.41	+0.84	+1.18	+1.24	+1.16	+0.90	+0.33	-0.05	-0.35	-0.54	-0.62	-0.73	-0.73	-0.82	-0.48	-0.44	-0.30	-0.35
July	-0.49	-0.20	-0.10	+0.05	+0.06	+0.17	+0.40	+0.74	+0.97	+1.17	+1.50	+1.29	+0.94	+0.40	-0.24	-0.86	-0.63	-0.87	-0.81	-0.95	-0.83	-0.65	-0.52	-0.55
August	-0.44	-0.32	-0.12	-0.21	-0.04	+0.10	+0.41	+0.80	+1.40	+1.65	+1.65	+1.36	+0.64	+0.10	-0.20	-0.53	-0.82	-0.90	-0.88	-1.00	-0.83	-0.70	-0.68	-0.69
September	-0.47	-0.75	-0.76	-0.54	-0.54	-0.38	-0.01	+0.95	+1.55	+1.75	+1.77	+1.34	+0.45	-0.15	+0.07	+0.25	+0.12	-0.35	-0.73	-0.85	-0.68	-0.59	-0.49	-0.49
October	-0.25	-0.22	-0.14	-0.11	-0.28	-0.42	-0.42	-0.23	+0.10	+0.49	-0.89	+0.95	+0.70	+0.34	+0.20	+0.02	+0.08	-0.11	-0.21	-0.21	-0.31	-0.34	-0.31	-0.24
November	+0.13	-0.03	-0.01	-0.08	-0.30	-0.40	-0.47	-0.33	-0.20	+0.03	+0.20	+0.18	+0.08	+0.01	+0.14	+0.27	+0.20	+0.17	-0.03	+0.01	+0.11	+0.24	+0.01	+0.09
December	+0.21	+0.16	+0.10	+0.06	-0.17	-0.23	-0.30	-0.33	-0.22	+0.05	+0.05	+0.18	-0.11	-0.18	-0.11	-0.01	+0.22	+0.03	-0.06	+0.05	+0.15	+0.20	+0.13	+0.16
Year	-0.21	-0.20	-0.16	-0.18	-0.21	-0.17	-0.06	+0.23	+0.57	+0.84	+0.97	+0.86	+0.48	+0.13	-0.03	-0.16	-0.20	-0.37	-0.43	-0.45	-0.40	-0.30	-0.29	-0.28
Winter	+0.08	+0.01	-0.01	-0.07	-0.21	-0.30	-0.39	-0.30	-0.14	+0.13	+0.32	+0.37	+0.17	0.00	+0.04	+0.08	+0.11	+0.04	-0.06	-0.05	+0.03	+0.10	+0.03	+0.05
Equinox	-0.32	-0.37	-0.33	-0.26	-0.33	-0.33	-0.22	+0.16	+0.59	+0.91	+1.17	+1.07	+0.63	+0.23	+0.15	+0.03	-0.07	-0.29	-0.39	-0.45	-0.46	-0.38	-0.41	-0.37
Summer	-0.40	-0.25	-0.13	-0.12	-0.08	+0.11	+0.43	+0.84	+1.27	+1.47	+1.41	+1.13	+0.60	+0.17	-0.27	-0.59	-0.65	-0.85	-0.85	-0.86	-0.77	-0.62	-0.51	-0.52

HORIZONTAL FORCE (QUIET DAYS).

328. ESKDALEMUIR.																									1933.	
	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
January	-2.2	-1.7	-0.8	+0.5	+1.9	+4.3	<u>+6.0</u>	+4.0	+2.1	-1.2	-5.8	<u>-6.5</u>	-5.0	+0.3	-0.1	+0.6	+1.0	+0.5	+0.8	+2.7	+1.4	-0.3	-1.0	-1.5		
February	+2.0	+2.7	+2.8	+2.9	+3.3	+3.7	<u>+5.1</u>	+3.4	+0.8	-5.9	-10.2	<u>-10.9</u>	-7.1	-3.0	-1.3	-0.4	+0.2	+1.4	+2.2	+2.5	+1.7	+2.2	+1.5	+2.0		
March	+2.0	+1.7	+1.3	+1.6	+3.1	+5.0	<u>5.4</u>	+4.7	+1.2	-4.4	-11.3	<u>-12.9</u>	-9.8	-5.6	-3.5	-0.3	+1.1	+1.3	+2.1	+3.1	+3.9	+3.2	+4.4	+2.7		
April	+5.6	+5.5	+4.9	+4.8	+5.1	+3.6	+2.0	-2.3	-11.9	-18.7	-22.3	<u>-22.7</u>	-17.9	-10.7	-2.3	+4.5	+9.3	<u>+12.5</u>	+9.9	+8.9	+8.6	+6.5	+8.1	+9.0		
May	+6.7	+4.5	+2.7	+3.8	+4.5	+0.9	-5.4	-13.5	-23.0	<u>-26.2</u>	-23.6	-19.7	-13.5	-6.0	+3.1	+6.1	+9.3	+14.8	<u>+16.1</u>	+15.3	+14.7	+11.0	+9.1	+8.3		
June	+4.3	+2.9	+2.1	+2.7	+3.1	-0.9	-5.6	-12.2	-17.4	<u>-19.2</u>	-19.2	-17.2	-8.7	-1.7	+4.5	+8.1	+10.7	<u>+13.2</u>	+13.2	+10.0	+8.4	+7.6	+5.4	+5.8		
July	+6.5	+2.2	+1.6	-0.1	+0.7	-0.9	-4.7	-9.7	-14.2	-18.7	<u>-26.1</u>	-23.8	-18.2	-9.0	+2.0	+13.0	+11.7	+15.4	+14.4	<u>+15.9</u>	+13.7	+10.5	+8.3	+8.5		
August	+8.1	+4.5	+1.9	+2.9	+1.7	+0.1	-4.5	-10.1	-19.5	<u>-27.5</u>	-26.5	-23.3	-13.8	-4.6	+2.0	+8.0	+13.0	+16.2	+14.6	<u>+16.0</u>	+13.0	+11.0	+10.0	+9.8		
September	+7.2	+10.6	+10.5	+7.9	+8.1	+6.1	+0.8	-13.2	-22.6	-27.0	<u>-28.5</u>	-23.3	-9.9	+0.3	-0.2	-1.4	-0.2	+6.6	+11.7	<u>+15.1</u>	+13.1	+10.9	+9.6	+7.8		
October	+3.5	+3.0	+1.7	+1.3	+3.6	+5.7	+5.8	+3.0	-2.0	-8.2	-14.5	<u>-16.1</u>	-11.7	-5.6	-2.3	+1.0	+0.4	+2.7	+4.0	+4.0	+5.5	<u>+5.6</u>	+5.3	+4.3		
November	-1.7	+0.1	-0.3	+0.4	+3.6	+5.1	<u>+6.0</u>	+4.0	+2.2	-1.5	<u>-4.1</u>	-3.7	-1.7	-0.1	-1.1	-2.8	-2.0	-1.1	+1.4	+0.6	-0.6	-2.5	+0.5	-0.7		
December	-2.6	-2.3	-1.9	-1.1	+1.8	+2.8	+3.8	<u>+4.1</u>	+2.3	-1.5	-1.6	<u>-3.2</u>	+0.6	+2.0	+1.9	+0.9	-2.1	+0.2	+1.4	0.0	-1.1	-1.7	-1.1	-1.6		
Year	+3.1	+2.8	+2.2	+2.3	+3.4	+3.0	+1.2	-3.1	-8.6	-13.3	<u>-16.1</u>	-15.3	-9.7	-3.6	+0.3	+3.1	+4.4	+6.9	+7.7	<u>+7.8</u>	+6.9	+5.3	+5.0	+4.5		
Winter	-1.1	-0.3	-0.1	+0.7	+2.7	+4.0	<u>+5.2</u>	+3.9	+1.5	-2.5	-5.4	<u>-6.1</u>	-3.3	-0.2	-0.1	-0.4	-0.7	+0.3	+1.5	+1.5	+0.3	-0.6	0.0	-0.5		
Equinox	+4.6	+5.2	+4.6	+3.9	+5.0	+5.1	+3.5	-1.9	-8.8	-14.6	<u>-19.1</u>	-18.7	-12.3	-5.4	-2.1	+0.9	+2.7	+5.8	+6.9	<u>+7.8</u>	<u>+7.8</u>	+6.5	+6.9	+5.9		
Summer	+5.9	+3.5	+2.1	+2.3	+2.5	-0.2	-5.1	-11.4	-18.5	-22.9	<u>-23.6</u>	-21.0	-13.5	-5.3	+2.9	+8.8	+11.2	<u>+14.7</u>	+14.6	+14.3	+12.5	+10.0	+8.2	+8.1		



Departures from mean of the day adjusted for non-cyclic change.†

	Hour 0-1	G.M.T. 1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
MONTH AND SEASON.	NORTH COMPONENT (DISTURBED DAYS).																							
	329. ESKDALEMUIR.																							
	1933.																							
January	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
February	+4.1	+4.3	+1.7	+2.1	+3.2	+8.1	+9.9	+10.5	+4.7	+1.2	-7.2	-5.9	-4.7	-1.6	-1.1	-9.0	-10.4	-8.5	-3.7	-3.0	+2.5	+4.6	+2.8	+1.2
March	+4.2	-1.3	-5.9	-0.6	+4.3	+2.4	+8.1	-0.8	-2.8	+3.0	-5.5	-23.0	-15.8	-11.0	-17.6	-12.8	+4.2	-0.9	+8.1	+15.4	+1.1	+19.6	+23.7	+4.0
April	+0.6	-2.9	+2.6	+7.6	+4.7	+4.4	+1.2	+3.6	-3.3	-14.6	-30.2	-27.5	-22.0	-8.2	-3.0	+5.3	+2.8	+13.1	+4.5	+17.9	+7.3	+11.4	+23.9	+0.5
May	+12.7	+7.8	-3.5	+2.0	+2.0	+1.5	+1.6	-4.7	-7.1	-12.9	-30.1	-27.5	-33.0	-21.7	-6.6	+1.5	+13.4	+13.4	+23.1	+23.9	+14.5	+6.4	+16.4	+16.8
June	-2.0	-6.6	-7.0	-9.2	-8.3	-9.1	-3.7	-9.7	-13.7	-23.0	-27.6	-24.4	-19.6	-15.8	-4.5	+27.4	+50.4	+35.0	+30.0	+15.6	+4.5	-1.8	+12.7	+10.6
July	+11.4	+14.4	+2.6	+11.8	+7.3	0.0	-3.4	-12.4	-19.0	-24.5	-27.7	-31.8	-25.0	-11.6	-12.7	+5.2	+15.8	+13.8	+23.0	+19.3	+15.7	+10.0	+5.4	+12.4
August	+8.8	+5.8	+1.9	-1.7	+9.3	+9.7	+3.3	-12.8	-20.5	-24.8	-22.1	-23.0	-32.7	-18.9	-16.3	+0.9	+11.4	+13.0	+17.9	+21.0	+20.0	+16.2	+18.4	+18.2
September	+7.5	+1.0	-2.7	-1.0	+2.7	+0.4	-7.8	-3.9	-11.7	-23.6	-30.0	-31.5	-28.0	-11.9	+0.1	+0.5	+20.0	+12.3	+25.8	+28.9	+21.1	+12.3	+11.1	+8.6
October	+17.1	+9.6	+9.4	+6.7	+8.1	+7.7	-0.6	-15.4	-23.1	-29.6	-22.7	-31.6	-19.4	-22.0	-10.8	+3.5	+4.5	+12.1	+13.1	+27.5	+13.5	+13.7	+13.1	+15.5
November	+3.7	+1.2	+12.2	+3.3	+11.3	+8.4	+5.4	+1.9	-5.8	-16.3	-32.3	-42.7	-18.9	-12.9	-6.3	-3.9	+2.6	+3.6	+7.8	+11.1	+14.3	+22.5	+13.6	+15.7
December	+1.4	+6.3	+4.3	+5.1	+6.0	+13.5	+8.2	+0.5	-4.0	-12.9	-8.5	-10.5	-8.0	-7.3	-14.4	-5.4	-1.6	-7.8	-7.5	-1.5	+23.0	+12.9	+0.5	+7.8
	+6.1	+4.6	+6.6	+8.3	+12.4	+17.6	+15.2	+16.6	+7.4	+1.8	-1.8	-14.0	-15.5	-1.7	-10.2	-7.7	-16.0	-14.7	-15.7	-9.4	-4.5	+3.7	+5.9	+4.8
Year	+6.3	+3.8	+1.9	+2.9	+5.3	+5.4	+3.1	-2.3	-8.3	-14.7	-20.5	-25.3	-20.2	-12.0	-8.6	+0.5	+8.1	+7.0	+10.6	+14.0	+11.2	+10.9	+11.8	+9.4
Winter	+4.0	+3.5	+1.7	+3.8	+6.5	+10.3	+10.4	+6.7	+1.4	-1.8	-5.8	-13.4	-11.0	-5.4	-10.8	-8.7	-5.9	-7.9	-4.7	+0.4	+5.6	+10.1	+6.8	+4.6
Equinox	+8.5	+3.9	+5.2	+4.8	+6.5	+5.5	+1.9	-3.7	-9.8	-18.4	-28.6	-34.9	-23.4	-16.2	-6.7	+1.6	+5.8	+10.6	+12.0	+20.1	+12.3	+13.4	+16.7	+12.2
Summer	+6.4	+3.7	-1.3	0.0	+2.8	+0.2	-2.9	-9.8	-16.2	-23.9	-26.8	-27.7	-26.4	-14.5	-8.3	+8.5	+24.3	+18.6	+24.1	+21.1	+15.4	+9.2	+11.9	+11.7
WEST COMPONENT (DISTURBED DAYS).																								
330. ESKDALEMUIR.																								
1933																								
January	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
February	-11.7	-9.1	+0.1	+2.1	-0.1	+2.9	+4.9	+2.1	-0.4	+0.1	+4.5	+9.0	+19.4	+16.9	+22.2	+15.0	+12.3	+1.4	-8.7	-17.7	-20.1	-12.2	-20.5	-12.8
March	-4.8	-19.2	-15.2	-1.8	-6.3	-6.8	+0.7	+9.3	+11.2	+5.6	+12.1	+16.3	+26.5	+33.3	+30.2	+15.7	+3.0	-2.4	-38.3	-26.6	-1.4	-22.5	-9.1	-9.9
April	-21.6	+8.3	-0.6	-12.0	-9.4	+2.1	+2.7	-1.6	-5.4	-5.8	+0.9	+12.7	+21.9	+29.0	+35.7	+27.6	+16.1	-4.7	-10.2	-7.4	-6.1	-36.3	-15.3	-20.4
May	-25.4	-17.1	-16.6	-7.2	-12.6	-5.9	-5.1	-4.2	-7.9	-7.3	-3.5	+7.4	+23.1	+29.8	+33.6	+29.9	+28.4	+22.7	+16.5	-1.4	-10.9	-23.9	-12.9	-29.4
June	-15.9	-8.1	-9.1	-6.5	-6.0	-20.6	-25.9	-24.1	-24.8	-19.8	-4.8	+8.9	+25.5	+31.8	+36.0	+39.3	+47.8	+40.1	+10.7	-2.8	-22.9	-15.6	-22.6	-10.5
July	-16.4	-28.1	-20.0	-19.8	-27.0	-11.4	-19.7	-23.6	-23.0	-15.9	-4.8	+7.7	+20.7	+32.9	+35.4	+30.6	+29.9	+25.3	+14.9	+12.6	+7.9	+4.8	-3.0	-11.9
August	-9.8	-15.9	-16.8	-14.3	-18.4	-24.0	-25.1	-20.7	-13.3	-13.3	-0.2	+14.8	+26.2	+32.1	+32.4	+22.7	+19.4	+18.1	+12.9	+8.3	+3.2	+2.8	-12.1	-8.6
September	-10.5	-13.2	-12.4	-13.4	-17.4	-21.3	-15.4	-16.0	-15.8	-8.6	0.0	+17.8	+27.5	+36.5	+47.6	+44.6	+33.5	+22.0	+2.5	-32.5	-23.8	-12.4	-9.6	-9.7
October	-2.3	-6.7	-1.7	-7.0	+8.9	+21.2	+3.9	-6.1	-12.4	-6.9	+1.2	+11.9	+27.3	+32.5	+27.1	+16.5	+7.1	-11.0	-11.3	-29.3	-16.2	-15.5	-17.4	-13.9
November	-8.5	-5.6	-5.3	-6.5	+1.4	-2.2	+1.4	+1.3	-5.0	-7.1	+3.5	+12.6	+25.8	+22.6	+27.2	+14.7	+9.3	-15.7	-12.1	-8.8	-15.7	-13.9	-5.1	-15.0
December	-4.7	+10.4	+2.9	-0.2	+1.5	+12.1	+18.3	+14.8	+5.6	+1.8	+2.7	+9.8	+16.8	+15.5	+9.0	+9.5	-5.4	-2.1	-8.6	-11.2	-29.0	-30.2	-27.2	-12.3
	-2.8	-0.6	+1.7	+4.5	+11.4	+12.2	+15.3	+14.6	+8.9	+5.8	+12.9	+12.5	+20.1	+22.7	+6.8	+4.3	+4.6	-17.6	-11.5	-32.1	-27.4	-31.5	-24.5	-10.1
Year	-11.2	-8.5	-7.7	-6.8	-6.1	-3.4	-3.7	-4.5	-6.9	- .9	+2.0	+11.7	+23.4	+28.5	+28.6	+22.6	+17.2	+6.3	-3.4	-12.4	-13.6	-17.1	-15.0	-13.7
Winter	-6.0	-4.6	-2.6	+1.1	+1.6	+5.2	+9.8	+10.2	+6.3	+3.3	+8.0	+11.9	+20.7	+22.1	+17.1	+11.1	+3.6	-5.2	-16.7	-21.9	-19.6	-24.0	-20.3	-11.3
Equinox	-14.4	-5.3	-6.0	-8.2	-2.9	+3.7	+0.7	-2.6	-7.7	-6.8	+0.6	+11.2	+24.6	+30.3	+30.9	+22.2	+15.2	-2.2	-4.3	-11.7	-12.2	-22.4	-12.7	-19.7
Summer	-13.2	-15.8	-14.6	-13.5	-17.1	-19.3	-21.5	-21.1	-19.2	-14.4	-2.4	+11.8	+25.0	+33.4	+37.9	+34.3	+32.6	+26.3	+10.7	-3.6	-9.0	-5.1	-11.8	-10.1
VERTICAL COMPONENT (DISTURBED DAYS).																								
331. ESKDALEMUIR.																								
1933.																								
January	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
February	-5.4	-7.9	-9.3	-10.3	-10.3	-10.8	-9.7	-7.5	-6.3	-6.3	-5.0	- .6	-5.2	-1.9	+2.2	+9.5	+16.9	+21.4	+22.7	+16.7	+10.5	-0.2	+2.4	-0.6
March	-27.2	-20.3	-24.1	-30.2	-29.3	-22.3	-17.4	-12.7	-11.1	-7.0	-7.1	-4.7	-1.6	+6.5	+21.1	+37.8	+45.7	+35.5	+35.8	+26.3	+17.5	+12.0	-5.1	-18.1
April	-13.6	-27.0	-23.2	-27.1	-22.5	-26.5	-22.2	-12.2	-5.4	-2.5	-2.3	- .9	-1.2	+2.8	+9.2	+23.3	+35.7	+42.3	+41.2	+26.4	+16.0	+10.3	-4.1	-15.5
May	-17.5	-17.1	-18.9	-16.2	-11.2	-10.7	-8.6	-5.7	-4.3	-5.7	-6.8	-8.2	-5.4	+3.4	+6.5	+11.5	+15.1	+20.1	+20.6	+23.2	+26.0	+19.5	+1.5	-13.1
June	-21.3	-23.8	-25.3	-24.9	-30.1	-26.2	-20.3	-18.1	-15.0	-14.5	-13.2	-12.8	-10.6	+0.1	+15.0	+43.2	+58.3	+60.4	+53.7	+38.3	+15.7	-20.2	-6.3	-10.1
July	-14.3	-16.5	-21.5	-36.8	-25.7	-14.7	-8.2	-4.5	-2.1	-2.0	-4.2	-5.6	-3.3	+0.1	+6.1	+20.0	+29.5	+29.1	+25.2	+23.3	+18.5	+11.8	+1.6	-5.8
August	-11.5	-13.1	-10.0	-14.1	-11.5	-6.3	-3.0	-2.3	-3.5	-4.3	-8.2	-8.5	-6.1	-2.1	+5.2	+13.1	+18.5	+18.9	+19.4	+17.7	+13.1	+8.5	-0.6	-9.3
September	-10.0	-9.4	-13.6	-15.7	-9.0	-7.2	-8.7	-9.8	-11.7	-15.1	-15.3	-16.4	-11.6	-4.4	+4.4	+15.9	+24.6	+29.0	+39.7	+32.6	+14.7	+6.9	-2.1	-8.8
October	-22.8	-19.4	-22.0	-21.8	-29.5	-37.5	-29.8	-21.1	-13.5	-5.5	+4.3	+2.3	+4.8	+12.6	+23.2	+33.4	+43.5	+47.9	+38.2	+29.3	+5.1	+1.5	-6.9	-15.9
November	-13.2	-20.4	-20.9	-19.1	-19.2	-12.5	-7.3	-3.4	-1.2	+0.3	-0.1	+2.6	+2.2	+6.5	+13.1	+17.4	+17.6	+24.2	+22.4	+13.8	+5.5	+0.3	-0.6	-8.0
December	-12.1	-24.2	-22.7	-17.2	-12.5	-11.8	-12.2																	



Departures from mean of the day adjusted for non-cyclic change.†

MONTH AND SEASON.	Hour 0-1	G.M.T. 1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
DECLINATION (measured positive towards the West) (DISTURBED DAYS).																								
332. ESKDALEMUIR. 1933.																								
January	-2.57	-2.07	-0.06	+0.32	-0.19	+0.18	+0.48	-0.11	-0.33	-0.04	+1.28	+2.13	+4.17	+3.50	+4.52	+3.49	+3.01	+0.71	-1.57	-3.41	-4.18	-2.62	-3.99	-2.65
February	-1.17	-3.80	-2.76	-0.34	-1.48	-1.47	-0.28	+1.91	+2.41	+0.97	+2.72	+4.47	+6.15	+7.28	+7.00	+3.82	+0.39	-0.44	-8.12	-6.16	-0.35	-5.53	-3.02	-2.19
March	-4.37	+1.83	-0.26	-2.82	-2.14	+0.20	+0.48	-0.51	-0.93	-0.43	+1.73	+3.98	+5.54	+8.26	+7.34	+5.27	+3.11	-1.63	-2.29	-2.40	-1.60	-7.90	-4.32	-4.15
April	-5.78	-3.85	-3.17	-1.54	-2.64	-1.27	-1.11	-0.61	-1.22	-0.82	+0.83	+3.41	+6.36	+7.12	+7.11	+5.95	+5.04	+3.88	+2.14	-1.51	-2.93	-5.16	-3.44	-6.79
May	-3.10	-1.29	-1.49	-0.83	-0.80	-3.69	-5.04	-4.35	-4.29	-2.81	+0.46	+3.05	+6.13	+7.24	+7.48	+6.52	+7.05	+6.28	+0.63	-1.38	-4.86	-3.04	-5.21	-2.66
June	-3.88	-6.00	-4.17	-4.60	-5.82	-2.29	-3.79	-4.13	-3.66	-1.95	+0.44	+2.78	+5.46	+7.24	+7.80	+5.91	+5.21	+4.39	+2.17	+1.56	+0.79	+0.46	-0.88	-3.04
July	-2.43	-3.50	-3.47	-2.79	-4.18	-5.35	-5.24	-3.53	-1.64	-1.42	+1.09	+4.16	+6.95	+7.42	+7.35	+4.53	+3.32	+2.99	+1.70	+0.61	-0.40	-0.28	-3.39	-2.50
August	-2.50	-2.71	-2.36	-2.66	-3.64	-4.31	-2.70	-3.02	-2.69	-0.51	+1.54	+5.21	+6.98	+7.97	+9.60	+8.96	+5.72	+3.79	-0.82	-8.02	-5.89	-3.13	-2.50	-2.41
September	-1.34	-1.84	-0.81	-1.75	+1.37	+3.89	+0.81	-0.46	-1.33	+0.12	+1.39	+4.01	+6.51	+7.62	+6.01	+3.16	+1.20	-2.83	-2.93	-7.33	-3.94	-3.82	-4.18	-3.60
October	-1.92	-1.21	-1.69	-1.49	-0.30	-0.89	0.00	+0.17	-0.73	-0.61	+2.36	+4.73	+6.17	+6.64	+5.82	+3.16	+1.73	-3.38	-2.85	-2.34	-3.90	-3.94	-1.71	-3.82
November	-1.00	+1.79	+0.36	-0.31	0.00	+1.77	+3.28	+2.97	+1.33	+1.04	+0.99	+2.52	+3.79	+3.79	+2.55	+2.18	-1.00	-0.03	-1.36	-2.19	-7.04	-6.75	-5.52	-2.87
December	-0.88	-0.36	0.00	+0.47	+1.65	+1.55	+2.29	+2.08	+1.42	+1.08	+2.70	+3.25	+4.85	+4.67	+1.91	+1.26	+1.76	-2.80	-1.50	-5.99	-5.31	-6.55	-5.25	-2.30
Year	-2.58	-1.92	-1.66	-1.53	-1.51	-0.97	-0.90	-0.80	-0.96	-0.45	+1.46	+3.64	+5.75	+6.38	+6.21	+4.52	+3.05	+0.91	-1.23	-3.21	-3.30	-4.02	-3.62	-3.25
Winter	-1.41	-1.11	-0.61	+0.03	-0.01	+0.51	+1.44	+1.71	+1.21	+0.76	+1.92	+3.09	+4.74	+4.74	+3.99	+2.69	+1.04	-0.64	-3.14	-4.44	-4.22	-5.36	-4.45	-2.50
Equinox	-3.35	-1.27	-1.48	-1.90	-0.93	+0.48	+0.05	-0.35	-1.05	-0.43	+1.58	+4.03	+6.15	+6.93	+6.57	+4.39	+2.77	-0.99	-1.48	-3.39	-3.09	-5.21	-3.41	-4.59
Summer	-2.98	-3.37	-2.87	-2.72	-3.61	-3.91	-4.19	-3.76	-3.05	-1.67	+0.88	+3.80	+6.38	+7.47	+8.06	+6.48	+5.33	+4.36	+0.92	-1.81	-2.59	-1.50	-2.99	-2.65

INCLINATION (DISTURBED DAYS).

333. ESKDALEMUIR. 1933.																								
January	-0.22	-0.33	-0.35	-0.43	-0.46	-0.85	-0.99	-0.90	-0.45	-0.24	+0.28	+0.10	-0.15	-0.22	-0.23	+0.59	+0.90	+1.07	+0.93	+0.93	+0.44	-0.13	+0.60	+0.12
February	-0.88	-0.10	+0.10	-0.69	-0.90	-0.61	-0.99	-0.41	-0.29	-0.45	0.00	+1.10	-0.56	+0.31	+1.17	+1.52	+0.80	+0.98	+1.00	+0.38	+0.38	-0.60	-1.54	-0.55
March	-0.01	-0.62	-0.70	-1.00	-0.71	-0.99	-0.68	-0.52	+0.17	+1.00	+1.91	+1.54	+1.04	+0.12	-0.17	-0.24	+0.44	+0.25	+0.90	-0.38	+0.01	+0.11	-1.35	-0.10
April	-0.85	-0.65	+0.08	-0.41	-0.20	-0.27	-0.25	+0.24	+0.49	+0.83	+1.88	+2.14	+1.67	+1.01	+0.03	-0.32	-0.97	-0.76	-1.27	-0.97	-0.12	+0.45	-0.83	-0.94
May	-0.14	-0.01	-0.02	+0.10	-0.10	+0.30	+0.16	+0.58	+0.94	+1.48	+1.58	+1.12	+0.60	+0.52	+0.07	-1.37	-2.69	-1.44	-0.55	-0.03	+0.47	-0.12	-0.62	-0.79
June	-0.83	-0.92	-0.38	-1.38	-0.65	-0.18	+0.35	+1.09	+1.58	+1.82	+1.82	+1.88	+1.23	+0.23	+0.42	-0.37	-0.80	-0.58	-1.17	-0.89	-0.71	-0.45	-0.27	-0.77
July	-0.70	-0.44	-0.09	+0.01	-0.60	-0.49	+0.14	+1.14	+1.45	+1.76	+1.26	+1.05	+1.58	+0.65	+0.66	-0.10	-0.60	-0.68	-0.92	-1.07	-1.04	-0.89	-1.02	-1.10
August	-0.59	-0.09	+0.06	-0.11	-0.11	+0.15	+0.58	+0.28	+0.74	+1.30	+1.61	+1.41	+1.08	+0.08	-0.69	-0.39	-1.25	-0.45	-0.76	-0.55	-0.62	-0.42	-0.62	-0.62
September	-1.68	-1.00	-1.12	-0.87	-1.41	-1.80	-0.79	+0.59	+1.39	+1.92	+1.59	+1.95	+0.94	+1.25	+0.84	+0.32	+0.67	+0.56	+0.28	-0.60	-0.60	-0.60	-0.75	-1.19
October	-0.42	-0.50	-1.23	-0.69	-1.23	-0.84	-0.56	-0.23	+0.44	+1.20	+2.06	+2.67	+0.88	+0.53	+0.29	+0.44	+0.13	+0.53	+0.25	-0.26	-0.55	-1.24	-0.84	-0.98
November	-0.31	-1.19	-0.89	-0.78	-0.72	-1.38	-1.14	-0.50	+0.06	+0.84	+0.51	+0.54	+0.28	+0.38	+1.22	+0.70	+0.73	+1.06	+1.19	+0.75	-0.72	-0.46	+0.31	-0.50
December	-0.63	-0.50	-0.63	-0.83	-1.28	-1.69	-1.60	-1.67	-0.90	-0.44	-0.32	+0.57	+0.61	-0.30	+0.80	+0.80	+1.54	+2.00	+2.00	+1.69	+1.13	+0.30	-0.29	-0.40
Year	-0.60	-0.53	-0.43	-0.58	-0.70	-0.72	-0.48	-0.03	+0.47	+0.92	+1.18	+1.34	+0.86	+0.38	+0.37	+0.13	-0.09	+0.21	+0.16	-0.11	-0.15	-0.34	-0.60	-0.65
Winter	-0.51	-0.53	-0.44	-0.68	-0.84	-1.13	-1.18	-0.87	-0.39	-0.07	+0.12	+0.58	+0.33	+0.04	+0.74	+0.90	+0.99	+1.28	+1.28	+0.87	+0.31	-0.22	-0.23	-0.33
Equinox	-0.73	-0.69	-0.74	-0.72	-0.89	-0.97	-0.57	+0.02	+0.62	+1.24	+1.86	+2.07	+1.13	+0.73	+0.25	+0.05	+0.07	+0.15	+0.04	-0.55	-0.29	-0.32	-0.94	-0.80
Summer	-0.57	-0.37	-0.11	-0.35	-0.37	-0.05	+0.31	+0.77	+1.18	+1.59	+1.57	+1.36	+1.12	+0.37	+0.11	-0.56	-1.33	-0.79	-0.85	-0.63	-0.47	-0.47	-0.63	-0.82

HORIZONTAL FORCE (DISTURBED DAYS).

334. ESKDALEMUIR. 1933.																								
January	+1.1	+2.0	+1.7	+2.6	+3.1	+8.5	+10.8	+10.7	+4.4	+1.2	-5.9	-3.5	+0.2	+2.6	+4.3	-5.1	-7.0	-7.9	-5.8	-7.2	-2.5	+1.6	-7.9	-2.0
February	+2.9	-6.0	-9.5	-1.0	+2.6	+0.6	+8.1	+1.5	+0.1	+4.3	-2.4	-18.3	-8.8	-2.4	-9.6	-8.6	+4.9	-1.4	-1.7	+8.4	+0.7	+13.4	+20.8	+1.4
March	-4.8	-0.7	+2.4	+4.3	+2.3	+4.8	+1.9	+3.1	-4.5	-15.6	-29.1	-23.6	-15.9	-0.8	+5.9	+12.0	+6.7	+11.6	+1.9	+15.5	+5.6	+2.1	+19.4	-4.5
April	+6.1	+3.4	-7.4	+0.2	-1.1	0.0	+0.3	-5.6	-8.8	-14.4	-30.1	-34.6	-26.4	-13.8	+1.9	+8.8	+20.0	+18.6	+26.5	+22.9	+11.4	+0.3	+12.7	+9.1
May	-5.9	-8.4	-9.1	-10.5	-9.5	-14.0	-9.9	-15.3	-19.4	-27.2	-28.0	-21.5	-12.8	-7.6	+4.4	+36.3	+60.7	+43.8	+31.7	+14.5	-1.2	-5.6	+6.8	+7.7
June	+7.0	+7.6	-2.4	+6.6	+0.4	-2.8	-8.2	-17.9	-24.1	-27.7	-28.1	-29.5	+19.2	-3.2	-3.6	+12.6	+22.7	+19.7	+26.5	+21.8	+17.3	+10.9	+4.5	+9.1
July	+6.1	+1.8	-2.3	-5.2	+4.6	+3.5	-3.0	-17.6	-23.2	-27.4	-21.5	-18.7	-25.3	-10.4	-7.9	+6.4	+15.8	+17.1	+20.6	+22.4	+20.2	+16.4	+14.9	+12.7
August	+4.8	-2.3	-5.7	-4.2	-1.7	-4.9	-11.4	-7.8	-15.3	-25.0	-29.2	-26.3	-20.5	-2.6	+11.8	+11.5	+27.6	+17.4	+25.7	+20.1	+14.6	+8.9	+8.5	+6.0
September	+16.0	+7.7	+8.7	+4.8	+10.0	+12.7	+0.4	-16.4	-25.5	-30.5	-21.8	-27.8	-12.1	-13.3	-3.8	+7.4	+6.1	+9.1	+9.8	+19.9	+9.1	+9.4	+8.4	+11.7
October	+1.6	-0.2	+10.6	+1.7	+11.3	+7.7	+5.6	+2.2	-6.7	-17.6	-30.5	-38.5	-12.1	-5.3	+0.5	-0.2	+4.8	-0.4	+4.7	+8.7	+10.0	+18.5	+12.0	+11.6
November	+0.2	+8.7	+4.9	+4.9	+6.2	+16.1	+12.4	+4.1	-2.5	-12.1	-7.6	-7.9	-3.7	-3.3	-11.8	-2.9	-2.9	-8.1	-9.4	-4.2	+15.3	+5.2	-6.2	+4.6
December	+5.3	+4.3	+6.8	+9.1	+14.8	+20.1	+18.5	+19.6	+9.4	+3.2	+1.4	-10.5	-10.1	+3.9	-8.3	-6.4	-14.4	-18.6	-18.0	-17.0	-11.1	-4.1	-0.2	+2.3
Year	+3.4	+1.5	-0.1	+1.1	+3.6	+4.4	+2.1	-3.3	-9.7	-15.7	-19.4	-21.7	-13.9	-4.7	-1.3	+6.0	+12.1	+8.4	+9.4	+10.5	+7.5	+6.4	+7.8	+5.8
Winter	+2.4	+2.3	+1.0	+3.9	+6.7	+11.3	+12.5	+9.0	+2.0	-0.9	-3.6	-10.1	-5.6	+0.2	-6.3	-5.7	-4.9	-9.0	-8.7	-5.0	+0.6	+4.0	+1.6	+1.6
Equinox	+4.7	+2.5	+3.6	+2.7	+5.6	+6.3	+2.1	-4.2	-11.4	-19.5	-27.6	-31.1	-16.6	-8.3	+1.1	+7.0	+9.4	+9.7	+10.7	+16.7	+9.0	+7.6	+13.1	+7.0
Summer	+3.0	-0.3	-4.9	-3.3	-1.5	-4.5	-8.1	-14.7	-20.5	-26.8	-26.7	-24.0	-19.5	-5.9	+1.2	+16.7	+31.7	+24.5	+26.1	+19.7	+12.7	+7.7	+8.7	+8.9



RANGE OF MEAN DIURNAL INEQUALITIES FOR THE MONTHS, YEAR AND SEASONS OF 1933.  
NOTE. -The ranges are those shown in Tables 317 to 334, in the preparation of which  
the non-cyclic change has been eliminated †.

## 335. ESKDALEMUIR.

1933.

MONTH AND SEASON	All Days.			Quiet Days.			Disturbed Days.			All Days.			Quiet Days.			Disturbed Days.		
	N.	W.	V.	N.	W.	V.	N.	W.	V.	D.	I.	H.	D.	I.	H.	D.	I.	H.
January	18.4	29.2	14.3	13.6	17.5	4.8	20.9	42.7	33.5	6.20	1.22	16.1	3.80	0.85	12.5	8.70	2.06	18.7
February	21.5	26.9	21.0	17.4	13.4	3.8	46.7	71.6	75.9	5.95	1.10	16.7	2.74	1.05	16.0	15.41	3.06	39.1
March	33.2	36.7	24.6	21.6	32.3	13.1	54.1	72.0	69.4	8.22	1.82	28.8	7.28	1.07	18.3	15.24	3.26	48.5
April	43.0	47.1	24.6	35.1	45.7	17.8	61.4	63.0	43.5	10.48	2.26	40.6	9.75	2.07	35.2	13.91	3.41	61.1
May	44.1	49.2	33.2	38.7	53.0	20.1	78.0	73.7	93.8	10.38	2.44	47.0	10.97	2.62	42.3	12.69	4.02	88.7
June	40.6	52.0	19.4	31.2	49.1	18.0	54.8	61.5	66.3	10.59	2.49	43.8	9.52	1.97	32.5	13.80	3.24	56.0
July	41.0	49.9	20.5	39.4	43.1	20.0	53.7	57.5	33.5	10.67	2.44	42.1	8.98	2.45	41.0	12.77	2.87	49.8
August	42.6	45.4	24.6	41.3	51.4	16.7	60.4	80.1	55.4	9.74	2.15	38.4	10.73	2.85	43.5	17.62	2.86	56.8
September	38.3	39.8	22.8	43.9	43.7	15.7	59.1	61.8	85.8	8.10	2.23	35.6	8.84	2.75	43.6	15.02	3.75	50.4
October	33.2	30.5	18.7	25.6	23.4	9.1	65.2	45.3	45.1	7.05	1.87	28.3	5.41	1.38	21.7	10.58	3.91	57.0
November	14.4	27.4	14.7	11.7	13.9	6.2	37.4	48.5	46.3	6.07	1.01	12.8	3.04	0.74	10.1	10.83	2.60	28.2
December	12.2	26.5	12.5	9.7	17.5	5.8	33.3	54.8	44.5	5.72	1.12	11.9	3.65	0.55	7.3	11.40	3.69	38.7
Year	28.2	33.1	18.3	24.8	32.3	11.3	39.3	45.7	52.1	6.94	1.42	25.4	6.71	1.42	23.9	10.40	2.06	33.8
Winter	15.0	26.2	14.2	13.0	14.5	4.5	23.8	46.1	44.6	5.70	0.97	13.4	3.08	0.76	11.3	10.10	2.46	22.6
Equinox	35.4	38.1	22.2	29.4	36.3	12.7	55.0	53.3	55.5	8.18	2.02	31.5	7.61	1.63	26.9	12.14	3.04	47.8
Summer	41.4	48.5	24.9	36.9	48.1	17.7	52.0	59.4	59.9	10.24	2.32	42.3	10.00	2.33	38.3	12.25	2.92	58.5

NON-CYCLIC CHANGE †.

MEAN VALUES OF  $HR_H + VR_V$ (Unit 10,000 $\gamma^2$ )

## 336. ESKDALEMUIR.

1933.

## 337. ESKDALEMUIR.

1933.

MONTH.	All Days.			Quiet Days.			Disturbed Days.			$HR_H$	$VR_V$	Sum	Mean Character Figure.
	H.	D.	V.	H.	D.	V.	H.	D.	V.				
January	-0.5	+0.01	-0.1	+0.5	+0.40	0.0	-5.3	-1.09	+1.0	92	128	220	0.65
February	-0.1	-0.08	+0.2	+3.0	+0.40	-1.5	-8.5	-1.65	-14.0	107	181	288	0.68
March	-0.8	+0.08	-0.9	+3.5	+0.44	-1.9	-5.1	-0.30	-8.0	135	195	330	0.84
April	-0.3	-0.25	+0.4	+3.1	+0.94	+1.5	-3.7	-0.83	-4.1	141	212	353	0.93
May	+0.4	-0.12	-0.7	+3.5	+0.23	-1.5	-21.2	+4.07	-20.2	165	321	485	0.74
June	0.0	+0.15	+0.3	+2.4	-0.17	-0.7	-2.5	+1.01	+1.3	119	177	296	0.60
July	0.0	-0.01	+0.1	+1.5	-0.61	+0.1	-9.9	-0.04	-0.7	121	156	277	0.48
August	0.0	-0.09	0.0	-2.6	+0.39	+0.8	-8.2	+0.52	-6.3	126	177	303	0.61
September	-0.4	0.00	+0.1	+4.2	+0.65	+0.8	-3.7	+1.03	-2.2	142	209	351	0.93
October	+0.1	-0.03	-0.1	+4.3	+0.64	-1.1	-5.4	-0.73	-10.5	124	167	291	0.61
November	-0.2	-0.04	+0.3	+0.4	-0.13	+1.9	-3.7	+0.98	-1.2	95	131	226	0.53
December	+0.2	-0.01	0.0	+4.0	+0.37	-2.5	-3.1	-1.26	-0.9	73	109	182	0.39
Year 1933	---	---	---	---	---	---	---	---	---	120	180	300	0.67

† See page 21.

\* See page 176.

MEAN MONTHLY AND ANNUAL VALUES OF TERRESTRIAL MAGNETIC ELEMENTS.

(All days except those noted in monthly tables.)

## 338. ESKDALEMUIR.

1933.

Month	North	West	Vertical	Total	Declination (West)		Inclination (North)		Horizontal Force.
	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$^{\circ}$	$'$	$^{\circ}$	$'$	$\gamma$
January	16046	4088	44913	47869	14°	17.5	69°	45.7	16559
February	16048	4084	44903	47859	14°	16.7	69°	45.4	16559
March	16048	4082	44893	47850	14°	16.2	69°	45.2	16559
April	16049	4074	44887	47843	14°	14.7	69°	45.1	16558
May	16054	4059	44878	47836	14°	13.4	69°	44.6	16562
June	16061	4066	44879	47839	14°	12.4	69°	44.3	16567
July	16056	4061	44881	47840	14°	11.6	69°	44.8	16561
August	16055	4056	44885	47842	14°	10.6	69°	45.0	16559
September	16049	4049	44885	47840	14°	9.6	69°	45.5	16552
October	16047	4044	44885	47838	14°	8.7	69°	45.7	16548
November	16052	4039	44890	47844	14°	7.5	69°	45.6	16552
December	16054	4036	44897	47852	14°	6.6	69°	45.7	16554
Year 1933	16052	4062	44890	47847	14°	12.1	69°	45.2	16558



Longitude of Eskdalemuir Observatory,  $3^\circ 12' W.$ )

339. ESKDALEMUIR.

1933.

Month and Season.	North Component.								West Component.								Vertical Component.							
	$a_1$	$b_1$	$a_2$	$b_2$	$a_3$	$b_3$	$a_4$	$b_4$	$a_1$	$b_1$	$a_2$	$b_2$	$a_3$	$b_3$	$a_4$	$b_4$	$a_1$	$b_1$	$a_2$	$b_2$	$a_3$	$b_3$	$a_4$	$b_4$
ALL DAYS																								
Jan.	+3.3	+2.2	-3.8	-1.6	+0.8	-2.8	-0.4	+1.1	-8.9	-0.4	-0.7	+5.5	-1.5	-0.7	+0.7	+1.6	-0.3	-6.4	-1.4	-0.7	+0.6	+0.3	0.0	-0.6
Feb.	+5.9	+0.9	-4.1	-2.5	+1.2	-1.9	-0.3	-0.4	-9.4	-1.8	+1.8	+3.9	-1.3	-2.1	-0.6	+0.9	-2.5	-8.1	-3.5	-0.2	+0.9	+0.3	-0.7	-0.2
Mar.	+10.4	-1.1	-6.6	-1.3	+2.9	-2.7	-0.6	+0.5	-9.6	-6.6	+2.5	+8.8	-0.9	-4.7	+0.7	+2.5	-0.8	-9.4	-4.7	-2.3	+2.0	+1.4	-0.7	-1.3
Apr.	+14.9	-5.4	-9.2	-0.2	+3.5	-0.6	+0.2	+0.4	-11.9	-11.3	+2.0	+11.1	-0.9	-3.5	+1.8	+1.9	+0.8	-8.8	-7.1	-2.6	0.0	+0.3	-1.5	-0.4
May	+12.1	-9.0	-9.7	+2.5	+2.1	+0.5	+0.9	-0.3	-8.2	-17.0	+4.4	+10.1	-1.9	-0.1	+1.4	-0.8	+0.8	-10.4	-9.3	-0.5	+1.0	+0.9	0.0	-0.1
June	+12.9	-7.6	-8.0	+3.2	+1.2	-0.6	+0.3	0.0	-7.1	-19.9	+3.6	+8.5	-2.1	-1.8	+0.1	+0.8	+1.8	-7.4	-5.7	-1.9	+1.4	-0.4	-0.2	-0.3
July	+14.5	-6.2	-8.9	+1.0	+1.5	-1.3	+0.7	0.0	-5.2	-18.3	+5.4	+8.1	-2.1	-1.9	+0.1	+0.8	+2.7	-4.6	-6.1	-1.9	+1.1	+0.4	-0.5	-0.4
Aug.	+14.5	-7.3	-7.9	+2.4	+1.0	-1.5	+0.5	+0.2	-9.3	-12.7	+7.0	+8.2	-2.2	-1.8	+0.3	+0.4	+2.6	-6.3	-6.9	-0.3	+1.6	-0.1	0.0	+0.3
Sept.	+14.9	-4.4	-5.8	+2.4	+0.8	-3.5	+0.9	+1.2	-10.1	-7.6	+6.1	+6.4	-3.7	-2.9	+2.5	+1.2	-1.5	-9.2	-4.4	-0.4	+1.7	+0.9	-0.8	-0.4
Oct.	+10.9	-1.3	-5.8	-0.2	+1.0	-3.7	-0.5	+0.7	-8.2	-4.0	+2.0	+6.3	-2.5	-3.7	+1.3	+2.1	-2.7	-6.6	-3.2	-1.0	+1.4	+0.1	-0.8	-0.8
Nov.	+4.8	+1.9	-2.7	-1.1	+0.6	-1.8	+0.4	+0.3	-8.6	+1.1	+0.7	+4.7	-0.6	-0.4	+1.9	+0.9	-1.3	-6.7	-2.3	-0.2	+0.2	-0.4	-0.8	0.0
Dec.	+1.1	+2.9	-1.9	-0.3	+1.4	-2.3	-0.6	-0.2	-8.0	+2.0	+0.3	+4.6	-0.9	+0.7	+1.5	+1.5	+1.0	-5.6	-2.0	-0.4	0.0	+0.3	-0.4	+0.2
Year	+10.0	-2.9	-6.2	+0.4	+1.5	-1.8	+0.1	+0.3	-8.7	-8.0	+2.9	+7.2	-1.7	-1.9	+1.0	+1.1	+0.1	-7.4	-4.7	-1.0	+1.0	+0.3	-0.5	-0.3
Winter	+3.7	+2.0	-3.2	-1.4	+1.0	-2.1	-0.3	+0.1	-8.7	+0.3	+0.6	+4.7	-1.1	-0.7	+0.9	+1.2	-0.7	-6.7	-2.3	-0.4	+0.4	+0.1	-0.5	-0.1
Equinox	+12.8	-3.1	-8.8	+0.2	+2.1	-2.7	0.0	+0.7	-10.0	-7.4	+3.2	+8.2	-2.0	-3.7	+1.6	+2.0	-1.1	-8.5	-4.9	-1.6	+1.2	+0.7	-0.9	-0.7
Summer	+13.5	-7.5	-8.6	+2.3	+1.5	-0.7	+0.6	-0.1	-7.5	-17.0	+5.1	+8.7	-2.1	-1.4	+0.5	+0.3	+1.9	-7.1	-7.0	-1.2	+1.3	+0.2	-0.2	-0.1
QUIET DAYS																								
Year	+8.5	-2.2	-5.7	+0.9	+1.6	-1.7	0.0	+0.7	-4.0	-8.7	+3.7	+5.8	-3.0	-1.7	+1.0	+1.1	+2.6	-1.5	-3.0	-0.1	+1.4	-0.2	-0.6	-0.4
Winter	+2.2	+1.3	-3.0	-0.5	+1.1	-1.3	-0.2	+0.9	-3.6	-1.4	+0.8	+2.8	-1.6	-0.7	+1.0	+1.1	+0.8	-1.9	-0.5	+0.1	+0.4	-0.3	-0.4	-0.1
Equinox	+11.0	-1.2	-8.3	+0.7	+1.9	-1.9	-0.1	+0.9	-5.0	-8.1	+3.7	+6.7	-3.4	-2.5	+1.4	+1.8	+2.7	-1.8	-3.1	0.0	+2.0	-0.3	-0.9	-0.5
Summer	+12.3	-6.7	-7.8	+2.7	+1.7	-1.7	+0.4	+0.2	-3.5	-16.4	+6.5	+7.8	-4.1	-1.9	+0.6	+0.6	+4.3	-0.7	-5.3	-0.2	+1.9	0.0	-0.5	-0.5
DISTURBED DAYS																								
Year	+12.8	-4.7	-7.4	0.0	+2.2	-2.0	0.0	-0.1	-15.2	-5.5	+2.0	+10.7	+0.7	-3.3	+1.0	+0.9	-5.5	-21.1	-8.7	-1.8	+1.5	+3.0	0.0	-0.1
Winter	+7.1	+4.6	-2.5	-3.0	+0.6	-3.3	-0.7	+0.3	-14.6	+6.8	+2.4	+8.2	+1.9	-2.8	+1.2	+1.9	-5.1	-19.1	-7.7	-0.5	+0.7	+2.6	-0.4	-0.1
Equinox	+16.6	-6.3	-9.0	+0.5	+2.9	-2.7	-0.8	+0.6	-15.7	-3.4	+1.2	+11.5	-0.5	-5.1	+0.7	+2.4	-7.8	-22.2	-7.1	-2.6	+0.8	+3.1	-0.8	-0.8
Summer	+14.6	-12.5	-10.7	+2.2	+3.4	+0.1	+1.5	-1.3	-15.5	-20.1	+2.4	+12.4	+0.7	-2.1	+1.0	-1.3	-3.4	-21.9	-11.5	-1.7	+2.9	+3.2	+1.2	+0.4

HARMONIC COMPONENTS OF THE DIURNAL INEQUALITY OF MAGNETIC FORCE.  
Values of  $c_n, \alpha_n$  in the series  $\Sigma c_n \sin (15nT + \alpha_n)$ ,  $T$  being Mean Local Time reckoned in hours from midnight.

340. ESKDALEMUIR.

1933.

Month and Season.	North Component.								West Component.								Vertical Component.							
	c <sub>1</sub>	α <sub>1</sub>	c <sub>2</sub>	α <sub>2</sub>	c <sub>3</sub>	α <sub>3</sub>	c <sub>4</sub>	α <sub>4</sub>	c <sub>1</sub>	α <sub>1</sub>	c <sub>2</sub>	α <sub>2</sub>	c <sub>3</sub>	α <sub>3</sub>	c <sub>4</sub>	α <sub>4</sub>	c <sub>1</sub>	α <sub>1</sub>	c <sub>2</sub>	α <sub>2</sub>	c <sub>3</sub>	α <sub>3</sub>	c <sub>4</sub>	α <sub>4</sub>
ALL DAYS																								
Jan.	4.0	59	4.2	253	2.7	172	1.2	353	8.9	271	5.6	360	1.7	255	1.8	36	6.4	185	1.6	251	0.6	76	0.5	190
Feb.	5.9	85	4.8	244	2.2	159	0.5	235	9.6	263	4.3	31	2.5	221	1.1	339	8.4	200	3.5	273	0.9	79	0.7	267
Mar.	10.4	99	6.7	265	4.0	142	0.8	324	11.7	239	9.1	22	4.8	200	2.6	29	9.4	188	5.3	251	2.4	64	1.5	223
Apr.	15.9	113	9.2	275	3.6	109	0.5	35	16.4	230	11.3	17	3.6	205	2.7	56	8.6	178	7.6	257	0.3	7	1.5	267
May	15.1	130	10.0	301	2.2	87	1.0	122	18.9	209	11.1	30	1.9	277	1.6	132	10.4	179	9.3	273	1.3	57	0.1	187
June	14.9	124	8.7	298	1.3	127	0.3	110	21.1	203	9.2	29	2.7	239	0.8	17	7.6	169	6.0	258	1.4	114	0.4	219
July	15.8	116	9.0	283	2.0	141	0.7	103	19.1	199	9.7	40	2.8	236	0.8	22	5.3	163	6.4	259	1.1	78	0.6	243
Aug.	16.2	120	8.3	293	1.8	155	0.5	79	15.7	219	10.8	47	2.9	241	0.5	49	6.8	161	6.9	274	1.6	103	0.3	8
Sept.	15.5	110	6.3	299	3.6	176	1.5	50	12.6	236	8.9	50	4.7	241	2.8	76	9.3	193	4.4	271	1.9	72	0.9	254
Oct.	11.0	100	5.8	274	3.8	174	0.9	336	9.1	247	6.6	24	4.4	223	2.5	44	7.1	205	3.3	259	1.4	94	1.1	237
Nov.	5.1	72	2.9	255	1.9	171	0.4	68	8.7	280	4.7	15	0.7	242	2.1	77	6.8	194	2.3	272	0.4	162	0.8	233
Dec.	3.0	24	2.0	266	2.7	157	0.6	262	8.2	287	4.6	11	1.1	318	2.1	59	5.7	173	2.0	265	0.3	16	0.4	307
Year	10.4	109	6.2	280	2.4	149	0.3	38	11.8	231	7.7	29	2.6	231	1.5	53	7.4	183	4.8	264	1.1	80	0.6	251
Winter	4.2	65	3.5	252	2.3	164	0.3	312	8.7	275	4.7	13	1.2	248	1.5	48	6.7	190	2.3	267	0.5	84	0.5	268
Equinox	13.2	107	6.8	278	3.4	151	0.7	11	12.4	237	8.8	28	4.2	217	2.5	52	8.5	191	5.1	259	1.4	71	1.2	245
Summer	15.5	122	8.9	291	1.6	126	0.6	108	18.5	207	10.1	37	2.5	245	0.6	68	7.4	168	7.1	267	1.3	90	0.2	251
. QUIET DAYS																								
Year	8.8	108	5.8	286	2.3	146	0.7	14	9.5	208	6.9	39	3.5	250	1.5	53	3.0	123	3.0	275	1.5	107	0.7	251
Winter	2.5	62	3.0	267	1.6	149	0.9	2	3.8	252	2.9	23	1.7	257	1.5	54	2.1	159	0.5	287	0.5	132	0.4	262
Equinox	11.1	99	6.3	282	2.7	145	0.9	3	9.5	215	7.6	35	4.2	243	2.3	50	3.2	127	3.1	276	2.0	109	1.0	252
Summer	14.0	122	8.2	295	2.5	145	0.4	79	16.8	195	10.2	46	4.5	255	0.8	57	4.3	102	5.3	275	1.9	100	0.7	241
DISTURBED DAYS																								
Year	13.6	114	7.4	276	3.0	141	0.1	176	16.2	253	10.9	17	3.4	178	1.4	58	21.8	198	8.9	266	3.3	36	0.1	182
Winter	8.5	60	3.9	227	3.4	179	0.7	306	16.1	298	8.5	23	3.3	156	2.2	45	19.8	198	7.7	273	2.7	24	0.4	267
Equinox	17.8	114	9.0	280	3.9	143	0.9	319	16.1	261	11.5	13	5.2	195	2.5	30	23.5	203	7.6	256	3.2	24	1.1	237
Summer	19.2	134	10.9	288	3.4	98	2.0	142	25.3	221	12.6	17	2.2	171	1.7	156	22.2	192	11.6	268	4.3	52	1.3	83



	Latitude.	Longitude.	1933				1932				1931			
			Declina- tion.	Inclina- tion.	Hori- zontal Force.	Vertical Force.	Declina- tion.	Inclina- tion.	Hori- zontal Force.	Vertical Force.	Declina- tion.	Inclina- tion.	Hori- zontal Force.	Vertical Force.
	N.			N.	Y	Y		N.	Y	Y		N.	Y	Y
Sodankylä, Finland	67 22	26 39E	3 3·8E	76 11·6	12111	49284	2 54·5E	76 8·6	12146	49240	2 45·0E	76 6·0	12182	49223
Lerwick, Shetland Islands	60 8	1 11W	13 34·0W	72 44·6	14477	46405	13 46·1W	72 43·6	14495	46608	13 59·6W	72 42·3	14517	46623
Lovö (Stockholm) Sweden	59 21	17 50E	2 30·6W	71 36·5	15459	46494	2 40·0W	71 33·5	15490	46452	2 49·7W	71 31·0	15520	46430
Sitka, Alaska	57 3	135 20W	30 8·5E	74 20·5	15450	55118	30 10·9E	74 21·0	15450	55150	30 13·1E	74 21·5	15454	55190
†Sverdlovsk, U.S.S.R.	56 50	60 38E	...	...	...	...	...	...	...	...	10 54·6E	72 26·9	16200	51220
Wyssokaya Doubrava U.S.S.R.	56 44	61 4E	...	...	...	...	12 49·9E	72 8·6	16312	50634	...	...	...	...
Copenhagen (in Rude Skov), Denmark	56 51	12 27E	5 29·6W	69 25·0	16839	44838	5 39·9W	69 23·1	16855	44806	5 50·4W	69 20·5	16879	44767
Kasan (Sajmistsche), U.S.S.R.	55 50	48 51E	9 11·3E	70 47·8	16870	46434	9 9·3E	70 43·3	16906	46336	9 7·3E	70 39·1	16953	46279
Edinburgh, Scotland	55 19	3 12W	14 12·1W	69 45·2	16558	44890	14 23·7W	69 45·0	16571	44916	14 34·8W	69 43·7	16583	44898
Meanook, Alberta, Canada	54 37	113 21W	26 21·9E	77 54·0	12736	59411	26 27·2E	77 54·6	12740	59477	26 33·3E	*77 54·9	12758	*59587
Stonyhurst, Lancs., England	53 51	2 28W	13 16·5W	*68 49·0	17169	*44295	13 28·0W	*68 48·0	17176	*44284	13 39·4W	*68 47·3	17181	*44271
Seddin, Prussia	52 17	13 1E	...	...	...	...	...	...	...	...	5 28·9W	68 49·8	18450	43108
Swider, Poland	52 7	21 16E	1 31·9W	67 9·3	18420	43724	1 39·9W	67 5·7	18438	43639	1 49·1W	67 3·2	18463	43608
De Bilt, Utrecht, Holland	52 6	5 11E	8 53·1W	67 3·0	18258	43115	9 4·2W	67 2·3	18264	43107	9 15·7W	67 0·8	18278	43089
Valencia, Calais, Ireland	51 56	10 15W	*16 54·5W	*67 57·9	*17811	*44005	*17 5·4W	*67 58·5	*17809	*44024	*17 16·5W	*67 56·7	*17815	*44048
Bochum, Germany	51 29	7 14E	8 2·5W	...	...	...	8 13·7W	...	...	...	8 23·8W	...	...	...
Abinger, Surrey, England	51 11	0 23W	11 51·7W	66 39·4	18532	42942	12 2·6W	66 39·1	18536	42940	12 13·7W	66 38·1	18543	42923
Uccle, Belgium	50 48	4 21E	9 28·9W	...	...	...	9 36 W	...	...	...	9 46 W	...	*18867	...
Val Joyeux, near Paris, France	48 49	2 1E	10 27·4W	64 44·2	19639	41615	10 38·0W	64 43·7	19637	41596	10 49·0W	64 43·4	19636	41584
Maisach, Bavaria	48 12	11 15E	...	...	...	...	5 59·3W	*63 39·8	20299	*41005	*6 12·2W	*63 41·1	*20288	*41022
Vienna, (Auhof), Austria	48 12	16 14E	3 35·1W	*63 32·2	*20508	*41201	*3 44·9W	*63 30·8	*20496	*41333	*3 53·2W	*63 30·5	*20480	*41092
Stara Dala, Czechoslovakia	47 53	18 11E	2 51·3W	...	...	...	3 0·9W	...	...	...	3 10·3W	...	...	...
Nantes, France	47 15	1 34W	11 33·2W	63 44·4	20250	41045	11 43·8W	63 44·4	20244	41035	11 54·6W	63 43·3	20241	40995
Agincourt, Ontario, Canada	43 47	79 16W	7 37·7W	74 47·4	16453	56836	7 35·8W	74 46·9	15485	56924	7 31·9W	74 46·3	15520	57010
Karsani, U.S.S.R.	41 50	44 42E	4 25·4E	58 37·1	24576	40291	4 23·9E	58 33·0	24581	40192	4 22·5E	58 28·4	24596	40097
Ebro, Tortosa, Spain	40 49	0 30E	9 54·3W	57 23·0	23436	36622	10 2·0W	57 23·6	23420	36610	10 11·7W	57 24·1	23415	36616
Coimbra, Portugal	40 12	8 25W	...	...	...	...	*13 45·5W	*57 52·2	*23196	*57 52·2	*23196	*57 52·2	*23196	*57 52·2
Cheltenham, Maryland, U.S.A.	38 44	76 50W	7 6·2W	71 12·8	18432	54186	7 3·6W	71 11·0	18485	54247	7 0·2W	71 9·3	18539	54317
†San Miguel, Azores Is.	37 46	25 39W	18 12·5W	*59 35·3	*23374	*39822	18 18·3W	*59 37·9	*23334	*39822	18 23·1W	*59 41·1	*23351	*39936
San Fernando, Spain	36 28	6 12W	12 8·1W	*53 21·1	25148	*33806	12 18·0W	*53 24·2	25144	*33862	12 25·9W	*53 27·9	25106	*33868
Kaioka, Japan	36 14	140 11E	5 46·5W	49 28·7	29723	34775	5 44·3W	49 28·7	29722	34773	5 42·8W	49 27·7	29733	34768
Tsingtao, China	36 4	120 19E	4 34·1W	52 5·2	30901	39675	4 32·1W	52 5·1	30892	39662	4 32·1W	52 5·1	30880	*39648
Tucson, Arizona, U.S.A.	32 15	110 50W	13 52·2E	59 39·8	26319	44972	13 51·1E	59 39·2	26354	45015	13 49·5E	59 37·5	26399	45038
Luklapang, Shanghai, China	31 19	121 2E	3 35·4W	45 23·7	33329	33791	3 34·9W	45 24·4	33316	33793	3 35·3W	45 23·2	33306	33758
Zō-Zō, Shanghai, China	31 6	121 11E	3 24·7W	45 30·7	33257	33657	...	...	...	...	...	...	...	...
Dehra Dun, United Provinces, India.	30 19	78 3E	1 2·8E	45 38·2	33056	33798	1 5·4E	45 37·3	33032	33755	1 8·6E	45 35·9	33001	33698
Helwan, Egypt	29 52	31 21E	*0 0·7W	*41 48·4	*30188	*26997	0 4·1W	41 47·7	30140	26944	0 9·1W	41 45·3	30130	26897
Hong Kong (Au Tau), China	22 27	114 3E	0 43·0W	30 32·4	37546	22151	0 43·7W	*30 33·1	37529	*22160	*0 43·3W	*30 34·4	*37522	*22164
Honolulu, Hawaii	21 19	158 4W	10 6·0E	39 16·3	28543	23339	10 5·0E	39 21·0	28543	23404	10 4·4E	39 24·4	28551	23458
Teoloyucan, Mexico	19 45	99 11W	9 33·8E	47 5·2	31047	33395	9 30·6E	47 2·1	31102	33394	*9 27·2E	*46 57·7	*31162	*33375
Alibag, Bombay, India	18 38	72 52E	0 14·5W	25 30·4	37408	17848	0 12·7W	25 30·6	37364	17830	0 10·5W	25 30·3	37323	17806
San Juan, Porto Rico	18 23	66 7W	5 12·5W	52 38·0	27350	35815	5 6·5W	52 34·2	27397	35794	4 58·5W	52 30·2	27451	35780
Antipolo, Philippine Is.	14 36	121 10E	*0 29·3E	*15 48·8	*38276	*10841	*0 27·9E	*15 49·2	*38271	*10843	*0 27·3E	*15 48·2	*38270	*10832
Batavia (Kuyper), Java	6 2	106 44E	*1 4·4E	*32 19·3	*36940	*23372	*1 2·3E	*32 19·5	*36914	*23366	0 58·2E	32 19·4	36863	23325
Huancayo, Peru	12 3	75 20W	...	...	...	...	7 25·6E	1 58·4	29617	01021	7 30·8E	1 50·3	29622	00951
Apia, Samoa	13 48	171 46W	...	...	...	...	10 36·5E	*30 13·6	35116	*20460	10 35·2E	*30 9·3	35171	*20434
Mauritius	20 6	57 33E	12 37·2W	52 43·8	22562	29649	12 28·4W	52 42·3	22642	29726	12 17·2W	52 38·3	22673	29696
La Quiaca, Jujuy, Argentina	22 6	65 36W	4 16·7E	12 21·2	26223	05743	4 24·2E	12 21·6	26241	05750	4 31·7E	12 22·8	26256	05763
Vassouras, Brazil	22 24	43 39W	...	...	...	...	12 57·1W	17 20·6	24072	07518	12 49·5W	17 11·3	24112	07459
Watheroo, West Australia	30 19	115 52E	...	...	...	...	3 58·5W	64 19·2	24652	51267	4 3·2W	64 18·0	24646	51215
Pilar, Cordova, Argentina	31 40	63 53W	6 5·0E	25 55·9	24559	11942	6 11·4E	25 53·6	24607	11945	6 18·9E	25 51·2	24661	11950
Toolangi, Victoria, Australia	37 32	145 28E	*8 34·3E	*67 50·1	*22894	*56198	*8 27·0E	*67 51·1	*22886	*56226	8 24·9E	67 50·8	22884	56206
Christchurch (Amberley), N.Z.	43 10	172 43E	18 0·1E	67 58·7	22339	55232	17 57·3E	67 58·2	22347	55227	17 54·4E	67 57·7	22360	55236

Notes. - \*Results derived from absolute observations only.-

† A local anomaly is known to exist at the site of the observatory.-

Abinger. - The values of Inclination and Vertical Force depend upon direct measurement of the vertical component of the earth's field with a coil-magnetometer.

Sverdlovsk Observations were discontinued at the end of 1931.

Seddin Observations were discontinued at the end of 1931.

Sverdlovsk. - The mean values for 1930 and 1931 are derived from continuous records at Wyssokaya Doubrava and absolute observations at Sverdlovsk.

Ebro, Tortosa. - The mean values for 1933 are derived from International Quiet Days only.

Tucson. 1932.- The results relate to the first half of the year.

Mauritius. 1933. - The results relate to the eight months January to August.

Vassouras. - 1931, May, June omitted. 1932, December omitted.



M.O. 370  
(Cahirciveen)

Air Ministry  
METEOROLOGICAL OFFICE

THE  
OBSERVATORIES' YEAR BOOK  
1933

Comprising the meteorological and geophysical results obtained from autographic records and eye observations at the observatories at Lerwick, Aberdeen, Eskdalemuir, Cahirciveen (Valentia Observatory), and Richmond (Kew Observatory), and the results of soundings of the upper atmosphere by means of registering balloons.

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CAHIRCIVEEN (VALENTIA OBSERVATORY)

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Published by the authority of the  
METEOROLOGICAL COMMITTEE



LONDON  
HIS MAJESTY'S STATIONERY OFFICE  
1935



## CAHIRCIVEEN (VALENTIA OBSERVATORY).

Latitude	..	..	..	51° 56' N.
Longitude	..	..	..	10° 15' W.
G.M.T. of Local Mean Noon..				12h 41m.

## "Heights in metres above Sea Level."

Barometer	..	..	..	13.7
Rain-gauge	..	..	..	9.1
Robinson Cup Anemograph	..			26
Dines Tube Anemograph	..			30

## "Heights in metres above Ground".

Thermometer Bulbs	..	..	1.3
Sunshine Recorder	..	..	12.8
Robinson Cup Anemograph	..		14
Dines Tube Anemograph	..		13
Beckley Rain-gauge Rim	..		0.5

## INTRODUCTION.

## SITE.

Valentia Observatory derives its name from the fact that it was originally established on Valentia Island in 1867. It was removed to the mainland in March, 1892, and now lies in a direct line between the old site on Valentia Island and the town of Cahirciveen, about  $2\frac{1}{2}$  miles (4 km.) north-east from the former, and three-quarters of a mile (1 km.) south-west of the latter. It is quite remote from any other buildings. The general character of the country surrounding the Observatory is hilly. The eastern bank of the Cahir river is about 150 metres to the westward, and in that direction there is no very high ground between the Observatory and the open sea, some  $3\frac{1}{2}$  miles (6 km.) away. To the north-west, however, are hills varying in height from 400 (120 m.) to 900 feet (275 m.), the highest being less than 3 miles (5 km.) distant. These are only separated by a narrow gully running in a N N W direction from other hills equally high, which stretch away to the northward: the nearest of these is but little more than a mile ( $1\frac{1}{2}$  km.) from the Observatory. Beyond the town of Cahirciveen to the north-east the river opens out considerably, and the country in this direction becomes an open boggy basin, rising by only a gentle gradient. Southward of this, however, it soon rises again, and at about a mile south-east of the Observatory it culminates in the hill Bente upwards of 1,245 feet (380 m.) in height. Still further south it opens out once more to a distance of nearly 5 miles



(8 km.) from the Observatory, where there is a range of hills running east and west, and varying in height from 400 (120 m.) to 1,300 feet (400 m.). To the south-west there is an opening to the sea, between Valentia Island and the mainland; and the circle of hills is completed by those on the island itself, the highest of which is about 800 feet (240 m.) high, and bears about west-south-west from the Observatory. Photographs of the Observatory building, together with a site plan, showing the disposition of the various instruments were reproduced in the introduction to the 1928 volume.

#### METEOROLOGY.

The elements dealt with in the following tables are: atmospheric pressure, air temperature, humidity, rainfall, sunshine, wind speed and direction, earth temperature, minimum temperature on the grass, together with a diary of cloud, visibility and weather.

"Pressure and Temperature".-The photographic barograph and thermograph are installed in a room on the ground floor of the Observatory tower. The standard Fortin barometer, from which the control readings at 9h. 15h. and 21h. are taken, is mounted in the same room beside a window which faces the north-east. The stems of the dry and wet bulb thermometers pass out into the screen placed against the north wall of the tower. Close to the bulbs of these thermometers are the bulbs of the standard thermometers from which the control readings at 9h. 15h. and 21h. are taken.

"Rainfall".-The Beckley rain-gauge and the 8-inch (20.3 cm.) check gauge are placed in a railed-off enclosure about 40 metres to the north of the tower.

"Sunshine".-The recorder is cemented to a wooden rail on the roof of the tower. The exposure of the sunshine recorder is such that there is no appreciable loss of record due to obstructions in the months of May, June, July, and August. During the remainder of the year the hill Bentea lying to the south-east cuts off early morning sunshine. The reduction in possible record, assuming that the recorder becomes sensitive to sunshine only when the sun is at an altitude of more than three degrees, is shown in the following table for the 1st and 15th of each month:-

Reduction in Possible Record in Tenths of an Hour.								
Month.	Jan.	Feb.	Mar.	Apr.	Sept.	Oct.	Nov.	Dec.
1st.	hr. .5	hr. .5	hr. .7	hr. .5	hr. .3	hr. .7	hr. .5	hr. .6
15th	.6	.5	.7	.3	.5	.7	.5	.5

"Wind, Speed and Direction".-Up to 1925 measurements of wind speed and direction as given in tables 413-424, were obtained from the Robinson cup anemograph on the roof of the Observatory tower. From 1926 to 1931 measurements of wind speed and direction refer to records from an old pattern Dines tube anemograph. A comparison between the mean velocities as recorded by



this tube anemograph and the cup anemograph is given in the General Introduction. A new Dines tube anemograph with 1 -inch connecting pipes, was brought into use as from January 1st 1932. The new instrument was erected alongside the old instrument with its head at the same height: a comparison extending over the period May, 1931, to January, 1932, showed that the new instrument recorded higher velocities than the old. In hourly mean values the difference was nearly uniform and equal to .4 m/s or 1 mi/hr. In great velocities the increase was approximately 12 per cent of the velocity recorded by the old instrument.

The site of the pressure tube anemograph is in an open field, about 250 metres S E by E of the Observatory tower. About 1 mile ( $1\frac{1}{2}$  km.) to the south-east is the highest point (1,245 feet) of the hill Bentee which extends for some little distance in a northerly and south-westerly direction. A description of the surrounding country has already been given.

In a few instances where records of the Dines tube anemograph have been defective, the required values have been obtained from the records of the cup anemograph, a suitable adjustment of such values having been made in accordance with the table in the General Introduction showing the effect of exposure on the two instruments. Values thus obtained are entered as interpolated values.

"Earth Temperature".-The thermometers are at depths of 30 cm. and 122 cm. below the grass covered surface of the ground. The site is well exposed. The thermometers are of the standard type described in the "Meteorological Observers' Handbook."

"Minimum Temperature on the Grass".-The grass minimum thermometer is of the type described in the General Introduction. It is exposed over short grass in the field enclosure. It is set at 18h and read at 7h on the succeeding day, the observation being entered to the day of reading.

"Visibility".-Lists of the objects used for visibility observations and their distances and bearings from the point of observations are given in the following tables.

LANDWARDS VISIBILITY OBJECTS AT VALENTIA OBSERVATORY.

Indication letter of object.	Standard distance of object.	Actual distance of object	Bearing of object in degrees from N.	Description of object.
A	Metres. 25	Metres. 25	350°	Gate near workshop.
B	50	50	345°	White post in fence of instrument enclosure.
C	100	100	125°	Hedge at S. end of veg- etable garden.
D	200	200	330°	Notice board on beach.
E	500	475	100°	Bungalow.



## LANDWARDS VISIBILITY OBJECTS AT VALENTIA OBSERVATORY (Contd.)

Indication letter of object.	Standard distance of object.	Actual distance of object.	Bearing of object in degrees from N.	Description of object.
F	Metres. 1,000	Metres. 1,100	50°	Parsonage.
G	2,000	1,910	55°	Wireless school
Intermediate object.	-	3,500	20°	Top of Castlequin Mountain
h	4,000	-	-	No object available. (Top of Castlequin well visible.)
I	7,000	7,600	40°	Top of Knocknadober Mountain
J	10,000	10,000	220°	Kilkeaveragh Mountain.
Intermediate object	-	17,000	55°	Drung Hill.
k	20,000	-	-	No object available. (Drung Hill well visible.)
l	30,000	-	-	No object available.
m	50,000	-	-	No object available.

## SEAWARDS VISIBILITY OBJECTS AT VALENTIA OBSERVATORY.

F	1,000	1,000	235°	Farmhouse on skyline.
G	2,000	2,200	265°	Laght Point.
H	4,000	3,760	280°	Black Rock.
I	7,000	6,500	250°	Ridge between two hills on Valentia.
J	10,000	10,000	220°	Kilkeaveragh mountain.
k	20,000	-	-	No object available.
Intermediate object	-	23,500 25,500	320° 325°	Mount Eagle. Croaghmarhin Mountain.
l	30,000	-	-	No object available. (Croagh- marhin well visible.)
m	50,000	-	-	No object available. (Croagh- marhin exceptionally vis- ible.)



Two observations, one in a landwards direction, the other in a seawards direction, are made at each hour of observations. The position of the Observatory is such that a distinction between visibility landwards and seawards cannot be made when the range of visibility is less than 1,000 yards. Objects corresponding with the letters A to E have therefore been included in the table of landwards objects only. Kilkeaveragh Mountain is used as both a landwards and seawards object corresponding with J.

Entries of "l" and "m" for visibility in a landwards direction are made:-

(a) When Croaghmarhin Mountain (see table of seawards objects) is clearly visible and there is reason to believe that the range of visibility in a landwards direction is as good as, or nearly as good as, visibility seawards.

(b) When Croaghmarhin Mountain is invisibly but there is reason to believe from the appearance of Drung Hill that the range of visibility landwards is greater than the range seawards and is sufficiently good to justify the entry made.

When the mountains used as objects at 3,500 metres and beyond are cloud capped the appropriate entries for the range of visibility are determined by the clearness or otherwise with which the lower parts of the mountains can be seen.

The Observatory is far removed from smoky industrial areas; the observations are therefore not much affected by smoke pollution of the atmosphere.

#### Notes on the Meteorological Summaries

"The Weather of 1933".-The year was notably dry with a slight deficiency in sunshine and a marked absence of high winds. February, September, October, November and December were all very dry and March exceptionally mild though excessive in rainfall.

"Pressure".-No change in the valves used for reducing pressure at station level to pressure at mean sea level was made at Valentia Observatory by the introduction in 1928 of the revised scheme as set out in the General Introduction.

Mean pressure for the year was 1.5 millibars above normal. Of the monthly mean pressures nine were higher and three were lower than normal. The departures ranged from an excess of ten millibars in December to a deficiency of five millibars in March.

Details of the Fourier analysis of the diurnal inequalities of pressure for the year are given in Table A, together with normal values referring to the period 1871-1915. The coefficients are given to the nearest .001 mb. and the phase angles to the nearest 1° except for the third and fourth components in which case the values referring to the current year are taken to the nearest 5° only.

"Temperature".-Mean temperature for the year 1933 was 1.2°A (2.2°F.) above



normal. For the individual months, March, with an excess of  $3.1^{\circ}\text{A}$  ( $5.6^{\circ}\text{F.}$ ) showed the greatest departure.

The harmonic analysis of the monthly and seasonal diurnal inequalities of temperature is given in Table B, together with normal values referring to the period 1871-1915. The coefficients are given to the nearest  $.001^{\circ}\text{A}$  and the phase angles to the nearest  $1^{\circ}$  except for the third and fourth components in which case the values referring to the current year are taken to the nearest  $5^{\circ}$  only.

"Rainfall".-The total rainfall for the year was 19 per cent. below normal, the actual deficit being 267 millimetres. The month with the highest rainfall was March, with 167 millimetres, this amount being 45 per cent more than normal. The lowest monthly total was that for February, the 56 millimetres which fell during that month being 42 per cent. of the normal amount.

"Bright Sunshine".-The total amount of bright sunshine for the year 1933 was about 2 per cent. less than the normal. Generally, the winter months had more than average sunshine, the greatest excess being about 62 per cent. for December. The most notable deficiency was for June, the total sunshine for this month being 26 per cent below normal.

"Cloud and Weather".-The mean amount of cloud at all observation hours was 7.0. The most cloudy month was June with mean cloud amount of 7.9. The month with least cloud was September with a mean of 5.0.

"Visibility".-The observations of visibility in tables 429-440 refer to visibility in a landwards direction. The observations, when the range of visibility seawards differs from the range landwards, are shown in the following table:-

Date	Hour	Visibility Landwards	Visibility Seawards
Jan. 1	18	I	J
" 5	13	J	1
Feb. 1	9	k	J
" 6	13	J	I
" 7	15	J	k
" 8	9	J	k
" 25	9	J	k
Mar. 6	18	J	k
" 10	21	J	k
" 28	7	k	J
" 30	7	J	1
Apr. 1	9	J	k
" 6	9	k	I
May 2	7	h	I
" 2	13	I	J
" 2	15	I	J
" 3	13	h	I
" 3	15	J	k
" 15	13	J	k
" 16	13	J	k
" 17	9	J	k
June 7	18	k	1

Date	Hour	Visibility Landwards	Visibility Seawards
June 11	18	J	H
" 22	9	J	I
" 22	13	I	J
" 22	18	J	k
July 11	9	J	k
" 17	7	h	I
" 17	13	J	I
" 17	15	I	J
" 22	13	J	H
" 24	18	k	J
" 25	18	k	J
" 29	13	J	k
Aug. 1	7	k	J
" 22	15	J	k
Sept. 12	18	J	k
Oct. 18	13	I	J
" 20	7	J	k
" 20	13	J	k
Nov. 2	21	J	1
" 8	15	k	1



## IDENTIFICATION NUMBERS OF INSTRUMENTS IN USE 1933

Standard Fortin Barometer	M.O.	463	
Standard Dry Bulb Thermometer	M.O.	1701	Corrections Nil. (255°-266°+ .2 (267°-268°+ .1°
Standard Wet Bulb Thermometer	M.O.	1702	Corrections (269°-272° Nil. (273° and above, -.1°
Recording Beckley Rain-gauge			
Control Rain-gauge	M.O.	402	
Glass for Control Rain-gauge	M.O.	1572	
Campbell Stokes Sunshine Recorder	M.O.	5	
Robinson Cup Anemograph	Beck	46	
Dines Tube Anemograph			
			( 2.0°F. - .3°F. (12.0°F. - .2°F. (32.0°F. Nil. (52.0°F. Nil. (72.0°F. Nil.
Grass Minimum Thermometer	M.O.	18136/29	Corrections (260°A. + .1° (280°A and above, Nil. (273° A Nil. (278°A - .1°A. (283°A and above, Nil.
Earth Thermometer 1 ft.	M.O.	9	Corrections
Earth Thermometer 4 ft.	M.O.	24005	Corrections

All thermometer corrections are applied before tabulation.

TABLE A.

"Diurnal Variation of Barometric Pressure Fourier Coefficients."

Cahiriveen (Valentia Observatory), Longitude 10° 15' W.

Values of  $c_n, x_n$  in the series  $\sum c_n \sin (15nt + x_n)$ ,  $t$  being Local Mean Time reckoned in hours from midnight.

Month or Season	$c_1$		$x_1$		$c_2$		$x_2$		$c_3$		$x_3$		$c_4$		$x_4$	
	1933	1871-1915	1933	1871-1915	1933	1871-1915	1933	1871-1915	1933	1871-1915	1933	1871-1915	1933	1871-1915	1933	1871-1915
January .. ..	mb. .297	mb. .098	° 354	° 174	mb. .344	mb. .319	° 157	° 153	mb. .176	mb. .157	° 360	° 351	mb. .072	mb. .071	° 195	° 207
February .. ..	.361	.122	231	203	.384	.344	142	148	.073	.119	360	343	.029	.043	85	95
March .. ..	.411	.114	71	149	.335	.352	145	149	.034	.048	235	340	.039	.038	345	51
April .. ..	.067	.098	46	191	.299	.310	145	149	.012	.032	160	181	.036	.035	45	15
May .. ..	.204	.172	167	178	.266	.277	150	147	.042	.074	130	166	.025	.014	350	350
June .. ..	.186	.192	120	200	.216	.255	155	146	.068	.075	160	180	.011	.002	75	11
July .. ..	.199	.242	179	183	.266	.251	137	143	.111	.079	140	163	.022	.013	105	16
August .. ..	.249	.237	249	190	.321	.281	143	145	.056	.052	160	161	.017	.034	330	350
September .. ..	.119	.195	25	203	.396	.346	156	153	.013	.005	190	49	.057	.044	360	10
October .. ..	.225	.194	150	199	.378	.335	163	161	.061	.073	345	1	.030	.013	80	69
November .. ..	.162	.071	99	179	.333	.347	168	161	.126	.133	360	5	.041	.035	190	167
December .. ..	.247	.167	136	186	.338	.311	156	160	.162	.162	15	357	.063	.075	210	196
Arithmetic Mean	.227	.159	...	...	.323	.311	...	...	.078	.084	...	...	.037	.035	...	...
Year .. ..	.073	.150	135	189	.319	.307	152	151	.029	.034	25	3	.002	.004	105	83
Winter .. ..	.031	.112	165	187	.344	.329	155	156	.133	.142	5	355	.041	.043	190	181
Equinox .. ..	.153	.142	82	190	.350	.335	153	153	.011	.014	295	308	.034	.030	20	29
Summer .. ..	.146	.209	183	188	.266	.266	146	145	.068	.070	150	163	.010	.015	25	355



TABLE B.

"Diurnal Variation of Temperature Fourier Coefficients."

Cahirciveen (Valentia Observatory), Longitude 10° 15' W.

Values of  $c_n$ ,  $x_n$  in the series  $\sum c_n \sin(15nt^\circ + x_n)$ ,  $t$  being Local Mean Time reckoned in hours

from midnight.

Month or Season	$c_1$		$x_1$		$c_2$		$x_2$		$c_3$		$x_3$		$c_4$		$x_4$	
	1933	1871-1915	1933	1871-1915	1933	1871-1915	1933	1871-1915	1933	1871-1915	1933	1871-1915	1933	1871-1915	1933	1871-1915
January .. ..	°A ·764	°A ·496	° 234	° 239	°A ·292	°A ·269	° 44	° 52	°A ·113	°A ·114	° 190	° 226	°A ·025	°A ·025	° 45	° 43
February .. ..	·997	·820	224	235	·385	·377	34	53	·147	·085	235	231	·065	·032	205	203
March .. ..	1·254	1·351	239	234	·387	·420	47	59	·095	·036	305	335	·068	·091	235	215
April .. ..	1·611	1·806	250	239	·277	·369	82	70	·133	·143	40	43	·101	·063	260	240
May .. ..	1·569	2·126	246	241	·201	·194	102	99	·133	·246	65	57	·089	·031	345	315
June .. ..	1·462	2·072	246	242	·100	·117	153	91	·108	·206	70	60	·059	·022	355	15
July .. ..	1·677	1·873	243	242	·131	·163	98	68	·171	·197	75	55	·060	·003	120	23
August .. ..	1·843	1·780	243	242	·322	·304	78	67	·163	·168	35	48	·041	·032	310	250
September .. ..	2·224	1·607	236	241	·441	·468	76	69	·100	·071	35	23	·092	·102	215	233
October .. ..	·947	1·131	235	241	·421	·424	71	67	·125	·076	300	278	·103	·071	225	239
November .. ..	·819	·716	235	239	·391	·354	55	63	·174	·120	235	253	·024	·022	155	105
December .. ..	·591	·446	246	234	·348	·272	52	57	·113	·103	210	240	·066	·032	20	60
Arithmetic Mean	1·313	1·352	...	...	·308	·311	...	...	·131	·130	...	...	·066	·044	...	...
Year .. ..	1·305	1·348	240	240	·283	·325	65	66	·019	·037	30	42	·029	·044	275	231
Winter .. ..	·781	·619	233	237	·349	·317	46	56	·128	·104	220	238	·006	·014	80	86
Equinox .. ..	1·494	1·472	240	239	·372	·419	69	66	·077	·054	350	9	·087	·081	235	228
Summer .. ..	1·639	1·963	244	242	·173	·191	96	78	·137	·203	60	56	·059	·013	335	306

NOTE.—The seasonal means are derived from the following grouping of months:—"Winter": January, February, November and December; "Equinox": March, April, September and October; "Summer": May to August inclusive.

## TERRESTRIAL MAGNETISM.

## Notes on the Magnetic Observations for the year 1933.

Absolute observations of declination, horizontal force and inclination were made weekly at Valentia Observatory during the year 1933. The instruments in use were Dover unifilar, No. 139, with collimator magnet 139A and mirror magnet 139C, and Dover dip circle, No. 118. These instruments are the same as in previous years except that Dover dip circle, No. 239 was used from May 1930 to October 1931. The mean times of observations were 10·22 for declination, 11·41 for horizontal force and 14·30 for inclination, all according to Greenwich Mean Time. In the individual observations the greatest departure from the mean time in any element was 4 minutes. The deflection of the mirror magnet was measured for two distances of the collimator magnet, namely, 30 cm. and 40 cm. The complete deflection observation consisted of eight readings of the mirror magnet. The distribution constant,  $P$ , used for 1933 was computed from the mean deflections for 30 cm. and 40 cm. for the seven years 1926-1932 inclusive. The mean  $P$  so obtained was 7·67. The moment of the collimator magnet has decreased at the rate of about 1 unit per annum.

The values of declination, horizontal force and inclination obtained in the absolute observations are given in detail in Table C, but in Table D the



mean monthly values are computed only from such of these absolute observations as were taken at times subsequently found, by reference to the Eskdalemuir magnetograph curves, to be free from serious disturbance. Observations in Table C taken at disturbed times, and not, therefore, utilised for mean values in Table D, are marked with an asterisk. The north, west and vertical components and the total force for each month and the year are computed from the corresponding mean values of the observed elements.

Westerly declination has diminished by  $10'9$  as compared with 1932. From 1931 to 1932 the decrease was  $11'4$  and in the previous 12 months  $10'8$ . The average annual decrease for five year periods since 1910 is as follows:-

1910-15	1915-20	1920-25	1925-30	1928-33
$8'2$	$9'2$	$11'1$	$11'0$	$10'7$

The rate of the eastward movement of the magnetic needle increased slowly up to about 1927, but is now apparently decreasing again.

Northerly inclination decreased  $0.1$  from 1932 to 1933. Changes during the past few years have been irregular but, on the whole, it appears that inclination is diminishing at a slow rate.

Up to 1920 the mean annual values of horizontal force had shown a steady decline from year to year. In the years 1921 to 1924, 1927, 1931 and in 1933 the change was in the opposite direction, each year having a mean value higher than that of the preceding year.

The amount of annual change is shown in the following table:-

Period.	Annual Change.
1910-15	$5\gamma$ decrease (mean value).
1915-20	$6\gamma$ " (mean value).
1920-21	$8\gamma$ increase.
1921-22	$1\gamma$ "
1922-23	$3\gamma$ "
1923-24	$2\gamma$ "
1924-25	$5\gamma$ decrease.
1925-26	$14\gamma$ "
1926-27	$2\gamma$ increase.
1927-28	$11\gamma$ decrease.
1928-29	$5\gamma$ "
1929-30	$8\gamma$ "
1930-31	$2\gamma$ increase.
1931-32	$6\gamma$ decrease.
1932-33	$2\gamma$ increase.

The reversal of the annual change in horizontal force in certain years was not accompanied by a corresponding reversal in total force. The average annual decrease in total force for five year periods since 1910 is as follows:

1910-15	1915-20	1920-25	1925-30	1928-33
$49\gamma$	$33\gamma$	$32\gamma$	$20\gamma$	$18\gamma$

The total force has continued to decrease, but at a rate which is apparently diminishing gradually. The individual changes from year to year as shown in Table D are somewhat irregular, but this may be due in considerable measure to instrumental uncertainties. The total force is computed from the horizontal force and the inclination, using the formula  $T = H \sec. I$ , so that



an error of 0.1 in  $I$  would give an error approximately  $4\gamma$  in  $T$  at Valentia. In addition, it is to be remembered that the secular change data for Valentia are obtained from absolute observations made at fixed hours at any of which the value obtained for an element may differ, by an amount which is not necessarily constant, from its true mean value for the day of observation. It is by no means improbable that owing to this and errors of observation, uncertainties to the extent of several tenths of a minute of arc may be introduced into the mean value of  $I$  for the year. For the average change over a series of years these possible errors are naturally much diminished and the average fall of  $33\gamma$  per annum in the total force obtained from the values in Table D is probably a close approximation to the true change. This continued decrease in the total force indicates that the rise in the value of the horizontal force observed in certain years was not a true increase in the magnetic field but merely a component increase arising from the fall in the inclination, which becomes proportionally more effective in the horizontal component as the actual inclination angle itself becomes smaller. The magnetic field in the Valentia district continues to become less year by year, therefore, although, without observations of inclination, the opposite would have appeared to be the case in some years.



TABLE C.

"Cahirciveen (Valentia Observatory). Absolute Magnetic Observations, 1933".

Latitude 51° 56' N. Longitude 10° 15' W.

Date	Westerly Declination		Horizon- tal Force	Northerly Inclination	Date	Westerly Declination		Horizon- tal Force	Northerly Inclination
	°	'	Y	°		°	'	Y	°
January 6	17	4.1*	17807*	68 0.2*	July 7	16	54.1	17813	67 56.9
" 13	17	0.2	17811	67 57.9	" 14	16	51.9	17814	67 57.6
" 20	16	59.8	17815	67 58.0	" 21	16	53.7	17812	67 57.0
" 27	16	59.8	17814	67 57.3	" 28	16	52.8	17806	67 57.5
February 3	17	0.0	17809	67 59.0	August 4	16	52.8	17822	67 57.0
" 10	16	58.6	17820	67 59.0	" 11	16	51.1	17805	67 58.3
" 17	16	57.5	17810	67 58.3	" 18	16	53.8	17811	67 57.9
" 24	16	58.5*	17805*	68 0.5*	" 25	16	54.8	17792	67 58.8
March 3	16	57.9	17823	67 57.7	September 1	16	54.8	17808	67 58.0
" 10	16	57.0	17827	67 58.0	" 8	16	54.8	17814	67 57.9
" 17	16	56.0	17819	67 58.3	" 15	16	55.3*	17777*	67 59.3*
" 24	16	58.8*	17793*	67 59.3*	" 22	16	55.6	17793	67 58.6
" 31	16	57.0	17799	67 58.0	" 29	16	52.3	17816	67 57.5
April 7	16	56.3	17804	67 58.1	October 6	16	53.0	17795	67 57.4
" 13	16	55.1	17806	67 58.1	" 13	16	49.1*	17798*	67 58.9
" 21	16	55.0	17792	67 57.9	" 20	16	52.8	17801	67 57.4
" 28	16	54.8	17801	67 58.6	" 27	16	49.3	17818	67 57.1
May 5	16	56.4	17800	67 57.9	November 3	16	50.9	17825	67 57.8
" 12	16	55.1	17806	67 57.8	" 10	16	51.0	17804	67 59.1
" 19	16	55.2	17797	67 58.7	" 17	16	50.8	17831	67 57.5
" 26	16	53.7	17805	67 57.8	" 24	16	51.0	17825	67 57.1
June 2	16	56.0	17806	67 57.9	December 1	16	50.2	17822	67 57.0
" 8	16	55.9	17823	67 57.2	" 8	16	51.4	17819	67 57.6
" 16	16	53.6	17804	67 58.4	" 15	16	50.7	17831	67 57.2
" 23	16	53.3	17810	67 57.8	" 22	16	50.1	17823	67 57.8
" 30	16	52.0	17811	67 57.3	" 29	16	49.5	17824	67 57.7

\*Disturbance at these times. Values not utilised in computing means given in Table D.



TABLE D.  
 "Cahirciveen (Valentia Observatory.)"  
 Magnetic Data for the Year 1933.

1933	Declination (West)		Inclination (North)		Horizon- tal Force	North	West	Vertical	Total
	°	'	°	'	γ	γ	γ	γ	γ
January ..	16	59.9	67	57.7	17813	17033	5208	44006	47474
February ..	16	58.7	67	58.8	17813	17037	5202	44043	47509
March .. ..	16	57.0	67	58.0	17817	17043	5194	44025	47493
April .. ..	16	55.3	67	58.2	17801	17030	5181	43992	47456
May .. ..	16	55.1	67	58.1	17802	17032	5181	43990	47456
June .. ..	16	54.2	67	57.7	17811	17042	5178	44000	47468
July .. ..	16	53.1	67	57.3	17811	17043	5173	43984	47454
August .. ..	16	53.1	67	58.0	17807	17039	5172	44001	47467
September ..	16	54.4	67	58.0	17808	17038	5179	44003	47470
October ..	16	51.7	67	57.3	17805	17040	5165	43969	47437
November ..	16	50.9	67	57.9	17821	17056	5165	44030	47500
December ..	16	50.4	67	57.5	17824	17060	5164	44023	47494
Year, 1933..	16	54.5	67	57.9	17811	17041	5180	44005	47473
Year, 1932..	17	5.4	67	58.5	17809	17023	5234	44024	47490
Year, 1931..	17	16.8	67	58.7	17815	17011	5292	44048	47514
Year, 1930..	17	27.6	67	59.8	17813	16992	5345	44081	47546
Year, 1929..	17	37.3	67	59.6	17821	16985	5395	44093	47559
Year, 1928..	17	48.0	67	59.3	17826	16973	5449	44096	47563
Year, 1927..	17	59.5	67	59.2	17837	16965	5509	44119	47588
Year, 1926..	18	10.8	68	0.1	17835	16945	5565	44147	47612
Year, 1925..	18	22.4	68	0.0	17849	16939	5626	44177	47646
Year, 1920..	19	17.9	68	5.3	17840	16837	5896	44353	47806
Year, 1915..	20	3.8	68	7.9*	17869	16785	6130	44519*	47972*
Year, 1910..	20	44.6	68	13.0	17892	16732	6337	44771	48215

\* Mean of 11 months only.







**343. CAHRCIVEEN (VALENTIA OBSERVATORY):**  $H_b$  (height of barometer cistern above M.S.L.) = 13.7 metres.

**JANUARY, 1933.**

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
1	995.9	996.7	997.8	998.4	998.5	998.7	999.0	999.2	999.2	999.3	999.4	998.8	997.9	997.4	996.6	996.1	996.1	995.2	995.4	995.8	994.7	994.6	995.8	995.7	997.2
2	994.5	993.0	992.1	990.8	989.5	987.8	986.1	984.7	983.9	983.5	983.2	982.3	980.8	979.8	979.1	978.6	980.2	980.8	981.5	982.4	983.3	983.7	984.6	985.0	984.9
3	985.9	986.4	987.1	987.8	988.6	990.0	990.6	991.8	993.0	994.3	995.5	996.1	996.8	997.5	997.9	999.1	1000.1	1001.2	1002.2	1002.5	1002.6	1002.4	1002.3	1002.1	995.2
4	001.8	001.0	001.0	000.8	001.4	001.4	001.9	002.7	003.1	003.0	002.8	001.5	999.4	999.3	998.3	997.2	997.4	997.6	998.3	999.4	1001.0	1002.1	1003.1	1000.5	000.5
5	004.3	005.4	007.2	007.9	008.4	009.0	009.6	010.2	011.2	011.3	011.8	011.8	011.5	010.8	010.4	010.7	010.5	010.4	010.7	011.5	012.6	013.6	014.5	015.3	010.2
6	016.1	016.9	017.5	018.2	018.4	019.1	019.8	020.8	021.7	022.3	023.3	023.5	023.7	024.4	024.8	025.4	025.5	026.2	026.6	026.5	026.9	026.9	026.9	026.8	022.6
7	026.1	025.1	025.0	025.0	024.6	024.3	024.3	023.9	023.6	023.5	022.8	021.8	021.3	021.4	020.8	021.0	021.1	021.2	021.4	021.7	022.0	022.3	022.3	022.1	023.0
8	021.7	021.2	021.2	021.0	021.1	021.3	021.4	021.8	022.4	023.4	023.8	023.7	023.3	023.4	023.5	024.0	024.4	024.7	025.3	025.9	026.7	027.6	028.3	029.5	023.6
9	030.0	030.8	032.0	032.7	033.3	034.5	035.6	036.3	036.3	036.5	036.4	036.4	036.3	036.9	036.6	036.7	035.5	035.4	035.4	035.5	035.4	035.1	034.8	034.9	034.5
10	034.2	033.8	033.5	032.9	032.3	031.8	031.4	031.3	031.3	031.0	030.3	029.5	028.4	027.6	027.1	026.4	025.8	025.3	024.8	024.3	024.0	024.4	024.2	024.4	029.0
11	024.3	024.8	025.0	025.1	025.1	025.5	026.1	026.5	027.6	028.3	028.7	028.5	028.3	028.4	028.2	028.1	028.2	028.0	027.7	027.9	027.7	027.6	026.9	026.3	027.0
12	025.7	025.0	024.8	023.7	023.3	022.8	022.3	022.3	022.1	022.2	021.8	021.5	021.3	021.1	021.0	020.8	020.9	020.9	020.7	020.3	020.0	020.3	020.4	020.3	022.8
13	024.6	024.0	024.7	025.2	024.8	025.1	025.5	025.6	025.9	026.3	026.8	026.9	026.5	026.4	026.6	026.9	026.9	027.3	028.0	027.7	027.3	026.5	026.2	025.9	026.1
14	025.2	024.4	024.0	022.9	022.0	020.7	019.7	019.4	019.1	017.9	016.3	015.1	013.7	012.3	010.9	009.7	008.3	007.1	005.5	004.0	002.3	001.3	002.0	001.5	014.1
15	001.1	000.8	000.7	000.5	000.3	000.1	000.0	000.4	000.3	000.4	000.5	000.5	000.3	000.3	000.5	000.8	001.1	001.3	001.4	001.6	001.9	001.5	001.3	001.1	000.8
16	000.4	000.2	000.1	999.7	999.3	999.0	999.1	999.6	999.8	000.0	999.9	999.7	999.4	999.0	999.1	999.4	999.7	999.9	000.1	000.1	000.3	000.2	000.2	000.1	999.8
17	000.1	000.0	000.2	000.1	000.2	000.2	000.2	000.5	000.6	000.3	000.3	999.9	999.4	999.1	999.0	999.1	999.2	999.1	998.9	998.7	998.3	997.7	997.2	996.7	999.4
18	996.0	995.2	995.0	994.4	993.5	994.0	994.5	995.4	996.7	997.6	998.6	999.5	000.1	001.0	001.8	003.1	004.1	005.2	006.1	006.9	007.6	008.1	008.5	008.9	000.2
19	009.5	009.7	010.2	010.2	010.4	010.1	010.0	010.1	010.0	009.7	009.1	007.7	006.4	005.8	004.7	003.0	002.5	003.1	002.2	003.5	003.9	004.3	005.5	006.9	007.1
20	007.8	009.0	010.3	011.1	011.6	012.9	014.1	015.6	016.3	016.9	018.2	018.4	018.6	018.9	018.7	019.5	020.3	021.4	021.9	022.3	022.8	023.1	023.1	023.0	017.0
21	022.9	023.0	023.4	023.9	024.0	024.0	023.9	024.8	025.2	025.5	025.9	025.9	025.4	025.2	025.0	025.3	025.4	025.7	025.9	026.4	026.3	026.1	026.2	026.1	025.0
22	026.0	025.9	026.0	026.0	025.8	025.8	025.9	026.0	025.9	026.3	026.4	026.5	026.4	026.4	026.8	027.2	027.5	027.8	027.9	028.0	027.9	028.2	028.6	029.1	026.8
23	029.4	029.1	029.3	029.1	029.3	029.6	030.0	030.2	031.0	031.3	031.6	031.9	031.8	031.6	031.5	031.8	032.1	032.6	032.8	032.9	032.8	033.1	033.0	033.1	031.2
24	033.2	033.3	033.4	033.5	033.2	033.0	033.4	033.6	034.0	034.2	034.2	034.1	034.0	033.7	033.3	033.3	033.4	033.6	033.6	033.7	033.7	034.0	034.2	034.2	033.6
25	034.0	033.7	033.8	033.8	033.9	033.8	033.8	033.8	034.1	034.2	034.4	034.2	033.7	033.2	032.9	033.0	033.1	033.2	033.6	033.3	033.4	033.2	033.1	033.0	033.6
26	032.8	032.3	032.3	031.9	031.2	031.0	031.0	031.1	031.1	030.9	030.7	030.1	029.1	028.5	027.8	027.6	027.7	027.4	027.1	026.9	026.8	026.5	026.1	026.1	029.5
27	025.6	025.4	024.9	024.8	024.3	024.1	024.1	024.0	024.1	024.3	024.3	024.3	023.1	022.3	021.8	021.8	021.8	021.9	022.1	022.0	021.6	021.4	021.2	021.2	023.3
28	020.9	020.1	020.0	019.5	018.6	018.2	017.8	017.6	017.6	017.3	016.7	016.7	015.5	014.4	013.6	012.8	012.7	012.5	012.0	011.4	010.9	010.4	010.5	010.2	015.7
29	009.4	008.4	008.0	007.2	006.7	006.6	005.8	005.7	005.4	005.5	005.2	004.6	003.8	003.1	002.6	002.7	002.7	002.7	002.7	002.7	002.6	002.5	002.4	002.3	004.8
30	002.0	001.6	001.7	001.8	001.7	001.7	002.0	002.3	002.2	002.6	003.3	003.5	003.9	003.7	004.1	004.6	004.8	005.1	005.3	005.6	005.8	006.0	006.4	006.5	003.6
31	006.3	006.4	006.4	006.3	006.1	005.8	005.5	005.5	005.3	004.7	003.7	002.9	001.7	000.1	998.6	997.9	997.2	996.3	995.6	994.2	993.1	992.3	991.3	989.8	000.9
Mean (Station Level)	1015 .09	1014 .92	1015 .12	1015 .04	1014 .91	1014 .88	1014 .96	1015 .23	1015 .49	1015 .64	1015 .69	1015 .39	1014 .90	1014 .58	1014 .22	1014 .34	1014 .39	1014 .56	1014 .64	1014 .74	1014 .78	1014 .81	1014 .97	1014 .99	1014 .93
Mean (Sea Level)	1016 .79	1016 .62	1016 .82	1016 .74	1016 .61	1016 .58	1016 .66	1016 .93	1017 .19	1017 .34	1017 .39	1017 .09	1016 .60	1016 .28	1016 .92	1016 .04	1016 .09	1016 .26	1016 .34	1016 .44	1016 .48	1016 .51	1016 .67	1016 .69	1016 .63

**344. CAHRCIVEEN (VALENTIA OBSERVATORY):**  $H_b$  = 13.7 metres.

**FEBRUARY, 1933.**

Station Level ↑ Day ↓	1	988.1	987.5	987.3	987.3	987.1	987.2	988.2	991.1	992.6	993.9	995.2	995.9	996.2	996.4	996.4	996.8	997.4	997.6	998.0	998.9	999.6	000.7	001.2	002.2	994.1	
	2	003.1	003.7	004.5	005.4	006.2	007.4	008.0	009.1	010.2	011.0	011.9	012.5	012.6	012.8	012.9	013.2	013.6	013.9	014.6	014.6	014.6	014.9	014.5	014.2	010.6	
	3	013.8	013.1	012.5	011.5	010.1	009.5	010.1	009.5	009.1	008.5	007.9	006.8	006.9	006.9	006.0	005.6	005.5	005.9	006.0	006.0	005.8	005.9	005.9	005.0	008.0	
	4	005.9	005.8	005.6	005.5	005.7	005.8	005.8	005.9	006.4	006.6	006.6	006.1	005.8	005.0	003.9	003.5	002.8	002.5	001.2	000.3	000.5	000.7	000.7	000.5	004.2	
	5	999.5	999.6	000.2	001.0	001.0	001.6	002.1	003.6	005.0	006.1	007.2	007.8	008.3	008.3	008.2	008.9	009.4	009.8	010.4	010.8	011.6	012.0	012.2	012.3	006.3	
	6	011.8	011.4	011.0	010.5	009.7	008.8	008.3	007.4	006.0	005.0	004.2	003.1	001.9	000.5	999.0	997.8	996.9	995.8	995.1	994.9	994.9	995.1	995.1	995.4	002.8	
	7	995.3	995.3	995.7	995.9	996.6	997.2	998.2	999.2	000.4	000.9	002.1	003.1	003.3	003.4	003.1	003.0	002.8	002.6	003.0	003.2	004.2	004.3	004.5	004.8	000.7	
	8	005.4	005.9	006.5	006.9	007.2	007.4	007.4	007.4	007.8	008.0	008.0	008.0	008.1	008.3	008.3	009.2	009.9	010.1	011.4	011.7	012.0	012.2	011.9	012.1	008.6	
	9	011.7	011.2	010.5	010.2	009.9	009.7	010.0	010.7	011.2	011.4	012.4	013.7	014.0	014.4	014.7	015.3	016.7	016.0	016.1	016.5	016.4	016.4	016.4	016.6	013.3	
	10	016.1	015.6	015.1	014.7	014.9	015.2	016.4	017.6	018.7	020.2	020.9	021.3	022.0	022.7	023.3	024.5	026.1	027.7	028.9	029.9	031.1	032.9	034.2	021.5		
	11	034.6	034.7	035.1	035.7	036.1	037.1	037.1	038.0	038.5	038.8	039.3	039.1	038.9	038.7	038.3	038.7	038.8	039.1	039.2	039.1	039.2	039.1	038.4	038.6	038.9	037.8
	12	038.8	038.6	038.4	038.1	037.8	037.9	037.8	038.1	038.0	038.0	038.3	038.1	037.9	037.5	037.0	036.7	036.7	036.7	036.8	037.0	037.0	037.1	037.2	037.3	037.7	
	13	037.1	037.1	036.6	036.4	036.6	037.1	037.3	037.6	037.9	037.8	037.8	037.6	037.5	037.2	037.1	036.9	036.7	036.9	036.8	036.8	036.7	036.6	036.1	035.9	037.0	
	14	035.7	035.4	035.0	034.8	034.6	034.2	033.9	034.0	033.9	033.6	033.3	032.7	032.2	031.5	030.9	030.6	030.2	030.2	030.1	029.7	029.7	029.5	029.2	028.8	032.4	
	15	028.5	028.1	027.8	027.2	026.8	026.7	025.6	025.8	026.8	026.8	026.6	026.4	026.1	025.5	025.3	025.0	025.2	025.1	025.2	025.1	025.2	025.1	025.2	025.2	026.3	
	16	025.3	025.3	025.4	025.3	025.3	025.5	025.7	026.4	026.9	027.1	027.2	027.5	027.5	027.4	027.2	027.3	027.4	027.8	028.0	028.3	028.4	028.4	028.6	028.6	026.9	
	17	028.4	028.2	028.0	027.6	027.5	027.6	027.8	028.2	028.6	028.8	029.0	029.0	028.9	028.6	028.3	028.4	028.3	028.7	028.8	028.7	028.2	027.8	027.2	026.4	028.3	
	18	025.8	024.9	023.9	023.1	022.1	021.6	021.4	022.2	022.8	023.4	023.6	023.9	024.1	024.3	024.2	024.3	024.5	024.4	024.0	023.7	023.4	022.9	022.6	022.4	023.6	
	19	022.3	022.0	022.0	021.9	022.1	022.5	023.0	023.7	023.8	023.9	024.0	024.1	024.1	024.0	024.1	024.3	024.5	024.8	025.2	025.9	026.4	026.7	027.1	027.4	024.1	
	20	027.4	027.4	027.5	027.3	027.2	027.3	027.2	027.5	027.6	027.7	027.7	027.7	027.7	027.3	027.4	027.2	026.8	026.6	026.4	026.3	026.1	026.2	026.0	025.8	027.1	
	21	025.7	025.8	025.8	026.0	026.0	026.1	026.1	026.6	027.0	027.1	027.3	027.3	027.3	027.2	027.1	027.0	027.1	027.3	027.4	027.6	027.6	027.5	027.3	027.1	026.8	
	22	027.1	026.8	026.6	026.2	026.1	026.0	025.9	026.1	026.2	026.0	025.9	025.8	025.3	025.0	024.8	024.4	024.3	024.6	024.4	024.0	024.0	023.7	023.3	023.2	025.3	
	23	022.9	022.6	022.0	022.1	020.7	020.1	019.4	018.9	018.3	017.7	016.7	015.6	014.3	012.9	011.6	009.8	008.2	006.4	004.3	002.6	000.8	999.2	998.0	997.2	013.1	
	24	997.0	996.6	996.4	996.2	996.1	996.4	996.2	996.0	995.7	995.2	994.5	993.6	992.7	991.8	990.7	989.8	988.9	988.4	988.4	988.3	987.7	987.3	986.7	986.1	992.6	
	25	985.4	984.4	983.3	982.5	982.1	982.3	982.4	982.8	983.1	983.1	983.3	983.4	983.5	983.8	983.9	984.0	984.3	984.9	985.5	985.8	986.2	986.6	986.6	987.5	984.2	
	26	987.1	987.4	987.4	987.8	988.9	988.2	988.3	988.8	989.2	989.5	990.0	990.2	990.0	990.0	990.0	989.7	989.9	990.2	990.4	990.5	990.5	990.6	990.6	990.2	989.3	
	27	997.1	998.9	998.6	998.9	998.9	998.9	998.9	998.9	998.9	998.7	998.6	998.4	998.8	998.5	998.2	998.1	998.2	998.4	998.4	998.5	998.4	998.2	998.0	997.8	988.7	
	28	987.8	988.0	988.2	988.5	989.1	990.2	990.9	991.9	992.8	993.6	994.3	995.0	995.4	995.9	996.5	997.1	997.6	998.2	998.6	998.9	999.2	999.4	999.4	999.4	994.2	
Mean (Station Level)		1013 .49	1013 .30	1013 .14	1013 .00	1012 .20	1013 .03	1013 .19	1013 .65	1013 .93	1014 .11	1014 .36	1014 .40	1014 .30	1014 .07	1013 .85	1013 .78	1013 .79	1013 .88	1013 .98	1014 .03	1014 .06	1014 .08	1014 .04	1014 .05	1013 .77	
Mean (Sea Level)		1015 .19	1015 .00	1014 .84	1014 .70	1014 .60	1014 .73	1014 .89	1015 .35	1015 .63	1015 .81	1015 .06	1015 .10	1015 .99	1015 .76	1015 .54	1015 .47	1015 .48	1015 .58	1015 .68	1015 .73	1015 .76	1015 .78	1015 .74	1015 .75	1015 .47	
Hour G. M. T.		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	



345. CAHRCIVEEN (VALENTIA OBSERVATORY):  $H_b$  (height of barometer cistern above M.S.L.) = 13.7 metres.

MARCH, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
1	999.5	999.5	999.4	998.6	998.5	998.3	998.2	998.1	998.0	997.9	997.7	997.5	997.3	997.2	997.1	997.0	997.0	997.3	997.2	997.0	996.9	996.4	995.7	995.4	997.7
2	995.0	994.3	993.4	992.5	991.8	991.0	990.2	989.5	988.7	987.8	986.8	986.1	984.9	983.9	982.6	981.7	981.1	980.3	979.9	979.7	979.5	979.3	979.6	979.6	986.1
3	979.7	979.8	979.8	980.0	980.3	980.6	980.8	980.9	981.0	981.1	981.2	981.5	981.5	981.5	981.6	981.7	981.9	982.3	982.8	983.2	983.6	984.1	984.4	984.8	981.6
4	985.3	985.8	985.9	986.0	986.2	986.9	987.1	987.7	988.2	988.8	989.2	989.7	990.1	990.4	990.8	991.5	992.2	992.9	993.5	993.9	994.3	994.7	994.7	994.6	989.6
5	994.5	994.4	994.4	994.2	993.8	993.1	992.4	991.5	990.4	989.0	987.7	986.0	984.2	981.7	980.0	979.3	979.6	980.3	982.3	984.3	986.2	988.6	986.2	986.5	987.6
6	986.4	986.1	985.7	985.4	985.3	985.3	985.0	984.7	984.0	983.0	982.0	981.5	980.8	980.4	980.0	979.9	979.8	979.8	979.9	979.9	979.9	979.9	979.9	979.9	990.3
7	999.3	999.0	998.9	998.3	997.9	997.5	997.0	996.5	996.0	995.5	995.0	994.5	994.0	993.5	993.0	992.5	992.0	991.5	991.0	990.5	990.0	989.5	989.0	988.5	912.7
8	021.3	020.7	020.0	019.2	018.8	018.3	017.6	017.4	017.1	016.6	016.2	015.6	015.3	014.5	014.5	014.4	014.4	014.5	014.6	014.7	014.6	014.1	013.9	013.9	016.6
9	014.0	014.0	013.9	013.7	013.4	013.5	013.6	013.7	013.9	014.0	014.2	013.7	013.4	012.4	011.9	011.8	011.4	011.2	011.2	011.2	011.2	011.1	011.1	011.1	012.7
10	011.0	010.9	010.8	010.6	010.6	010.6	010.4	010.3	010.4	010.8	010.9	010.7	010.2	009.4	008.8	008.4	007.8	007.6	007.8	007.7	007.8	007.6	007.4	007.0	009.5
11	006.8	006.5	006.0	005.8	005.6	005.5	005.6	005.9	006.0	006.3	006.4	006.6	006.6	006.4	006.6	007.1	007.4	007.8	008.8	009.3	009.8	010.1	010.5	011.1	007.2
12	011.2	011.4	012.0	012.3	012.6	013.2	013.9	014.3	014.8	015.0	015.5	015.7	016.1	016.1	016.0	016.1	016.4	016.9	017.2	017.9	018.2	018.1	018.2	018.3	015.2
13	018.4	018.5	018.2	018.3	018.4	018.9	019.1	019.5	019.7	019.8	019.9	019.9	019.9	019.9	019.8	019.7	019.9	020.2	020.5	021.1	020.7	021.2	021.3	021.3	019.7
14	021.9	022.0	021.5	022.1	022.5	022.3	022.4	022.4	022.3	022.1	020.5	019.5	018.5	017.5	017.3	016.3	015.4	016.1	016.1	016.1	015.8	015.0	015.7	014.8	019.4
15	014.2	013.5	012.7	011.7	011.1	010.6	010.2	009.1	008.0	007.3	007.3	006.2	005.1	003.8	002.8	000.3	998.5	996.4	994.0	995.7	996.4	996.8	996.7	996.8	004.8
16	996.0	995.6	994.6	993.5	992.8	992.1	991.4	991.0	990.3	990.6	990.1	989.8	989.7	988.7	988.3	987.3	986.7	986.0	985.5	984.7	984.1	983.4	982.8	981.6	989.3
17	980.3	979.0	978.1	977.1	976.2	975.5	974.8	975.0	975.0	975.2	975.6	976.1	976.6	977.2	977.7	978.7	979.7	980.7	981.7	982.7	983.8	984.7	985.4	985.9	978.8
18	986.5	987.2	987.7	988.2	988.7	989.3	990.2	991.0	991.6	991.9	992.5	992.4	992.3	992.0	991.0	990.2	989.3	988.4	988.6	988.9	989.3	989.4	988.9	988.3	989.7
19	987.7	987.1	986.7	986.2	985.5	984.2	982.1	980.8	978.5	977.0	976.0	975.6	976.9	978.6	982.9	985.3	986.9	988.8	990.6	992.8	995.3	997.1	999.6	002.6	985.7
20	003.9	005.2	006.5	008.0	009.3	010.9	012.4	014.3	015.9	017.0	018.3	019.2	019.8	020.4	020.2	020.2	020.3	020.4	020.4	020.5	020.6	019.9	019.2	018.5	015.6
21	017.9	017.4	016.9	016.1	015.7	015.3	015.2	015.3	015.4	014.7	014.5	013.9	013.7	013.1	012.3	012.0	011.8	011.7	011.6	011.4	011.3	011.2	011.0	010.8	013.9
22	010.4	010.1	009.3	008.9	008.2	007.5	007.2	006.6	006.0	005.1	004.0	003.7	003.3	003.2	003.5	003.6	004.0	004.2	004.9	005.0	005.3	005.8	006.1	006.1	006.0
23	006.4	006.6	007.2	007.0	006.9	007.4	007.5	007.3	008.3	008.7	008.5	008.9	009.1	009.4	009.7	010.1	010.6	011.0	011.6	012.0	012.8	013.3	013.6	013.9	009.3
24	014.1	014.3	014.0	014.1	014.0	014.5	014.8	015.1	015.6	015.9	016.9	016.9	016.7	016.8	016.7	016.8	016.3	016.3	016.5	016.6	016.6	016.6	016.6	016.6	015.7
25	015.8	015.5	014.5	014.6	014.6	014.9	014.9	014.9	014.6	014.7	015.2	015.1	015.0	014.7	014.8	014.6	014.7	015.2	015.9	017.0	017.7	018.4	018.9	019.5	015.6
26	020.0	021.0	021.7	022.3	023.1	023.8	024.6	025.3	026.1	026.7	026.9	027.5	028.2	028.2	028.3	028.2	028.7	029.0	029.5	030.0	030.4	030.4	030.1	029.9	026.4
27	030.0	029.9	029.5	029.2	029.2	029.1	029.4	029.3	029.3	029.0	028.8	028.4	028.2	027.7	027.0	026.5	025.8	025.6	025.4	025.5	025.3	024.9	024.3	023.8	027.7
28	023.0	022.3	021.9	021.3	020.9	020.6	020.4	020.3	020.0	019.8	019.2	018.4	018.1	017.6	017.1	016.5	015.8	015.2	015.0	014.6	014.3	013.9	013.3	013.0	018.2
29	012.8	012.5	012.4	012.5	012.7	013.1	013.2	013.6	013.9	014.1	014.2	014.4	014.4	014.1	014.2	014.2	014.0	014.1	014.2	014.4	014.5	014.5	014.4	014.3	013.8
30	014.4	014.3	014.2	014.0	014.4	014.4	015.4	016.1	016.7	017.7	018.3	019.0	019.5	019.9	020.1	020.2	020.4	020.9	021.1	021.4	021.6	021.4	021.2	021.0	018.1
31	020.3	019.6	018.9	018.2	017.8	017.0	016.5	016.1	015.3	014.2	013.9	013.2	012.7	012.5	012.6	012.5	012.6	012.8	013.2	013.6	014.2	014.9	015.8	016.6	015.3
Mean (Station Level)	1006	1006	1006	1005	1005	1005	1005	1006	1006	1006	1006	1006	1005	1005	1005	1005	1005	1005	1006	1006	1006	1006	1006	1006	1006
Mean (Sea Level)	1008	1007	1007	1007	1007	1007	1007	1007	1007	1007	1007	1007	1007	1007	1007	1007	1007	1007	1007	1008	1008	1008	1008	1008	1007

346. CAHRCIVEEN (VALENTIA OBSERVATORY):  $H_b$  = 13.7 metres.

APRIL, 1933.

Station Level	1	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
	2	017.2	017.6	018.0	018.5	019.7	021.1	022.3	023.4	024.4	025.3	025.6	026.2	026.3	026.6	026.6	026.7	027.2	027.2	027.2	027.5	027.7	027.9	027.7	028.1
	3	027.9	027.2	026.6	026.4	025.8	025.8	025.8	025.8	025.7	025.5	025.7	025.8	025.6	025.3	025.2	025.1	025.0	024.8	024.9	025.1	025.0	025.0	024.8	024.8
	4	024.7	024.7	024.6	024.3	024.1	024.1	024.0	024.2	024.3	024.6	025.1	024.9	024.8	024.6	024.5	024.2	024.1	024.0	023.9	024.1	024.1	024.4	024.1	024.4
	5	023.7	023.2	022.2	021.8	022.0	022.0	021.7	021.7	021.8	022.1	022.3	022.4	022.3	022.0	021.8	021.6	021.6	021.8	021.7	021.9	021.9	022.2	022.0	022.2
	6	022.2	022.1	022.0	021.9	021.9	022.2	022.2	022.7	022.9	023.1	023.0	022.9	022.8	022.7	022.3	022.0	022.1	022.2	022.3	022.5	022.4	022.2	022.2	022.1
	7	021.8	021.9	021.7	021.4	021.0	021.3	021.4	021.4	021.5	021.6	021.6	021.7	021.8	021.6	021.3	021.0	020.7	020.5	020.7	021.0	020.9	020.7	020.5	020.4
	8	020.1	019.6	019.4	019.0	018.6	018.7	018.6	018.8	018.8	018.7	018.4	018.3	018.0	018.0	018.0	018.2	018.0	018.1	018.5	018.5	018.9	019.1	019.1	018.7
	9	019.4	019.3	019.3	019.3	019.2	019.5	019.7	020.0	020.1	020.1	020.2	020.2	019.9	019.9	019.6	019.2	019.2	019.0	019.1	018.9	018.8	018.6	018.7	018.1
	10	018.1	018.0	017.6	017.6	017.7	017.9	017.8	017.9	018.1	018.1	018.1	018.1	018.0	017.9	017.6	017.5	017.2	017.0	017.1	017.1	017.1	016.9	016.6	016.2
	11	015.7	015.2	014.6	014.4	014.5	014.5	014.4	014.4	014.5	014.1	014.0	013.5	012.9	012.3	011.9	011.7	011.8	011.8	011.9	012.0	012.0	012.1	012.1	013.3
	12	012.0	011.9	011.4	011.3	011.6	011.7	011.8	012.1	012.5	012.6	012.8	012.6	012.6	012.5	012.4	012.4	012.5	012.9	013.6	014.0	014.0	014.3	012.5	
	13	014.4	014.4	014.8	015.3	015.9	016.8	017.4	018.0	018.5	019.1	019.3	020.0	020.8	021.4	022.0	022.3	022.7	023.3	023.8	024.6	025.2	025.5	025.9	
	14	026.6	026.8	026.9	027.0	027.5	027.7	028.2	028.4	028.6	028.7	029.1	029.1	029.0	028.9	028.7	028.6	028.7	028.5	028.8	028.9	029.2	029.4	029.6	
	15	029.4	029.3	029.4	029.5	029.3	029.2	029.3	029.4	029.4	029.5	029.6	029.6	029.5	029.3	028.8	028.3	028.2	028.0	028.0	028.1	027.9	027.7	027.4	
	16	027.0	026.3	025.9	026.0	026.0	026.9	026.9	026.9	026.8	026.5	025.7	025.6	025.3	024.8	024.6	024.3	024.0	023.9	024.0	024.1	023.9	023.7	023.3	
	17	022.5	022.1	021.6	021.5	021.4	021.3	021.5	021.7	021.4	021.1	020.8	020.5	020.1	019.5	019.0	018.7	018.9	018.9	018.8	018.8	018.9	018.8	018.5	
	18	018.0	017.5	017.2	016.5	016.4	016.4	016.5	016.2	015.9	016.0	015.6	015.2	014.8	014.4	013.9	013.6	013.6	013.6	013.6	013.7	013.8	014.0	014.1	
	19	014.2	014.1	014.1	014.1	014.1	014.3	014.6	014.8	014.8	015.3	015.6	015.7	015.9	016.3	016.7	017.1	017.4	017.9	018.2	018.5	019.0	019.5	019.6	
	20	019.6	019.6	019.6	019.3	019.4	019.4	019.4	019.5	019.6	019.5	019.7	019.6	019.4	019.1	018.6	018.4	018.1	018.2	018.4	018.6	018.7	018.5	018.4	
	21	018.0	017.7	017.3	017.3	017.2	017.5	017.6	017.7	017.6	017.7	017.6	017.7	017.7	017.6	017.5	017.5	017.6	017.8	017.8	018.1	018.5	018.6	019.1	
	22	019.2	019.2	019.2	019.1	019.2	019.6	019.9	020.3	020.5	020.6	020.6	020.6	020.8	021.0	021.1	021.3	021.7	021.9	021.9	022.3	022.4	022.5	022.6	
	23	022.1	021.6	021.0	020.0	019.4	019.0	018.2	017.3	017.6	016.6	015.6	015.4	014.6	014.3	012.9	011.8	010.5	009.4	008.6	008.1	007.8	007.6		
	24	007.7	007.6	007.5	007.4	007.3	007.3	007.7	007.8	007.9	008.1	008.5	008.5	008.0	007.9	007.3	007.0	007.1	006.7	005.9	005.3	004.8	004.2		
	25	003.3	002.5	002.1	001.3	000.7	000.2	999.6	999.4	999.0	998.6	998.4	998.1	997.7	996.8	996.4	996.5	996.7	997.1	997.3	998.0	998.6	999.1		
	26	999.1	998.9	998.5	997.9	997.0	996.7	997.0	997.3	997.2	997.2	997.4	997.4	997.6	997.8	997.4	997.2	997.1	997.3	997.4	997.9	998.6	999.5		
	27	001.8	002.4	003.0	003.5	003.7	003.9	004.0	003.9	003.5	003.3	003.2	003.1	002.8	002.8	002.9	003.0	003.5	004.2	005.1	005.4	006.1	006.3		
	28	006.9	007.0	008.9	008.7	006.5	006.1	006.1	006.2	006.2	006.2	006.5	006.7	006.6	006.5	006.4	006.2	006.1	006.1	006.2	006.3	006.4	006.2		
	29	005.2	004.7	004.3	003.9	003.7	003.5	003.3	003.2	003.2	003.0	002.7	002.5	002.3	002.2	002.0	002.0	002.0	002.1	002.3	002.8	003.3	003.5		
	30	003.8	003.8	003.7	003.8	003.9	004.3	004.5	004.6	004.6	004.6	004.5	004.3	004.2	004.1	004.1	004.4	004.6	004.7	005.0	005.3	005.6	005.7		
	Mean (Station Level)	1016.25	1016.07	1015.87	1015.73	1015.69	1015.80	1015.90	1016.03	1016.11	1016.12	1016.14	1016.11	1015.97	1015.84	1015.61	1015.48	1015.49	1015.53	1015.61	1015.83	1015.99	1016.04	1016.05	
	Mean (Sea Level)	1017.92	1017.75	1017.55	1017.41	1017.37	1017.48	1017.58	1017.71	1017.78	1017.79	1017.81	1017.78	1017.64	1017.51	1017.28	1017.15	1017.16	1017.20	1017.29	1017.51	1017.67	1017.72	1017.73	
	Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.		
												</													



347. CAHIRCIVEEN (VALENTIA OBSERVATORY):  $H_b$  (height of barometer cistern above M.S.L.) = 13.7 metres.

MAY, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
1	008.7	008.6	008.5	008.5	008.5	008.6	008.7	008.8	009.1	009.1	009.0	008.6	008.1	007.6	007.6	007.1	007.1	006.8	006.8	007.2	007.5	007.3	007.0	007.1	008.0
2	006.8	006.2	005.7	005.0	003.7	003.3	003.0	002.9	002.7	001.7	000.6	999.6	999.0	998.5	997.7	997.2	996.2	995.9	996.0	996.6	997.5	997.3	996.7	996.4	000.5
3	996.1	996.2	995.5	995.4	995.4	995.4	994.9	995.0	995.0	994.7	994.5	994.7	995.2	995.7	996.2	996.8	996.9	997.5	997.3	997.1	996.8	996.9	996.4	996.3	995.9
4	995.9	995.5	995.1	995.4	995.9	996.6	997.6	998.3	998.4	998.7	999.0	998.6	998.3	998.2	998.1	998.2	998.3	998.3	998.4	998.5	999.2	999.2	999.1	998.9	997.6
5	998.3	997.4	996.4	995.8	995.5	995.3	995.1	995.1	995.1	995.0	994.9	994.9	995.1	995.2	995.4	995.7	995.9	996.1	996.3	996.2	996.3	996.3	996.2	996.1	995.9
6	996.0	996.0	995.9	995.5	995.4	995.6	995.6	995.8	995.7	995.6	995.6	995.4	995.2	995.3	995.3	995.4	995.6	995.9	996.2	996.5	996.8	996.9	997.0	995.8	995.8
7	997.1	997.3	997.6	997.7	997.7	998.3	998.9	999.6	000.4	001.1	002.0	002.5	003.1	003.6	004.2	005.1	005.6	006.3	006.7	007.1	007.3	007.5	007.6	007.1	002.3
8	007.0	006.3	005.7	005.0	004.5	004.4	004.9	005.5	006.4	007.1	008.0	008.6	008.6	009.1	009.5	009.6	009.8	009.7	009.6	009.5	010.0	010.7	011.2	012.1	007.9
9	012.6	013.4	014.1	014.6	015.2	015.6	016.4	016.9	017.2	017.3	017.4	017.5	017.3	017.3	017.3	017.4	017.3	017.3	017.4	017.4	017.5	017.4	017.1	016.6	016.4
10	015.9	015.8	015.3	015.0	015.2	015.6	015.7	015.9	016.0	016.3	016.5	017.0	017.0	017.2	017.0	017.2	017.2	017.1	017.2	017.3	017.5	017.4	017.1	017.0	016.5
11	017.0	017.2	017.7	017.9	018.3	018.6	019.3	019.5	019.7	019.8	020.3	020.2	020.3	020.1	019.9	019.6	019.6	019.7	019.8	019.9	019.5	019.6	019.4	019.1	019.2
12	018.5	018.0	017.5	017.2	016.7	016.4	016.1	015.7	015.4	015.3	015.1	014.8	014.5	014.3	014.1	014.0	013.7	013.7	013.6	013.6	013.7	013.7	013.7	013.4	015.2
13	013.0	012.8	012.3	012.2	012.1	011.8	011.5	011.1	010.8	010.4	010.1	010.2	010.4	010.6	010.6	010.4	010.7	010.9	011.3	011.5	012.0	012.3	012.6	012.8	011.4
14	012.8	013.1	013.3	013.6	013.6	014.2	015.0	015.4	015.9	016.2	016.7	017.2	017.8	017.8	017.9	018.0	018.3	018.5	018.9	019.3	019.7	020.1	020.1	019.6	016.7
15	019.8	019.6	019.7	019.9	019.7	019.9	020.2	020.5	020.8	021.3	021.6	021.7	019.9	019.8	019.6	019.6	019.8	019.9	019.3	019.8	019.8	018.3	018.1	018.2	019.6
16	018.0	017.5	017.5	016.9	016.9	016.8	016.8	017.0	017.1	017.4	017.3	017.4	017.0	017.1	017.0	017.0	017.3	017.4	017.3	017.6	018.0	017.9	017.8	017.9	017.3
17	017.8	017.7	017.7	017.8	018.1	018.4	018.7	018.8	018.9	018.7	018.9	019.1	019.1	019.2	019.3	019.7	019.6	019.6	019.5	019.5	019.6	018.9	018.9	019.2	018.6
18	019.3	018.7	018.6	018.2	017.7	017.5	017.4	017.2	017.4	017.5	017.3	017.5	017.2	016.8	016.7	016.6	016.6	016.7	016.7	016.7	016.8	016.8	016.3	016.0	017.3
19	015.9	015.5	015.2	014.6	014.1	013.7	013.2	013.0	012.6	012.5	012.1	011.5	011.1	010.2	008.7	007.6	006.2	006.3	005.7	005.1	005.4	005.2	004.6	004.1	010.5
20	003.1	002.3	002.0	001.3	001.4	002.2	003.2	003.6	004.3	004.9	005.4	005.9	006.3	006.6	006.8	007.0	007.5	007.6	008.2	008.7	009.4	009.7	009.8	010.1	005.6
21	010.4	010.5	010.7	011.2	011.5	012.1	012.6	013.3	013.9	014.4	015.0	015.5	016.0	016.6	017.0	017.4	017.6	017.9	018.4	019.0	019.7	020.1	020.4	020.7	015.3
22	021.0	021.1	021.1	021.0	021.1	021.6	021.9	022.3	022.4	022.4	022.4	022.6	022.5	022.5	022.4	022.5	022.5	022.6	022.7	023.0	023.3	023.5	023.5	023.7	022.3
23	023.7	023.6	023.6	023.4	023.5	023.7	023.8	024.3	024.5	024.5	024.4	024.2	024.3	024.2	024.4	024.4	024.2	024.1	024.0	024.1	024.0	023.8	023.8	023.5	024.0
24	023.0	022.6	022.0	021.3	020.9	021.2	021.3	021.1	021.3	021.2	021.5	021.7	022.0	022.4	022.7	023.1	023.4	023.7	023.7	023.8	024.4	024.4	024.5	024.4	022.5
25	024.2	024.0	023.7	023.5	023.0	022.8	022.8	022.4	022.5	022.4	022.5	022.4	022.5	022.0	022.0	021.8	021.6	021.4	021.3	021.4	021.3	021.3	021.1	020.8	022.4
26	020.7	020.6	020.5	020.1	020.2	020.2	020.0	019.9	019.5	019.4	019.2	018.4	017.5	016.1	015.1	014.7	014.6	014.4	014.5	014.8	015.3	015.5	015.9	015.9	017.7
27	015.9	016.0	015.9	015.7	015.8	016.0	016.3	016.5	016.6	016.6	016.5	016.8	017.1	017.0	016.9	017.0	017.1	017.1	017.4	017.4	017.4	017.4	017.4	017.0	016.7
28	016.9	016.8	016.5	016.3	016.2	016.4	016.6	016.8	016.9	016.9	016.7	016.8	017.1	017.0	017.3	017.7	018.2	018.5	018.8	019.1	019.3	019.4	019.5	019.7	017.5
29	019.8	019.8	019.5	019.3	019.5	019.5	019.6	019.7	019.8	019.6	019.5	019.4	019.3	019.4	019.0	018.9	018.9	018.2	017.9	017.8	017.5	017.2	016.6	015.7	018.9
30	015.4	014.7	013.8	012.8	012.3	011.6	011.0	010.2	009.7	009.0	008.5	007.7	007.1	006.2	005.3	004.6	003.7	003.9	004.6	005.1	005.3	005.3	005.4	005.4	008.5
31	005.6	005.5	005.5	005.4	005.5	005.5	005.4	005.6	005.7	005.7	005.5	005.6	005.7	005.6	005.2	005.4	005.2	005.1	005.0	004.9	004.9	005.0	004.8	004.8	005.3
Mean (Station Level)	1012.46	1012.27	1012.07	1011.85	1011.78	1011.90	1012.06	1012.17	1012.30	1012.31	1012.34	1012.33	1012.31	1012.24	1012.15	1012.16	1012.17	1012.19	1012.27	1012.39	1012.62	1012.65	1012.56	1012.48	1012.25
Mean (Sea Level)	1014.12	1013.93	1013.73	1013.51	1013.44	1013.56	1013.71	1013.83	1013.95	1013.96	1013.99	1013.97	1013.95	1013.88	1013.79	1013.80	1013.82	1013.84	1013.92	1014.05	1014.29	1014.32	1014.23	1014.14	1013.91

348. CAHIRCIVEEN (VALENTIA OBSERVATORY):  $H_b$  = 13.7 metres.

JUNE, 1933.

Station Level ↑ ↓	1	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	
	2	004.6	004.6	004.3	003.8	003.4	002.7	002.9	003.0	003.2	002.0	001.3	000.9	000.9	000.3	000.2	000.8	001.6	002.3	002.9	003.5	004.2	004.7	005.0	005.3	002.8
	3	005.5	005.6	005.4	005.5	005.5	006.1	006.4	006.7	006.9	007.1	007.4	007.6	007.8	008.0	007.8	007.9	008.3	008.3	008.5	008.7	009.0	009.0	008.8	008.7	007.3
	4	008.6	008.3	008.4	008.4	008.5	008.5	008.9	009.0	009.2	009.3	009.3	009.6	009.5	009.5	009.8	009.9	009.8	009.7	010.4	011.2	011.4	011.4	011.6	011.8	009.6
	5	011.7	011.6	011.6	011.4	011.8	011.6	011.8	011.9	012.0	012.1	012.3	012.0	011.6	011.4	011.5	011.6	011.3	011.1	011.4	011.5	011.6	011.3	011.3	011.2	011.6
	6	010.8	011.0	010.8	011.3	011.4	011.6	012.0	012.1	012.3	012.9	013.4	013.7	013.9	014.2	014.3	014.3	014.4	014.7	014.8	014.8	015.1	015.3	015.4	015.5	013.2
	7	015.4	015.0	014.9	014.8	014.8	014.8	015.0	015.1	015.0	014.8	014.6	014.5	014.4	014.6	014.4	013.9	013.5	013.5	013.6	013.6	013.7	013.8	013.8	013.3	014.4
	8	013.2	013.2	013.1	013.0	013.2	013.4	013.7	014.0	014.3	014.8	015.3	015.9	016.3	016.9	017.6	018.0	018.6	019.3	020.0	020.3	021.0	021.4	021.7	022.0	016.5
	9	022.2	022.5	022.9	023.2	023.4	023.8	024.2	024.4	024.7	024.9	025.2	025.2	025.1	024.9	025.2	025.3	025.3	025.4	025.6	025.9	026.4	026.7	027.1	027.1	024.8
	10	027.1	027.2	027.2	027.4	027.8	027.9	028.6	028.5	028.6	028.7	028.5	028.3	028.3	028.2	028.4	028.7	028.9	029.0	029.3	029.6	029.9	030.2	030.3	030.3	028.6
	11	030.2	030.1	029.8	029.7	030.1	030.8	030.5	030.7	030.6	030.5	030.1	029.9	029.9	029.4	029.2	029.1	028.9	028.6	028.5	028.2	027.9	027.7	027.3	027.0	029.4
	12	026.7	026.1	025.5	025.0	024.5	024.4	024.0	023.5	023.0	022.4	022.0	021.5	020.9	020.1	019.5	019.0	018.5	018.2	018.1	017.9	017.8	017.8	017.8	017.7	021.5
	13	017.3	017.2	017.1	016.9	016.7	016.9	016.9	017.2	017.0	016.9	017.0	017.1	017.1	016.9	016.8	016.7	016.5	016.1	016.2	016.1	016.2	016.2	016.2	016.2	016.8
	14	015.0	014.7	014.4	014.1	014.1	014.1	014.2	014.3	014.5	014.6	014.7	014.8	015.1	015.3	015.3	015.2	015.2	015.3	015.5	015.8	016.0	016.2	016.3	016.5	015.0
	15	016.3	016.5	016.6	015.4	016.5	016.7	017.1	017.6	017.7	017.8	017.8	017.9	018.1	017.9	017.9	017.9	018.3	018.5	018.6	018.8	018.9	018.7	018.8	018.5	017.7
	16	018.3	018.1	017.8	017.7	017.5	017.3	017.3	017.3	017.2	017.2	017.2	017.1	016.9	016.6	016.7	016.4	016.2	016.2	016.3	016.7	017.1	017.3	017.2	017.3	017.1
17	016.8	016.4	016.0	015.4	015.3	015.1	014.7	014.0	013.7	012.5	011.5	010.6	009.5	008.3	007.6	007.2	006.9	007.0	007.1	007.2	007.3	007.3	007.1	006.8	011.1	
18	006.5	006.2	005.9	005.8	005.5	005.5	005.4	005.3	005.1	005.1	005.0	004.9	004.9	004.9	004.6	004.7	004.6	004.6	004.9	005.0	005.1	005.2	004.9	005.2	001.8	
19	004.5	004.0	003.2	003.0	003.1	003.0	003.0	002.7	002.4	002.2	002.4	002.5	002.3	002.0	001.6	001.5	001.1	000.6	000.9	000.8	000.5	000.4	000.3	000.2	001.8	
20	004.5	004.0	003.2	003.0	003.1	003.0	003.0	002.7	002.4	002.2	002.4	002.5	002.3	002.0	001.6	001.5	001.1	000.6	000.9	000.8	000.5	000.4	000.3	000.2	001.8	
21	004.5	004.0	003.2	003.0	003.1	003.0	003.0	002.7	002.4	002.2	002.4	002.5	002.3	002.0	001.6	001.5	001.1	000.6	000.9	000.8	000.5	000.4	000.3	000.2	001.8	
22	004.5	004.0	003.2	003.0	003.1	003.0	003.0	002.7	002.4	002.2	002.4	002.5	002.3	002.0	001.6	001.5	001.1	000.6	000.9	000.8	000.5	000.4	000.3	000.2	001.8	
23	004.5	004.0	003.2	003.0	003.1	003.0	003.0	002.7	002.4	002.2	002.4	002.5	002.3	002.0	001.6	001.5	001.1	000.6	000.9	000.8	000.5	000.4	000.3	000.2	001.8	
24	004.5	004.0	003.2	003.0	003.1	003.0	003.0	002.7	002.4	002.2	002.4	002.5	002.3	002.0	001.6	001.5	001.1	000.6	000.9	000.8	000.5	000.4	000.3	000.2	001.8	
25	004.5	004.0	003.2	003.0	003.1	003.0	003.0	002.7	002.4	002.2	002.4	002.5	002.3	002.0	001.6	001.5	001.1	000.6	000.9	000.8	000.5	000.4	000.3	000.2	001.8	
26	004.5	004.0	003.2	003.0	003.1	003.0	003.0	002.7	002.4	002.2	002.4	002.5	002.3	002.0	001.6	001.5	001.1	000.6	000.9	000.8	000.5	000.4	000.3	000.2	001.8	
27	004.5	004.0	003.2	003.0	003.1	003.0	003.0	002.7	002.4	002.2	002.4	002.5	002.3	002.0	001.6	001.5	001.1	000.6	000.9	000.8	000.5	000.4	000.3	000.2	001.8	
28	004.5	004.0	003.2	003.0	003.1	003.0	003.0	002.7	002.4	002.2	002.4	002.5	002.3	002.0	001.6	001.5	001.1	000.6	000.9	000.8	000.5	000.4	000.3	000.2	001.8	
29	004.5	004.0	003.2	003.0	003.1	003.0	003.0	002.7	002.4	002.2	002.4	002.5	002.3	002.0	001.6	001.5	001.1	000.6	000.9	000.8	000.5	000.4	000.3	000.2	001.8	
30	004.5	004.0	003.2	003.0	003.1	003.0	003.0	002.7	002.4	002.2	002.4	002.5	002.3	002.0	001.6	001.5	001.1	000.6	000.9	000.8	000.5	000.4	000.3	000.2	001.8	
Mean (Station Level)	1012	1012	1012	1012	1012	1012	1012	1012	1012	1012	1012	1012	1012	1012	1012	1012	1012	1012	1012	1012	1012	1012	1012	1012	1012	
Mean (Sea Level)	1014	1014	1014	1014	1014	1014	1014	1014	1014	1014	1014	1014	1014	1014	1014	1014	1014	1014	1014	1014	1014	1014	1014	1014	1014	
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	



349. CAHRCIVEEN (VALENTIA OBSERVATORY):  $H_b$  (height of barometer cistern above M.S.L.) = 13.7 metres.

JULY, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
1	1022.9	1022.8	1022.7	1022.8	1023.1	1023.5	1023.8	1024.0	1024.2	1024.1	1024.1	1024.2	1024.2	1024.3	1024.4	1024.1	1023.9	1023.9	1024.1	1024.3	1024.9	1025.3	1025.5	1025.5	1024.0
2	1025.4	1025.2	1025.3	1025.6	1025.9	1026.3	1026.7	1027.2	1027.3	1027.4	1027.6	1027.9	1028.0	1028.1	1028.1	1028.3	1028.7	1029.0	1029.4	1029.9	1030.5	1030.8	1031.1	1031.3	1027.8
3	1031.5	1031.7	1032.0	1032.1	1032.4	1032.7	1033.1	1033.4	1033.7	1033.8	1034.0	1034.2	1034.2	1034.2	1034.3	1034.6	1034.7	1034.8	1034.8	1034.9	1034.8	1034.9	1035.0	1034.9	1033.7
4	1034.6	1034.4	1034.2	1034.1	1034.2	1034.1	1034.2	1033.8	1033.3	1033.0	1032.4	1032.0	1031.7	1031.1	1030.9	1030.2	1029.6	1029.0	1028.7	1028.1	1027.8	1027.4	1027.0	1026.4	1031.5
5	1025.9	1025.0	1024.3	1023.6	1023.0	1022.5	1021.4	1021.3	1020.5	1020.1	1019.4	1018.5	1018.1	1017.8	1017.5	1017.0	1016.5	1016.3	1016.8	1015.6	1015.3	1015.3	1015.3	1014.8	1019.4
6	1014.4	1013.3	1012.6	1012.1	1011.5	1010.9	1010.1	1010.0	1010.1	1010.0	1009.7	1008.6	1008.6	1008.5	1008.0	1006.9	1006.5	1006.0	1006.0	1006.3	1006.3	1005.2	1005.5	1005.2	1009.0
7	1004.1	1003.2	1002.6	1002.0	1002.3	1001.9	1002.1	1001.7	1002.0	1001.7	1001.2	1001.3	1001.5	1001.8	1001.9	1002.0	1003.2	1003.7	1004.3	1005.0	1005.6	1006.4	1006.9	1007.1	1003.1
8	1007.4	1007.2	1007.1	1007.0	1007.1	1007.2	1007.0	1007.1	1007.4	1007.4	1008.0	1008.4	1008.6	1008.6	1009.2	1010.0	1010.3	1010.9	1011.3	1011.7	1012.1	1012.9	1013.6	1014.2	1009.3
9	1014.4	1014.3	1014.2	1014.0	1013.9	1013.9	1013.8	1013.8	1012.6	1012.6	1013.4	1010.6	1010.4	1010.0	1009.5	1008.7	1007.7	1007.7	1007.6	1007.4	1007.6	1007.9	1007.7	1007.7	1010.9
10	1007.2	1006.5	1006.4	1006.2	1006.2	1006.7	1006.9	1007.2	1007.5	1007.7	1007.8	1008.1	1008.3	1008.3	1008.5	1008.5	1008.6	1008.6	1008.5	1008.5	1008.5	1008.4	1008.1	1007.7	1007.7
11	1007.2	1006.9	1006.6	1006.5	1006.5	1006.7	1006.9	1007.1	1007.3	1007.4	1007.4	1007.5	1007.5	1007.3	1007.3	1007.5	1007.4	1007.6	1007.9	1008.0	1008.5	1008.5	1008.7	1008.7	1007.4
12	1008.7	1008.6	1008.6	1008.7	1008.9	1009.4	1009.8	1010.2	1010.7	1011.0	1011.1	1011.2	1011.3	1011.2	1011.1	1011.0	1010.8	1010.4	1009.7	1008.9	1008.0	1006.9	1005.3	1002.8	1009.5
13	1001.3	999.6	998.2	998.1	997.7	997.3	997.2	997.2	997.0	996.8	996.6	996.8	996.4	996.4	996.1	995.9	995.9	995.7	995.6	996.1	997.1	998.2	999.1	999.9	997.4
14	1000.9	1001.6	1002.1	1003.0	1003.8	1004.4	1004.9	1005.3	1005.7	1006.0	1006.1	1006.2	1006.2	1005.9	1005.8	1005.5	1005.1	1004.4	1004.2	1003.6	1003.3	1002.9	1002.4	1001.8	1004.5
15	1001.4	1001.3	1001.3	1001.5	1001.9	1002.6	1003.2	1003.7	1004.5	1005.4	1006.2	1006.9	1007.7	1008.6	1009.2	1010.1	1010.8	1011.7	1012.4	1013.4	1014.3	1015.3	1015.7	1016.3	1007.4
16	1016.4	1016.5	1016.9	1017.1	1017.8	1018.1	1018.7	1019.0	1019.3	1019.7	1020.0	1020.4	1020.6	1020.5	1020.5	1020.4	1020.4	1020.3	1020.2	1020.0	1020.0	1020.0	1019.6	1019.2	1019.2
17	1018.8	1018.5	1018.5	1018.4	1018.5	1018.9	1019.3	1019.7	1020.0	1020.6	1020.7	1020.7	1020.9	1021.0	1021.1	1021.0	1021.2	1021.4	1021.5	1021.7	1021.8	1022.0	1022.0	1022.0	1020.4
18	1021.8	1021.3	1020.9	1020.8	1020.6	1020.5	1020.5	1020.3	1020.2	1019.8	1019.4	1019.2	1018.8	1018.5	1018.7	1018.5	1017.9	1016.9	1016.5	1016.3	1014.7	1014.8	1013.9	1013.4	1018.7
19	1013.0	1012.3	1011.6	1011.8	1011.8	1011.9	1012.0	1012.2	1012.3	1012.6	1012.6	1012.6	1012.8	1012.8	1013.0	1013.1	1013.2	1013.0	1013.2	1013.4	1013.9	1013.9	1013.7	1013.9	1012.8
20	1013.9	1013.9	1014.0	1014.1	1014.1	1014.2	1014.3	1014.9	1015.1	1015.2	1015.5	1015.8	1016.0	1016.2	1016.2	1016.3	1016.4	1016.4	1016.6	1016.6	1017.0	1017.3	1017.3	1017.1	1015.6
21	1017.1	1017.0	1016.9	1016.8	1016.9	1016.8	1017.0	1017.2	1017.0	1017.1	1017.2	1017.1	1017.1	1016.8	1016.8	1016.2	1016.3	1016.1	1016.0	1016.3	1016.6	1016.8	1016.7	1016.7	1016.8
22	1018.5	1018.6	1018.6	1018.9	1017.1	1017.4	1017.8	1018.1	1018.5	1018.6	1019.4	1019.8	1020.1	1020.5	1020.7	1021.2	1021.2	1021.9	1022.2	1022.3	1022.8	1023.3	1023.6	1023.8	1019.7
23	1023.7	1023.7	1023.8	1023.8	1024.1	1024.4	1024.5	1024.8	1024.9	1025.0	1024.9	1025.0	1025.1	1025.1	1025.1	1024.9	1024.8	1024.7	1024.8	1024.7	1024.8	1024.8	1024.5	1024.2	1024.6
24	1024.0	1023.8	1023.8	1023.8	1023.1	1022.9	1022.5	1022.6	1022.6	1022.3	1021.8	1022.0	1021.3	1020.8	1020.3	1020.3	1020.1	1019.6	1019.1	1019.1	1018.9	1018.6	1018.3	1018.0	1021.3
25	1017.9	1017.5	1017.1	1016.8	1016.5	1016.5	1016.5	1016.4	1016.4	1016.3	1016.3	1016.3	1015.9	1015.6	1015.1	1014.7	1014.2	1013.7	1013.5	1013.3	1013.3	1013.7	1013.7	1013.6	1015.5
26	1013.2	1012.9	1012.8	1012.9	1013.2	1013.6	1014.1	1014.7	1015.1	1015.4	1015.9	1016.2	1016.3	1016.4	1016.4	1016.4	1016.6	1016.5	1016.4	1016.4	1016.5	1016.2	1016.2	1015.9	1015.2
27	1015.9	1015.9	1015.9	1016.6	1014.3	1014.9	1015.2	1015.2	1015.3	1015.7	1016.0	1016.2	1016.4	1016.7	1017.4	1017.9	1018.2	1018.5	1018.7	1019.1	1019.1	1019.1	1018.6	1018.6	1016.7
28	1018.0	1017.0	1016.7	1016.2	1014.1	1012.9	1012.8	1013.0	1013.2	1013.7	1014.1	1014.5	1014.7	1014.8	1014.8	1014.4	1014.2	1014.1	1013.8	1013.6	1013.9	1014.0	1013.9	1013.5	1014.5
29	1013.2	1012.8	1012.7	1012.1	1011.6	1011.6	1011.6	1011.6	1011.6	1011.8	1012.5	1013.0	1013.4	1014.3	1015.0	1015.1	1015.6	1016.2	1017.0	1017.9	1018.3	1018.9	1019.2	1019.4	1014.3
30	1019.1	1018.7	1018.2	1017.7	1017.3	1016.8	1016.2	1015.6	1014.5	1013.4	1012.5	1010.9	1009.2	1007.2	1005.9	1005.6	1005.1	1004.5	1004.5	1004.6	1005.3	1006.7	1008.5	1009.9	1011.4
31	1011.0	1011.9	1012.7	1013.6	1014.3	1015.5	1016.5	1018.0	1018.9	1019.7	1020.6	1021.8	1022.5	1023.0	1023.9	1024.3	1024.6	1025.1	1025.6	1026.4	1026.7	1027.3	1027.6	1027.6	1020.4
Mean (Station Level)	1015.80	1015.22	1015.06	1014.94	1014.95	1015.07	1015.19	1015.35	1015.44	1015.49	1015.54	1015.61	1015.61	1015.58	1015.60	1015.51	1015.48	1015.43	1015.48	1015.59	1015.76	1015.95	1016.27	1016.85	1016.47
Mean (Sea Level)	1017.45	1016.87	1016.71	1016.59	1016.60	1016.72	1016.83	1016.99	1017.08	1017.13	1017.18	1017.24	1017.24	1017.21	1017.23	1017.14	1017.11	1017.07	1017.12	1017.23	1017.40	1017.59	1017.61	1017.49	1017.11

350. CAHRCIVEEN (VALENTIA OBSERVATORY):  $H_b$  = 13.7 metres.

AUGUST, 1933.

Station Level ↑                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    <
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351. CAHIRCIVEEN (VALENTIA OBSERVATORY) :  $H_b$  (height of barometer cistern above M.S.L.) = 13.7 metres.

SEPTEMBER, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Neon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
1	022.1	021.9	021.5	021.3	020.9	021.0	021.2	021.3	021.3	021.3	021.4	021.4	021.3	021.7	021.5	021.4	021.5	021.5	021.7	022.2	022.5	022.5	022.9	022.8	021.7
2	022.6	022.5	022.3	022.4	022.5	022.6	022.8	023.0	023.0	023.0	022.9	022.9	023.0	023.0	022.9	022.9	023.0	023.0	023.1	023.3	023.6	023.7	023.6	023.5	022.9
3	023.4	023.1	023.0	022.8	022.7	022.8	023.2	023.3	023.3	023.3	023.4	023.2	023.2	023.0	022.7	022.4	022.5	022.4	022.4	022.4	022.4	022.3	022.2	021.7	022.8
4	021.4	021.0	020.9	020.7	020.8	021.2	021.2	021.1	021.2	021.1	020.5	020.1	019.8	019.3	019.0	018.7	018.2	018.0	017.9	017.9	017.9	017.5	017.1	016.9	019.7
5	016.7	016.1	015.5	015.0	014.7	014.7	014.9	015.0	014.6	014.3	014.2	014.0	013.9	013.8	014.0	014.3	014.7	015.1	015.9	016.3	017.2	017.7	018.3	015.2	
6	018.7	019.0	019.5	019.9	020.5	021.1	021.8	022.4	023.0	023.8	024.3	024.4	024.9	025.6	025.6	025.5	025.9	026.2	026.8	027.0	027.9	028.4	028.1	028.2	023.9
7	028.1	027.8	027.9	028.0	027.9	028.0	028.0	028.3	028.0	028.0	028.0	027.9	027.6	027.5	027.2	026.8	026.6	026.6	026.7	027.0	027.1	027.0	027.0	026.9	027.5
8	026.6	026.2	025.8	025.5	025.2	025.1	025.4	025.5	025.6	025.6	025.6	025.2	025.1	024.7	024.3	023.5	023.3	023.2	023.3	023.6	023.9	024.1	023.8	023.6	024.8
9	023.3	023.0	023.0	023.1	022.6	022.6	022.9	022.8	023.0	023.1	023.2	022.8	022.8	022.4	022.1	021.9	022.0	022.2	022.5	023.3	023.4	023.4	023.3	023.0	022.8
10	022.9	022.8	022.9	023.1	023.1	023.2	023.5	023.4	023.4	023.5	023.3	023.0	022.8	022.5	022.3	022.0	022.2	022.2	022.6	023.2	023.4	023.3	023.2	022.8	022.9
11	022.4	021.9	021.5	021.1	021.0	021.1	021.2	021.2	021.3	021.4	021.3	021.2	020.8	020.5	020.4	020.3	020.2	020.1	020.2	020.3	020.5	020.4	020.3	020.2	020.9
12	019.9	019.4	019.3	019.1	019.0	018.9	018.9	019.1	019.1	019.1	019.1	018.6	018.4	018.1	017.9	017.8	017.8	018.0	018.3	019.0	019.2	019.4	019.4	019.5	018.9
13	019.6	019.3	019.5	019.5	019.5	019.6	019.8	020.0	020.1	020.5	020.6	020.6	020.5	020.5	020.4	020.4	020.4	020.6	021.2	021.9	022.4	022.7	022.9	023.2	020.6
14	023.2	023.2	023.3	023.4	023.7	024.4	024.7	025.1	025.2	025.5	025.7	025.7	025.5	025.3	025.1	025.1	025.1	025.1	025.3	025.5	025.3	025.4	025.0	024.7	024.8
15	024.4	023.9	023.5	023.0	022.7	022.9	022.9	022.7	022.4	022.3	022.1	021.3	021.2	020.7	020.3	019.8	019.5	019.1	018.8	018.3	017.7	017.4	017.3	017.1	021.0
16	017.0	015.9	015.2	014.6	014.0	013.5	013.2	012.9	012.8	012.8	012.6	012.3	012.1	011.7	011.5	010.7	010.7	010.2	010.1	010.1	009.7	008.7	008.4	012.3	
17	007.8	006.7	006.0	004.6	003.7	003.2	002.8	002.5	002.2	001.4	000.8	000.2	999.9	998.9	997.8	997.4	997.3	997.3	998.0	000.8	002.5	004.0	005.3	006.5	002.0
18	007.4	008.2	009.0	009.4	009.7	010.2	010.7	011.1	011.4	011.5	011.5	011.2	010.9	010.7	010.1	009.6	009.0	008.6	008.0	007.3	006.8	005.9	004.7	004.1	009.1
19	003.2	002.6	002.1	001.7	001.3	001.0	001.4	001.4	001.8	001.8	001.6	001.5	001.2	001.1	000.7	000.5	000.1	000.2	000.1	000.4	000.1	000.0	999.7	999.6	001.1
20	999.6	999.0	998.6	998.5	998.0	998.3	998.3	998.7	999.0	999.0	999.2	999.3	999.4	999.7	999.8	000.3	000.9	001.6	002.5	002.8	003.3	003.8	004.0	000.2	
21	004.3	004.3	004.2	004.6	004.9	005.3	006.0	007.3	008.6	008.7	009.1	009.6	009.8	010.2	010.7	010.8	011.2	011.4	011.5	011.5	012.4	012.1	012.2	011.9	008.7
22	011.5	011.2	010.9	010.2	009.9	009.5	009.2	008.7	008.4	007.9	007.1	006.4	005.7	004.7	003.5	002.3	001.1	000.2	999.5	999.5	999.1	998.8	998.4	998.0	005.4
23	997.7	997.6	997.2	996.9	997.0	996.9	996.7	996.3	996.3	996.1	996.0	995.9	995.5	995.3	995.3	995.1	995.2	995.4	995.8	996.0	996.6	997.0	998.0	998.3	006.3
24	999.0	999.7	000.4	001.3	002.1	003.5	004.5	005.6	006.2	006.7	007.0	007.1	007.1	007.0	007.3	007.4	007.7	008.5	009.1	009.6	009.7	009.5	009.5	009.6	005.8
25	010.2	010.0	010.1	009.8	010.3	010.7	011.4	011.6	012.4	012.8	012.7	013.1	013.3	013.3	013.2	013.6	013.9	014.4	014.8	015.1	015.3	015.3	015.3	015.9	012.7
26	015.9	015.9	016.0	016.1	016.4	016.8	017.5	017.8	018.0	018.4	018.4	018.5	018.6	018.5	018.5	018.4	019.2	019.4	019.8	020.0	020.4	020.4	020.6	020.5	018.2
27	020.6	021.0	020.9	020.9	021.1	021.6	021.9	022.1	022.4	022.6	022.8	023.0	022.5	022.4	022.3	022.4	022.4	022.4	022.9	023.3	023.6	023.6	023.4	023.0	022.2
28	023.1	023.0	022.9	022.5	022.3	022.3	022.3	022.3	022.0	021.6	021.1	020.6	020.0	019.4	019.1	018.7	018.5	018.8	018.8	018.7	018.9	018.9	018.6	018.7	020.6
29	018.6	018.1	017.6	017.5	017.6	017.8	017.9	018.3	018.5	018.7	018.5	018.6	018.7	018.7	018.6	018.6	018.8	019.1	019.8	020.3	020.3	020.4	020.6	020.6	018.8
30	020.4	020.3	019.9	019.5	019.4	019.6	020.3	020.4	020.3	020.6	020.6	020.6	020.3	020.2	020.2	019.9	019.8	020.0	020.5	020.8	021.2	020.9	020.8	020.7	020.3
Mean (Station Level)	1016 .39	1016 .15	1016 .01	1015 .87	1015 .82	1016 .98	1016 .22	1016 .37	1016 .49	1016 .55	1016 .49	1016 .32	1016 .19	1016 .01	1015 .81	1015 .61	1015 .61	1015 .67	1015 .88	1016 .23	1016 .42	1016 .47	1016 .41	1016 .40	1016 .14
Mean (Sea Level)	1018 .04	1017 .80	1017 .67	1017 .53	1017 .48	1017 .64	1017 .88	1018 .02	1018 .14	1018 .20	1018 .13	1017 .96	1017 .83	1017 .65	1017 .45	1017 .25	1017 .25	1017 .31	1017 .52	1017 .88	1018 .07	1018 .12	1018 .06	1018 .05	1017 .79

352. CAHIRCIVEEN (VALENTIA OBSERVATORY) :  $H_b$  = 13.7 metres.

OCTOBER, 1933.

Station Level ↑                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 
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**PRESSURE**  
Readings in millibars at exact hours, Greenwich Mean Time.

353. CAHRCIVEEN (VALENTIA OBSERVATORY):  $H_b$  (height of barometer cistern above M.S.L.) = 13.7 metres.

NOVEMBER, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1	018.2	018.6	018.9	019.2	019.6	020.2	020.6	021.4	022.0	022.5	023.2	023.3	023.4	023.4	023.6	023.8	023.9	024.1	024.4	024.6	024.7	024.7	024.7	024.8	022.3
2	024.7	024.5	024.4	024.4	024.2	024.3	024.2	024.5	025.1	025.3	025.5	025.6	025.3	025.1	025.0	025.1	025.2	025.8	026.0	026.4	027.1	027.2	027.6	027.7	025.4
3	027.7	027.8	028.1	027.9	028.0	027.9	028.1	028.4	028.7	028.8	028.9	028.6	028.5	028.2	028.1	027.8	027.6	027.9	028.0	028.2	028.4	028.6	028.4	028.0	028.2
4	027.2	027.2	027.2	027.1	027.0	027.0	027.0	027.4	027.5	027.4	027.3	027.2	026.7	026.5	026.3	026.3	026.2	026.4	026.3	026.3	026.4	026.5	026.3	026.1	026.8
5	025.7	025.3	024.7	024.3	023.9	023.3	023.0	022.9	023.0	023.0	023.5	023.3	023.4	023.2	023.1	023.1	023.3	023.4	023.5	023.6	024.4	024.4	024.7	024.8	023.8
6	024.4	024.2	024.1	024.3	024.4	024.4	024.4	024.8	025.1	025.1	025.4	025.1	024.8	024.6	024.6	024.9	025.2	025.5	025.9	026.4	026.5	026.6	026.5	026.4	025.1
7	028.5	028.5	028.5	028.4	028.5	028.6	028.6	028.6	028.8	027.3	027.4	027.3	027.1	026.7	026.5	026.3	026.4	026.7	027.0	027.2	027.1	027.0	026.9	026.5	026.7
8	028.4	028.1	028.5	028.6	028.4	028.5	028.1	028.3	028.0	027.4	027.4	027.4	027.2	026.7	026.5	026.3	026.2	026.7	027.0	027.1	027.0	026.9	026.5	026.5	026.8
9	016.1	015.2	014.3	014.2	014.2	014.6	015.2	015.8	016.2	016.6	016.9	016.7	016.5	016.2	016.1	016.2	016.3	016.3	016.3	016.1	016.0	015.8	015.3	014.9	015.8
10	014.4	014.1	013.9	013.4	013.2	012.8	012.7	012.6	012.7	012.7	012.4	011.7	011.5	011.0	010.4	010.0	009.9	009.4	009.4	008.8	008.5	007.7	007.4	007.1	011.3
11	006.5	005.9	005.4	004.9	004.5	004.1	003.7	003.4	003.0	002.7	002.4	001.9	001.2	000.9	000.9	000.7	000.8	001.0	001.3	001.5	002.0	002.5	003.1	003.8	002.9
12	004.3	005.0	005.7	006.0	006.4	006.7	006.8	007.4	007.6	008.2	008.4	008.3	008.1	008.0	007.9	008.1	008.3	008.5	008.4	008.4	008.1	008.0	007.5	007.3	007.3
13	007.0	006.7	005.8	005.5	005.3	005.4	006.1	006.7	007.9	008.6	009.3	009.6	009.6	009.7	010.0	010.5	010.8	011.4	011.5	011.6	012.2	012.2	011.8	011.5	008.9
14	011.3	010.9	009.6	009.0	008.6	007.6	006.2	005.0	003.4	001.6	999.9	997.7	995.6	993.6	993.7	993.5	993.6	993.6	994.0	993.4	992.8	992.5	992.2	000.1	000.1
15	991.6	991.0	989.5	989.3	988.0	986.9	985.3	984.1	982.9	982.4	981.9	981.5	981.3	981.2	981.4	981.7	982.6	983.7	985.0	986.6	988.1	990.1	992.0	994.7	985.9
16	996.3	997.6	999.2	000.0	000.7	001.8	003.1	004.1	005.4	006.2	006.6	006.5	006.9	007.1	008.4	009.4	010.3	011.2	012.4	013.4	013.5	014.1	014.5	015.2	006.4
17	015.9	016.1	016.6	016.7	017.1	017.8	018.2	018.6	019.3	019.6	019.9	019.5	019.1	018.7	018.6	018.5	018.6	019.0	019.3	019.4	019.3	019.0	018.7	018.5	018.3
18	017.9	017.2	016.7	016.2	015.6	015.0	014.2	013.6	012.8	012.5	012.1	011.4	010.5	009.7	009.1	008.8	008.5	008.2	007.9	007.7	007.6	007.4	007.2	007.0	011.7
19	006.9	007.0	006.9	006.6	006.7	006.5	006.3	006.6	007.0	007.1	006.8	006.6	006.4	006.2	006.1	006.3	006.5	006.6	006.9	007.2	007.2	007.3	007.5	007.6	006.8
20	007.6	007.7	007.8	007.9	008.5	009.0	009.9	010.8	011.9	012.8	014.2	014.6	015.2	015.6	016.1	017.0	017.8	018.9	019.6	019.9	020.6	020.8	021.1	021.8	014.2
21	022.0	022.1	022.4	022.4	022.8	023.0	023.2	023.8	024.0	023.7	023.6	022.8	022.9	022.4	022.2	022.3	022.2	022.1	022.1	021.8	021.9	021.7	021.6	021.3	022.5
22	020.9	020.4	020.3	019.9	019.8	019.5	019.4	019.8	019.5	019.1	018.9	018.3	018.1	017.2	017.0	017.0	016.9	016.7	016.8	016.5	016.1	016.3	016.0	015.8	018.3
23	015.7	015.5	015.3	014.9	014.8	014.6	014.7	014.8	015.0	015.0	015.3	015.0	014.8	014.6	014.4	014.6	014.9	014.9	015.1	015.1	015.1	015.4	015.8	015.0	015.0
24	015.6	015.7	015.7	015.7	015.8	016.1	016.4	017.0	017.2	017.4	017.3	017.6	017.5	017.4	017.3	017.4	017.7	017.8	017.8	017.8	017.9	017.6	017.6	017.6	017.0
25	017.4	017.2	017.0	016.9	016.8	016.9	017.0	017.5	017.7	017.8	017.6	017.1	016.6	015.9	015.2	015.1	014.6	014.3	014.2	014.0	013.6	013.3	013.0	012.0	015.9
26	011.3	010.6	009.9	009.5	008.9	008.5	008.0	007.6	007.4	007.1	006.4	005.8	005.4	004.6	004.0	003.6	003.3	002.8	002.9	002.5	001.9	001.4	001.0	000.4	005.9
27	999.7	999.0	998.5	997.4	996.9	996.1	995.9	995.8	995.7	995.8	995.6	995.2	994.9	994.4	994.3	994.4	994.8	995.2	995.7	996.2	996.5	996.9	997.5	998.3	996.3
28	997.6	997.7	998.2	998.1	999.2	999.8	000.3	001.2	002.0	002.7	003.3	003.5	003.7	003.6	003.4	004.0	004.7	005.1	005.6	006.2	006.3	006.9	007.5	008.0	002.8
29	007.4	007.6	007.9	007.7	007.7	008.2	008.4	008.7	009.1	009.6	009.6	009.6	009.4	009.0	009.1	009.6	009.8	009.9	009.9	009.7	009.7	009.8	009.5	009.7	009.0
30	009.3	009.1	008.7	007.9	007.9	007.2	006.9	007.0	006.4	006.7	006.9	006.9	006.9	006.6	006.6	006.6	006.9	006.1	006.0	005.5	004.5	003.2	002.0	999.6	006.5
Mean (Station Level)	1013 -78	1013 -65	1013 -50	1013 -31	1013 -28	1013 -23	1013 -24	1013 -40	1013 -58	1013 -67	1013 -71	1013 -39	1013 -14	1012 -79	1012 -71	1012 -80	1012 -92	1013 -07	1013 -29	1013 -38	1013 -44	1013 -44	1013 -39	1013 -34	1013 -32
Mean (Sea Level)	1015 -47	1015 -34	1015 -19	1015 -00	1014 -97	1014 -92	1014 -93	1015 -09	1015 -27	1015 -36	1015 -39	1015 -07	1014 -82	1014 -47	1014 -39	1014 -48	1014 -60	1014 -76	1014 -97	1015 -06	1015 -12	1015 -13	1015 -08	1015 -03	1015 -00

354. CAHRCIVEEN (VALENTIA OBSERVATORY):  $H_b$  13.7 metres.

DECEMBER, 1933.

Station Level	1	mb.	998.8	mb.	997.9	mb.	996.3	mb.	994.7	mb.	993.8	mb.	994.8	mb.	996.8	mb.	999.1	mb.	001.0	mb.	002.5	mb.	003.9	mb.	004.5	mb.	005.5	mb.	006.2	mb.	007.1	mb.	008.3	mb.	009.3	mb.	010.7	mb.	011.6	mb.	012.5	mb.	013.0	mb.	013.9	mb.	014.4	mb.	015.4	mb.	004.3
	2	015.8	016.8	017.4	017.6	018.4	019.4	020.3	021.1	022.0	022.9	023.6	024.2	024.3	024.7	025.7	026.2	027.2	028.0	028.5	029.1	029.8	030.7	031.3	031.6	023.7																									
	3	031.9	032.0	032.3	032.8	033.0	033.4	033.9	034.4	034.6	034.7	034.7	034.4	034.1	033.5	033.1	032.6	032.8	032.7	032.5	032.3	032.1	031.5	031.4	031.2	033.0																									
	4	030.7	030.3	030.1	029.1	028.7	028.6	028.3	028.0	027.8	027.6	027.1	026.3	025.0	024.5	024.0	023.9	023.6	023.3	022.9	022.9	022.7	022.0	021.9	021.9	028.1																									
	5	021.4	021.0	020.5	020.1	020.0	020.1	020.2	020.5	020.8	021.2	021.5	021.5	021.3	021.0	020.7	020.9	020.8	020.7	020.6	020.5	020.5	020.4	020.1	019.8	020.7																									
	6	019.3	018.6	018.5	018.3	018.2	017.8	017.7	016.9	016.8	016.9	016.6	015.7	015.2	014.4	013.9	013.6	013.8	013.5	013.4	013.3	013.3	013.2	013.4	013.4	015.8																									
	7	013.0	012.7	012.9	012.8	013.1	013.3	013.9	014.6	015.5	016.5	017.1	017.2	017.3	017.3	017.6	018.2	018.6	019.1	019.6	019.9	020.3	020.6	021.0	021.0	016.8																									
	8	020.8	020.2	020.6	020.5	020.8	020.9	021.1	021.3	021.8	022.6	023.1	023.6	023.7	023.4	023.4	023.8	024.0	024.3	024.5	024.6	024.7	024.7	024.4	024.2	022.7																									
	9	024.0	023.8	023.9	023.6	023.5	023.5	023.6	023.6	023.8	023.8	023.9	023.5	023.1	022.6	022.7	022.8	023.0	023.3	023.7	024.0	024.1	024.4	024.4	024.7	023.6																									
	10	024.7	024.7	024.8	024.6	024.8	025.0	025.4	025.8	026.1	026.5	026.7	026.1	025.7	025.7	025.6	025.7	025.9	026.3	026.6	026.7	027.0	027.0	027.1	027.1	025.9																									
	11	027.3	027.2	027.5	027.4	027.3	027.1	027.3	027.8	027.9	027.9	027.9	027.4	026.8	026.3	026.0	025.1	025.1	024.8	024.8	024.0	023.1	021.9	020.6	019.2	018.1	025.6																								
	12	017.0	016.2	015.4	014.5	013.7	012.8	012.0	011.9	011.5	011.2	010.7	009.5	008.1	006.7	005.0	005.6	005.7	005.4	004.0	003.2	005.3	005.5	005.6	005.9	006.4	009.7																								
	13	006.5	006.7	007.1	007.7	008.6	009.4	011.0	012.0	013.1	014.1	015.2	015.4	015.2	015.1	015.7	016.5	017.0	016.7	017.9	018.4	019.1	019.5	019.8	021.1	013.8																									
	14	021.8	022.0	022.2	022.3	021.8	021.4	021.8	022.5	022.0	022.7	022.8	022.8	022.5	022.1	021.9	021.5	022.2	022.1	021.9	021.8	021.7	021.8	021.7	021.7	022.0	022.0																								
	15	021.5	021.4	021.2	021.1	020.9	020.7	020.8	021.3	021.7	021.7	022.1	022.0	022.2	022.2	022.4	022.5	022.7	022.9	023.4	023.6	023.9	024.0	023.9	024.1	022.2	022.2																								
	16	024.2	024.0	024.0	023.9	023.7	023.6	023.7	023.9	024.0	024.4	024.4	024.0	023.8	023.5	023.2	023.1	023.1	023.2	023.1	023.1	023.3	023.6	023.5	023.4	023.7																									
	17	023.1	023.0	023.0	022.7	022.6	022.5	022.6	022.6	022.9	023.2	023.3	023.0	022.5	022.3	022.1	022.0	022.0	022.0	022.0	022.0	022.0	022.2	022.8	022.9	023.1	022.6																								
	18	023.2	023.4	023.6	023.8	023.5	023.9	024.5	025.0	025.6	026.2	026.8	026.9	027.0	027.2	027.6	028.0	028.6	029.0	029.4	029.8	030.0	030.2	030.4	030.6	026.7																									
	19	030.7	030.7	031.3	031.3	031.3	031.4	031.4	031.8	032.1	032.3	032.5	032.4	031.9	031.6	031.5	031.5	031.3	031.4	031.6	031.6	031.4	031.2	030.5	031.5	029.8																									
	20	030.3	030.0	030.1	029.9	030.1	029.8	029.5	029.7	030.1	030.6	030.6	030.2	029.9	029.5	029.3	029.3	029.3	029.3	029.6	029.6	029.8	029.8	029.4	029.3	029.8																									
	21	028.7	028.2	028.0	027.6	027.7	027.4	027.6	027.9	028.1	028.0	028.0	028.2	027.9	027.5	027.2	027.2	027.5	027.7	027.5	027.8	027.8	027.3	027.1	027.8	027.8																									
	22	026.9	026.9	027.2	027.1	027.1	027.5	027.7	028.0	029.0	029.3	029.8	028.7	030.1	029.7	030.2	030.8	031.0	030.9	031.2	031.3	031.2	031.3	031.1	031.6	029.3																									
	23	031.3	030.8	030.8	030.3	030.3	029.9	030.2	030.3	030.1	030.0	030.2	029.7	028.7	028.1	028.1	027.9	028.0	027.6	027.8	027.6	027.4	027.1	027.0	026.7	029.1																									
	24	026.4	026.8	025.7	025.5	025.1	024.7	024.6	024.2	024.0	023.9	023.7	023.0	022.2	021.4	021.0	020.5	020.1	019.5	018.8	018.2	017.8	016.9	015.1	022.1	026.7																									
	25	014.0	012.7	011.8	010.5	009.1	007.9	006.7	005.5	004.7	004.9	004.5	003.9	003.4	003.0	003.1	003.2	003.2	003.1	002.9	003.0	003.1	003.6	003.9	006.9																										
	26	004.2	004.1	004.8	004.6	004.6	005.0	005.2	005.6	006.1	006.6	007.1	007.2	007.2	007.3	007.7	008.0	008.4	008.7	009.1	008.9	009.0	009.1	008.7	008.1	006.8																									
	27	007.5	006.6	005.6	004.0	002.4	000.6	999.4	997.6	996.0	993.7	991.0	988.4	987.1	986.6	986.7	986.4	986.6	986.5	986.5	986.5	986.3	986.5	986.2	993.4																										
	28	985.9	985.7	985.7	985.6	985.3	985.2	985.4	985.4	986.4	986.1	985.9	987.8	988.8	990.4	991.9	993.7	995.1	996.6	997.6	998.8	000.1	000.3	001.0	001.0	990.6																									
	29	001.5	002.1	002.2	002.2	001.8	001.7	002.0	002.3	002.3	002.0	001.7	001.5	000.8	000.9	000.8	000.5	000.7	001.4	002.6	003.5	004.4	005.5	006.2	007.0	990.6																									
	30	007.5	008.3	008.6	008.9	009.3	009.4	009.8	010.2	011.7	012.7	014.0	014.7	015.2	015.7	016.5	017.5	018.4	018.9	019.4	020.7	021.7	021.7	022.3	024.5	028.1																									
	31	022.6	022.6	023.1	022.8	022.7	022.6	022.2	021.7	021.7	022.2	022.2	021.8	021.1	020.3	020.0	019.8	019.5	019.3	019.0	018.6	018.7	018.6	018.7	018.9	020.9																									
Mean (Station Level)		1018.79	1018.59	1018.59	1018.32	1018.17	1018.11	1018.27	1018.47	1018.75	1018.99	1019.15	1018.92	1018.63	1018.41	1018.47	1018.62	1018.85	1019.00	1019.19	1019.32	1019.47	1019.52	1019.52	1018.57	1018.81																									
Mean (Sea Level)		1020.49	1020.29	1020.29	1020.02	1019.87	1019.81	1019.97	1020.17	1020.46	1020.69	1020.85	1020.62	1020.33	1020.11	1020.17	1020.32	1020.55	1020.70	1020.89	1021.02	1021.17	1021.22	1021.22	1020.27	1020.51																									
Hour G. M. T.		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean																									



PRESSURE AT STATION LEVEL AND AT SEA LEVEL.  
ANNUAL MEANS FROM HOURLY VALUES.

299

From readings in millibars at exact hour, Greenwich Mean Time

355. CAHRCIVEEN (Valentia Observatory):  $H_b = 13.7$  metres.

1933.

Hour G. M. T.	1	2	3	4	5	6	7	8	9	10	11	Noon.	13	14	15	16	17	18	19	20	21	22	23	24	Mean.
Station Level.	mb. 014.21	mb. 014.00	mb. 013.87	mb. 013.71	mb. 013.66	mb. 013.73	mb. 013.86	mb. 014.05	mb. 014.19	mb. 014.26	mb. 014.34	mb. 014.24	mb. 014.09	mb. 013.90	mb. 013.81	mb. 013.77	mb. 013.80	mb. 013.89	mb. 014.03	mb. 014.20	mb. 014.36	mb. 014.42	mb. 014.41	mb. 014.38	mb. 014.08
Sea Level.	mb. 015.89	mb. 015.88	mb. 015.55	mb. 015.39	mb. 015.34	mb. 015.41	mb. 015.54	mb. 015.72	mb. 015.86	mb. 015.93	mb. 016.01	mb. 015.91	mb. 015.76	mb. 015.56	mb. 015.47	mb. 015.44	mb. 015.47	mb. 015.56	mb. 015.70	mb. 015.87	mb. 016.03	mb. 016.09	mb. 016.09	mb. 016.06	mb. 015.72

PRESSURE AT STATION LEVEL: MONTHLY MEANS AND DIURNAL INEQUALITIES.  
The departures from the mean of the day are adjusted for non-cyclic change <sup>†</sup>

356. CAHRCIVEEN (Valentia Observatory):  $H_b = 13.7$  metres.

1933.

Month.	Mean.	Hour 1	G.M.T. 2	3	4	5	6	7	8	9	10	11	Noon.	13	14	15	16	17	18	19	20	21	22	23	24
Jan.	mb. 1014.93	mb. +0.07	mb. -0.08	mb. +0.12	mb. +0.05	mb. -0.08	mb. -0.09	mb. -0.01	mb. +0.27	mb. +0.53	mb. +0.69	mb. +0.75	mb. +0.46	mb. -0.03	mb. -0.34	mb. -0.63	mb. -0.57	mb. -0.51	mb. -0.33	mb. -0.25	mb. -0.14	mb. -0.09	mb. -0.05	mb. +0.12	mb. +0.14
Feb.	mb. 1013.76	mb. -0.11	mb. -0.32	mb. -0.49	mb. -0.65	mb. -0.76	mb. -0.64	mb. -0.50	mb. -0.06	mb. +0.21	mb. +0.38	mb. +0.62	mb. +0.64	mb. +0.52	mb. +0.29	mb. +0.05	mb. -0.04	mb. -0.04	mb. +0.04	mb. +0.12	mb. +0.15	mb. +0.17	mb. +0.18	mb. +0.12	mb. +0.12
Mar.	mb. 1008.12	mb. +0.62	mb. +0.42	mb. +0.21	mb. +0.03	mb. -0.03	mb. -0.06	mb. -0.05	mb. +0.07	mb. +0.09	mb. +0.01	mb. +0.02	mb. -0.09	mb. -0.18	mb. -0.45	mb. -0.55	mb. -0.32	mb. -0.36	mb. -0.59	mb. -0.29	mb. +0.10	mb. +0.40	mb. +0.54	mb. +0.57	mb. +0.52
Apr.	mb. 1015.89	mb. +0.24	mb. +0.06	mb. -0.12	mb. -0.25	mb. -0.28	mb. -0.16	mb. -0.05	mb. +0.10	mb. +0.18	mb. +0.21	mb. +0.24	mb. +0.22	mb. +0.08	mb. -0.03	mb. -0.25	mb. -0.37	mb. -0.35	mb. -0.30	mb. -0.20	mb. +0.03	mb. +0.19	mb. +0.26	mb. +0.27	mb. +0.28
May	mb. 1012.25	mb. +0.15	mb. -0.03	mb. -0.23	mb. -0.44	mb. -0.52	mb. -0.38	mb. -0.23	mb. -0.10	mb. +0.03	mb. +0.05	mb. +0.08	mb. +0.08	mb. +0.06	mb. -0.01	mb. -0.09	mb. -0.07	mb. -0.05	mb. -0.03	mb. +0.05	mb. +0.18	mb. +0.42	mb. +0.44	mb. +0.36	mb. +0.29
June	mb. 1012.79	mb. +0.22	mb. +0.06	mb. -0.16	mb. -0.25	mb. -0.22	mb. -0.18	mb. -0.06	mb. -0.04	mb. -0.01	mb. +0.03	mb. +0.07	mb. +0.14	mb. +0.12	mb. +0.09	mb. +0.10	mb. +0.01	mb. -0.02	mb. -0.08	mb. -0.04	mb. +0.06	mb. +0.22	mb. +0.41	mb. +0.43	mb. +0.30
July	mb. 1015.47	mb. +0.40	mb. -0.19	mb. -0.36	mb. -0.49	mb. -0.47	mb. -0.37	mb. -0.25	mb. -0.10	mb. -0.01	mb. +0.03	mb. +0.07	mb. +0.14	mb. +0.12	mb. +0.09	mb. +0.10	mb. +0.01	mb. -0.02	mb. -0.08	mb. -0.04	mb. +0.06	mb. +0.22	mb. +0.41	mb. +0.43	mb. +0.30
Aug.	mb. 1016.08	mb. -0.06	mb. -0.29	mb. -0.43	mb. -0.55	mb. -0.57	mb. -0.37	mb. -0.12	mb. +0.06	mb. +0.23	mb. +0.34	mb. +0.47	mb. +0.46	mb. +0.33	mb. +0.28	mb. +0.13	mb. -0.01	mb. -0.13	mb. -0.17	mb. -0.05	mb. +0.20	mb. +0.21	mb. +0.16	mb. +0.08	mb. +0.06
Sept.	mb. 1016.14	mb. +0.22	mb. -0.01	mb. -0.16	mb. -0.29	mb. -0.34	mb. -0.17	mb. +0.07	mb. +0.22	mb. +0.35	mb. +0.40	mb. +0.35	mb. +0.18	mb. +0.06	mb. -0.12	mb. -0.33	mb. -0.52	mb. -0.52	mb. -0.46	mb. -0.25	mb. +0.11	mb. +0.30	mb. +0.34	mb. +0.29	mb. +0.28
Oct.	mb. 1013.03	mb. +0.18	mb. -0.04	mb. -0.28	mb. -0.44	mb. -0.48	mb. -0.44	mb. -0.32	mb. -0.05	mb. +0.06	mb. +0.10	mb. +0.25	mb. +0.18	mb. -0.03	mb. -0.26	mb. -0.31	mb. -0.37	mb. -0.26	mb. +0.03	mb. +0.26	mb. +0.39	mb. +0.51	mb. +0.53	mb. +0.46	mb. +0.33
Nov.	mb. 1013.32	mb. +0.17	mb. +0.07	mb. -0.05	mb. -0.22	mb. -0.22	mb. -0.25	mb. -0.21	mb. +0.03	mb. +0.18	mb. +0.29	mb. +0.36	mb. +0.06	mb. -0.16	mb. -0.49	mb. -0.54	mb. -0.42	mb. -0.28	mb. -0.10	mb. +0.14	mb. +0.26	mb. +0.34	mb. +0.37	mb. +0.34	mb. +0.33
Dec.	mb. 1018.81	mb. +0.27	mb. +0.05	mb. +0.01	mb. -0.28	mb. -0.46	mb. -0.55	mb. -0.41	mb. -0.24	mb. +0.02	mb. +0.24	mb. +0.36	mb. +0.11	mb. -0.20	mb. -0.45	mb. -0.41	mb. -0.29	mb. -0.08	mb. +0.03	mb. +0.20	mb. +0.31	mb. +0.43	mb. +0.46	mb. +0.43	mb. +0.45
Year.	mb. 1014.05	mb. +0.19	mb. -0.03	mb. -0.16	mb. -0.31	mb. -0.37	mb. -0.31	mb. -0.18	mb. +0.01	mb. +0.15	mb. +0.22	mb. +0.29	mb. +0.20	mb. +0.04	mb. -0.14	mb. -0.25	mb. -0.29	mb. -0.26	mb. -0.18	mb. -0.04	mb. +0.13	mb. +0.28	mb. +0.35	mb. +0.33	mb. +0.30

ABSOLUTE EXTREMES OF PRESSURE AT STATION LEVEL FOR EACH DAY.  
Maximum and minimum for the interval 0 h. to 24 h., Greenwich Mean Time.

357. CAHRCIVEEN (Valentia Observatory):  $H_b = 13.7$  metres.

1933.

Month.	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
Day.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	
1	999.4	994.3	002.2	986.8	999.5	995.4	028.1	016.6	009.2	006.5	006.3	000.1	025.5	022.7	029.6	027.6	022.9	020.8	023.6	019.7	024.8	018.0	015.4	993.8
2	995.9	978.3	015.0	002.2	995.4	979.3	028.1	024.8	007.1	995.6	009.1	005.3	031.3	025.2	029.7	027.9	023.7	022.3	027.6	023.5	027.7	024.1	031.6	015.4
3	002.6	985.0	014.2	005.3	984.8	979.6	025.1	023.8	997.7	994.4	011.9	008.2	031.3	025.0	031.3	029.7	025.8	023.5	021.7	027.3	026.1	029.0	027.5	031.2
4	003.1	997.1	006.7	000.3	994.7	984.8	024.1	021.5	999.2	994.9	012.6	011.1	034.9	026.4	025.8	021.5	021.7	016.9	026.4	023.1	028.0	026.1	031.2	021.9
5	015.3	003.1	012.3	999.5	994.6	979.0	023.1	021.9	998.9	994.8	011.2	010.7	026.4	014.8	021.6	017.4	018.3	013.8	023.5	021.9	026.1	022.8	021.9	019.8
6	027.2	015.3	012.3	994.7	998.3	986.3	022.1	020.3	997.0	995.1	015.5	013.3	014.8	005.2	020.0	017.6	028.4	018.3	022.0	015.7	026.6	024.0	019.8	013.2
7	026.8	020.7	004.8	995.3	021.6	998.3	020.4	019.1	007.7	997.0	022.0	013.0	007.1	001.2	020.0	017.4	028.4	026.6	015.7	005.6	027.5	026.3	021.1	012.7
8	029.5	020.9	012.3	004.8	021.4	013.7	020.2	018.1	012.1	004.4	027.1	022.0	014.4	006.9	018.4	016.6	026.9	023.2	005.6	997.6	026.5	017.0	024.7	020.1
9	026.7	029.6	016.6	009.7	014.2	011.1	018.1	016.2	017.7	012.1	030.5	027.0	014.4	007.4	020.6	015.8	023.6	021.8	997.6	985.0	016.9	014.2	024.7	022.5
10	034.5	023.9	034.2	014.6	011.1	007.0	016.2	011.6	017.5	014.9	030.7	027.0	008.7	006.2	021.2	019.6	023.6	022.0	992.9	990.1	014.9	007.1	027.2	024.5
11	028.8	024.2	039.3	034.1	011.1	005.5	014.3	011.2	020.3	016.9	027.0	017.7	008.7	006.5	022.8	019.4	022.8	020.0	012.7	990.7	007.1	000.7	028.1	018.1
12	026.3	020.7	038.9	036.6	018.4	011.1	026.3	014.3	019.1	013.4	017.7	015.4	011.4	002.2	024.0	021.1	020.3	017.8	021.4	012.7	008.6	003.6	018.1	005.2
13	028.0	024.0	037.9	035.9	021.6	018.1	029.7	026.3	013.4	010.0	016.5	014.0	002.8	995.6	021.1	016.0	023.0	019.2	021.1	013.3	012.3	005.1	021.1	006.4
14	025.9	001.1	035.5	028.6	022.5	014.8	029.7	027.4	020.1	012.8	018.9	016.3	006.3	999.9	016.0	003.2	025.7	023.0	020.5	014.5	011.5	992.8	022.9	021.4
15	002.0	000.0	028.8	025.0	014.8	993.3	027.4	022.9	020.6	018.0	018.5	016.0	016.3	001.2	005.8	998.5	024.7	017.1	019.0	012.3	994.7	981.1	024.1	020.7
16	001.1	998.9	028.6	025.2	996.8	981.6	022.9	018.1	018.3	016.7	017.3	006.7	022.0	016.3	009.5	005.8	017.1	008.4	018.2	013.3	015.2	994.7	024.4	023.0
17	000.7	996.7	029.0	026.4	985.9	974.7	018.1	013.8	019.7	017.5	006.8	004.6	022.0	018.4	008.3	000.9	008.4	997.2	018.3	009.1	019.9	015.2	023.4	022.0
18	008.9	993.5	026.4	021.1	992.5	985.9	019.6	014.0	019.3	016.0	004.9	997.8	022.0	013.4	013.8	008.3	011.5	004.1	009.1	996.8	018.5	007.1	030.6	023.1
19	010.6	002.2	027.4	021.5	002.6	975.5	019.7	018.1	016.0	004.1	998.3	996.1	013.9	011.6	015.4	012.3	004.1	999.5	005.0	000.6	007.6	006.0	032.5	030.5
20	023.3	006.9	027.8	025.8	020.6	002.6	019.1	017.2	010.1	001.2	998.0	994.8	017.3	013.8	013.1	011.4	004.0	998.0	014.2	004.2	021.8	007.6	030.6	029.2
21	026.4	022.9	027.7	025.5	018.5	010.8	022.7	019.1	020.7	010.1	007.7	998.0	017.2	016.0	013.0	010.7	012.4	004.0	014.2	009.1	024.0	021.3	029.3	027.0
22	029.1	025.7	027.2	023.2	010.6	003.2	022.5	007.6	023.7	020.7	012.1	007.7	023.9	016.5	011.2	002.0	011.9	998.0	011.2	007.6	021.3	016.0	031.6	026.9
23	033.1	029.0	023.2	997.2	013.9	006.1	008.5	003.5	024.5	023.3	011.4	002.9	025.1	023.7	014.1	007.1	998.0	995.0	015.1	011.2	016.0	014.4	031.6	026.7
24	034.3	033.0	997.2	986.1	017.0	013.9	003.6	996.3	024.5	020.7	006.8	002.1	024.2	018.0	014.0	011.7	007.9	998.0	017.4	013.4	017.9	015.6	026.7	015.1
25	034.5	032.9	987.5	982.1	019.5	014.4	001.0	996.7	024.4	020.8	016.0	006.8	018.0	013.2	014.2	011.0	015.9	009.6	029.6	017.4	017.8	012.0	015.1	002.8
26	033.0	026.0	990.6	986.9	030.5	019.5	006.5	001.0	020.8	014.4	019.3	016.0	016.7	012.8	014.2	010.4	020.7	015.7	030.8	021.8	012.0	000.4	009.1	003.9
27	026.1	021.2	990.2	987.8	030.0	023.8	007.1	005.6	017.5	015.7	019.4	017.6	019.1	014.2	012.2	004.7	023.6	020.5	021.8	003.2	000.4	994.2	008.1	986.1
28	021.2	010.2	999.5	987.7	023.8	013.0	005.6	001.9	019.7	016.1	017.6	016.0	018.6	012.8	016.3	007.3	023.1	018.4	006.4	001.6	007.5	997.5	001.1	985.1
29	010.2	002.3	---	---	014.5	012.4	006.0	003.7	019.8	015.7	021.1	017.3	019.4	011.6	019.4	015.4	020.7	017.4	015.8	006.4	010.2	007.4	007.1	000.5
30	006.7	001.6	---	---	021.6	019.9	008.7	005.7	015.7	003.6	022.9	020.7	019.4	004.3	024.7	019.3	021.2	019.3	016.9	013.7	009.7	999.6	022.3	007.0
31	006.5	989.8	---	---	021.0	012.4	---	---	005.7	004.7	---	---	027.7	009.9	024.1	022.1	---	---	018.0	012.4	---	---	023.1	018.5
Year.	1018.96	1010.87	1017.63	1009.65	1011.08	1001.48	1018.15	1013.94	1014.77	1009.75	1015.14	1010.74	1018.81	1012.23	1018.19	1013.74	1018.61	1013.59	1016.74	1009.47	1016.73	1009.98	1023.02	1015.30



## TEMPERATURE

Readings in degrees absolute at exact hours, Greenwich Mean Time.

358. CAHIRCIVEEN (Valentia Observatory): North Wall Screen:  $h_t = 1.3$  metres.

JANUARY, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	79.1	79.3	79.3	79.1	78.6	79.1	79.2	79.6	79.9	79.8	81.6	82.1	82.1	82.4	82.5	82.1	81.3	80.2	80.9	81.0	80.5	80.1	80.8	80.9	80.5
2	80.8	81.1	81.9	81.8	81.5	81.5	81.9	82.6	83.5	84.1	84.9	85.0	85.1	85.1	85.5	85.8	84.8	83.4	83.1	82.5	82.1	82.4	81.9	82.0	83.1
3	80.9	81.2	80.7	81.0	81.0	79.0	80.2	80.4	80.6	80.0	81.1	80.7	79.0	80.2	80.5	80.2	80.8	80.5	79.0	79.0	79.2	79.9	80.1	80.6	80.3
4	80.0	80.0	79.8	79.3	79.1	79.0	79.0	78.3	78.9	79.2	80.0	80.3	81.8	81.0	80.2	80.2	79.8	79.5	79.7	80.1	79.9	79.4	79.2	80.2	79.8
5	78.9	80.0	77.8	78.1	78.5	79.8	80.0	78.1	79.0	79.1	78.5	78.3	78.2	79.9	80.3	80.0	78.1	78.9	79.5	80.1	80.8	80.9	80.9	80.7	79.3
6	81.2	80.5	80.6	79.4	80.9	80.8	80.5	80.0	78.9	80.0	80.4	81.2	81.4	82.0	81.9	81.0	80.5	80.2	78.0	78.5	80.0	80.6	80.1	81.0	80.4
7	81.1	81.9	82.0	82.2	82.3	82.4	82.8	83.0	83.1	83.4	83.9	84.0	84.0	84.0	83.8	83.4	83.7	83.8	83.8	84.0	84.1	84.3	84.2	84.3	83.2
8	84.3	84.4	84.5	84.5	84.7	84.7	84.7	84.4	84.4	84.2	84.4	84.4	84.3	84.5	84.5	84.7	84.5	84.6	84.3	84.2	84.2	84.4	84.4	82.9	84.4
9	82.4	82.1	81.8	81.6	81.1	80.9	80.3	80.1	80.7	79.3	80.0	81.0	82.5	82.4	82.6	82.8	82.1	82.1	82.0	82.0	81.9	82.0	81.9	82.0	81.6
10	81.9	82.4	81.9	81.6	81.8	81.6	81.5	81.8	82.0	82.0	82.1	82.1	82.5	82.6	83.0	83.0	82.9	82.4	82.7	83.0	83.0	82.0	81.9	81.6	82.2
11	81.9	81.1	81.0	80.2	80.1	79.9	79.0	79.1	78.9	79.0	78.5	79.1	80.0	79.0	79.1	79.1	77.5	76.8	75.1	75.1	74.9	74.6	74.2	74.9	78.4
12	74.5	74.8	75.2	77.0	77.0	78.2	78.8	78.0	78.9	79.0	79.9	80.8	80.8	80.2	80.4	80.6	80.7	80.6	80.9	80.3	80.0	79.4	79.8	79.3	78.9
13	80.0	79.9	78.5	80.4	80.0	80.2	80.9	81.0	81.1	81.5	81.5	82.0	82.3	82.8	82.9	82.4	81.6	80.3	80.9	80.0	79.0	79.4	78.6	79.0	80.7
14	78.1	79.0	80.1	80.8	81.0	81.0	81.2	81.5	82.0	82.1	82.4	82.6	83.0	83.0	83.0	83.0	82.6	82.9	83.0	82.9	83.0	83.1	80.2	80.0	81.7
15	80.4	79.8	80.0	79.4	79.6	77.5	79.5	78.0	78.5	77.0	76.9	76.6	77.0	77.4	78.1	78.2	77.2	77.9	78.0	77.0	75.4	75.0	74.9	75.6	77.7
16	74.8	74.9	75.0	75.0	75.1	75.4	77.1	76.0	75.0	75.1	74.9	75.5	75.9	76.2	76.6	76.5	76.3	75.7	74.5	73.9	74.0	74.9	73.1	73.1	75.2
17	72.2	72.0	72.0	71.9	71.5	71.3	71.1	71.8	70.9	71.8	72.6	73.7	74.9	75.4	75.9	75.1	74.9	73.9	73.5	73.1	73.1	73.9	74.3	75.4	73.1
18	76.1	76.9	77.1	76.3	77.0	78.2	78.3	77.0	78.1	79.0	79.0	79.9	79.7	79.4	79.0	79.0	78.1	79.0	78.7	78.7	77.3	76.7	76.2	76.0	77.9
19	74.1	73.9	73.4	73.9	74.9	74.9	75.6	75.0	77.4	78.7	78.9	79.1	79.4	79.1	79.0	79.1	79.4	80.0	80.1	80.0	80.1	80.4	80.5	81.2	77.7
20	81.0	80.4	80.4	80.7	79.9	79.0	79.4	78.8	79.1	79.9	80.5	81.0	81.1	81.5	81.4	81.4	81.2	81.8	81.1	81.2	81.2	81.4	81.0	81.1	80.6
21	81.3	81.4	81.3	81.3	81.4	81.5	81.6	81.7	81.7	81.5	81.5	81.5	81.5	81.3	81.4	81.6	81.2	81.4	81.0	80.7	80.9	80.9	81.1	81.4	81.3
22	81.3	81.4	81.2	81.0	81.1	81.0	81.1	81.0	81.0	81.0	81.3	81.5	81.8	81.8	81.7	81.4	81.0	80.9	80.9	80.9	80.7	80.4	80.2	80.3	81.1
23	80.2	80.0	79.9	79.9	79.9	80.0	80.0	80.0	80.1	80.1	80.3	80.5	80.5	80.6	80.3	80.1	79.8	79.4	79.4	79.1	79.4	79.6	79.6	79.7	79.9
24	79.8	79.4	79.9	79.7	79.7	79.3	79.1	79.1	79.0	79.1	79.1	79.8	79.3	79.4	79.2	78.4	78.0	77.8	76.9	76.2	75.6	76.0	75.9	74.9	78.5
25	73.5	75.0	73.8	73.9	72.8	72.2	73.4	73.4	73.8	73.9	74.1	75.1	75.8	76.0	76.0	76.0	74.9	73.7	72.9	72.5	72.0	71.0	71.0	70.9	73.7
26	70.7	70.4	70.0	69.9	69.6	69.0	69.1	70.0	70.5	71.0	71.6	73.1	75.0	76.0	76.3	76.3	75.6	75.0	75.2	75.0	74.5	74.3	74.6	74.4	72.7
27	74.1	75.0	75.2	74.3	74.9	74.7	74.7	75.0	75.0	75.0	75.8	76.8	76.9	76.9	77.0	76.5	75.8	75.7	75.1	75.0	74.4	74.2	74.9	75.0	75.3
28	75.0	75.6	75.0	75.0	75.0	74.5	74.9	74.5	74.4	75.2	75.1	76.0	76.7	76.6	77.1	78.0	76.9	76.6	76.8	77.0	76.5	77.1	76.9	77.1	75.9
29	77.0	77.7	76.9	76.5	76.3	76.7	76.8	76.9	77.0	77.0	76.9	77.1	77.8	77.8	77.8	77.8	77.6	77.6	77.1	77.0	76.9	77.2	77.2	77.8	77.4
30	77.7	77.1	76.2	76.5	77.5	78.5	79.3	79.8	80.0	80.2	80.8	80.9	80.0	81.0	80.1	80.1	80.1	79.9	80.1	79.7	80.0	80.1	80.1	80.7	79.2
31	80.8	80.4	80.6	80.5	80.5	80.9	81.0	81.4	81.9	81.1	82.0	82.6	82.7	82.2	82.5	82.9	82.4	82.9	82.7	83.0	83.0	83.0	83.1	83.2	81.9
Mean	78.5	78.7	78.5	78.5	78.5	78.5	78.8	78.6	78.8	79.0	79.4	79.8	80.1	80.2	80.3	80.2	79.7	79.5	79.3	79.1	79.0	79.0	78.8	78.9	79.2

359. CAHIRCIVEEN (Valentia Observatory): North Wall Screen:  $h_t = 1.3$  metres.

FEBRUARY, 1933.

	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	83.4	83.8	84.0	84.0	84.4	84.4	84.1	84.0	83.1	83.1	82.5	82.6	82.2	81.6	82.0	81.8	81.0	80.9	80.9	80.6	80.4	80.1	80.0	79.7	82.3
2	79.7	79.7	79.3	80.0	80.0	80.0	79.8	79.8	79.6	80.0	80.5	80.6	80.9	81.0	81.1	81.1	80.0	79.0	76.8	75.4	75.8	75.0	77.0	78.0	79.2
3	79.0	79.0	79.4	79.8	80.1	80.4	81.0	81.6	81.9	82.8	83.0	83.4	83.8	84.4	84.1	84.3	84.2	84.2	84.2	84.0	84.1	84.0	83.9	84.0	82.4
4	84.0	84.1	84.1	84.1	84.2	84.3	84.4	84.1	84.1	84.3	84.4	84.3	84.3	84.4	84.7	84.7	84.8	84.1	84.0	84.9	84.8	84.7	84.5	84.5	84.4
5	84.4	84.4	84.9	84.9	84.7	84.4	84.2	84.8	84.5	84.8	85.0	85.1	85.0	85.0	85.0	85.1	85.0	85.0	85.0	84.9	84.9	84.6	84.1	84.0	84.7
6	83.9	83.8	83.4	83.4	83.1	83.0	83.0	83.0	83.0	83.5	83.7	84.0	84.0	84.0	83.9	84.0	84.0	83.8	84.5	84.0	83.2	83.3	83.3	83.1	83.6
7	83.1	83.4	83.3	83.8	83.8	83.0	83.0	83.0	83.0	83.0	83.9	84.0	84.1	84.4	84.0	84.3	84.1	83.9	84.4	85.0	85.0	85.0	85.1	85.1	83.9
8	85.3	85.1	85.0	85.1	85.4	85.1	85.0	85.0	85.0	85.1	85.1	85.5	86.0	86.0	86.3	86.0	85.9	85.4	85.2	85.0	85.0	85.1	85.0	84.7	85.3
9	84.6	84.8	84.8	84.9	84.7	85.0	84.9	84.9	85.0	84.6	84.7	84.3	84.4	85.1	85.0	84.0	83.9	83.1	82.9	83.0	83.2	83.0	82.4	82.5	84.2
10	82.4	82.3	82.7	82.8	83.0	81.9	82.0	81.4	81.3	81.9	82.2	82.2	82.2	81.9	82.1	81.9	81.1	81.1	79.5	79.0	78.8	78.3	77.8	76.3	81.2
11	76.0	76.0	75.9	75.4	75.0	74.9	75.0	74.7	76.0	77.0	77.1	78.0	78.1	78.4	78.5	78.5	78.0	77.0	76.1	75.2	74.9	75.0	74.0	73.0	76.2
12	72.5	72.4	71.9	71.8	71.4	71.9	71.5	71.3	72.4	73.0	75.0	77.0	78.1	79.8	79.9	79.9	79.9	79.8	79.4	78.9	79.0	79.4	78.9	78.9	75.9
13	78.9	79.2	79.5	80.0	79.6	79.7	79.8	79.8	79.4	79.9	80.1	80.0	80.5	80.5	80.4	80.1	79.8	79.1	78.2	78.0	77.0	76.5	76.1	76.0	79.1
14	76.0	75.9	76.0	75.9	76.0	76.1	75.9	75.4	76.0	77.8	78.9	79.1	80.0	79.9	79.8	79.5	79.3	79.1	78.9	79.0	78.6	78.0	77.0	76.6	77.7
15	76.0	76.0	75.8	75.9	75.4	75.6	75.8	75.0	75.4	76.3	78.4	79.1	79.9	80.1	80.5	80.6	79.9	79.8	79.5	79.0	79.3	78.9	77.4	77.9	77.8
16	77.4	76.5	76.1	74.3	74.2	75.0	75.0	75.5	75.5	76.8	78.5	79.3	80.1	80.9	81.2	81.4	80.9	80.1	78.5	77.0	76.2	77.0	76.4	76.2	77.5
17	76.5	77.0	77.6	79.1	80.2	79.9	79.4	79.0	79.1	79.9	80.0	80.9	81.3	81.6	81.5	80.9	80.6	79.9	79.4	79.4	79.1	79.6	79.7	80.0	79.6
18	79.8	79.1	80.0	79.6	79.5	79.0	77.9	77.0	77.0	76.4	77.0	77.0	77.0	77.1	77.9	77.4	77.3	77.4	77.0	77.3	77.6	77.1	77.2	77.0	77.8
19	77.3	76.2	77.0	77.1	77.4	76.9	76.8	76.0	76.6	77.1	77.9	78.1	78.8	79.0	79.0	79.1	78.7	78.2	78.1	76.3	75.9	75.9	75.1	74.0	77.3
20	74.0	73.3	73.5	72.6	73.0	72.9	72.8	72.4	72.9	74.3	76.2	78.5	80.1	80.5	81.0	81.0	80.5	80.8	80.2	80.5	80.3	81.1	81.5	81.5	77.2
21	81.3	80.1	80.1	79.9	79.1	79.5	79.4	79.0	79.1	79.8	79.9	80.6	80.9	80.8	80.2	80.8	80.5	79.5	79.5	79.4	79.5	79.4	79.0	79.0	79.9
22	78.8	79.1	79.4	79.1	79.2	79.0	78.9	78.4	78.8	79.0	78.9	79.5	79.9	80.0	79.7	79.6	79.0	78.9	78.1	77.0	76.1	75.8	75.6	78.6	
23	75.8	75.9	75.8	75.4	75.5	75.6	75.0	75.0	75.3	76.1	77.1	78.9	79.2	79.0	78.8	79.1	79.4	79.1	79.5	80.9	80.5	79.9	77.8	77.0	77.5
24	76.2	75.9	75.1	75.0	74.0	74.0	74.7	74.6	75.0	74.2	74.7	75.1	74.0	73.9	74.0	73.9	73.6	74.3	74.5	74.6	74.7	75.0	74.9	74.9	74.7
25	74.9	74.9	75.0	74.9	75.0	75.0	75.0	74.9	74.4	74.9	75.4	76.0	76.0	76.1	76.6	76.6	76.4	76.1	76.0	76.0	76.9	76.8	77.1	77.0	75.7
26	77.0	77.6	77.2	77.6	77.4	76.9	76.2	77.0	77.7	77.9	77.7	78.7	79.5	79.0	79.0	80.0	79.0	78.1	78.0	78.0	78.0	78.0	78.4	78.4	78.0
27	78.3	78.0	78.8	78.1	78.4	78.2	78.3	78.1	78.9	78.9	79.1	79.0	79.3	79.9	79.0	79.9	79.7	79.0	78.9	79.0	79.4	79.9	79.0	78.5	78.9
28	78.4	78.2	78.8	78.7	79.0	78.9	78.9	79.0	79.6	79.5	80.8	80.2	82.0	82.0	81.9	81.9	81.0	79.8	80.1	79.9	79.9	79.7	79.7		79.9
Mean	79.1	79.0	79.1	79.0	79.0	78.9	78.8	78.7	78.9	79.4	79.9	80.4	80.8	80.9	81.0	81.0	80.6	80.2	79.9	79.7	79.6	79.5	79.2	79.0	79.7
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean



## TEMPERATURE

301

360. CAHIRCIVEEN (Valentia Observatory): North Wall Screen:  $h_t$  (height of thermometer bulbs above ground) = 1.3 metres.

MARCH, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	79.5	79.5	78.4	78.4	79.1	79.1	77.7	77.6	76.2	77.0	79.0	80.6	82.0	82.1	81.9	82.0	81.1	80.5	80.0	80.9	80.9	79.8	80.3	80.8	79.7
2	80.9	80.9	81.1	81.2	81.0	80.8	80.9	81.0	81.0	81.0	81.7	82.0	82.4	82.4	82.6	82.8	82.3	81.9	80.9	81.0	81.1	81.0	81.0	80.9	81.4
3	80.5	80.4	80.3	80.1	80.1	80.1	80.1	80.4	80.7	81.0	81.1	81.5	82.0	82.2	82.1	82.0	82.0	81.9	81.4	81.4	81.9	82.0	81.9	81.7	81.2
4	81.7	81.9	81.7	81.7	81.4	81.4	81.0	81.1	81.4	81.9	82.6	82.8	82.1	82.0	82.2	82.3	82.1	81.5	80.9	80.9	81.0	81.1	80.1	80.1	81.6
5	79.5	80.4	80.4	80.5	80.0	79.9	80.0	81.0	81.1	81.4	81.9	81.9	82.0	82.5	82.9	83.3	83.0	82.4	81.5	81.3	80.8	79.5	79.0	78.6	81.1
6	79.0	80.3	80.0	80.0	80.5	80.4	80.7	80.3	80.9	81.0	81.2	81.1	80.9	80.4	83.0	81.7	82.2	81.1	80.9	81.4	80.0	80.0	81.4	81.4	80.8
7	82.0	81.6	82.0	81.5	80.9	81.0	81.6	81.3	82.0	82.1	82.0	82.4	82.1	83.1	83.1	83.2	82.8	81.3	80.6	80.5	80.5	80.8	81.0	81.1	81.7
8	81.6	81.5	81.9	82.0	82.0	82.1	82.1	82.1	82.2	82.4	82.9	83.0	83.1	83.3	83.7	83.8	83.9	83.9	83.9	83.9	83.9	83.9	83.9	83.9	82.9
9	83.7	83.6	83.5	83.6	83.4	83.2	83.1	83.1	83.0	83.0	83.1	83.3	83.5	83.9	84.0	83.9	83.6	83.5	83.2	83.2	83.5	83.7	83.9	83.7	83.5
10	83.6	83.6	83.4	83.2	83.1	83.4	83.2	83.3	83.3	83.8	84.2	84.4	84.9	85.1	85.2	85.1	84.8	83.9	83.0	82.6	82.4	81.8	82.1	82.1	83.6
11	82.2	82.7	82.9	83.0	82.8	82.5	82.0	82.6	83.0	84.0	84.6	84.7	85.5	85.3	85.4	85.0	84.6	83.6	82.2	81.9	80.7	80.0	80.0	79.0	83.0
12	77.5	76.9	76.8	76.6	76.9	75.9	75.9	75.3	77.6	80.1	82.1	83.1	83.6	83.4	83.8	83.5	83.1	82.4	81.0	80.1	79.0	78.1	78.9	78.1	79.6
13	79.0	79.0	79.9	79.9	79.9	79.6	80.5	81.0	81.9	82.5	83.4	83.7	84.0	84.4	84.0	83.4	83.5	83.7	82.7	82.3	81.0	81.2	81.1	81.7	81.7
14	82.7	81.9	81.9	81.0	80.0	80.0	79.0	79.0	80.2	82.3	83.0	83.4	83.6	83.9	83.9	83.8	83.9	83.4	83.7	83.6	83.4	82.0	81.0	82.0	82.2
15	82.1	82.2	82.4	82.5	82.4	82.0	82.4	82.7	83.4	83.5	83.9	84.0	84.0	84.0	83.5	83.8	83.4	83.7	83.5	82.0	81.2	80.9	80.7	79.0	82.7
16	79.0	79.7	79.0	80.2	79.4	79.0	79.0	79.9	81.1	80.9	82.4	83.0	83.0	83.4	83.0	81.8	81.1	81.4	81.0	80.0	80.0	79.0	79.0	79.0	80.6
17	79.4	79.9	79.0	77.9	77.4	77.6	78.0	78.3	78.9	80.1	80.9	81.2	82.0	81.0	81.0	80.9	80.4	80.0	79.2	78.7	77.8	77.1	76.1	76.1	79.2
18	76.2	76.8	80.0	81.0	81.0	81.0	81.1	81.0	82.1	81.9	82.9	83.0	83.0	83.1	82.5	80.2	80.0	79.2	79.0	81.6	81.7	81.4	81.0	81.1	80.8
19	81.0	80.8	80.5	80.1	80.0	80.0	80.9	78.4	80.0	79.1	79.4	81.0	80.3	81.0	78.8	80.0	81.0	80.9	80.7	78.8	79.5	79.9	79.4	78.0	80.0
20	79.1	79.9	79.9	80.1	80.3	80.8	81.0	81.0	81.5	82.0	82.5	83.0	83.1	83.8	83.9	83.3	82.7	82.0	81.1	81.6	81.9	81.8	82.0	82.4	81.6
21	82.3	82.3	82.1	82.3	82.3	82.4	82.5	82.7	82.8	83.1	83.6	84.0	84.0	84.1	84.1	84.0	83.8	83.9	84.0	83.6	83.8	83.7	83.5	83.6	83.2
22	83.5	83.8	83.5	83.6	83.9	83.9	84.4	85.0	85.0	85.9	86.6	86.4	86.6	86.4	86.1	85.9	85.4	85.2	85.0	85.0	85.0	84.9	84.2	84.4	85.0
23	84.3	84.7	84.0	84.0	84.0	83.6	83.2	83.6	83.5	83.0	83.4	83.5	83.5	83.5	83.8	83.4	83.5	83.3	83.4	83.3	83.3	83.1	83.3	83.0	83.6
24	82.9	82.6	82.3	81.9	82.3	82.6	82.5	82.8	83.5	83.5	83.5	84.5	84.7	84.5	84.4	84.1	84.0	83.6	83.5	83.6	83.5	83.2	83.0	83.0	83.3
25	82.9	83.0	82.8	82.7	82.6	82.4	82.4	82.9	83.7	83.7	84.2	84.9	84.0	83.8	83.6	83.4	83.3	83.3	83.4	83.3	83.1	82.8	82.9	82.8	83.3
26	82.3	81.9	82.3	82.2	82.3	82.3	82.3	83.0	83.7	84.4	85.3	85.4	85.4	85.4	85.7	85.4	85.0	84.6	83.7	82.4	81.7	81.0	80.1	79.0	83.3
27	78.4	78.1	78.4	77.8	77.9	78.0	76.9	78.0	80.4	82.0	83.0	83.9	84.0	84.4	84.6	85.2	84.5	84.1	82.9	81.6	81.0	79.9	79.0	78.4	80.9
28	78.0	78.2	78.2	77.8	78.1	78.5	79.3	80.4	81.3	82.0	83.5	83.8	84.2	84.5	84.1	83.2	82.6	81.4	80.9	80.9	81.0	80.9	81.1	81.1	80.9
29	81.1	80.9	81.0	81.9	81.3	80.9	80.7	81.9	82.0	81.5	82.9	83.1	83.4	83.5	83.0	82.9	82.6	81.9	81.8	80.5	81.8	81.6	81.9	81.2	81.9
30	81.0	81.5	81.0	80.9	79.8	80.6	80.5	80.1	80.9	80.7	81.9	82.1	82.2	82.5	83.0	83.0	83.0	82.6	82.4	82.3	82.1	82.4	81.9	82.0	81.7
31	82.0	81.4	81.4	81.7	81.9	82.0	82.0	81.6	82.0	82.0	82.0	81.6	82.0	83.0	83.2	83.8	82.9	82.0	81.9	81.0	81.1	81.0	81.0	80.5	81.9
Mean	80.9	81.0	81.0	81.0	80.9	80.9	80.9	81.0	81.6	82.0	82.7	83.1	83.3	83.4	83.4	83.2	83.0	82.5	82.0	81.8	81.6	81.3	81.1	81.0	81.9

361. CAHIRCIVEEN (Valentia Observatory): North Wall Screen:  $h_t$  = 1.3 metres.

APRIL, 1933.

	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	80.4	80.6	81.8	82.0	82.1	82.2	82.0	82.0	81.8	82.7	82.8	83.0	83.3	83.5	83.8	83.4	83.0	82.7	82.0	80.4	79.9	78.0	77.4	77.0	81.6
2	76.0	76.2	79.0	80.0	81.1	81.9	81.9	82.4	82.9	83.1	83.5	84.0	84.1	84.1	84.0	83.9	83.7	83.5	83.3	83.2	83.2	83.0	83.0	83.1	82.1
3	83.1	83.0	83.1	83.1	83.0	83.0	82.6	83.1	83.2	83.6	83.9	84.1	84.6	84.7	84.6	84.6	84.0	83.7	83.0	82.5	82.0	81.6	81.9	81.9	83.3
4	81.8	82.0	82.3	82.4	82.6	82.5	83.0	83.5	83.9	83.9	84.0	84.9	85.1	85.6	85.5	85.0	84.6	84.3	83.7	83.4	83.2	83.1	83.1	83.0	83.6
5	83.1	83.1	83.1	83.1	83.1	83.0	83.2	83.6	84.0	84.0	84.8	85.0	84.9	84.4	84.0	83.9	84.0	83.8	83.3	82.9	82.7	82.5	83.0	83.0	83.6
6	82.6	83.0	83.1	82.3	83.0	82.9	83.2	83.9	84.5	84.9	85.0	85.0	84.9	85.4	85.7	86.0	85.4	84.4	83.1	83.0	82.8	82.4	82.4	81.7	83.8
7	81.2	81.1	81.3	81.9	82.1	81.8	81.0	84.0	84.2	86.0	86.2	86.0	86.0	86.5	85.7	85.3	85.3	85.0	84.3	84.1	84.1	84.1	84.1	84.0	83.9
8	84.0	84.0	83.9	83.6	83.4	83.5	83.8	84.0	85.0	85.4	86.0	86.9	86.4	86.0	85.8	86.0	85.7	85.2	84.9	85.1	85.0	84.8	84.6	84.9	84.9
9	84.6	84.4	84.3	84.4	84.1	84.0	84.0	84.8	84.6	84.9	85.8	86.3	86.0	86.1	86.1	86.0	86.0	85.3	84.8	84.2	84.1	84.0	83.9	83.8	84.9
10	83.9	83.7	83.7	83.8	83.8	84.0	84.0	84.0	83.5	84.2	84.2	84.5	84.0	84.9	85.0	85.5	85.0	84.7	84.1	84.2	84.0	83.9	84.0	84.0	84.2
11	84.0	84.0	84.1	84.1	83.9	84.0	84.4	84.4	84.7	85.0	85.3	86.1	86.4	86.0	86.3	86.2	85.9	85.4	85.1	84.8	84.2	84.0	83.9	83.8	84.8
12	83.5	83.2	82.6	82.3	82.0	81.8	81.9	82.0	82.9	82.5	83.1	83.7	83.8	83.9	83.2	83.6	83.0	82.1	81.7	81.9	81.0	80.0	79.6	79.0	82.4
13	78.0	77.4	77.9	78.1	78.4	78.0	78.1	81.0	81.4	82.3	83.2	83.7	83.1	83.0	84.9	84.3	83.9	82.8	82.0	81.4	81.5	81.4	81.0	80.9	81.1
14	81.1	81.2	81.3	81.1	81.4	81.4	81.9	82.7	83.4	84.0	84.0	84.0	84.4	84.5	84.5	84.1	83.8	83.7	83.0	82.9	82.8	82.9	82.9	82.9	82.9
15	83.0	83.0	83.0	83.0	83.1	83.0	83.1	83.8	84.5	85.3	86.0	86.1	86.7	86.0	86.3	86.2	85.8	85.2	84.7	84.0	83.8	83.4	83.1	83.0	84.4
16	82.9	82.8	82.4	82.0	81.2	81.1	81.5	83.0	85.0	85.4	86.0	86.9	87.0	87.2	87.0	86.1	85.9	85.8	84.4	83.3	82.1	80.6	80.2	79.9	83.8
17	79.8	80.7	81.6	83.0	82.2	81.4	82.2	84.3	85.4	87.0	87.6	87.9	88.4	88.1	87.2	86.9	86.1	86.1	86.8	85.9	85.7	85.4	85.0	84.9	84.9
18	84.4	84.5	84.4	84.1	83.9	84.0	84.5	85.0	85.3	85.7	86.0	86.9	87.3	86.8	86.2	86.1	85.9	84.4	83.4	82.0	82.0	81.6	81.8	84.6	84.6
19	82.0	82.0	81.0	80.1	80.4	81.0	81.4	81.5	82.2	81.9	82.1	82.3	82.9	81.9	82.1	81.9	81.5	81.0	79.5	79.0	77.7	78.0	77.6	76.8	80.9
20	76.7	75.8	76.0	76.0	75.9	75.5	76.9	78.0	79.6	80.1	80.3	80.9	80.8	81.4	81.7	80.5	80.4	80.6	80.0	80.0	79.1	79.2	78.9	78.0	78.8
21	77.2	76.9	77.0	76.4	75.3	75.2	75.5	78.3	80.4	81.0	81.5	82.0	82.7	83.8	83.6	82.7	82.1	82.2	81.6	79.0	77.2	79.6	80.0	80.2	79.6
22	80.5	80.6	80.8	80.7	81.0	81.1	81.4	81.8	82.1	82.3	82.4	81.2	81.3	81.0	81.0	81.2	82.0	82.0	82.5	82.6	83.0	83.0	82.9	82.9	81.7
23	83.1	83.0	82.9	82.4	82.0	82.1	82.2	84.3	85.1	86.0	85.2	87.0	86.0	86.7	86.4	86.1	85.0	84.4	84.2	84.1	84.5	84.9	85.0	84.9	84.4
24	84.7	85.0	84.7	84.9	86.0	85.0	85.0	85.3	85.7	86.0	86.0	86.9	85.9	86.0	86.2	86.0	86.0	85.5	85.5	84.6	84.5	84.1	84.1	84.1	85.3
25	84.0	83.8	83.8	83.7	83.9	84.0	83.4	84.0	85.0	85.3	85.5	86.0	86.0	84.0	84.6	84.9	84.0	84.0	84.1	84.5	84.8	84.8	84.8	84.8	84.5
26	84.8	84.5	84.1	84.2	84.0	84.0	84.8	84.7	85.1	85.2	85.6	85.9	86.3	86.1	86.0	86.0	85.1	84.9	84.9	84.6	84.6	84.5	84.2	84.1	84.9
27	83.6	83.8	82.9	82.9	83.0	83.2	82.5	82.9	84.0	84.0	84.9	83.9	84.8	85.4	85.0	85.1	84.9	84.2	84.4	83.0	81.7	81.9	81.9	81.8	83.6
28	81.9	81.0	81.1	80.7	81.0	80.5	82.5	83.0	84.7	84.9	85.1	85.6	84.9	85.4	85.0	84.9	84.1	83.9	83.0	82.2	81.7	81.4	81.0	80.0	82.9
29	79.3	79.0	79.7	79.9	80.0	80.5	81.4	83.9	84.9	84.8	84.4	85.0	85.6	85.5	85.1	83.9	84.4	84.4	84.0	83.1	82.0	82.0	81.9	81.1	82.7
30	81.7	81.0	81.5	81.9	81.1	80.9	82.0	82.7	84.0	84.3	84.1	84.1	84.2	83.4	84.0	84.0	84.9	81.9	82.5	81.9	81.9	81.9	82.1	81.8	82.6
Mean	81.9	81.8	81.9	82.0	81.9	81.9	82.2	83.1	83.8	84.2	84.5	84.8	84.9	84.9	84.9	84.7	84.4	83.9	83.5	82.9	82.6	82.4	82.3	82.1	83.2
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean



Readings in degrees absolute at exact hours, Greenwich Mean Time.

362. CAHRCIVEEN (Valentia Observatory): North Wall Screen:  $h_t$  (height of thermometer bulbs above ground) = 1.3 metres.

MAY, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	82.0	81.9	82.0	81.9	81.8	81.1	81.9	82.1	83.1	83.6	84.1	84.8	85.4	86.1	85.8	85.5	83.7	84.9	84.4	83.6	83.5	83.1	83.0	82.9	83.4
2	82.9	82.8	82.3	82.3	82.0	82.5	83.0	83.0	83.0	83.0	82.7	82.1	81.9	82.0	82.2	82.6	83.1	83.6	83.9	84.0	84.5	84.4	85.0	84.4	83.0
3	85.3	85.0	85.0	84.2	84.9	83.3	83.8	83.9	83.9	85.2	85.9	87.0	86.0	86.6	85.6	85.5	86.1	86.0	85.9	85.4	84.7	84.5	86.0	85.0	85.1
4	85.0	85.1	84.9	84.5	84.4	84.0	84.7	85.1	86.2	86.8	86.6	87.1	87.7	86.6	86.4	86.3	86.5	86.0	85.4	85.1	84.9	85.0	85.0	85.0	85.6
5	85.1	85.0	84.8	84.8	84.9	84.9	85.0	85.0	85.3	86.0	86.1	85.3	85.6	86.0	85.7	85.8	85.7	85.5	85.0	84.7	84.3	84.1	83.9	83.4	85.1
6	83.0	83.2	83.0	82.9	83.0	82.9	84.7	85.0	84.0	85.0	85.1	85.7	86.5	86.1	85.5	85.6	85.3	85.0	84.7	84.4	84.0	84.0	84.4	84.3	84.5
7	84.1	84.1	84.1	84.1	84.3	84.0	84.1	84.9	85.0	85.5	85.4	86.0	86.1	86.4	85.6	85.4	85.4	85.1	85.0	84.8	84.0	83.6	83.2	83.5	84.8
8	83.9	84.0	83.5	83.0	83.4	84.0	85.0	85.5	85.9	86.0	86.9	87.0	87.1	87.0	86.1	86.4	86.1	85.9	85.1	84.0	84.0	84.5	84.7	84.7	85.1
9	84.9	83.9	83.8	84.0	83.0	83.6	84.0	84.4	85.9	85.3	85.7	85.0	84.2	84.2	85.1	85.0	85.0	85.0	85.1	84.9	84.8	84.8	84.5	84.6	84.6
10	84.2	83.9	84.0	83.9	83.5	83.0	84.0	84.4	85.0	85.1	85.5	86.0	86.3	86.7	85.9	86.2	86.0	86.0	85.4	85.3	85.1	84.9	84.9	84.9	85.0
11	84.9	84.1	83.8	82.9	83.0	83.3	83.9	85.0	84.6	84.9	85.0	85.6	85.4	86.8	87.0	86.3	86.1	85.9	85.3	84.7	84.7	84.7	84.1	84.0	84.9
12	83.8	83.3	83.1	82.7	82.4	82.9	83.1	83.9	84.2	85.3	86.4	87.3	87.6	87.9	87.8	86.0	86.0	85.4	85.1	84.7	84.5	84.4	84.2	84.1	84.8
13	84.2	84.1	84.3	84.1	84.0	84.2	84.8	85.0	85.5	85.8	86.0	86.0	86.2	86.2	86.3	86.4	86.0	85.4	85.5	85.1	85.0	85.0	85.0	85.0	85.2
14	85.0	84.9	84.5	84.3	84.2	84.3	84.5	85.0	86.0	86.4	87.3	87.8	88.0	88.0	87.9	88.0	87.1	86.5	85.9	85.1	84.4	83.4	83.0	82.4	85.6
15	82.0	82.0	81.4	81.6	81.0	81.4	83.0	85.0	85.4	86.0	86.7	87.5	88.0	87.7	87.1	87.1	86.5	86.0	85.6	85.4	85.4	85.4	85.2	85.0	84.8
16	84.9	84.9	84.9	84.8	84.9	85.0	85.1	85.1	85.4	86.0	86.5	87.2	88.0	88.4	88.7	88.4	88.0	87.7	87.2	86.8	86.2	86.0	86.0	85.8	86.3
17	85.5	85.4	85.4	85.5	85.5	85.6	85.9	86.3	86.5	87.0	88.0	88.0	88.9	89.0	89.2	88.2	88.0	88.0	87.0	85.9	85.4	85.7	85.6	85.9	86.7
18	86.0	86.0	85.9	85.5	85.6	86.0	86.1	86.5	86.9	86.9	87.4	87.0	87.4	87.4	86.6	86.1	86.0	86.1	86.4	86.2	86.2	86.1	86.0	85.8	86.3
19	85.8	85.9	85.9	85.9	85.9	85.7	86.0	86.4	87.0	87.8	87.2	87.1	87.1	87.4	88.0	87.4	87.1	87.0	86.6	86.5	86.5	86.5	86.4	86.2	86.6
20	86.2	86.4	86.3	86.0	86.0	86.0	86.0	86.6	88.0	87.6	87.9	89.0	89.1	88.9	88.9	89.0	88.1	87.2	87.1	86.1	85.6	85.1	84.4	84.0	86.9
21	84.1	84.3	84.4	83.5	83.4	83.9	85.0	85.9	86.1	86.4	87.0	88.2	88.1	87.1	87.6	87.9	87.3	87.0	86.4	85.8	84.5	84.0	82.5	81.9	85.6
22	81.4	80.9	81.0	80.4	80.4	82.0	84.3	85.8	87.4	87.0	87.0	87.1	87.4	87.2	87.5	88.0	87.4	86.9	86.3	85.9	85.0	84.4	84.0	83.4	84.9
23	82.2	82.0	82.2	82.2	80.3	82.0	84.5	85.9	86.2	86.7	87.0	87.5	87.2	87.2	87.1	87.1	87.0	86.5	86.3	85.6	84.2	83.6	82.4	81.4	84.8
24	81.2	82.7	83.8	84.8	85.1	85.9	86.0	86.6	86.5	86.8	85.1	86.7	86.2	86.8	86.6	85.9	86.1	85.5	84.9	84.3	84.0	83.9	83.6	83.5	85.1
25	83.3	83.5	83.8	84.0	83.3	84.3	83.9	85.8	85.8	85.2	85.1	86.0	86.4	86.3	86.3	86.1	85.9	85.4	85.1	85.0	84.9	84.6	84.5	84.5	84.9
26	83.8	83.7	84.1	84.1	84.1	84.5	84.8	85.1	86.0	86.1	85.8	85.8	85.0	85.5	86.0	86.7	86.3	86.1	85.9	85.1	85.0	84.1	83.6	83.1	85.0
27	83.3	83.4	83.3	83.6	83.4	84.0	84.1	84.6	85.1	85.4	86.0	86.5	86.8	86.7	87.1	87.6	87.0	86.0	86.0	85.0	84.0	83.4	82.7	82.0	84.9
28	82.0	82.0	82.0	82.8	82.8	83.2	84.5	85.1	86.5	87.8	89.0	89.4	90.0	90.0	90.1	89.2	87.0	86.2	86.1	86.0	86.0	85.9	85.7	85.4	86.0
29	85.4	85.4	85.4	85.1	85.1	85.3	86.6	86.1	87.6	87.5	87.8	87.8	88.1	88.0	87.9	87.4	87.2	87.0	86.2	86.0	85.3	84.9	84.9	85.1	86.4
30	85.0	85.4	85.3	85.6	85.5	85.5	86.0	86.4	86.5	86.2	86.3	86.5	86.6	86.9	86.9	86.7	87.0	86.5	86.0	85.9	85.3	85.0	85.0	84.6	86.0
31	84.0	83.0	82.8	82.1	81.3	82.2	85.0	86.0	88.4	88.4	88.5	88.8	89.0	89.0	89.4	89.6	89.3	88.4	88.0	87.8	87.1	87.2	87.1	87.0	86.6
Mean	84.0	83.9	83.9	83.8	83.6	83.9	84.6	85.2	85.8	86.1	86.4	86.7	86.9	87.0	86.9	86.8	86.4	86.1	85.8	85.3	84.9	84.7	84.5	84.3	85.3

363. CAHRCIVEEN (Valentia Observatory): North Wall Screen:  $h_t$  = 1.3 metres.

JUNE, 1933.

	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	86.7	86.2	85.8	85.9	86.0	86.9	87.3	87.5	88.3	88.8	88.9	89.0	88.5	88.5	88.4	87.9	87.8	88.0	87.9	87.1	86.4	85.9	85.9	86.0	87.3
2	85.4	85.4	85.6	85.4	85.7	86.0	86.9	87.6	89.0	89.7	89.3	89.1	89.6	89.7	90.2	91.0	90.0	89.9	88.7	88.2	87.6	87.1	86.9	85.9	87.9
3	85.4	85.0	84.8	84.0	83.2	84.0	85.1	86.9	87.8	88.1	88.9	88.4	88.2	88.5	88.0	87.8	87.9	88.8	88.3	88.0	87.4	86.5	86.0	85.0	86.8
4	85.0	84.0	84.8	85.8	86.9	88.0	89.5	90.0	89.0	89.0	88.0	89.4	90.0	90.0	90.4	90.3	90.0	89.4	88.8	87.9	87.4	87.0	87.0	86.9	88.1
5	86.5	86.4	86.2	86.2	86.1	86.8	88.2	89.3	90.0	89.0	89.5	89.9	90.2	90.1	90.0	89.9	90.0	88.9	87.0	86.8	87.4	87.3	87.3	87.3	88.2
6	87.1	87.1	87.1	87.0	86.9	87.1	88.1	88.0	90.1	90.5	90.3	90.1	90.6	91.0	90.3	90.0	89.5	89.0	88.9	88.4	87.9	87.9	87.8	87.6	88.7
7	87.6	87.5	87.4	87.4	87.5	87.6	87.5	88.0	88.0	88.2	88.1	88.1	88.4	88.2	86.0	85.0	85.1	85.9	86.9	86.5	85.7	84.9	84.8	84.8	86.9
8	84.2	84.7	84.5	83.9	83.7	85.3	86.2	86.9	87.1	87.6	88.0	88.3	88.8	88.9	88.4	89.0	89.0	88.1	87.6	87.0	86.0	86.0	85.9	85.1	86.7
9	85.1	84.9	84.5	84.1	84.0	84.9	85.7	86.4	87.0	87.6	88.0	88.6	89.1	89.5	89.4	90.0	89.8	88.8	88.4	87.6	87.0	86.4	85.7	85.0	87.0
10	85.0	85.4	84.7	84.8	84.4	85.7	85.9	86.7	87.0	87.1	87.3	87.4	87.8	87.8	87.1	87.0	86.9	86.4	86.7	86.1	85.8	85.6	85.1	84.8	86.2
11	85.0	85.0	85.0	85.1	85.5	85.9	86.3	86.5	86.9	86.2	86.4	86.0	86.4	87.1	87.4	87.3	87.1	87.0	86.9	86.9	86.4	86.1	85.9	85.6	86.2
12	85.9	85.9	85.6	85.4	85.7	85.7	86.0	86.1	86.9	87.3	87.6	88.0	88.3	88.9	88.4	88.1	87.7	87.4	87.1	87.0	87.0	86.9	86.9	86.9	86.9
13	86.8	86.7	86.6	86.6	86.6	86.5	86.9	87.1	87.4	87.4	88.0	88.3	88.1	88.0	87.6	87.9	87.8	87.8	87.4	87.4	86.7	86.2	86.0	86.0	87.2
14	86.0	86.0	85.9	85.4	85.4	85.5	86.0	86.0	87.0	88.0	88.0	89.3	89.4	89.9	90.0	89.9	89.0	88.9	88.4	88.1	87.4	87.0	86.7	86.4	87.5
15	86.2	86.1	86.1	86.0	85.9	86.0	86.3	86.9	87.9	87.9	88.5	88.9	88.3	88.3	88.1	88.0	87.9	88.0	87.7	87.1	86.8	86.4	86.1	85.5	87.1
16	85.4	85.1	85.1	85.1	85.1	85.5	86.0	86.0	86.9	87.0	87.0	87.1	87.0	87.5	87.8	87.9	87.8	87.2	86.6	86.5	86.4	86.3	86.1	86.0	86.4
17	85.9	85.9	85.8	85.4	85.4	85.4	85.3	85.7	86.0	86.0	85.9	86.6	86.2	86.0	86.9	86.0	86.2	85.2	85.0	85.5	85.0	84.0	84.4	83.7	85.6
18	84.1	84.4	85.0	84.9	85.0	84.9	84.9	85.4	85.5	85.6	85.2	85.8	86.4	86.0	86.0	86.5	86.0	85.8	85.5	85.2	85.1	84.9	84.5	84.2	85.3
19	84.3	84.4	84.3	84.5	84.6	84.6	84.9	85.0	85.4	85.0	85.2	86.1	86.1	86.6	87.0	86.1	86.0	85.6	86.0	85.0	85.0	84.9	84.6	85.0	85.2
20	84.8	85.0	84.5	84.4	84.6	84.5	85.1	85.8	86.5	87.0	87.1	87.0	87.4	87.6	87.5	88.0	87.4	86.0	86.1	85.9	85.9	85.6	85.9	85.4	86.0
21	85.1	85.0	85.0	85.0	85.0	85.0	85.2	85.5	85.9	86.0	85.8	85.9	86.0	86.0	85.9	85.9	86.0	85.9	85.7	85.3	85.1	85.0	85.0	85.0	85.5
22	84.9	84.8	84.9	84.9	85.0	84.9	85.0	85.1	85.1	85.4	86.0	85.8	85.6	85.8	85.2	85.2	85.3	85.3	85.0	85.0	85.0	84.7	84.4	84.6	85.1
23	84.4	84.3	83.9	84.0	84.0	84.3	85.0	86.0	86.7	86.6	87.0	86.9	87.1	87.0	86.5	86.1	87.0	86.4	86.1	85.8	85.4	85.5	85.1	85.0	85.7
24	85.1	84.9	85.0	85.0	84.7	84.8	85.2	85.8	86.0	86.7	86.0	86.9	87.0	87.1	88.0	87.4	87.4	87.6	87.2	87.8	87.7	88.0	87.4	87.4	86.5
25	86.8	87.4	87.4	87.6	88.0	88.3	88.0	88.0	88.7	89.4	88.8	89.8	90.0	90.6	91.4	91.0	91.0	90.3	91.0	90.0	89.0	88.0	87.3	86.3	88.9
26	86.0	85.9	85.9	85.3	85.4	85.9	86.9	88.0	87.9	88.1	89.0	89.3	89.8	89.7	90.0	88.8	88.5	88.0	87.0	86.6	86.0	85.4	85.1	85.0	87.3
27	85.0	85.0	84.9	85.0	84.6	84.8	85.2	85.9	87.0	87.7	87.5	87.6	87.8	87.4	86.6	87.0	86.2	86.4	85.9	85.5	85.4	85.2	84.8	84.4	86.0
28	84.9	85.0	85.0	85.1	85.1	85.4	85.8	85.7	85.7	86.0	86.0	86.1	86.5	86.9	87.0	86.6	86.5	86.0	85.9	85.4	84.9	84.2	84.2	83.9	85.6
29	84.0	83.7	84.0	83.5	83.3	85.3	86.3	87.0	87.5	87.7	88.2	88.0	87.5	87.3	87.2	87.9	87.8	87.2	86.5	86.6	86.5	86.3	86.2	86.1	86.3
30	85.2	84.3	84.2	84.5	84.9	85.4	86.1	86.7	87.1	88.1	88.5	90.0	89.4	89.2	88.8	89.1	89.5	89.4	88.6	87.1	86.9	86.1	85.8	85.1	87.1
Mean	85.5	85.4	85.3	85.2	85.3	85.7	86.2	86.7	87.2	87.5	87.6	87.9	88.1	88.1	88.1	88.0	87.8	87.5	87.2	86.8	86.4	86.0	85.8	85.5	86.7
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean



## TEMPERATURE

303

364. CAHRCIVEEN (Valentia Observatory): North Wall Screen:  $h_t$  (height of thermometer bulbs above ground) = 1.3 metres.

JULY, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	84.3	83.5	82.4	81.6	81.9	83.4	85.7	88.4	89.5	90.7	91.0	90.9	91.1	91.4	91.4	92.1	91.9	90.6	90.9	90.4	89.2	88.8	88.0	87.9	88.2
2	86.0	88.0	89.0	89.2	89.1	89.0	89.9	90.9	92.0	92.4	93.8	93.1	95.0	94.6	95.0	95.4	94.2	93.9	93.3	93.3	92.3	91.9	91.5	91.2	91.8
3	90.4	90.2	89.8	88.6	88.3	89.1	91.5	93.5	94.9	95.9	94.6	95.0	94.2	94.5	95.2	95.5	95.9	93.9	93.1	92.9	91.6	90.8	90.0	90.0	92.5
4	89.5	89.0	88.8	88.7	88.7	89.9	92.1	94.0	94.9	96.5	97.0	95.3	95.3	95.4	95.9	95.9	95.0	95.0	94.8	94.2	93.9	93.2	92.1	91.1	93.2
5	91.0	90.3	89.4	89.4	90.5	92.2	93.9	95.0	95.0	94.5	95.6	96.7	97.2	97.4	97.4	97.3	96.3	95.4	94.9	93.9	93.0	92.6	92.0	91.2	93.8
6	91.3	90.9	91.4	91.5	91.9	92.1	94.8	96.0	96.5	97.0	96.4	95.2	94.8	95.1	94.9	95.8	96.2	96.1	94.5	93.2	92.0	92.0	92.3	92.0	93.2
7	91.5	91.4	91.0	90.0	89.8	90.0	90.4	90.0	90.3	90.0	89.4	90.5	91.5	91.9	91.0	90.9	91.3	90.2	90.7	90.0	89.5	90.0	90.0	89.4	90.5
8	89.1	89.1	89.0	88.6	88.5	88.9	89.4	89.1	91.0	91.3	91.0	91.0	92.0	92.2	91.1	91.4	91.4	91.0	91.0	89.6	90.0	89.4	89.2	89.0	90.1
9	88.4	88.0	87.0	87.5	87.9	88.0	87.2	87.4	87.4	87.9	88.9	89.9	90.0	90.0	89.9	89.8	89.0	90.0	90.4	90.1	89.8	89.0	89.0	88.5	88.8
10	89.0	89.0	88.9	88.9	88.9	88.4	88.6	89.0	89.0	89.3	89.4	89.7	90.1	89.5	90.4	90.1	89.5	88.3	88.4	88.2	87.7	87.4	87.5	87.4	88.9
11	87.4	87.3	87.4	87.4	87.5	87.5	87.6	87.7	87.7	88.0	88.3	88.8	89.1	89.1	88.3	89.1	89.2	89.3	88.7	88.2	88.2	87.8	88.0	87.9	88.1
12	87.8	87.5	87.7	87.8	87.9	87.5	87.0	87.9	89.0	89.4	89.6	88.4	89.4	90.0	90.8	90.2	89.9	88.9	88.6	88.0	87.1	87.3	87.1	87.2	88.4
13	87.4	87.6	88.9	89.0	88.9	88.6	88.1	88.0	88.1	89.0	88.9	89.2	89.6	89.5	90.0	89.9	89.0	88.6	88.4	88.0	88.1	87.9	87.9	87.8	88.6
14	87.7	87.4	87.4	87.0	87.3	87.6	87.4	88.1	88.9	89.9	90.0	89.0	89.0	89.5	88.9	88.4	87.7	86.7	87.0	86.9	86.0	87.0	86.0	85.8	87.8
15	85.1	85.6	85.2	84.9	84.0	84.4	86.0	86.4	87.4	88.1	87.8	87.5	88.3	89.0	88.8	89.0	89.1	88.7	88.5	88.0	87.6	87.3	87.1	87.3	87.1
16	86.8	86.8	86.5	86.1	85.9	86.9	87.3	88.1	88.8	88.5	89.5	90.1	90.0	90.1	89.9	90.1	89.9	89.3	88.7	88.4	87.9	87.6	87.3	87.6	88.2
17	87.9	88.0	88.4	88.9	89.0	89.1	89.2	89.2	89.9	89.9	90.0	90.9	91.1	91.1	91.0	91.0	91.0	91.0	90.4	89.4	89.0	88.9	88.5	88.1	89.6
18	88.1	88.2	88.5	88.1	88.0	88.2	88.3	88.8	89.5	90.4	91.0	91.4	91.6	91.5	91.0	90.9	90.5	90.0	89.6	89.2	89.4	89.2	89.0	88.9	89.5
19	88.5	88.7	88.4	87.5	87.5	87.8	88.2	88.0	89.3	88.1	89.9	90.0	90.8	91.0	90.9	90.1	90.4	90.0	89.6	89.1	88.0	88.6	88.5	87.9	89.1
20	87.2	87.4	87.3	87.2	87.8	88.0	88.1	88.2	88.9	89.0	89.9	90.0	90.0	89.4	90.0	90.1	90.0	89.9	89.0	88.1	87.4	87.0	87.2	86.4	88.5
21	86.4	86.1	86.0	85.9	86.0	86.0	87.0	88.9	90.5	89.4	90.0	90.3	90.5	90.7	90.4	91.0	91.0	90.0	89.8	89.9	89.4	89.4	89.4	89.2	88.8
22	89.1	89.0	89.0	89.0	88.9	89.0	89.4	90.1	91.0	91.0	90.9	91.6	92.2	91.8	92.4	91.9	90.1	89.9	89.2	89.0	89.0	88.8	88.7	88.6	90.0
23	88.8	88.6	88.1	88.1	88.0	88.0	88.4	88.8	89.4	89.9	90.6	90.9	90.4	90.4	91.4	92.0	92.0	91.3	91.0	90.1	90.0	90.0	90.0	89.9	89.8
24	89.9	89.4	89.3	89.0	89.0	89.0	89.2	89.3	90.1	90.4	91.0	91.5	92.0	91.6	91.5	91.4	91.0	91.0	90.8	90.8	90.0	89.9	89.9	89.5	90.3
25	89.0	89.0	89.0	89.0	88.7	88.8	88.9	89.0	89.1	90.0	90.0	90.3	91.0	91.0	91.4	91.0	90.8	90.5	90.2	89.7	89.0	88.3	88.0	88.3	89.6
26	88.4	88.6	88.8	88.1	87.6	87.8	88.0	88.9	90.1	90.0	91.0	91.1	90.7	90.7	90.7	90.1	90.1	89.4	89.5	88.9	87.9	87.1	87.1	87.2	89.1
27	87.0	87.1	87.0	87.4	87.1	87.1	87.0	87.0	87.2	88.4	89.0	89.4	89.7	90.1	90.0	90.0	90.0	89.4	89.0	88.3	87.0	86.3	86.1	85.9	88.0
28	87.4	88.0	88.5	88.4	88.4	88.0	88.4	89.4	90.0	90.3	90.1	90.6	90.4	90.9	91.0	90.9	90.4	90.2	89.9	89.5	89.7	89.5	89.5	89.2	89.5
29	88.0	89.2	89.1	88.7	88.9	88.8	88.5	89.0	89.2	88.7	90.0	90.0	89.9	89.3	89.7	89.0	89.2	89.0	88.8	88.0	87.9	87.3	86.7	86.8	88.8
30	86.0	85.3	85.0	85.0	86.5	87.2	88.0	88.6	89.0	88.4	88.6	89.1	89.7	90.4	91.0	91.0	90.7	89.9	89.8	89.2	89.0	88.9	88.9	88.9	88.5
31	88.5	88.4	88.2	88.0	88.0	88.2	88.4	88.1	88.7	89.2	89.1	89.3	89.7	90.0	89.4	88.9	88.8	88.4	88.3	88.1	88.0	88.0	87.9	87.8	88.6
Mean	88.2	88.1	88.1	87.9	87.9	88.2	88.8	89.4	90.1	90.4	90.7	90.9	91.2	91.3	91.3	91.3	91.0	90.5	90.2	89.7	89.2	89.0	88.7	88.5	89.6

365. CAHRCIVEEN (Valentia Observatory): North Wall Screen:  $h_t$  = 1.3 metres.

AUGUST, 1933.

Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	87.7	87.4	87.2	87.1	87.0	86.9	87.1	87.5	88.5	89.7	90.2	90.6	91.0	91.2	91.0	91.0	90.6	90.3	90.0	89.4	88.5	88.4	88.4	89.0	
2	88.6	88.6	88.7	88.7	88.8	88.9	89.1	89.6	90.1	90.4	91.3	91.4	91.6	92.0	92.6	91.9	91.1	90.5	90.0	89.8	89.6	89.5	89.5	90.1	
3	89.4	89.2	89.0	89.0	88.8	88.8	88.9	89.2	89.6	90.0	91.1	92.0	92.8	92.4	92.4	92.0	92.4	91.9	91.4	90.3	89.3	88.8	88.0	87.4	
4	87.0	87.0	86.9	86.4	86.4	86.6	88.8	91.9	94.4	95.7	96.2	95.4	95.6	95.4	95.1	95.2	94.9	94.4	93.6	93.0	92.0	91.4	90.7	90.5	
5	90.0	89.6	89.0	89.2	89.1	89.4	90.7	92.6	94.6	96.2	96.1	96.6	96.4	96.6	96.5	96.3	95.9	94.3	93.5	92.5	91.7	91.3	90.8	91.3	
6	90.9	90.5	90.4	90.3	90.1	90.0	90.0	90.5	91.7	92.7	93.0	93.2	93.7	93.2	92.4	92.2	92.2	92.2	91.7	90.6	91.0	90.4	89.7	89.3	
7	89.0	88.1	87.8	86.9	86.4	86.0	89.0	90.3	91.2	91.6	91.2	92.0	92.0	91.9	91.0	90.6	90.7	90.6	90.4	90.1	89.9	89.6	89.4	89.1	
8	88.8	88.1	87.9	87.9	87.9	87.5	87.9	88.4	88.7	90.7	90.2	91.1	92.1	91.6	91.8	92.5	91.8	91.8	91.3	90.4	90.3	90.9	90.5	90.3	
9	90.3	90.2	90.3	90.0	89.4	89.0	88.8	89.0	89.1	89.7	90.0	90.2	90.3	90.3	90.0	90.0	89.9	89.3	88.5	88.1	87.0	86.6	86.7	86.0	
10	85.9	85.5	85.1	85.4	85.3	85.6	87.5	89.0	89.5	89.8	90.3	91.0	91.3	91.7	92.3	92.0	91.8	90.9	90.8	89.8	89.0	88.5	87.9	87.4	
11	87.2	86.7	86.0	86.0	85.3	85.2	86.8	89.4	90.9	91.5	92.0	92.4	92.4	92.3	92.5	92.1	92.0	91.4	90.7	89.3	88.6	87.9	87.6	87.2	
12	86.5	86.5	86.0	84.8	84.1	84.0	86.3	89.2	91.1	92.1	93.0	94.0	94.3	93.9	93.0	92.9	92.4	91.8	91.0	89.6	88.3	87.6	87.2	89.3	
13	89.9	90.4	90.4	90.2	90.2	90.4	90.8	91.0	91.0	92.0	92.6	93.0	93.2	92.0	91.1	91.5	90.0	90.2	90.2	89.1	88.0	87.3	86.9	86.5	
14	87.3	87.2	87.6	87.9	88.0	87.7	87.9	88.2	88.6	89.3	90.5	90.6	90.8	90.6	90.9	90.0	90.5	90.0	89.9	89.0	88.4	87.9	87.8	88.0	
15	88.6	89.0	90.0	90.2	89.4	89.2	88.5	88.9	88.2	88.5	89.0	89.1	89.9	89.9	90.4	90.4	89.9	89.4	88.7	88.1	88.0	87.5	88.0	88.0	
16	87.9	87.6	87.7	87.9	87.4	86.9	87.0	89.2	87.5	88.2	90.0	90.3	90.0	90.0	90.4	90.2	89.1	89.1	88.9	88.9	88.1	88.3	88.5	88.4	
17	88.8	89.0	89.0	88.7	89.2	89.4	90.0	89.9	90.6	90.4	91.0	91.6	92.7	92.9	92.4	91.7	91.0	90.4	90.1	89.8	90.0	89.9	89.6	89.5	
18	89.0	89.2	88.1	89.0	89.0	88.5	89.0	89.1	90.1	90.6	91.8	92.1	92.1	92.6	92.2	92.0	91.6	91.0	90.6	90.0	89.0	88.8	88.7	89.3	
19	88.9	89.0	88.5	89.0	89.2	88.6	88.9	89.5	89.6	89.7	90.3	87.5	90.0	90.3	89.7	89.1	89.0	89.0	88.8	88.3	88.0	87.7	86.3	87.6	
20	87.9	87.6	87.3	87.1	87.1	87.2	87.2	87.9	88.1	89.0	89.1	89.1	90.2	89.1	89.8	88.9	89.0	88.0	88.0	87.9	87.1	87.0	87.0	86.0	
21	86.3	86.0	86.4	86.4	86.0	86.5	86.0	86.9	86.1	87.0	86.9	87.9	87.9	88.0	88.7	88.2	88.1	87.1	86.8	86.1	86.4	86.2	86.6	86.2	
22	86.0	85.4	85.5	85.5	85.4	85.6	86.0	86.4	86.8	87.1	87.9	87.9	88.0	88.7	88.7	89.1	88.7	88.4	88.1	88.4	88.1	88.0	87.8	88.0	
23	88.1	88.0	87.9	88.0	88.0	87.5	87.0	87.4	88.6	89.0	89.0	89.1	89.3	89.5	89.6	89.4	89.1	89.0	88.4	87.9	87.0	87.1	87.2	87.4	
24	87.0	86.9	87.4	87.9	88.0	88.2	88.6	89.0	90.0	90.7	91.0	91.5	91.2	91.3	91.1	91.4	91.0	90.2	90.0	89.8	89.1	89.4	89.5	89.4	
25	89.3	89.2	89.2	89.2	89.3	89.2	89.3	89.3	89.4	89.9	90.4	90.8	91.1	91.4	91.4	91.4	91.0	90.6	90.3	90.2	90.2	89.9	90.0	90.0	
26	90.0	89.8	89.6	89.8	89.5	89.7	89.8	90.0	90.2	90.5	90.8	90.9	91.6	92.0	91.8	91.8	91.9	90.9	90.9	90.8	90.6	90.6	90.6	90.6	
27	90.5	90.6	90.4	90.1	90.1	90.0	90.0	90.2	90.6	90.9	90.6	90.9	91.9	91.9	91.9	91.4	91.3	91.3	91.3	91.3	91.3	91.4	90.9	90.2	
28	88.3	88.0	87.9	87.8	87.9	87.7	87.6	87.9	88.1	89.0	89.5	90.1	90.4	90.4	90.6	90.1	90.1	89.5	89.0	88.1	87.6	87.1	86.4	85.4	
29	85.0	85.5	86.1	86.8	87.0	87.2	87.8	88.7	90.0	89.4	89.5	90.0	89.9	90.0	90.4	90.0	90.0	89.9	89.0	88.3	88.6	87.6	88.4	88.7	
30	84.4	88.2	88.1	87.8	87.3	87.4	87.6	88.4	89.0	89.7	90.0	90.2	90.9	90.0	90.5	90.0	89.9	89.1	88.4	86.5	85.3	84.3	83.5	83.9	
31	83.0	82.8	83.0	83.4	84.0	83.9	86.0	87.2	88.2	89.8	90.0	90.4	91.0	91.0	90.9	90.9	91.0	90.7	90.0	89.7	89.4	89.5	89.6	89.6	
Mean	88.1	88.0	87.9	87.9	87.8	87.7	88.3	89.1	89.7	90.3	90.8	91.1	91.5	91.4	91.4	91.2	90.9	90.4	90.0	89.4	88.9	88.6	88.4	88.3	
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	
																								Mean	



Readings in degrees absolute at exact hours, Greenwich Mean Time.

366. CAHIRCIVEEN (Valentia Observatory): North Wall Screen:  $h_t$  (height of thermometer bulbs above ground) = 1.3 metres.

SEPTEMBER, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	89.6	89.7	89.8	89.8	89.9	90.0	89.9	89.9	90.0	90.0	90.4	90.4	90.2	90.3	90.2	90.2	90.1	90.0	90.0	89.9	89.9	89.9	89.8	90.0	90.0
2	89.9	89.9	89.8	89.7	89.8	89.6	89.9	90.7	91.8	92.3	92.8	92.9	92.5	92.2	91.9	92.0	91.4	91.0	90.2	88.6	87.4	86.8	85.5	85.0	90.3
3	84.6	84.1	84.4	83.8	83.4	83.3	83.7	86.9	88.4	90.3	91.6	92.5	92.0	92.0	92.0	91.9	91.4	90.9	90.4	90.0	89.9	89.8	89.5	89.6	88.5
4	89.3	89.1	89.1	89.3	89.3	89.4	90.1	90.9	91.6	92.0	92.7	93.4	94.0	93.4	93.0	92.6	92.4	92.0	90.7	89.9	90.5	90.9	90.9	90.4	91.1
5	90.1	89.5	89.2	88.6	89.5	89.9	90.0	91.1	92.0	92.9	93.9	94.0	94.1	94.3	93.9	93.2	92.7	92.4	91.8	90.4	90.0	89.4	88.3	88.2	91.3
6	88.3	88.1	87.5	87.3	87.4	87.7	87.7	88.1	88.0	88.4	88.8	89.0	88.1	88.4	89.2	90.0	89.6	89.0	88.4	88.5	88.4	87.9	87.3	86.9	88.3
7	86.8	86.7	86.4	86.0	85.8	85.3	85.4	86.3	87.5	88.4	89.1	90.0	90.2	90.9	91.4	92.0	91.5	91.1	90.1	89.4	89.5	89.0	87.8	86.2	88.5
8	86.0	85.1	84.7	83.6	83.4	86.8	88.5	89.6	89.8	90.4	90.6	91.3	91.9	92.4	92.6	92.7	92.6	92.0	91.0	89.1	88.3	87.5	87.7	86.4	88.9
9	85.2	84.8	84.7	84.0	87.8	87.6	87.7	88.9	89.5	90.2	90.0	91.2	91.8	92.5	92.9	92.9	92.6	92.0	90.8	89.2	88.0	88.2	88.8	88.2	89.1
10	87.2	86.5	86.0	87.5	88.9	88.7	88.3	88.5	89.8	90.7	91.0	92.1	93.1	93.3	93.4	93.1	93.0	92.4	91.3	90.2	88.4	87.7	87.8	87.8	89.9
11	88.2	87.0	87.0	86.4	86.4	85.5	88.4	87.8	90.0	90.4	91.4	91.8	92.1	92.5	92.4	92.2	92.0	91.8	90.6	89.5	88.4	88.0	87.9	86.9	89.3
12	85.5	85.4	84.4	84.0	84.3	83.8	84.4	85.3	87.0	88.6	89.2	89.5	89.7	90.0	89.8	90.0	89.0	88.7	87.7	87.3	87.1	86.4	85.4	84.2	86.9
13	85.9	85.0	83.9	82.5	83.3	83.8	84.4	85.3	87.0	88.6	89.2	89.5	89.7	90.0	89.8	90.0	89.0	88.7	87.7	87.3	87.1	86.4	85.4	84.2	86.9
14	83.6	83.0	82.4	81.7	80.9	79.5	79.0	80.9	83.3	85.4	86.1	86.6	87.4	88.4	87.9	87.4	86.5	84.7	83.0	81.9	81.0	80.7	80.8	80.8	83.8
15	81.0	83.4	84.0	84.6	84.9	83.5	83.9	86.3	87.5	88.1	88.8	89.4	89.9	90.0	89.9	89.1	88.7	87.9	87.9	87.2	87.8	88.0	88.3	88.2	86.9
16	88.1	88.2	88.6	88.8	88.9	89.0	89.1	89.7	89.7	89.6	90.9	91.0	91.9	91.9	91.5	91.3	91.0	90.6	90.3	90.4	90.4	90.4	90.5	90.3	90.0
17	90.4	90.5	90.5	90.8	90.9	90.4	90.4	90.8	90.9	90.4	90.6	90.8	91.4	91.0	90.5	91.1	91.1	91.1	90.8	89.9	89.5	89.3	89.1	88.9	90.5
18	88.9	89.0	88.4	87.9	87.1	86.4	86.1	87.0	88.6	89.0	89.3	90.4	90.7	90.9	90.5	90.0	89.6	89.2	89.2	89.1	88.8	87.9	87.9	88.0	88.8
19	88.2	88.1	88.0	88.0	87.9	88.1	87.0	87.4	88.3	88.9	89.3	87.8	89.3	89.7	89.0	88.8	86.5	86.0	84.4	84.1	83.2	84.0	83.9	84.3	87.0
20	85.8	83.9	83.0	82.9	81.9	82.0	82.1	82.7	82.9	83.9	84.4	85.5	86.3	86.0	86.0	86.7	86.2	86.0	85.5	85.9	85.4	86.0	86.0	86.0	84.7
21	86.0	86.1	86.0	86.9	86.0	86.4	86.3	86.6	86.4	86.4	87.0	88.2	88.7	89.5	89.4	89.2	89.5	88.2	87.0	86.9	85.8	84.5	84.9	84.0	87.0
22	83.6	84.0	83.5	83.3	84.0	85.5	85.8	86.8	87.5	88.2	88.7	88.8	88.5	88.3	88.1	87.5	87.4	87.3	87.5	87.4	87.8	87.9	87.9	87.2	86.7
23	87.1	87.1	87.0	87.0	86.5	86.4	87.0	87.1	87.6	87.4	88.0	87.9	87.4	86.9	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.1	86.7
24	86.2	86.1	86.6	86.5	86.4	86.2	86.1	86.1	86.9	87.4	87.5	87.9	87.9	88.3	88.9	88.3	88.0	87.9	87.4	87.4	87.4	87.1	87.0	86.9	87.2
25	86.9	86.6	86.4	86.9	87.0	87.2	87.5	87.9	87.9	87.9	88.8	88.6	89.0	90.0	90.0	89.9	90.0	89.3	88.5	88.4	88.8	89.0	88.3	87.6	88.3
26	87.4	87.1	86.6	86.4	86.5	86.3	86.0	86.9	88.0	88.0	88.0	89.0	89.0	89.2	89.1	89.2	88.7	88.0	87.5	86.9	86.9	87.0	86.9	86.4	87.6
27	85.1	85.5	84.6	84.2	83.7	83.2	82.9	83.9	86.0	87.9	88.4	89.1	89.3	89.5	89.9	89.4	89.3	88.2	86.8	85.9	85.1	85.1	85.9	85.1	86.4
28	84.0	84.8	83.4	83.3	82.3	82.5	82.1	82.3	84.4	87.8	88.7	89.4	89.9	90.1	90.3	89.4	89.0	88.0	87.0	87.0	85.9	85.8	85.5	84.3	86.1
29	83.0	82.5	82.9	81.8	82.1	83.0	82.2	83.0	85.5	87.0	88.1	89.4	89.6	90.8	90.4	89.9	90.2	89.1	88.6	87.5	88.4	87.2	87.0	87.5	86.5
30	87.1	87.0	87.0	87.2	87.0	86.3	86.0	86.5	87.4	88.3	89.4	90.1	90.9	90.4	90.3	90.5	90.0	89.0	88.3	88.2	87.2	86.3	85.2	84.5	88.0
Mean	86.6	86.5	86.2	86.0	86.1	86.1	86.3	87.1	88.1	88.8	89.5	90.0	90.3	90.5	90.4	90.2	90.0	89.4	88.6	88.0	87.7	87.4	87.1	86.7	88.1

367. CAHIRCIVEEN (Valentia Observatory): North Wall Screen:  $h_t$  = 1.3 metres.

OCTOBER, 1933.

Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	84.2	85.3	86.7	86.4	86.6	86.1	85.9	86.0	86.1	87.1	88.4	88.7	89.5	89.3	89.1	89.5	89.1	88.7	88.9	88.9	88.8	88.5	88.5	88.1	87.6
2	88.0	87.9	87.4	87.4	87.7	87.5	87.1	87.1	87.5	88.1	89.1	89.8	90.1	90.2	89.1	88.8	88.6	88.4	88.2	88.0	87.9	86.9	86.8	85.7	88.1
3	84.6	83.4	83.5	83.0	82.6	82.8	84.0	85.4	86.0	87.0	87.9	88.2	88.8	88.9	88.8	88.7	87.7	87.4	85.9	84.5	84.7	83.7	82.8	83.0	85.6
4	82.4	81.3	80.9	80.1	79.5	79.3	79.1	80.0	82.1	85.7	87.0	88.0	88.3	88.6	88.1	88.0	87.8	86.6	86.2	85.9	84.0	84.0	83.2	83.4	84.1
5	83.6	83.3	85.9	86.4	86.8	87.0	86.4	86.1	87.0	87.9	88.4	89.1	89.5	88.9	88.5	88.9	88.3	87.9	87.1	87.2	87.2	86.1	86.1	84.6	87.0
6	86.1	85.3	85.4	85.9	86.0	86.1	86.0	86.0	87.0	87.9	88.1	88.1	88.1	88.5	88.9	88.9	88.5	88.1	87.7	87.5	87.0	86.9	87.1	87.1	87.1
7	87.1	87.0	87.0	86.9	86.9	86.0	86.1	86.4	87.0	87.8	87.9	87.8	88.4	89.0	89.2	89.0	88.0	87.9	87.7	87.4	87.1	87.0	86.2	86.1	87.4
8	86.4	86.1	85.5	85.9	85.5	85.1	85.1	85.5	86.6	87.1	88.4	88.9	89.0	88.9	89.2	88.8	88.2	87.4	86.2	86.3	86.4	86.9	87.0	87.0	87.0
9	87.4	87.7	88.0	88.1	88.0	87.7	87.6	87.8	87.8	87.9	86.9	86.6	87.2	86.0	86.2	86.8	85.8	84.5	84.4	85.1	84.7	84.5	84.1	84.6	86.5
10	85.0	85.0	85.0	85.2	85.2	85.0	85.0	85.1	85.3	85.5	85.5	84.9	85.0	85.4	85.1	85.0	84.4	84.0	84.0	84.1	83.9	88.0	85.7	85.7	84.9
11	85.1	85.2	85.4	85.4	85.0	84.6	85.0	84.0	85.5	85.7	85.4	86.1	86.5	85.0	86.0	86.0	85.6	85.4	84.8	84.4	83.0	84.8	84.5	84.5	85.1
12	84.8	84.5	82.9	83.6	83.7	84.0	84.4	84.6	84.3	85.7	86.4	87.0	87.1	86.4	86.4	87.0	86.6	86.2	86.4	86.4	86.5	86.4	85.7	85.1	85.5
13	85.1	85.4	85.5	85.5	85.2	85.2	85.0	85.5	86.5	87.0	87.5	87.6	88.0	87.6	87.0	86.6	86.6	86.9	87.1	86.2	86.1	86.6	86.4	86.4	86.3
14	86.3	86.0	86.2	86.1	85.7	84.0	85.8	85.1	85.8	86.2	86.7	86.9	86.9	86.9	86.5	86.1	85.0	84.3	83.7	84.3	85.6	85.0	85.0	85.0	85.6
15	85.0	85.5	85.5	84.9	85.9	85.6	85.2	85.5	86.1	86.6	86.9	86.0	87.1	86.6	86.0	86.0	85.4	84.8	84.7	84.4	84.1	84.1	83.9	84.0	85.4
16	84.8	84.1	84.2	82.9	83.5	83.5	83.9	83.5	83.9	84.4	84.7	85.0	85.0	84.9	84.0	84.5	84.0	84.0	84.0	84.0	84.0	83.9	84.0	84.0	84.1
17	84.0	84.0	84.1	84.0	83.4	83.6	83.1	83.3	84.0	85.1	86.1	86.1	86.4	86.5	86.2	86.0	85.5	85.9	86.0	86.0	86.2	86.2	86.1	86.1	85.1
18	86.3	86.4	86.4	86.6	86.5	85.7	85.9	86.0	87.0	87.4	87.6	87.9	87.4	87.1	87.3	87.4	87.8	87.1	86.5	86.7	85.9	86.0	85.4	84.4	86.5
19	84.6	84.0	83.0	82.0	81.2	81.4	81.4	81.4	81.9	84.2	85.1	85.9	86.4	86.4	86.4	86.3	86.0	85.4	85.0	84.4	84.0	84.4	85.2	84.7	84.2
20	85.0	84.4	84.6	85.0	84.7	84.4	84.5	84.6	84.9	85.4	85.0	85.0	85.3	85.9	86.0	85.8	85.9	85.8	85.0	85.0	84.9	84.4	84.6	84.3	85.0
21	83.4	82.3	82.5	82.9	81.9	81.9	81.0	81.4	82.0	83.0	84.2	85.2	86.1	84.9	85.0	85.0	85.1	84.2	84.2	84.0	83.9	83.9	84.0	83.9	83.6
22	83.5	84.0	84.0	83.7	84.0	83.6	83.0	84.0	84.4	84.2	85.3	84.9	85.6	85.9	86.2	86.1	85.4	85.1	84.9	85.0	85.1	84.9	84.8	85.0	84.7
23	85.0	85.1	85.0	84.8	84.4	84.0	84.1	84.2	84.8	85.2	85.5	86.2	86.9	86.4	86.8	86.5	86.1	85.9	85.9	85.8	85.0	85.0	84.7	84.9	85.3
24	84.6	84.2	84.1	84.1	84.0	83.7	83.4	82.8	84.0	84.9	84.9	85.6	85.4	85.6	85.6	85.6	86.0	86.4	86.1	86.1	85.9	85.7	85.6	85.4	85.0
25	85.1	85.0	84.9	84.6	84.6	84.4	83.8	83.0	82.1	82.8	83.6	84.0	84.0	83.4	83.7	83.4	82.8	82.1	81.2	82.1	82.1	81.9	81.0	80.8	83.3
26	80.8	80.4	80.3	80.1	80.2	79.5	79.5	79.8	80.5	81.7	81.4	82.3	82.7	83.1	82.9	82.1	82.3	82.4	82.2	82.4	82.6	82.9	83.0	82.4	81.5
27	83.3	82.9	83.8	83.0	83.7	84.1	83.1	83.4	83.0	82.6	82.0	80.4	80.0	80.0	79.9	78.0	78.0	77.0	77.2	77.4	77.7	78.3	77.4	77.5	80.6
28	77.0	78.0	79.2	78.9	78.3	78.5	79.2	79.0	80.4	80.9	81.1	82.6	82.9	81.9	82.0	82.9	83.0	82.9	82.4	83.4	83.9	83.5	84.0	83.9	81.1
29	83.9	83.5	83.0	82.9	82.9	82.9	82.4	82.1	82.2	82.6	82.1	83.2	83.1	83.0	82.9	82.6	82.0	82.0	82.1	81.9	82.1	81.3	81.7	81.1	82.5
30	81.2	81.1	81.5	81.3	81.4	81.4	80.9	81.5	81.5	82.5	82.0	82.7	82.9	83.2	82.7	83.4	83.1	83.0	83.0	83.0	82.8	82.6	83.0	83.6	82.2
31	84.0	84.0	83.9	83.9	83.3	83.9	82.7	83.8	84.1	84.5	84.5	84.5	84.5	84.7	84.6	84.7	84.3	84.7	83.9	83.9	83.3	84.3	84.4	84.0	84.1
Mean	84.4	84.3	84.4	84.2	84.1	84.0	83.9	84.0	84.5	85.3	85.7	85.9	86.3	86.1	86.0	85.9	85.6	85.2	84.9	84.9	84.7	84.7	84.6	84.4	84.9
Hour G. M. T.	1.	2.	3.	4.	5.	6.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	



## TEMPERATURE

Readings in degrees absolute at exact hours, Greenwich Mean Time.  
 368. CAHRCIVEEN (Valentia Observatory): North Wall Screen:  $h_t$  (height of thermometer bulbs above ground) = 1.3 metres.

NOVEMBER, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	84.3	83.3	83.6	83.6	83.7	82.9	84.0	84.0	84.3	85.0	85.7	85.7	85.5	85.5	85.4	85.4	85.1	85.0	85.2	85.1	85.1	84.9	84.8	84.8	84.6
2	85.0	85.0	85.2	85.3	85.2	85.0	83.8	84.2	83.9	84.4	84.6	84.6	84.9	84.6	84.0	83.9	83.5	83.4	83.1	83.0	82.0	82.0	80.5	80.5	83.9
3	80.1	81.2	80.1	81.4	81.8	82.0	82.0	81.8	82.0	82.2	82.6	82.9	83.0	83.0	83.0	82.9	81.7	81.5	81.5	81.9	81.2	81.2	80.4	80.6	81.7
4	80.3	80.0	79.5	79.1	79.4	80.0	80.0	80.0	79.9	81.3	81.8	82.0	81.8	81.9	82.1	82.0	81.9	81.8	81.2	82.0	82.4	82.4	82.1	82.2	81.1
5	82.0	81.9	82.0	81.9	82.0	81.7	81.5	82.0	82.7	85.0	84.3	84.4	84.9	84.4	84.4	83.9	83.6	83.7	83.6	84.0	83.9	83.9	83.4	83.9	83.3
6	84.1	84.5	84.6	85.0	84.6	84.4	84.2	84.0	83.9	84.1	84.9	85.0	85.2	85.5	85.8	85.2	84.7	83.8	83.1	82.9	83.8	83.1	83.8	83.1	84.3
7	83.3	83.0	82.8	83.0	83.0	82.4	82.0	82.1	83.0	83.5	84.1	84.0	84.1	84.1	84.0	83.7	83.0	82.5	81.9	82.0	82.4	81.9	81.0	82.0	82.9
8	81.7	81.0	81.0	81.5	81.7	81.5	81.5	81.2	81.5	82.1	82.7	83.2	83.6	83.9	83.5	83.1	82.8	82.6	82.6	82.6	82.8	82.5	82.7	83.0	82.3
9	83.1	83.2	83.9	84.0	84.0	84.0	83.9	83.9	83.8	84.0	84.1	84.5	84.5	84.4	83.9	84.0	83.4	83.0	83.1	83.2	83.3	83.0	82.6	82.5	83.6
10	83.0	82.8	82.9	82.9	82.5	81.6	81.8	81.7	81.2	82.4	83.6	83.3	83.7	83.4	83.4	83.0	82.7	82.2	81.4	81.3	81.2	80.4	80.0	80.0	82.3
11	79.1	78.5	78.9	78.6	79.5	79.4	79.9	80.1	81.0	81.2	82.9	82.9	83.6	83.1	81.9	82.6	82.3	82.2	81.5	82.0	81.0	81.4	81.3	81.6	81.1
12	81.1	81.1	81.6	81.3	81.9	81.9	82.4	82.3	82.4	82.6	83.1	83.0	83.8	84.0	83.1	82.7	82.5	82.9	83.0	83.1	82.7	82.4	82.1	82.1	82.5
13	82.1	82.0	81.6	81.6	82.0	82.0	82.5	84.3	83.3	84.1	84.1	84.1	84.6	84.1	84.1	83.6	83.7	82.7	82.3	82.8	83.0	82.9	82.9	82.7	83.0
14	82.9	83.0	82.6	82.2	82.7	81.7	82.0	82.0	82.7	82.9	83.0	83.1	83.0	83.1	83.6	83.9	84.0	82.8	82.1	82.2	82.1	82.2	82.0	81.3	82.7
15	81.0	81.1	82.1	82.1	81.5	81.1	81.3	82.4	82.0	81.9	82.0	82.4	82.4	82.0	82.0	82.0	80.3	79.5	80.0	81.0	80.9	81.2	80.9	80.4	81.4
16	80.0	80.0	80.0	80.9	81.2	81.4	81.2	81.0	80.6	80.7	80.6	81.0	81.2	81.5	81.7	81.2	81.2	81.0	81.0	80.0	79.3	79.1	79.2	78.5	80.6
17	78.0	78.0	77.5	77.3	77.0	76.8	77.1	76.9	78.0	78.0	78.7	79.0	80.0	80.0	80.0	79.9	79.4	79.0	78.8	77.9	77.1	77.2	77.0	76.9	78.2
18	76.6	76.9	76.0	76.3	76.0	75.2	75.2	75.6	76.7	77.0	77.6	77.9	78.4	78.9	79.4	79.0	78.8	79.0	79.0	79.0	79.9	79.9	80.0	79.6	77.7
19	79.9	79.2	79.4	80.0	80.2	79.8	79.8	79.0	78.4	78.0	79.6	80.8	81.1	82.0	82.6	82.1	81.2	81.2	81.4	81.0	80.2	80.2	80.9	81.2	80.3
20	81.4	81.8	82.0	82.2	82.5	82.4	82.0	82.2	82.1	82.2	82.5	82.5	82.7	82.5	82.6	82.4	82.3	82.5	82.2	82.0	81.3	81.8	80.4	80.9	82.1
21	80.9	80.9	79.5	79.0	78.9	79.0	77.0	76.0	74.6	75.7	78.2	80.1	81.9	82.0	82.0	81.4	80.4	77.5	76.0	75.0	75.0	73.4	73.7	74.8	78.2
22	74.0	73.1	73.7	74.0	73.4	74.1	74.2	74.1	74.9	75.8	78.1	80.9	81.6	81.4	81.5	81.4	81.2	81.3	81.4	81.4	81.4	81.7	81.9	81.9	78.1
23	81.9	81.8	81.7	81.9	82.0	82.0	82.0	82.1	82.4	83.0	83.1	83.3	83.5	83.4	83.4	83.2	83.0	83.0	83.0	83.0	82.5	82.0	82.2	81.0	82.5
24	82.6	81.6	81.6	82.0	81.4	81.6	81.5	81.4	79.7	79.5	81.2	82.9	83.1	84.0	84.0	83.0	81.4	81.1	81.2	80.3	80.9	80.6	80.4	81.0	81.6
25	80.9	79.3	78.4	78.1	77.0	76.7	76.0	76.5	77.0	77.0	78.0	79.0	80.0	80.5	80.3	79.2	78.1	78.1	75.6	76.3	78.9	79.0	78.0	78.7	78.2
26	78.5	79.1	78.8	79.0	79.0	79.4	79.3	79.2	79.0	79.1	80.3	80.9	81.0	81.1	81.0	81.1	80.9	80.1	80.0	80.1	80.5	80.6	80.9	81.0	79.9
27	81.0	80.8	81.0	81.0	81.2	81.4	81.7	81.4	81.4	81.9	82.0	82.0	82.1	82.4	82.4	82.4	82.5	82.7	82.4	82.3	82.5	82.7	82.7	82.3	81.9
28	82.3	82.1	82.1	82.0	82.2	82.0	82.4	82.1	82.3	82.5	82.7	83.0	83.0	82.9	82.8	82.7	82.3	82.2	82.3	82.3	82.3	82.1	82.2	82.4	82.4
29	82.5	82.9	83.0	82.9	83.0	83.2	83.4	83.4	83.4	83.7	83.9	84.0	84.0	84.0	84.0	84.0	83.9	83.9	83.7	83.7	83.8	83.7	83.8	83.4	83.5
30	83.4	83.3	83.4	83.6	83.6	83.9	84.0	84.1	84.2	84.6	84.4	84.3	84.4	84.5	84.5	84.5	84.4	84.8	84.9	84.8	84.7	84.7	84.7	84.9	84.2
Mean	81.2	81.1	81.0	81.1	81.1	81.0	81.0	81.0	81.1	81.5	82.1	82.6	82.9	82.9	82.9	82.6	82.2	81.9	81.6	81.6	81.6	81.5	81.3	81.3	81.7

369. CAHRCIVEEN (Valentia Observatory): North Wall Screen:  $h_t$  = 1.3 metres.

DECEMBER, 1933.

Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	84.8	84.4	84.4	84.7	84.9	84.0	83.0	82.8	83.0	83.0	83.2	83.0	83.4	83.4	83.0	82.6	82.5	82.0	81.7	80.3	80.8	80.3	79.2	78.9	82.8
2	76.2	76.0	74.9	75.4	74.1	73.6	73.9	74.0	74.2	74.4	76.4	78.6	81.3	81.4	81.4	80.4	79.6	79.1	78.4	77.4	77.3	77.6	77.0	77.6	77.1
3	76.2	78.2	78.9	79.0	78.9	78.5	78.6	78.4	78.1	78.4	78.6	78.8	78.7	78.6	78.1	77.4	77.1	76.7	76.3	75.5	75.7	74.9	76.3	75.7	77.6
4	77.0	76.7	76.3	76.3	78.2	76.3	76.0	75.7	76.7	76.6	77.4	77.6	77.5	77.4	77.1	76.4	76.3	75.9	75.4	75.4	75.3	75.4	75.4	76.0	76.4
5	76.1	76.0	75.9	75.4	76.4	76.7	76.7	77.2	77.4	77.8	78.2	78.5	79.0	79.3	79.3	79.0	78.3	78.0	77.4	78.1	77.2	76.4	75.8	77.1	77.4
6	79.1	79.5	79.6	79.3	79.0	79.3	79.4	79.3	79.3	80.0	80.9	81.4	81.7	81.7	82.2	82.0	81.6	81.7	81.6	81.5	81.7	81.7	81.5	81.4	80.6
7	81.0	81.2	81.5	81.4	80.9	80.7	81.0	81.1	80.4	80.6	81.0	81.2	81.3	81.5	81.2	80.1	79.1	78.2	77.2	76.9	76.4	75.0	76.2	77.0	79.8
8	77.6	79.0	79.1	78.7	78.5	78.2	78.4	78.0	77.9	78.0	78.4	77.9	77.6	77.7	77.2	76.6	76.0	75.9	76.0	75.9	75.5	75.8	76.7	75.8	77.3
9	75.8	75.9	75.9	75.9	75.7	76.0	75.7	75.5	75.4	75.5	75.9	76.0	76.3	76.3	76.3	75.8	75.2	75.0	75.5	74.6	74.4	74.2	74.0	73.0	75.5
10	73.8	74.0	73.4	72.7	72.9	72.7	72.2	72.5	72.8	72.6	73.8	74.2	74.7	74.8	74.9	74.5	74.2	73.4	74.4	74.5	74.7	75.0	75.0	74.9	73.8
11	74.9	74.9	75.1	75.1	75.3	75.7	75.0	74.7	74.5	75.6	75.6	76.8	77.5	78.5	78.1	77.2	75.2	73.5	73.1	73.9	74.3	75.7	79.9	80.5	75.7
12	80.3	80.3	80.1	80.0	79.0	78.8	79.3	79.0	78.6	79.2	77.6	79.2	77.3	79.8	77.2	78.5	76.8	77.3	77.3	76.8	76.8	76.5	75.4	76.0	78.3
13	76.0	75.7	75.9	75.9	75.5	75.2	75.9	76.0	76.4	77.0	76.8	76.9	77.0	77.4	77.6	77.0	76.7	76.3	75.9	76.0	75.6	75.4	75.7	75.7	76.2
14	75.3	75.4	75.3	75.0	74.9	75.3	74.8	75.3	75.3	76.0	76.0	76.2	76.8	76.6	77.0	76.6	75.7	75.4	75.2	75.7	75.6	75.1	75.0	73.4	75.6
15	74.0	75.0	73.9	74.5	74.3	75.4	79.0	79.6	79.5	79.5	80.0	80.2	80.5	80.9	80.6	80.4	79.7	78.5	77.9	77.3	76.9	75.2	75.6	76.2	77.7
16	76.1	76.0	76.6	76.6	76.8	77.2	76.9	76.7	77.1	77.6	78.4	79.0	79.6	80.3	80.9	81.3	80.8	81.1	81.1	81.2	81.5	81.2	81.4	81.5	78.9
18	81.2	81.2	80.0	80.2	79.6	79.4	79.0	79.0	78.8	79.2	80.0	80.8	81.0	81.3	81.2	80.9	80.7	80.8	80.9	81.0	81.0	81.1	81.0	81.0	80.4
18	81.1	81.2	81.1	81.0	80.8	81.0	81.1	81.1	80.6	81.1	81.4	81.9	82.4	82.1	81.6	81.4	81.1	81.0	81.1	81.0	80.9	80.8	80.9	81.0	81.2
19	81.0	81.0	80.8	80.2	79.5	79.0	79.0	79.5	79.9	80.0	80.2	80.8	81.1	80.9	80.6	80.4	80.1	80.6	80.3	80.4	80.7	80.7	81.0	80.9	80.4
20	80.7	80.9	80.8	80.8	80.8	80.7	81.1	81.4	81.4	81.3	81.6	81.9	81.9	82.0	82.1	82.1	82.0	82.0	82.0	82.0	82.2	82.1	82.1	82.3	81.6
21	82.3	82.1	82.4	82.4	82.4	82.4	82.4	82.2	82.1	82.4	82.5	82.7	82.9	82.6	82.9	83.0	83.1	83.1	83.2	83.2	83.3	83.2	83.0	83.1	82.7
22	83.2	83.2	83.2	83.3	83.4	83.4	83.4	83.4	83.4	83.4	83.6	83.7	83.5	83.5	83.5	83.2	83.0	83.0	83.0	83.0	83.1	83.1	83.0	82.9	83.3
23	82.7	82.3	82.1	82.2	82.0	82.0	82.0	82.1	82.4	82.4	82.7	83.5	83.1	83.0	82.9	82.8	82.6	82.5	82.7	82.9	83.0	82.4	82.5	82.9	82.6
24	83.0	83.2	83.4	83.3	83.4	83.5	83.4	83.5	83.5	83.6	83.7	83.9	84.0	84.0	83.9	83.7	83.4	83.4	83.5	83.5	83.5	83.5	83.5	83.3	82.5
25	83.3	83.2	83.1	83.0	83.1	83.1	83.1	83.3	83.5	82.0	82.3	82.1	83.0	83.0	82.4	81.1	80.5	80.6	79.9	79.6	80.1	80.8	80.6	81.0	82.0
26	80.6	78.7	79.3	78.1	77.2	77.4	76.8	77.0	76.8	76.7	76.9	77.8	79.0	79.5	80.6	79.8	78.0	76.0	76.0	74.4	74.1	74.0	74.0	73.8	77.3
27	74.0	74.4	77.5	78.5	79.3	79.0	79.3	79.2	79.4	79.8	80.1	81.0	80.9	80.3	79.9	79.2	80.2	80.0	79.2	79.1	80.3	79.5	80.1	80.3	79.0
28	80.5	80.7	80.4	81.0	80.7	80.6	79.3	80.7	79.3	80.4	78.6	78.0	77.9	78.1	78.1	78.0	78.0	78.3	78.1	78.1	78.3	77.9	78.0	76.9	79.1
29	76.0	75.0	74.0	73.7	73.9	75.7	76.0	75.9	76.0	76.8	77.3	79.3	80.5	80.7	80.3	80.3	80.5	81.2	82.0	81.9	81.4	81.3	81.3	80.6	78.3
30	81.0	80.7	80.3	80.9	81.0	81.2	80.4	81.0	80.4	80.8	80.7	80.1	80.0	80.1	80.8	80.9	81.3	81.1	80.9	80.6	81.0	80.5	79.7	79.9	80.7
31	80.0	79.5	78.0	78.0	78.1	78.2	80.0	80.9	81.0	81.0	81.6	81.9	81.9	82.0	82.1	82.2	82.4	82.8	83.1	83.5	83.8	84.0	83.8	83.9	81.3
Mean	78.9	78.9	78.8	78.8	78.7	78.7	78.8	78.9	78.9	79.1	79.4	79.8	80.1	80.3	80.2	79.8	79.4	79.2	79.0	78.9	78.9	78.8	78.8	78.9	79.2
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean



TEMPERATURE: ANNUAL MEANS OF HOURLY VALUES.  
From readings in degrees absolute at exact hours, Greenwich Mean Time.

370. CAHIRCIVEEN (VALENTIA OBSERVATORY): North Wall Screen:  $h_t = 1.3$  metres.

1933.

1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24	Mean
°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
83.15	83.08	83.04	82.98	82.95	82.98	83.24	83.60	84.07	84.50	84.92	85.28	85.54	85.62	85.59	85.43	85.11	84.73	84.36	84.04	83.77	83.59	83.42	83.28	84.09

TEMPERATURE: MONTHLY MEANS AND DIURNAL INEQUALITIES.  
The departures from the mean of the day are adjusted for non-cyclic change.†

371. CAHIRCIVEEN (VALENTIA OBSERVATORY): North Wall Screen:  $h_t = 1.3$  metres.

1933.

Month.	Mean.	Hour 1	G.M.T. 2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24
Jan.	279.15	-0.55	-0.43	-0.63	-0.64	-0.60	-0.65	-0.36	-0.51	-0.33	-0.14	+0.22	+0.66	+0.94	+1.08	+1.14	+1.04	+0.55	+0.35	+0.07	-0.07	-0.24	-0.22	-0.41	-0.27
Feb.	279.66	-0.61	-0.72	-0.62	-0.66	-0.67	-0.75	-0.84	-0.98	-0.76	0.32	+0.25	+0.73	+1.11	+1.29	+1.35	+1.34	+0.99	+0.60	+0.28	+0.07	-0.04	-0.09	-0.39	-0.56
Mar.	281.87	-0.92	-0.83	-0.83	-0.85	-0.93	-0.99	-0.99	-0.82	-0.24	+0.16	+0.87	+1.24	+1.39	+1.55	+1.55	+1.36	+1.10	+0.65	+0.17	-0.10	-0.28	-0.60	-0.74	-0.92
Apr.	283.22	-1.30	-1.39	-1.26	-1.24	-1.31	-1.33	-1.03	-0.15	+0.55	+0.97	+1.26	+1.57	+1.70	+1.69	+1.66	+1.45	+1.15	+0.67	+0.23	-0.31	-0.68	-0.82	-0.93	-1.15
May	285.31	-1.22	-1.30	-1.34	-1.48	-1.64	-1.38	-0.65	-0.07	+0.48	+0.79	+1.05	+1.43	+1.56	+1.57	+1.57	+1.42	+1.08	+0.77	+0.41	-0.04	-0.44	-0.66	-0.89	-1.10
June	286.70	-1.27	-1.35	-1.41	-1.48	-1.44	-1.02	-0.49	+0.01	+0.54	+0.79	+0.90	+1.22	+1.35	+1.41	+1.36	+1.26	+1.12	+0.80	+0.48	+0.10	-0.27	-0.63	-0.84	-1.14
July	289.61	-1.34	-1.42	-1.50	-1.69	-1.63	-1.38	-0.75	-0.15	+0.48	+0.77	+1.12	+1.25	+1.56	+1.64	+1.69	+1.67	+1.39	+0.87	+0.58	+0.06	-0.46	-0.69	-0.93	-1.14
Aug.	289.45	-1.31	-1.47	-1.51	-1.55	-1.67	-1.74	-1.19	-0.35	+0.24	+0.90	+1.34	+1.61	+2.02	+1.97	+1.91	+1.70	+1.40	+0.95	+0.53	-0.07	-0.59	-0.87	-1.11	-1.14
Sept.	288.07	-1.52	-1.68	-1.94	-2.11	-2.02	-1.98	-1.82	-1.03	-0.03	+0.70	+1.40	+1.92	+2.23	+2.47	+2.38	+2.14	+1.93	+1.40	+0.62	+0.02	-0.35	-0.63	-0.86	-1.24
Oct.	284.92	-0.49	-0.66	-0.56	-0.68	-0.78	-0.97	-1.06	-0.93	-0.38	+0.39	+0.75	+1.02	+1.34	+1.18	+1.06	+1.03	+0.66	+0.33	+0.01	-0.02	-0.19	-0.21	-0.33	-0.51
Nov.	281.68	-0.43	-0.58	-0.65	-0.54	-0.53	-0.65	-0.68	-0.64	-0.60	-0.16	+0.47	+0.88	+1.21	+1.26	+1.20	+0.96	+0.52	+0.21	-0.07	-0.08	-0.11	-0.22	-0.39	-0.38
Dec.	279.16	-0.31	-0.29	-0.36	-0.38	-0.45	-0.45	-0.39	-0.27	-0.29	-0.05	+0.24	+0.67	+0.94	+1.12	+1.00	+0.67	+0.25	+0.02	-0.11	-0.27	-0.28	-0.40	-0.32	-0.29
Year	284.07	-0.94	-1.01	-1.05	-1.11	-1.14	-1.11	-0.85	-0.49	-0.03	+0.40	+0.82	+1.18	+1.45	+1.53	+1.49	+1.34	+1.01	+0.63	+0.27	-0.06	-0.33	-0.50	-0.68	-0.82

ABSOLUTE EXTREMES OF TEMPERATURE FOR EACH DAY.  
Maximum and minimum for the interval 0 h. to 24 h., Greenwich Mean Time.

372. CAHIRCIVEEN (VALENTIA OBSERVATORY): North Wall Screen:  $h_t = 1.3$  metres.

1933.

Month.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Day.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	82.7	78.3	84.4	79.7	82.1	76.1	83.9	77.0	86.1	81.1	89.0	85.7
2	86.0	80.7	81.2	74.5	83.0	80.5	84.1	75.9	85.0	81.9	91.0	85.3
3	82.0	78.9	84.5	77.9	82.2	80.0	84.9	81.6	87.1	83.1	89.0	83.1
4	82.0	77.8	84.9	84.0	83.0	79.3	86.0	81.8	87.9	84.0	91.0	83.7
5	81.1	77.5	85.1	84.0	83.4	78.6	85.0	82.4	86.4	83.4	90.6	86.0
6	82.0	78.5	84.9	83.0	83.2	78.6	86.1	81.5	86.5	82.7	91.3	86.9
7	84.5	81.0	85.3	82.8	83.2	80.3	86.5	80.8	86.5	83.2	88.5	84.4
8	84.8	82.9	86.4	84.7	84.0	81.1	86.6	83.3	87.5	82.9	89.4	83.7
9	82.9	79.2	85.2	82.2	84.0	83.0	86.5	83.7	85.9	82.3	90.2	83.9
10	83.2	81.4	83.1	76.3	85.5	83.0	85.6	83.4	86.8	83.0	88.0	84.3
11	81.9	74.1	78.6	73.0	85.7	79.0	86.6	83.8	87.1	82.8	87.5	84.6
12	80.9	74.2	80.0	71.0	84.0	75.0	84.0	80.7	88.1	82.4	88.9	85.4
13	82.9	78.3	80.7	76.0	84.5	78.0	84.9	77.3	86.6	84.0	88.4	85.9
14	83.1	78.0	80.1	75.3	84.1	78.5	84.6	80.9	88.0	82.4	90.1	85.1
15	80.5	74.5	80.9	74.8	84.4	79.0	86.7	82.9	88.0	80.8	89.0	85.2
16	77.4	73.0	81.4	74.0	83.7	78.4	87.3	79.7	88.9	84.7	88.5	85.0
17	76.1	70.8	81.6	76.2	82.0	76.0	88.5	79.5	89.9	85.2	87.0	83.6
18	79.9	75.4	80.1	76.3	83.2	76.0	87.3	81.5	87.9	85.4	86.6	83.7
19	81.2	73.3	79.1	73.9	81.3	78.0	83.0	76.5	88.0	85.7	87.0	84.2
20	81.8	78.8	81.5	72.1	84.0	77.9	81.7	75.3	89.4	84.0	88.0	84.1
21	81.8	80.7	81.6	78.3	84.4	82.0	83.9	74.7	87.5	81.9	86.1	84.8
22	81.9	80.1	80.0	75.6	86.9	83.5	83.0	80.2	88.1	82.4	86.0	84.4
23	80.3	79.0	81.0	75.0	84.9	82.9	87.0	81.7	87.5	80.3	87.4	83.7
24	79.9	74.7	77.0	73.4	84.8	81.9	86.3	84.0	87.0	81.1	88.0	84.5
25	76.2	70.4	77.3	74.1	85.0	82.2	86.3	83.4	86.8	82.8	92.2	86.3
26	76.4	69.0	80.0	76.2	85.9	79.0	86.6	83.8	86.8	83.0	90.1	85.1
27	77.1	74.0	80.0	77.8	85.5	76.8	85.4	81.5	87.8	82.0	88.0	84.1
28	78.1	74.2	82.4	78.0	84.6	77.4	86.0	80.0	90.2	81.7	87.4	83.9
29	77.9	76.3	-	-	83.9	79.9	85.6	78.8	88.2	84.7	88.8	83.3
30	81.1	75.8	-	-	83.4	80.3	85.1	80.7	87.0	84.6	91.0	84.0
31	83.2	80.3	-	-	83.8	80.4	-	-	90.0	81.3	-	-
Mean	81.0	76.8	81.7	77.1	84.0	79.4	85.5	80.6	87.6	82.9	88.8	84.6

NOTE:- The initial 2 or 3 of the readings is omitted, i.e., 275.0 degrees absolute is printed 75.0  
† see page 21.



## RELATIVE HUMIDITY

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Percentages at exact hours, Greenwich Mean Time.

373. CAHIRCIVEEN (Valentia Observatory): North Wall Screen:  $h_t$  (height of thermometer bulbs above ground) = 1.3 metres.

JANUARY, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	Vapour Pressure*
Day	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.
1	81	81	81	83	77	84	82	81	76	91	78	76	77	75	78	86	89	94	88	88	93	94	88	83	83.4	8.6
2	76	78	73	76	84	92	88	92	93	92	91	95	95	98	94	93	93	94	87	80	77	76	63	73	85.7	10.6
3	73	71	68	64	64	72	69	65	64	71	68	65	70	72	67	69	57	65	81	76	79	73	81	79	70.0	7.2
4	85	84	83	84	84	85	87	86	86	82	82	82	77	85	93	94	88	93	90	77	72	78	74	66	83.5	8.3
5	72	57	71	69	77	60	59	80	70	76	80	87	83	70	68	77	90	88	84	78	73	73	68	76	74.2	7.1
6	69	77	72	79	72	75	77	84	88	85	85	79	78	76	77	88	89	89	90	93	88	90	90	88	82.2	8.5
7	91	88	88	92	92	91	89	87	88	88	87	85	87	85	89	94	92	93	93	94	97	96	95	96	90.5	11.3
8	96	95	95	95	93	93	93	96	95	97	92	91	89	87	87	87	89	91	96	97	97	96	96	89	92.1	12.5
9	88	86	80	84	86	81	82	84	77	91	87	85	74	74	76	76	86	86	87	87	88	88	88	91	83.8	9.4
10	93	93	89	92	89	92	93	89	89	92	93	91	91	88	84	84	87	93	91	88	92	91	89	91	90.2	10.5
11	74	79	72	72	70	72	78	74	72	74	79	78	69	70	74	71	78	83	89	87	84	87	87	82	77.4	6.9
12	89	84	80	82	82	75	73	83	84	87	86	79	81	91	93	91	91	77	79	82	84	78	77	81	82.9	7.7
13	71	72	79	73	78	82	73	79	85	81	88	81	80	76	75	82	91	90	89	91	94	93	91	93	82.5	8.7
14	95	97	98	89	90	92	89	88	81	84	82	80	79	79	80	82	87	88	84	88	88	91	93	87	87.2	9.8
15	86	74	71	66	71	78	71	76	85	82	78	85	84	77	68	66	71	68	69	82	89	87	86	89	77.0	6.6
16	88	90	85	91	94	85	80	83	91	94	86	91	86	88	87	88	82	87	89	87	83	84	96	96	87.8	6.3
17	95	95	95	95	95	96	96	95	96	95	96	87	65	79	78	85	84	84	90	93	93	84	87	84	89.5	5.5
18	81	78	82	92	90	87	80	87	80	74	70	59	57	58	56	59	74	56	60	70	79	78	83	83	73.9	6.4
19	87	84	91	85	84	84	82	84	77	74	79	79	78	83	84	84	81	78	77	78	81	80	80	82	81.5	7.0
20	83	85	83	80	83	85	79	84	84	80	79	78	79	78	78	79	81	76	83	78	81	81	83	82	80.9	8.4
21	81	79	81	82	81	81	79	78	77	78	77	78	78	81	81	78	83	81	86	85	85	81	74	69	80.0	8.8
22	70	67	70	69	68	65	66	69	65	69	69	67	84	67	65	67	71	68	67	67	68	67	68	66	67.5	7.3
23	68	65	66	66	66	66	63	65	62	64	65	64	64	64	66	66	63	65	66	69	66	65	64	64	65.1	6.5
24	63	65	63	63	63	66	68	68	66	62	59	60	62	61	60	60	57	59	64	66	69	68	64	65	63.4	5.7
25	84	85	78	79	86	92	87	81	80	77	79	66	64	66	68	68	73	84	86	92	93	94	94	96	80.6	5.2
26	94	94	95	95	95	94	94	95	96	94	95	90	77	73	63	61	63	66	61	66	72	76	71	74	81.9	4.9
27	79	68	68	76	67	69	69	64	64	64	57	54	54	61	61	63	67	60	60	60	62	65	69	69	64.7	4.7
28	84	62	66	64	64	72	65	71	71	66	69	66	62	62	63	54	53	52	48	48	55	55	53	52	61.1	4.6
29	52	52	54	58	61	58	55	57	63	67	77	79	76	76	76	81	82	82	85	87	85	85	89	82	71.0	5.9
30	81	82	88	83	76	77	71	74	81	80	75	73	72	62	70	70	71	77	73	80	75	80	83	76	76.4	7.3
31	75	82	79	79	80	85	86	82	87	85	83	79	79	86	92	88	93	89	91	88	89	92	94	96	85.4	9.7
Mean	80.1	79.0	78.8	79.3	79.4	80.2	78.2	80.0	79.8	80.5	79.7	77.7	75.2	75.7	75.8	77.1	79.2	78.9	80.1	80.7	81.7	81.5	81.2	80.7	79.2	77.7
Vapour Pressure *	mb. 7.2	mb. 7.2	mb. 7.1	mb. 7.2	mb. 7.2	mb. 7.2	mb. 7.2	mb. 7.3	mb. 7.4	mb. 7.5	mb. 7.7	mb. 7.7	mb. 7.6	mb. 7.7	mb. 7.8	mb. 7.8	mb. 7.8	mb. 7.6	mb. 7.6	mb. 7.6	mb. 7.6	mb. 7.6	mb. 7.5	mb. 7.5	mb. 7.5	7.5

374. CAHIRCIVEEN (Valentia Observatory): North Wall Screen  $h_t$  = 1.3 metres.

FEBRUARY, 1933.

Day	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.
1	95	93	94	97	96	96	94	95	96	94	94	92	96	92	91	88	86	88	78	77	72	70	61	76	88.4	10.4
2	67	70	62	56	61	63	61	64	76	66	65	65	71	64	61	63	72	75	83	82	80	82	70	68	68.8	6.5
3	65	70	76	74	76	79	76	78	76	76	87	92	92	96	98	97	98	98	98	98	94	94	94	94	86.1	10.1
4	95	97	98	98	98	97	96	98	98	97	96	96	96	95	93	93	91	94	95	93	93	93	89	89	95.0	12.8
5	89	93	89	89	87	89	88	81	82	83	88	89	90	90	94	93	91	91	90	90	90	92	94	93	89.3	12.3
6	93	90	94	91	89	87	84	86	86	82	87	87	87	87	89	87	87	90	86	87	94	93	93	89	88.6	11.3
7	86	82	83	77	77	82	79	76	75	86	79	80	85	83	87	85	89	90	96	94	94	94	94	94	85.2	11.1
8	95	94	94	94	94	94	93	90	89	89	93	94	90	90	88	89	88	87	87	86	89	88	89	89	90.6	13.0
9	91	91	93	90	93	89	86	81	80	82	76	76	76	76	68	75	81	83	76	84	83	80	80	79	82.2	10.9
10	79	83	80	76	76	83	77	86	81	74	79	78	83	73	71	63	72	72	72	70	70	74	71	70	75.7	8.2
11	68	68	68	72	64	60	58	49	48	50	52	54	54	56	56	59	63	69	78	79	77	80	81	83	64.1	4.9
12	92	96	95	95	95	95	95	96	96	96	96	84	82	73	70	73	73	74	79	81	82	79	86	86	86.1	6.5
13	86	91	91	85	87	83	77	74	79	72	70	63	65	65	64	58	64	68	66	66	67	72	68	68	73.3	6.9
14	66	68	66	68	66	68	68	74	73	62	57	56	53	56	59	64	59	60	60	59	68	69	67	73	64.0	5.5
15	74	74	74	74	75	74	75	80	77	82	77	71	67	70	67	69	79	78	78	76	72	72	79	76	74.5	6.4
16	79	83	83	91	91	89	89	89	89	87	91	87	84	75	81	79	73	83	86	87	93	88	93	95	85.6	7.2
17	92	92	90	96	98	88	94	93	90	86	79	71	62	63	65	72	76	74	81	79	84	77	76	71	81.7	8.0
18	77	84	75	73	71	70	76	82	67	60	61	52	52	49	42	47	54	60	53	52	64	80	79	69	64.6	5.6
19	63	63	66	65	60	56	55	69	65	66	69	66	58	57	56	56	58	66	68	76	74	71	78	81	64.8	5.4
20	87	91	92	92	92	94	94	94	94	83	81	79	70	73	67	72	80	83	91	91	85	83	86	85.1	7.0	
21	89	86	84	83	84	80	78	79	83	70	69	64	61	71	68	55	59	70	63	57	55	52	57	60	70.4	7.0
22	61	55	55	57	58	66	62	63	60	57	55	55	52	47	47	49	56	57	66	69	79	79	75	75	60.7	5.5
23	77	79	75	79	80	79	82	80	79	81	82	71	79	78	85	84	84	88	91	76	80	83	86	84	80.7	6.8
24	81	78	80	78	83	92	85	78	71	78	71	64	81	87	83	85	89	78	74	73	75	77	80	80	79.3	5.5
25	82	84	85	84	82	82	82	84	91	84	84	74	73	73	77	75	76	79	81	83	75	75	80	80	80.3	6.0
26	78	74	77	74	77	77	80	82	73	73	73	73	68	72	70	70	70	77	80	75	72	72	72	74	74.5	6.5
27	74	72	69	78	71	69	66	68	59	65	68	70	66	72	70	72	76	74	79	79	78	73	85	86	72.2	6.7
28	78	81	81	83	84	87	87	88	81	86	82	84	86	78	74	74	75	76	84	79	80	80	78	77	81.0	8.1
Mean	80.7	81.5	81.0	81.0	80.9	81.0	79.9	80.5	79.1	77.4	77.5	74.5	74.3	73.6	72.9	73.1	75.7	77.9	79.3	78.5	79.6	79.4	79.9	80.3	78.3	77.9
Vapour Pressure *	mb. 7.6	mb. 7.6	mb. 7.6	mb. 7.6	mb. 7.6	mb. 7.6	mb. 7.4	mb. 7.4	mb. 7.3	mb. 7.4	mb. 7.7	mb. 7.9	mb. 7.8	mb. 7.8	mb. 7.8	mb. 7.9	mb. 7.9	mb. 7.9	mb. 7.9	mb. 7.7	mb. 7.8	mb. 7.7	mb. 7.6	mb. 7.5	mb. 7.7	
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	



Percentages at exact hours, Greenwich Mean Time.

375. CAHIRCIVEEN (Valentia Observatory): North Wall Screen:  $h_t$  (height of thermometer bulbs above ground) = 1.3 metres.

MARCH, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	Vapour Pressure*
Day	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.
1	80	80	82	80	83	84	87	87	88	88	85	80	76	75	74	73	83	79	81	73	75	84	85	82	80.9	7.9
2	81	82	83	82	86	86	86	85	83	85	77	77	80	76	78	76	83	81	86	86	88	89	89	89	82.9	9.1
3	93	94	94	96	94	94	91	90	89	85	85	81	81	74	80	84	84	77	82	87	84	80	74	78	85.7	9.3
4	80	81	81	76	81	81	85	82	81	72	73	75	79	78	78	75	83	79	81	73	83	78	83	81	79.1	8.9
5	88	82	80	82	85	87	85	86	91	92	87	88	87	92	89	93	87	82	83	74	75	86	82	88	85.3	9.2
6	85	82	74	72	72	73	71	69	63	71	73	77	76	80	68	67	71	83	82	81	85	85	81	79	76.0	8.1
7	74	78	73	78	73	79	66	69	63	65	73	69	72	59	73	72	73	87	86	80	83	86	85	86	74.9	8.4
8	84	86	86	86	87	87	89	89	91	92	89	92	96	95	92	93	92	93	93	94	94	94	92	90	20.6	11.1
9	93	93	94	93	95	97	96	96	95	94	91	86	85	77	77	76	80	80	76	79	81	79	76	79	86.4	11.0
10	80	80	81	83	83	81	79	75	78	69	71	67	55	54	56	60	56	64	70	69	70	74	75	75	71.1	9.1
11	76	74	74	74	76	76	78	78	78	75	73	73	71	69	71	76	80	81	83	76	82	81	82	85	76.5	9.4
12	89	85	87	90	85	85	85	91	90	88	81	76	77	78	73	75	78	82	85	86	87	92	88	94	84.3	8.2
13	91	90	87	88	87	91	91	89	88	91	85	85	85	83	87	94	93	92	91	95	92	96	93	91	89.9	10.0
14	87	89	74	79	85	85	85	85	87	82	75	74	79	79	77	82	81	82	83	85	88	89	89	89	83.0	9.7
15	92	95	95	94	95	93	93	91	89	87	89	85	84	80	85	83	85	84	93	80	81	73	73	85	86.9	10.5
16	82	76	85	82	84	87	85	77	71	75	66	62	62	58	62	76	74	69	72	75	77	75	70	70	74.1	7.7
17	75	73	85	86	90	89	84	80	79	77	72	73	74	72	71	65	69	71	81	79	81	85	87	87	78.2	7.4
18	88	85	84	78	83	76	82	72	73	73	64	74	69	72	69	83	81	90	87	70	69	71	78	81	77.3	8.2
19	82	75	79	84	87	85	85	86	82	90	87	82	82	78	85	72	65	72	73	75	58	59	65	76	77.8	7.8
20	63	51	51	54	54	56	57	59	60	60	56	64	66	64	62	65	66	73	77	77	74	76	78	80	64.2	7.2
21	84	84	86	88	89	89	88	86	84	84	80	76	76	78	75	76	82	87	87	91	90	51	93	92	84.6	10.5
22	93	90	88	81	76	74	65	64	65	59	58	61	61	63	67	67	72	74	75	75	76	79	85	83	73.1	10.3
23	84	85	87	87	87	87	87	85	82	86	85	87	90	90	89	93	91	90	88	88	89	92	92	89	87.8	11.2
24	88	91	88	88	84	84	83	83	81	81	81	80	79	80	78	79	76	80	81	80	80	79	82	76	82.0	10.3
25	75	74	76	76	79	79	79	75	73	72	73	71	83	79	84	87	85	85	84	85	87	88	88	88	80.0	10.0
26	89	89	91	92	91	93	92	86	84	76	67	71	71	73	70	79	78	80	83	83	87	88	87	90	82.9	10.4
27	89	88	89	87	87	90	85	92	93	92	89	89	89	84	86	86	82	85	84	89	90	87	91	92	88.1	9.4
28	90	94	94	89	96	93	94	94	87	86	74	71	73	71	74	76	79	86	88	88	88	88	89	92	85.6	9.2
29	93	88	93	87	82	75	80	72	73	71	64	67	70	67	70	67	71	71	69	79	69	70	68	70	74.9	8.5
30	72	67	72	75	80	76	76	77	69	76	62	70	71	67	62	62	62	70	79	76	79	71	71	73	71.4	8.0
31	74	86	82	83	81	86	86	76	87	89	88	92	88	75	83	77	75	78	77	83	83	86	83	88	82.4	9.4
Mean	83.7	82.8	83.1	82.9	83.8	83.8	83.1	81.5	80.5	80.1	76.5	76.6	77.0	74.8	75.7	77.1	78.0	80.2	81.9	81.0	81.5	82.3	82.4	83.8	80.6	79.2
Vapour Pressure *	mb. 8.9	mb. 8.9	mb. 8.9	mb. 8.9	mb. 8.9	mb. 8.9	mb. 8.9	mb. 8.7	mb. 9.0	mb. 9.2	mb. 9.2	mb. 9.5	mb. 9.6	mb. 9.4	mb. 9.5	mb. 9.6	mb. 9.6	mb. 9.6	mb. 9.4	mb. 9.2	mb. 9.1	mb. 9.0	mb. 8.9	mb. 9.0	mb. 8.9	79.1

376. CAHIRCIVEEN (Valentia Observatory): North Wall Screen  $h_t$  = 1.3 metres.

APRIL, 1933.

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Mean	Vapour Pressure *	Hour G. M. T.
1	93	90	88	88	86	83	87	86	88	77	68	63	60	57	55	57	61	61	70	73	73	83	84	84	75.7	8.5							
2	85	87	85	84	77	74	74	74	75	74	72	70	74	73	73	70	73	69	72	73	72	75	74	73	75.3	8.7							
3	72	74	73	74	74	74	78	73	73	72	74	74	69	67	69	69	74	69	74	79	78	78	76	76	73.4	9.2							
4	77	73	75	75	78	80	76	81	77	81	83	77	76	76	78	80	82	84	90	91	90	91	89	92	81.0	10.4							
5	92	94	92	92	88	88	89	89	86	87	78	76	77	79	87	85	81	79	82	82	83	83	83	79	84.9	10.9							
6	82	80	86	89	87	88	89	87	83	84	84	83	87	85	81	77	83	83	87	84	83	86	83	84	84.3	10.9							
7	83	85	81	68	71	73	75	62	61	66	75	77	75	72	80	80	79	80	84	87	90	93	89	92	78.1	10.2							
8	94	89	89	92	94	94	90	93	89	86	80	81	85	88	85	87	89	89	91	94	94	91	91	92	89.5	12.5							
9	94	93	92	93	93	93	92	86	92	90	86	86	81	80	80	81	77	85	85	88	86	87	85	85	87.2	12.1							
10	85	85	85	82	84	83	77	83	88	84	84	81	87	80	82	82	84	85	86	85	89	90	89	89	84.5	11.2							
11	89	89	92	94	95	95	95	95	94	94	94	88	86	88	86	88	90	94	94	91	97	93	93	92	91.9	12.7							
12	94	96	87	83	84	76	73	65	62	55	60	56	58	54	56	55	50	55	61	61	64	71	74	76	68.1	8.0							
13	83	80	78	75	66	71	78	67	67	61	62	67	62	62	60	65	64	70	73	78	74	76	72	73	70.2	7.6							
14	77	73	74	78	78	74	74	71	70	65	63	63	63	59	64	67	65	68	74	75	75	75	75	75	70.6	8.6							
15	76	79	83	84	83	83	84	79	78	73	69	65	60	66	65	64	68	73	69	74	75	80	79	75	74.3	10.0							
16	74	76	78	78	83	83	84	69	65	66	65	65	66	66	67	68	67	69	78	83	86	86	89	87	74.7	9.7							
17	81	69	71	64	71	77	74	66	61	57	58	61	65	67	69	77	77	76	65	70	71	74	75	75	69.9	9.7							
18	72	71	71	72	72	73	70	69	67	63	66	58	56	56	53	57	56	50	58	61	61	63	66	63	63.7	8.7							
19	63	63	71	71	72	71	67	66	63	59	60	57	49	48	47	42	41	48	60	56	71	54	55	54	58.9	6.3							
20	55	67	66	66	68	72	64	61	50	49	47	42	49	42	49	56	53	55	57	57	69	63	57	68	57.3	5.3							
21	65	69	67	71	77	77	74	72	59	58	50	52	53	54	54	61	60	61	65	74	77	68	71	69	64.9	6.3							
22	65	64	62	62	62	67	66	62	63	62	69	82	78	83	76	82	74	84	80	82	87	89	88	89	73.7	8.3							
23	89	91	91	95	92	91	93	89	88	86	87	78	77	78	76	87	89	88	85	85	83	86	89	90	86.8	11.7							
24	93	89	91	90	89	90	91	93	90	89	91	93	93	95	93	90	89	86	83	85	88	86	86	87	82.6	12.8							
25	87	89	89	85	83	81	92	87	88	86	83	77	76	87	91	84	90	92	90	89	87	87	87	86	86.4	11.7							
26	83	83	83	79	80	81	88	93	94	96	93	91	95	95	95	94	93	89	87	85	85	85	84	80	88.1	12.3							
27	81	70	74	75	75	79	83	80	75	77	71	89	71	72	74	74	69	74	71	78	86	87	81	83	77.0	9.8							
28	84	86	88	88	86	82	80	86	79	75	75	70	72	72	75	68	75	76	83	84	83	88	86	87	80.3	9.8							
29	91	91	90	88	88	91	93	85	67	67	67	71	69	70	69	74	76	70	73	75	74	80	81	85	78.6	9.5							
30	83	79	81	78	82	82	78	70	70	71	69	69	72	81	69	68	65	87	78	83	86	80	86	83	77.1	9.2							
Mean	81.4	80.8	81.1	80.4	80.6	80.9	80.9	78.0	75.4	73.7	72.8	72.1	71.4	71.7	71.9	73.0	73.1	75.0	76.8	78.7	80.6	80.9	80.6	80.8	77.2	+9.8							
Vapour Pressure *	mb. 9.3	mb. 9.2	mb. 9.2	mb. 9.2	mb. 9.2	mb. 9.2	mb. 9.4	mb. 9.8	mb. 9.8	mb. 9.8	mb. 9.9	mb. 10.0	mb. 10.0	mb. 10.0	mb. 10.0	mb. 10.0	mb. 9.9	mb. 9.8	mb. 9.8	mb. 9.6	mb. 9.6	mb. 9.6	mb. 9.5	mb. 9.3	mb. 9.6								
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean								



377. CAHIRCIVEEN (Valentia Observatory): North Wall Screen:  $h_t$  (height of thermometer bulbs above ground) = 1.3 metres.

MAY, 1933.

378. CAHIRCIVEEN (Valentia Observatory): North Wall Screen:  $h_t = 1.3$  metres.

JUNE, 1933.

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
94	97	93	94	90	91	92	94	88	86	90	95	94	94	92	93	91	86	85	88	90	90	90	90	91	91	94	94	94	94	94	
91	93	93	93	91	89	86	83	78	71	77	79	77	77	78	71	78	71	74	76	77	77	79	78	78	81	81	84	84	84	84	
77	75	78	84	86	87	88	85	73	72	72	77	79	82	86	90	90	88	88	89	92	93	90	91	90	83	83	83	83	83	83	
94	89	91	93	90	88	78	77	80	82	85	76	72	78	75	74	70	73	76	80	85	87	88	90	90	82	81	84	84	84	84	
89	90	89	90	93	91	85	77	73	79	76	76	78	75	78	77	78	84	90	92	95	96	96	94	94	94	94	94	94	94	94	
94	94	94	90	90	88	83	80	75	68	76	78	74	74	76	76	78	80	80	84	83	84	84	84	84	82	84	84	84	84	84	
84	85	85	85	84	88	93	89	90	93	93	96	96	89	89	89	86	79	81	74	79	78	78	78	86	86	86	86	86	86	86	
83	79	81	82	80	78	77	78	70	67	67	65	61	62	64	66	63	67	73	77	82	82	80	82	73	75	75	75	75	75	75	
79	80	82	84	81	71	71	72	66	65	62	63	64	63	66	61	63	68	69	73	77	77	81	84	84	71	71	71	71	71	71	
75	65	70	67	71	70	76	69	66	66	64	63	62	62	69	68	69	73	70	75	70	76	78	78	69	69	69	69	69	69	69	
80	84	84	88	86	86	86	85	80	87	85	95	96	94	96	96	98	95	94	94	97	98	96	96	90	93	93	93	93	93	93	
96	95	93	95	92	92	89	89	84	85	77	78	79	80	85	87	91	94	96	95	94	95	95	94	89	89	89	89	89	89	89	
94	94	95	95	95	96	94	97	95	95	90	91	89	89	93	90	91	90	94	93	94	97	98	95	95	92	92	92	92	92	92	
95	95	91	95	95	94	95	93	90	89	86	86	85	84	86	82	84	85	85	87	90	90	92	96	89	89	89	89	89	89	89	
94	95	94	94	94	96	96	92	91	91	90	85	88	91	91	91	91	91	92	90	92	93	90	87	87	87	87	87	87	87	87	
87	89	90	91	96	94	94	97	93	95	95	96	96	94	96	96	91	93	94	85	78	76	71	73	90	93	93	93	93	93	93	
67	67	57	72	65	66	71	68	58	66	67	64	67	65	58	66	66	74	65	65	73	76	76	84	67	67						
74	77	66	65	63	60	66	61	70	72	74	87	85	70	72	72	72	73	71	73	78	77	80	86	71	71						
83	83	84	69	73	70	76	62	85	89	89	87	87	82	79	87	86	82	78	83	89	90	94	89	83	83						
91	90	88	83	85	86	87	80	81	78	74	77	73	72	73	70	74	85	77	77	85	93	90	86	81	81						
82	82	85	82	83	85	91	94	94	94	93	91	90	91	90	91	90	91	95	96	93	93	90	89	87	87						
91	93	91	95	94	93	94	95	95	95	88	90	93	93	96	97	89	89	89	86	88	79	83	82	90	90						
99	92	89	93	93	97	96	98	97	96	98	99	98	94	96	90	90	88	86	88	91	86	93	89	92	96						
89	90	89	90	93	88	87	80	77	71	73	73	85	80	78	84	85	85	92	86	86	82	90	90	84	3						
92	86	88	91	88	82	78	78	76	75	78	76	76	74	71	77	76	79	73	78	82	84	86	90	80	5						
91	90	90	96	95	90	88	82	82	86	78	76	72	72	71	80	79	78	79	81	83	85	88	89	83	4						
89	88	80	72	70	75	74	75	66	65	70	71	69	64	73	71	74	71	72	77	85	78	78	79	74	7						
77	70	83	82	87	85	80	81	81	80	77	76	78	77	77	76	77	78	77	77	81	83	79	79	3	6						
76	79	79	81	83	78	76	67	68	71	67	69	74	70	65	69	62	68	76	80	75	82	77	75	73	7						
87	89	86	92	90	93	89	89	88	77	84	75	77	79	80	86	83	85	85	88	90	91	97	97	85	8						
Mean	86.1	86.1	85.3	86.1	85.9	84.9	84.5	82.9	80.3	80.2	79.8	79.7	79.3	80.0	80.7	80.6	81.6	81.6	83.0	85.0	85.5	86.3	86.4	83.0	+13.1						
Vapour Pressure*	mb. 12.5	mb. 12.4	mb. 12.2	mb. 12.2	mb. 12.3	mb. 12.5	mb. 12.8	mb. 13.0	mb. 13.0	mb. 13.3	mb. 13.3	mb. 13.5	mb. 13.7	mb. 13.6	mb. 13.7	mb. 13.6	mb. 13.5	mb. 13.2	mb. 13.1	mb. 13.1	mb. 12.8	mb. 12.5	mb. 12.5	mb. 13.0							
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean						

\* Computed from the mean temperatures and the mean relative humidity.

† Mean of the column.

†Mean of the row.



RELATIVE HUMIDITY  
Percentages at exact hours, Greenwich Mean Time.

379. CAHIRCIVEEN (Valentia Observatory): North Wall Screen:  $h_t$  (height of thermometer bulbs above ground) = 1.3 metres.

JULY, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	Vapour Pressure*
Day	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.
1	96	94	95	92	91	94	86	79	81	74	63	74	75	76	66	71	73	83	80	82	86	87	89	90	82.5	14.3
2	89	89	85	83	87	89	86	82	78	74	67	72	66	71	83	81	82	82	80	83	85	77	84	83	80.9	17.1
3	82	83	82	84	87	88	82	78	74	70	72	74	78	76	73	74	66	73	75	74	80	82	85	89	78.3	17.8
4	90	89	89	91	91	89	88	81	75	71	69	76	73	72	70	67	71	68	67	74	74	71	80	82	78.0	18.1
5	80	82	84	80	75	69	53	44	50	62	56	62	64	61	58	62	63	64	67	67	68	72	75	81	66.4	16.3
6	83	84	83	81	78	75	67	65	55	53	63	66	67	68	67	65	60	59	70	74	80	75	77	80	70.6	17.5
7	77	77	72	80	84	87	86	90	89	90	87	83	85	80	81	90	85	87	83	82	84	80	78	83	83.3	16.7
8	86	86	87	87	88	88	86	88	77	78	81	80	81	82	78	79	77	79	77	83	80	83	81	82	82.3	16.0
9	85	88	88	85	86	85	88	88	95	91	91	90	93	92	92	95	93	86	86	82	84	81	85	85	88.3	16.8
10	82	84	84	83	83	85	87	88	87	85	85	86	89	90	84	83	83	87	89	90	91	91	90	91	86.4	15.6
11	91	90	91	90	91	90	91	93	91	91	91	90	87	86	93	92	89	85	85	89	90	91	92	91	90.0	16.4
12	90	90	89	90	90	90	91	93	88	77	83	87	85	84	81	79	81	80	81	81	88	88	92	92	86.2	15.1
13	93	92	91	90	89	88	92	91	89	90	89	85	80	79	80	80	85	85	93	90	89	90	89	89	87.9	16.5
14	88	85	87	90	86	82	84	80	79	73	79	79	78	74	75	83	85	92	90	87	89	88	89	87	83.7	14.1
15	89	91	91	90	89	95	89	90	84	77	80	85	72	70	72	72	74	75	76	78	83	83	85	83	82.3	13.3
16	82	85	85	87	85	78	77	76	71	72	74	77	78	76	74	80	77	81	82	84	87	88	93	93	80.7	13.9
17	91	94	96	94	96	96	97	98	94	93	97	93	92	90	90	91	91	90	92	96	96	94	94	98	93.8	17.7
18	98	98	94	93	96	97	97	94	93	86	85	85	81	84	84	84	86	89	89	90	85	87	89	90	90.1	16.9
19	93	91	94	94	94	91	88	84	86	89	85	83	74	73	80	79	83	81	80	83	88	84	86	90	85.7	15.7
20	86	85	87	90	76	78	78	75	74	79	72	74	77	75	71	74	74	76	77	78	85	88	88	89	79.5	14.0
21	89	93	90	90	90	94	91	82	75	82	80	80	82	82	85	80	81	85	82	84	85	85	85	87	85.0	16.3
22	89	90	91	92	94	97	96	95	90	90	91	88	88	87	84	83	89	87	91	90	92	91	88	91	90.1	17.5
23	91	92	97	93	93	94	91	90	88	87	84	81	84	84	80	80	81	86	85	91	91	91	93	92	88.3	16.9
24	93	96	95	95	92	93	96	91	89	90	87	85	85	85	85	86	89	89	90	90	93	93	93	95	90.6	17.9
25	93	92	90	89	92	93	94	96	97	91	92	89	88	86	86	81	82	86	93	93	93	96	94	97	90.9	17.2
26	96	94	96	97	93	91	85	80	73	70	71	71	65	67	68	70	73	74	72	77	85	88	88	87	80.7	14.8
27	90	90	90	84	83	87	88	90	88	83	79	76	71	69	66	70	69	70	70	74	84	85	86	88	80.4	13.7
28	85	89	89	93	94	92	92	86	81	86	82	82	78	81	75	81	81	84	80	82	79	81	75	76	84.2	15.8
29	83	77	78	78	80	81	84	84	85	88	78	80	77	80	72	84	86	81	81	81	80	86	91	91	81.6	14.7
30	94	95	94	96	94	89	89	87	87	94	93	95	95	96	94	89	83	84	84	89	88	87	80	71	89.9	15.8
31	79	75	72	77	74	69	71	76	73	71	75	76	74	74	75	77	79	84	86	85	86	86	85	86	77.4	13.7
Mean	88.2	88.4	88.3	88.5	87.8	87.6	86.1	84.5	82.0	80.7	80.2	80.8	79.3	79.2	78.2	79.2	79.7	81.2	81.6	83.5	85.3	85.5	86.3	87.4	83.7	†15.8
Vapour Pressure *	mb. 15.2	mb. 15.2	mb. 15.2	mb. 15.0	mb. 14.9	mb. 15.1	mb. 15.4	mb. 15.8	mb. 16.0	mb. 16.1	mb. 16.3	mb. 16.6	mb. 16.8	mb. 16.7	mb. 16.5	mb. 16.7	mb. 16.5	mb. 16.3	mb. 16.0	mb. 15.9	mb. 15.7	mb. 15.5	mb. 15.4	mb. 15.4	mb. †15.8	

380. CAHIRCIVEEN (Valentia Observatory): North Wall Screen:  $h_t$  = 1.3 metres.

AUGUST, 1933.

Day	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.
1	87	86	86	90	91	91	91	90	84	82	80	78	78	75	76	76	78	79	80	80	85	85	87	88	83.4	15.2
2	88	90	90	91	91	91	94	92	90	90	87	86	86	86	84	85	85	87	90	88	91	92	92	92	89.3	17.4
3	92	91	92	92	92	92	92	94	91	90	88	85	83	85	86	85	83	85	86	90	95	92	94	96	89.8	17.6
4	95	95	95	96	96	94	91	82	74	72	72	75	73	76	75	75	77	78	83	86	86	88	90	90	84.0	18.3
5	90	92	89	91	91	93	91	87	80	73	73	73	73	70	71	73	69	77	80	83	87	87	89	87	82.1	19.1
6	89	90	91	92	94	94	93	92	86	84	82	83	82	83	85	85	84	84	81	88	83	82	81	84	86.4	18.3
7	84	88	88	88	90	91	89	87	79	81	79	78	75	75	80	86	88	93	95	96	95	95	96	97	86.9	16.6
8	91	93	90	87	89	94	91	88	85	78	78	80	76	79	81	80	84	86	87	92	95	92	94	95	86.9	16.8
9	93	94	94	94	96	95	91	89	86	82	78	74	72	68	72	68	62	67	72	72	78	76	74	78	80.6	14.9
10	80	82	84	83	86	82	78	69	67	63	60	61	63	57	57	61	64	67	63	70	73	79	81	85	71.3	12.9
11	84	83	88	87	89	90	90	76	63	60	58	57	61	64	63	63	62	67	72	81	82	86	84	87	74.8	13.9
12	88	89	89	90	90	89	88	82	78	75	60	57	64	69	76	73	71	75	79	83	84	86	88	76	79.6	14.9
13	78	84	86	92	91	88	89	87	86	81	77	75	75	81	93	90	91	87	88	87	89	90	90	93	85.8	17.1
14	93	95	93	93	92	85	80	77	74	75	70	75	71	69	66	70	74	72	74	80	86	86	90	89	80.6	14.6
15	93	93	90	89	88	87	89	88	88	84	74	74	71	81	76	78	78	76	76	71	74	73	73	81.3	14.8	
16	72	78	81	80	80	82	87	82	84	75	74	68	70	70	67	69	78	73	77	73	76	78	75	82	76.1	13.5
17	80	81	86	89	87	91	90	87	84	85	86	88	84	82	80	76	79	82	80	80	80	81	80	81	83.3	16.4
18	82	82	82	80	80	85	86	88	84	84	83	80	81	80	79	81	84	84	88	87	83	83	80	82.9	16.3	
19	84	73	76	67	74	75	79	73	69	74	75	90	71	75	73	75	78	75	78	76	78	81	81	81	76.3	13.8
20	81	81	82	78	77	77	76	73	75	70	70	74	77	82	78	70	69	78	70	69	79	80	78	83	76.1	13.1
21	85	88	85	83	88	86	88	79	80	77	80	69	69	75	68	76	77	80	88	82	87	88	93	93	81.6	12.9
22	95	95	94	94	95	93	96	96	94	96	92	91	93	93	92	89	88	89	89	87	88	84	88	85	91.7	14.9
23	87	82	85	84	85	90	92	85	68	72	72	66	69	65	68	69	72	74	78	83	85	87	87	91	78.9	13.7
24	95	94	96	94	98	98	94	95	90	87	85	84	86	85	87	86	85	89	90	87	91	93	94	95	90.7	17.0
25	96	96	96	97	97	98	97	97	96	93	93	91	89	86	86	82	86	86	86	87	88	87	90	89	91.5	17.9
26	90	91	92	91	91	92	92	90	93	92	92	91	90	90	87	87	85	91	91	91	93	94	95	95	91.0	18.3
27	96	95	96	98	98	97	97	98	94	95	96	95	93	91	91	95	96	95	95	95	95	95	94	97	95.3	19.5
28	94	88	90	91	90	86	85	84	82	78	80	80	73	82	79	84	78	81	85	88	90	90	90	94	85.1	15.1
29	91	94	94	92	94	96	91	92	83	86	83	81	73	73	76	76	78	79	86	81	84	81	79	84.4	14.8	
30	78	77	82	81	79	78	81	76	71	72	70	68	67	68	66	69	69	69	75	82	86	84	88	87	75.8	13.1
31	87	88	88	89	89	89	89	87	85	78	80	80	80	80	80	81	81	83	87	88	91	90	89	90	85.3	14.5
Mean	87.7	88.0	88.7	88.5	89.3	89.3	88.9	85.9	82.0	80.1	78.3	77.7	76.4	77.3	77.3	77.8	78.5	80.4	81.8	83.8	85.7	86.2	86.7	87.5	83.5	+15.7
Vapour Pressure *	mb. 15.0	mb. 15.0	mb. 15.0	mb. 15.0	mb. 15.0	mb. 14.9	mb. 15.4	mb. 15.7	mb. 15.6	mb. 15.8	mb. 16.0	mb. 16.1	mb. 16.3	mb. 16.4	mb. 16.4	mb. 16.3	mb. 16.1	mb. 16.0	mb. 16.8	mb. 16.6	mb. 16.5	mb. 16.3	mb. 16.2	mb. 16.2	mb. 15.6	
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	



Percentages at exact hours, Greenwich Mean Time.

381. CAHIRCIVEEN (Valentia Observatory): North Wall Screen:  $h_t$  (height of thermometer bulbs above ground) = 1.3 metres.

SEPTEMBER, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	Vapour Pressure*	
Day	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.	
1	90	90	90	90	89	89	91	92	94	97	96	95	97	97	97	97	97	98	98	98	98	97	97	97	97	94.5	18.2
2	95	95	96	96	96	96	95	93	90	83	80	80	79	82	86	79	86	74	83	83	83	85	88	88	88	87.3	17.2
3	87	90	89	90	91	92	92	92	85	80	74	76	77	79	73	76	73	75	78	88	79	87	87	87	89	83.3	14.7
4	87	88	89	92	93	94	89	83	83	83	80	74	78	82	80	85	81	86	90	89	77	76	76	76	84.1	17.6	
5	70	74	74	77	77	80	82	79	75	70	74	76	79	75	80	82	84	87	87	89	89	89	90	86	80.5	16.9	
6	78	81	84	86	86	82	80	80	80	73	71	78	83	81	73	70	73	74	77	76	72	73	76	79	77.9	13.5	
7	80	79	81	75	73	77	76	73	69	67	70	71	71	71	70	72	76	78	80	81	77	80	77	74.8	13.2		
8	70	75	79	83	88	78	70	70	72	69	67	62	58	60	58	58	58	62	66	69	72	74	72	80	69.5	12.6	
9	86	86	86	87	72	76	76	71	74	71	71	66	60	59	56	58	58	63	64	71	76	70	71	74	71.0	13.0	
10	77	82	82	75	70	72	74	76	72	72	74	68	60	58	58	55	55	60	60	63	68	70	70	70	68.5	13.2	
11	71	78	77	77	78	83	65	76	64	67	63	56	55	53	52	55	58	62	73	73	78	78	84	85	68.9	12.8	
12	88	87	88	87	89	91	89	89	82	71	63	60	63	57	61	63	65	74	74	79	78	81	76	72	76.4	13.3	
13	77	83	83	86	85	87	86	87	88	64	63	61	62	61	63	66	69	67	76	77	73	73	65	74	74.0	11.8	
14	72	74	71	74	72	83	81	83	70	59	56	55	53	63	60	63	64	72	78	76	80	86	89	88	71.5	9.3	
15	86	72	75	76	76	81	83	74	71	67	63	65	62	63	62	65	68	72	70	76	71	75	74	74	72.0	11.4	
16	77	76	75	76	79	78	79	81	84	92	89	86	84	82	85	85	86	86	88	89	89	90	88	88	83.5	16.2	
17	86	86	83	85	86	91	90	87	86	93	93	92	88	90	95	93	91	90	91	82	82	77	79	79	87.5	17.5	
18	76	73	73	74	77	78	81	80	77	77	76	74	73	73	75	78	78	82	82	82	88	90	89	92	78.8	14.1	
19	91	91	90	90	89	88	90	92	86	82	75	80	71	68	69	82	83	77	84	86	86	86	84	84	83.6	13.4	
20	75	77	86	87	86	87	87	87	88	89	92	82	72	70	74	64	64	70	70	69	77	69	67	72	77.8	10.7	
21	77	76	73	68	87	75	74	75	82	80	80	76	72	68	71	76	73	85	90	81	89	91	89	87	78.6	12.6	
22	92	89	93	94	90	94	91	85	85	82	79	80	83	85	89	93	93	92	92	91	88	83	82	87	88.0	13.8	
23	88	85	81	85	86	86	85	84	83	82	77	83	85	88	89	89	89	90	89	90	90	89	87	85	86.1	13.5	
24	86	87	81	82	80	77	77	82	78	74	70	66	63	64	67	64	67	68	70	72	73	69	67	70	73.4	11.9	
25	68	71	74	71	73	76	74	76	72	77	71	73	73	70	70	72	74	76	84	84	81	78	80	85	74.8	13.0	
26	85	88	86	87	87	88	89	86	82	80	81	78	77	76	77	77	76	80	83	85	90	82	81	86	82.8	13.8	
27	89	83	86	86	92	90	89	89	86	74	72	68	66	65	67	69	68	79	82	83	88	89	87	88	80.6	12.4	
28	93	90	91	92	95	94	96	95	95	73	66	66	62	66	68	75	80	84	88	88	90	91	90	93	84.1	12.7	
29	94	94	94	92	96	98	96	96	94	90	88	81	84	78	77	80	80	87	82	87	80	87	88	84	88.0	13.6	
30	87	84	84	83	82	86	89	87	85	84	76	78	75	76	75	75	80	80	86	87	87	90	93	93	83.2	14.2	
Mean	82.9	82.8	83.1	83.4	84.0	84.9	83.9	83.3	81.1	77.5	75.0	73.5	72.2	72.0	72.6	73.8	74.8	77.6	80.4	81.4	81.8	81.7	81.5	82.7	79.5	†13.7	
Vapour Pressure *	mb. 12.9	mb. 12.8	mb. 12.6	mb. 12.5	mb. 12.7	mb. 12.8	mb. 12.8	mb. 13.4	mb. 13.9	mb. 13.9	mb. 14.1	mb. 14.2	mb. 14.3	mb. 14.4	mb. 14.4	mb. 14.5	mb. 14.5	mb. 14.5	mb. 14.3	mb. 13.9	mb. 13.7	mb. 13.4	mb. 13.1	mb. 12.9	mb. 13.6		

382. CAHIRCIVEEN (Valentia Observatory): North Wall Screen  $h_t$  = 1.3 metres.

OCTOBER, 1933.

Day	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.	
1	92	94	93	95	94	90	90	89	88	87	82	79	74	70	74	74	75	77	76	74	77	81	84	85	83.3	13.8
2	85	85	85	85	83	84	87	87	84	83	81	73	78	77	78	79	82	79	82	80	77	81	80	85	81.7	14.0
3	87	91	88	87	86	84	79	82	77	77	60	60	59	60	60	60	61	62	66	70	76	79	78	83	73.9	10.8
4	83	88	88	91	93	93	91	93	96	81	71	68	65	62	70	68	71	74	75	78	87	85	87	89	81.0	10.7
5	92	90	86	85	80	77	83	87	82	80	82	78	70	76	84	81	86	88	88	87	85	81	76	84	82.9	13.2
6	77	83	82	78	77	78	80	81	78	74	76	76	77	77	79	76	84	82	83	84	86	88	88	90	80.5	12.9
7	90	90	90	91	91	89	94	91	90	85	84	84	84	80	79	80	86	87	87	88	90	90	93	94	87.7	14.4
8	94	94	94	91	94	94	97	94	94	92	84	80	81	83	86	83	82	83	86	87	87	84	82	79	88.0	14.1
9	84	87	85	84	87	92	91	91	91	92	82	83	76	77	75	73	76	80	83	74	75	82	86	76	82.6	12.8
10	67	69	67	66	72	69	66	74	69	71	77	83	84	85	87	83	85	87	84	87	84	81	81	81	77.4	10.8
11	79	74	72	72	74	69	71	75	70	69	73	65	62	76	70	69	70	71	78	77	87	68	74	72	72.6	10.3
12	67	69	79	75	77	76	71	75	77	69	65	67	75	80	85	78	79	86	78	83	77	83	91	89	76.8	11.1
13	88	85	87	88	86	86	84	86	83	82	78	83	78	83	90	93	94	92	93	93	96	92	86	85	87.2	13.3
14	87	80	83	77	81	89	78	82	75	74	70	74	69	70	72	76	80	83	82	83	74	76	75	76	77.9	11.4
15	76	78	77	87	76	82	87	87	78	81	79	88	77	73	76	64	73	67	82	70	76	69	70	73	76.4	11.0
16	60	68	69	75	75	70	64	69	69	61	62	65	62	63	74	59	63	67	62	61	63	67	64	62	65.8	8.7
17	61	64	74	71	78	80	82	83	87	87	77	81	77	77	80	81	83	78	74	72	77	78	77	76	77.0	10.9
18	72	69	74	70	73	88	85	82	78	73	76	75	84	91	91	94	90	91	94	93	91	94	94	89	83.5	13.0
19	92	87	88	89	91	91	92	93	89	88	88	80	73	73	73	73	76	80	78	83	81	79	80	81	83.4	11.1
20	78	88	94	91	93	89	93	89	85	79	82	76	74	73	67	67	62	58	65	64	56	59	67	71	76.0	10.7
21	71	82	80	75	78	78	86	82	84	75	75	74	69	76	78	78	81	80	80	83	83	87	89	78.8	10.1	
22	91	87	87	84	81	87	88	87	89	86	78	79	80	72	74	76	78	75	78	76	84	85	84	82.0	11.3	
23	83	79	82	79	83	87	85	86	84	86	81	80	72	77	76	74	76	78	78	76	82	80	81	80	80.3	11.5
24	85	86	87	89	90	92	89	89	87	83	79	80	83	82	83	87	89	81	81	78	77	80	80	79	84.0	11.8
25	82	78	77	79	75	77	76	75	79	70	68	63	62	57	56	57	54	58	65	63	58	62	64	61	67.7	8.5
26	56	59	57	56	61	64	61	63	65	64	67	66	55	60	63	67	63	69	71	67	55	61	64	82	62.7	7.0
27	71	75	65	84	79	79	86	69	66	71	72	79	72	71	82	78	78	80	80	73	71	60	76	74	74.8	7.8
28	78	68	66	62	80	77	69	72	72	72	74	66	69	74	77	70	73	76	83	75	67	69	63	64	71.7	7.7
29	67	69	78	75	76	75	84	87	81	71	81	72	73	74	71	66	73	73	66	68	70	78	72	81	73.9	8.8
30	79	81	69	75	74	76	73	70	79	70	77	74	64	68	75	70	69	69	76	80	89	91	94	93	76.2	8.9
31	93	87	89	83	86	75	89	77	64	63	63	63	69	63	69	66	71	56	75	76	82	68	70	73	74.2	9.8
Mean	79.6	80.1	80.3	80.3	81.4	81.8	82.3	82.1	80.3	77.3	75.6	74.7	72.5	73.5	75.9	74.2	78.0	76.3	78.0	77.4	77.9	77.9	79.0	80.0	78.1	†11.0
Vapour Pressure *	mb. 10.7	mb. 10.7	mb. 10.8	mb. 10.7	mb. 10.8	mb. 10.7	mb. 10.7	mb. 10.8	mb. 10.9	mb. 11.1	mb. 11.1	mb. 11.1	mb. 11.1	mb. 11.1	mb. 11.4	mb. 11.0	mb. 11.1	mb. 10.9	mb. 10.9	mb. 10.8	mb. 10.7	mb. 10.7	mb. 10.8	mb. 10.8	mb. 11.0	
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	



Percentages at exact hours, Greenwich Mean Time.

383. CAHIRCIVEEN (Valentia Observatory): North Wall Screen:  $h_t$  (height of thermometer bulbs above ground) = 1.3 metres.

NOVEMBER, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	Vapour Pressure*
Day	72	83	80	80	80	87	75	76	77	76	78	81	78	78	82	82	79	83	82	84	80	84	85	85	80.0	mb.
1	72	83	80	80	80	87	75	76	77	76	78	81	78	78	82	82	79	83	82	84	80	84	85	85	80.0	10.9
2	83	80	80	78	79	82	90	85	79	73	59	64	64	57	63	56	58	59	62	71	70	80	79	80	71.3	9.3
3	77	69	71	62	62	62	65	67	68	70	61	59	57	61	61	63	76	73	74	67	71	70	73	70	67.2	7.6
4	66	71	72	78	78	71	74	71	74	70	69	70	68	67	70	68	73	74	81	73	69	69	76	78	71.9	7.8
5	81	86	87	89	92	92	94	93	95	89	88	83	73	78	75	76	79	77	79	74	72	75	76	75	82.5	10.3
6	80	82	85	83	92	96	95	92	93	89	85	88	88	83	81	87	81	84	87	86	79	83	79	80	85.6	11.4
7	83	79	76	75	78	82	87	86	84	80	79	79	79	79	75	77	76	80	81	78	80	80	86	76	79.9	9.7
8	77	86	86	81	81	88	88	88	88	86	83	84	80	77	87	88	91	94	94	95	95	95	92	92	87.0	10.2
9	95	96	94	94	95	87	89	83	87	83	74	70	70	72	71	73	75	79	73	73	76	74	80	80	81.2	10.4
10	73	73	74	68	74	78	76	77	83	82	72	72	72	63	59	63	77	81	81	82	83	88	88	87	75.9	8.9
11	93	91	88	91	91	93	87	96	92	96	88	76	67	72	74	66	69	70	67	62	72	79	70	66	80.3	8.7
12	78	79	76	69	71	72	71	74	80	74	75	83	75	76	86	86	86	83	79	84	83	91	93	88	79.2	9.4
13	87	89	92	93	93	93	94	76	74	57	63	64	63	62	66	65	67	77	84	70	75	74	75	77	76.5	9.4
14	76	74	80	83	77	81	87	89	88	89	88	92	94	96	93	83	75	76	75	75	72	74	73	71	81.8	9.8
15	72	71	72	73	76	85	87	80	87	86	81	82	76	87	84	76	82	86	84	83	86	83	82	80	80.7	8.9
16	78	75	82	78	82	81	82	81	79	77	77	76	78	70	70	74	70	72	72	72	78	79	74	77	76.5	8.0
17	78	72	76	76	73	72	80	75	69	69	64	65	59	62	63	65	65	70	72	71	80	79	75	75	71.1	6.3
18	77	78	83	78	81	80	79	79	73	75	74	71	78	72	76	81	73	76	82	84	84	77	78	84	77.9	6.7
19	84	88	87	85	83	87	86	85	87	90	90	88	86	87	84	87	89	87	87	88	94	94	89	89	87.4	8.9
20	88	86	87	84	82	87	93	95	86	83	71	69	66	67	70	71	71	66	61	61	65	63	73	68	76.0	8.8
21	68	67	77	78	74	72	84	83	87	84	81	73	61	60	61	65	68	78	83	84	84	89	87	84	76.0	6.7
22	85	87	87	81	91	83	85	85	84	86	90	83	78	79	79	81	83	82	81	81	79	77	74	74	82.5	7.3
23	76	77	81	81	81	81	83	80	74	74	74	73	74	71	71	74	75	75	70	69	75	84	76	83	76.4	9.1
24	79	81	84	84	84	84	84	84	90	90	88	83	86	77	80	84	87	88	88	93	89	91	93	86	85.6	9.6
25	85	88	87	88	87	88	88	88	84	85	84	85	78	77	72	82	77	80	85	78	72	69	69	64	81.3	7.2
26	64	69	73	70	70	65	63	62	63	63	66	61	60	62	71	68	67	69	63	61	62	64	59	65	65.0	6.5
27	65	62	67	71	70	67	63	65	63	59	56	51	53	56	57	56	56	59	60	67	69	66	68	72	62.3	7.1
28	71	72	72	76	78	80	79	84	80	78	76	74	74	70	70	71	74	76	78	79	79	80	80	80	76.0	9.0
29	80	79	80	86	87	87	88	88	88	85	84	85	85	83	81	80	79	77	79	79	77	79	79	82	82.3	10.4
30	82	82	81	80	80	77	77	81	84	82	88	93	96	95	95	95	96	94	91	91	91	89	83	77	86.8	11.6
Mean	78.4	79.1	80.6	80.0	80.7	81.3	82.4	81.7	81.5	79.3	76.9	75.9	73.9	73.2	74.2	74.7	75.8	77.5	77.7	76.8	78.1	78.9	78.8	78.1	78.1	78.9
Vapour Pressure *	mb. 8.5	mb. 8.5	mb. 8.7	mb. 8.6	mb. 8.7	mb. 8.7	mb. 8.8	mb. 8.8	mb. 8.8	mb. 8.8	mb. 8.9	mb. 9.1	mb. 9.0	mb. 8.9	mb. 9.1	mb. 8.9	mb. 8.8	mb. 8.8	mb. 8.7	mb. 8.6	mb. 8.7	mb. 8.7	mb. 8.6	mb. 8.5	mb. 8.8	

384 CAHIRCIVEEN (Valentia Observatory): North Wall Screen:  $h_t$  = 1.3 metres.

DECEMBER, 1933.

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	mb.	
1	78	83	83	83	84	87	87	87	78	79	79	76	78	74	62	60	66	67	66	64	76	71	74	79	81	75.5	9.1
2	85	87	84	89	87	89	89	89	87	91	93	89	69	74	70	80	80	84	85	84	87	87	88	84	84.6	6.9	
3	88	77	74	70	66	67	71	63	66	66	68	70	68	70	71	71	69	72	75	74	69	73	61	67	70.6	6.0	
4	50	52	56	52	37	50	53	55	48	55	57	53	56	57	59	60	55	62	66	66	70	70	68	62	57.1	4.5	
5	61	62	64	68	62	64	69	70	71	71	75	77	75	74	74	75	75	75	79	74	82	83	84	80	72.3	6.1	
6	78	78	77	79	79	79	79	78	79	78	73	76	76	77	75	73	78	76	76	77	77	77	78	77	77.1	8.1	
7	79	71	74	73	73	76	72	75	80	77	73	71	71	70	71	83	83	81	85	80	82	85	80	82	76.9	7.6	
8	82	74	69	73	76	77	68	58	55	54	50	53	57	55	55	63	64	59	57	64	61	60	58	60	63.0	5.2	
9	64	62	62	61	62	69	62	61	61	61	61	66	68	70	75	74	79	80	74	78	74	74	73	79	67.9	5.0	
10	73	70	74	75	75	75	77	78	80	84	82	74	69	67	67	74	80	81	82	82	78	75	77	77	76.1	4.9	
11	75	73	71	71	70	70	78	78	78	79	80	78	78	68	82	80	85	87	89	89	91	94	90	79	79.7	5.9	
12	85	82	81	78	82	75	68	72	67	67	79	66	87	68	84	71	83	77	74	78	82	80	93	81	77.5	6.9	
13	79	82	82	79	84	85	76	73	68	67	70	78	78	74	68	67	65	52	59	57	62	66	63	62	71.1	5.5	
14	65	66	68	69	65	65	69	70	68	59	59	61	60	57	56	58	63	66	68	65	72	78	78	84	65.7	4.8	
15	85	87	92	91	92	85	74	74	74	78	70	69	69	68	70	72	73	77	75	79	82	81	85	83	78.6	6.7	
16	83	85	88	88	88	82	85	88	88	89	86	87	86	88	88	84	89	88	91	89	88	87	89	88	87.1	8.1	
17	85	85	91	90	91	93	91	93	91	91	91	86	85	78	78	73	76	81	82	82	82	83	85	85	85.4	8.8	
18	85	85	86	88	85	83	86	89	90	86	88	88	86	89	91	88	88	88	88	88	88	85	81	79	86.6	9.4	
19	85	83	85	82	78	84	82	78	77	78	76	75	75	73	76	73	73	74	79	77	76	75	72	72	77.6	8.0	
20	71	71	68	69	72	71	71	69	71	78	73	73	74	73	75	77	73	73	77	77	68	73	72	69	72.5	8.1	
21	74	76	72	72	74	75	80	84	86	83	87	88	87	92	88	87	87	87	87	87	88	89	92	89	83.4	10.0	
22	91	94	94	94	93	92	92	91	89	91	91	90	90	90	88	90	89	87	87	86	83	78	76	75	88.7	11.1	
23	76	76	75	74	73	73	72	70	70	70	69	72	72	71	71	75	76	76	76	75	74	84	87	86	74.4	8.9	
24	87	89	89	95	94	94	95	94	94	94	95	94	93	89	92	93	95	96	95	96	96	95	95	96	93.3	11.8	
25	94	96	95	98	96	95	95	95	95	94	95	95	86	86	80	80	77	79	82	86	86	81	77	78	88.5	10.2	
26	77	83	81	83	87	92	87	90	87	88	85	87	85	87	76	80	84	87	90	91	90	90	85	85	85.6	7.1	
27	89	89	84	79	81	86	88	87	91	87	93	91	88	86	72	79	69	71	67	69	63	71	62	62	80.0	7.5	
28	84	62	65	59	62	64	79	67	86	76	85	84	84	83	82	78	74	74	69	68	65	70	68	70	72.3	6.8	
29	81	80	83	86	84	85	83	85	85	87	89	87	82	82	93	94	93	83	73	73	76	69	71	73	82.3	7.3	
30	65	69	79	72	72	70	79	71	68	62	62	61	71	70	61	60	56	57	56	61	59	64	67	67	65.9	6.9	
31	70	78	83	80	83	83	81	75	72	76	79	84	88	87	91	93	93	89	95	94	92	94	94	93	84.7	9.3	
Mean	77.5	77.6	78.3	78.1	77.7	78.3	78.7	77.4	77.4	77.3	77.7	77.1	77.0	75.2	75.5	76.3	77.2	77.0	77.6	78.1	77.9	78.9	78.3	77.6	77.5	77.5	
Vapour Pressure *	mb. 7.2	mb. 7.2	mb. 7.2	mb. 7.2	mb. 7.1	mb. 7.2	mb. 7.3	mb. 7.2	mb. 7.2	mb. 7.3	mb. 7.5	mb. 7.6	mb. 7.8	mb. 7.7	mb. 7.7	mb. 7.5	mb. 7.4	mb. 7.3	mb. 7.3	mb. 7.3	mb. 7.2	mb. 7.3	mb. 7.2	mb. 7.2	mb. 7.3		
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean		



385. CAHIRCIVEEN (Valentia Observatory): North Wall Screen:  $h_t = 1.3$  metres.

1933.

Hour G. M. T.	1	2	3	4	5	6	7	8	9	10	11	Noon.	13	14	15	16	17	18	19	20	21	22	23	24	Mean.
Relative Humidity.	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Vapour Pressure in Millibars.*	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb	mb.
	10.3	10.2	10.2	10.2	10.2	10.2	10.4	10.5	10.5	10.7	10.8	10.9	11.0	11.0	11.1	11.0	10.9	10.8	10.8	10.6	10.6	10.5	10.4	10.4	10.6

\* Computed from the mean temperature and mean relative humidity.

RELATIVE HUMIDITY: MONTHLY MEANS AND DIURNAL INEQUALITIES.  
The departures from the mean of the day are adjusted for non-cyclic change.†

386. CAHIRCIVEEN (Valentia Observatory): North Wall Screen:  $h_t = 1.3$  metres.

1933.

MONTH.	Mean.	Hour 1	G.M.T. 2	3	4	5	6	7	8	9	10	11	Noon.	13	14	15	16	17	18	19	20	21	22	23	24.
January	79.2	+1.2	+0.1	-0.2	+0.3	+0.4	+1.2	-0.9	+0.9	+0.7	+1.4	+0.5	-1.5	-4.0	-3.5	-3.5	-2.1	-0.1	-0.4	+0.8	+1.3	+2.3	+2.1	+1.8	+1.2
February	78.3	+2.0	+2.9	+2.5	+2.5	+2.4	+2.5	+1.4	+2.1	+0.7	-1.0	-0.8	-3.8	-4.1	-4.7	-5.4	-5.1	-2.5	-0.2	+1.1	+0.4	+1.5	+1.4	+1.9	+2.3
March	80.6	+3.3	+2.4	+2.6	+2.4	+3.3	+3.3	+2.5	+1.0	0.0	-0.4	-4.0	-4.0	-3.6	-5.8	-5.0	-3.6	-2.7	-0.4	+1.3	+0.3	+0.7	+1.6	+1.7	+3.1
April	77.2	+4.1	+3.5	+3.9	+3.2	+3.4	+3.6	+3.7	+0.8	-1.8	-3.5	-4.4	-5.1	-5.8	-5.5	-5.3	-4.2	-4.0	-2.2	-0.3	+1.6	+3.4	+3.8	+3.4	+3.7
May	84.0	+4.1	+4.3	+3.7	+3.9	+4.7	+4.1	+2.8	+0.6	-1.9	-3.6	-4.6	-4.8	-4.3	-4.5	-5.0	-3.8	-3.5	-2.4	-1.9	+0.4	+2.5	+2.6	+2.8	+3.8
June	83.0	+3.2	+3.2	+2.4	+3.2	+2.9	+2.0	+1.6	0.0	-2.6	-2.7	-3.1	-3.4	-3.3	-3.7	-3.0	-2.3	-2.5	-1.4	-1.4	0.0	+1.9	+2.5	+3.2	+3.3
July	83.7	+4.3	+4.5	+4.4	+4.6	+3.9	+3.8	+2.3	+0.8	-1.8	-3.1	-3.6	-2.9	-4.4	-4.5	-5.5	-4.5	-3.9	-2.4	-2.0	-0.2	+1.7	+2.0	+2.7	+3.8
August	83.5	+4.1	+4.5	+5.2	+4.9	+5.8	+6.8	+5.4	+2.4	-1.5	-3.4	-5.2	-5.9	-7.1	-6.2	-6.1	-5.6	-5.0	-3.1	-1.6	+0.4	+1.2	+2.7	+3.3	+4.0
September	79.5	+3.5	+3.3	+3.7	+4.0	+4.5	+5.4	+4.4	+3.8	+1.6	-2.0	-4.5	-6.0	-7.3	-7.5	-6.9	-5.7	-4.8	-1.9	+0.9	+1.9	+2.2	+2.2	+2.0	+3.2
October	78.1	+1.2	+1.7	+2.0	+2.0	+3.1	+3.6	+4.0	+3.9	+2.1	-0.9	-2.5	-3.5	-5.6	-4.5	-2.2	-3.8	-2.0	-1.6	+0.1	-0.5	0.0	+0.1	+1.2	+2.2
November	78.1	+0.4	+1.0	+2.5	+1.7	+2.6	+3.2	+4.3	+3.6	+3.4	+1.2	-1.3	-2.2	-4.3	-4.9	-3.9	-3.4	-2.4	-0.7	-0.5	-1.4	-0.1	+0.7	+0.6	-0.1
December	77.5	+0.3	+0.4	+1.1	+0.8	+0.3	+0.9	+1.3	0.0	0.0	-0.1	+0.3	-0.3	-0.5	-2.4	-2.1	-1.3	-0.4	-0.6	0.0	+0.5	+0.2	+1.2	+0.6	-0.2
Year	80.2	+2.6	+2.7	+2.8	+2.8	+3.1	+3.4	+2.7	+1.7	-0.1	-1.5	-2.8	-3.6	-4.5	-4.8	-4.5	-3.8	-2.8	-1.4	-0.3	+0.4	+1.5	+1.9	+2.1	+2.5

† See page 21.

#### RAINFALL: ANNUAL TOTALS OF HOURLY VALUES.

Amounts, in millimetres; durations in hours for periods of sixty minutes between the exact hours, Greenwich Mean Time.

387. CAHIRCIVEEN (Valentia Observatory):  $H_r$  (height of receiving surface above M.S.L.) =  $H$  (height of station above M.S.L.) +  $h_r$  (height of receiving surface above ground) = 9.1 metres + 0.5 metre.

1933.

1955.

Hour G. M. T.	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to Noon	Noon. to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	21 to 22	22 to 23	23 to 24	0 to 24
Amount.	41.7	45.1	54.2	48.8	48.7	57.9	49.2	56.5	49.2	52.4	53.4	52.2	40.8	45.2	57.3	50.8	54.8	48.5	38.7	41.3	41.6	39.0	41.1	38.2	1146.6
Duration	hr 26.4	hr 29.8	hr 29.7	hr 32.3	hr 30.3	hr 35.8	hr 33.2	hr 30.7	hr 27.2	hr 28.8	hr 22.9	hr 20.8	hr 26.8	hr 34.3	hr 32.5	hr 30.7	hr 28.1	hr 24.4	hr 22.1	hr 26.0	hr 22.2	hr 25.8	hr 23.7	hr 674.8	

#### NOTES ON RAINFALL.

388. CAHIRCIVEEN (Valentia Observatory):

1933.

##### Notable Falls of the Year:-

Details of the greatest continuous falls are as follows:-

Date.	Amount.	Duration.
	mm.	hrs.
March 8	21	8.2
March 23	27	14.9
April 22	24	8.0
August 25	20	3.9
December 1	28	4.5

There were no "noteworthy" falls in short periods.

The greatest fall in the year between one exact hour and the next was 8.0 mm. between 2h and 3h on December 1st.

##### Dry Periods:-

The longest period without rain was the 15 days from September 24th. to October 8th. (absolute drought). Other long periods without rain were as follows:- April 12th to 21st., June 25th to July 6th., and September 2nd. to 15th.

##### Wet Periods:-

There was a period of 19 days from January 1st to 19th on all of which rain fell and on only 4 days was the amount less than 1 mm.

Rain fell on all of the 15 days August 13th to 27th and on only 2 days was the amount less than 1 mm.



389. CAHIRCIVEEN (VALENTIA OBSERVATORY):  $H_r$  (height of receiving surface above M.S.L.) =  $H$  (height of station above M.S.L.) +  $h_T$  (height of receiving surface above ground) = 9.1 metres + 0.5 metre.

JANUARY, 1933.

[illegible]

390. CAHIRCIVEEN (VALENTIA OBSERVATORY):  $H_u = 9.1$  metres + 0.5 metre.

FEBRUARY, 1933.

Day	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.	hr.
1	1-3	2	...	1	1	1-4	5	...	...	...	...	...	...	2	1	1	5	1-4	...	...	...	...	1	...	6-0	5-9			
2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
3	...	...	1	...	...	...	...	...	...	1	...	1	...	...	...	...	1	2	3-9	4	2	3	1-0	4	6-8	5-9			
4	2	5	5	...	2	1	...	2	...	3	...	...	1	...	...	...	1	...	5	1	1	...	...	2-9	4-4				
5	...	3	1	...	...	1	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	1	0-8	1-5				
6	...	...	...	...	...	...	...	...	...	...	...	...	...	1-4	8	4	5-5	6	1-1	5	...	...	...	10-3	5-7				
7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	1	...	2	1	4	1-2	0-9					
8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
9	...	...	...	...	1	4	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	1	...	1-0	0-7				
10	...	...	...	1	1	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0-5	0-4				
11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
13	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0-1	0-1			
14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
17	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0-2	0-4			
18	1	3	1	...	...	1	8	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1-9	1-2				
19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
20	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
21	2	...	...	...	...	...	...	1	2	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	0-7	0-5			
22	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0-1	0-1			
23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
24	...	...	...	(1)	...	(1)	...	...	...	...	(4)	...	(1)	(2)	1	(3)	(7)	1-0	8	9	9	1-0	4-8	2-8					
25	(1-1)	(1-2)	(1-6)	(1-1)	(5)	...	...	(2)	...	(4)	...	...	...	...	...	...	...	(2)	...	(2)	...	(3)	(2)	3-3	2-8				
26	8	1	...	...	...	7	...	4	...	2	1	...	...	3	...	...	...	4	5	3	...	...	1	3-9	3-4				
27	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	6	1	...	...	1-5	3	2-7	1-0				
28	...	...	...	...	...	...	...	1	...	4	1	...	9	1	...	...	...	3	4	...	...	...	2-3	1-5					
Sum.	3-8	2-6	2-6	1-4	1-1	3-3	1-4	1-1	0-4	1-0	1-1	...	1-2	0-6	2-2	1-2	1-3	8-8	7-6	2-6	2-1	1-5	4-0	3-0	55-9	50-3			
Total Duration	hr. 3-0	hr. 2-8	hr. 2-7	hr. 1-8	hr. 1-6	hr. 2-3	hr. 0-9	hr. 1-5	hr. 0-2	hr. 0-7	hr. 1-8	hr. ...	hr. 0-9	hr. 1-5	hr. 2-9	hr. 2-2	hr. 3-1	hr. 4-0	hr. 3-5	hr. 1-9	hr. 3-0	hr. 1-7	hr. 3-3	hr. 3-0	hr. 50-3				
Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	0-24				







Amounts in millimetres, for periods of sixty minutes between the exact hours, Greenwich Mean Time.  
 393. CAHIRCIVEEN (VALENTIA OBSERVATORY):  $H_r$  (height of receiving surface above M.S.L.) =  $H$  (height of station above M.S.L.) +  $h_r$   
 (height of receiving surface above ground) = 9.1 metres + 0.5 metre.

MAY, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	0-24	Duration 0-24	
Day	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	hr.	
1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.6	0.6
2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6.7	5.5
3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	17.4	4.3
4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.6	0.8
5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13.9	7.7
6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7.0	3.7
7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.4	0.7
8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5.7	6.3
9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2.2	2.1
10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2.0	2.8
11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2.6	3.4
12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.7	2.6
13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6.3	4.0
14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.2	0.6
15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2.5	5.2
17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.6	1.7
19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8.6	4.1
20	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5.8	2.5
21	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2.3	0.7
22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.4	1.0
25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.5	0.3
26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2.4	3.7
27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
28	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.7	1.0
29	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	21.8	14.4
31	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.1	...
Sum.	4.5	3.5	8.3	5.8	4.9	4.8	5.9	3.5	3.2	2.3	4.8	1.6	4.8	4.8	5.2	7.1	3.2	0.7	4.3	1.1	5.9	10.3	7.5	8.0	116.0	79.6	
Total Duration	hr. 3.9	hr. 3.3	hr. 4.1	hr. 4.8	hr. 5.1	hr. 4.4	hr. 5.7	hr. 3.2	hr. 2.4	hr. 1.6	hr. 2.3	hr. 2.1	hr. 4.0	hr. 3.6	hr. 3.1	hr. 4.7	hr. 2.7	hr. 1.2	hr. 1.9	hr. 1.4	hr. 2.4	hr. 3.5	hr. 4.2	hr. 4.0	hr. 79.6		

394. CAHIRCIVEEN (VALENTIA OBSERVATORY):  $H_r$  = 9.1 metres + 0.5 metre.

JUNE, 1933.

Day	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	hr.
1	.2	...	.1	.7	.2	.3	.1	.2	.1	...	.1	2.6	...	.4	...	3.9	1.6	...	...	...	...	...	...	...	10.5	6.6
2	...	...	...	.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.1	0.4
3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.1	0.3
4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.1	0.3
5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.8	.7	.3	...	...	...	1.8	1.6
6	.3	.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.4	0.6
7	(.1)	(.1)	(.1)	(.1)	...	.1	.2	.3	.2	2.1	1.6	3.4	2.6	2.6	.9	.1	...	...	...	...	(.1)	(.1)	(.1)	14.1	7.6	
8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.1	...
9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
11	...	...	...	...	...	...	...	...	...	...	...	.1	...	.2	...	...	...	...	...	...	...	...	...	...	0.3	0.8
12	.2	.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.2	.7	...	...	.7	.7	.1	2.7	3.5	
13	...	...	.4	...	...	.8	.9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2.1	2.0
14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15	...	...	...	.6	1.5	.4	.4	.1	...	...	...	...	...	...	...	.1	.1	...	...	...	...	...	...	...	3.2	3.7
16	...	...	...	...	...	...	.6	1.0	1.0	1.4	1.0	1.4	.7	.1	.1	.2	...	...	.1	.1	...	...	...	...	7.7	7.3
17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.1	...	...	.2	...	.4	0.7	0.5
18	...	...	...	...	...	...	...	...	...	...	...	.1	...	...	...	...	...	...	...	...	...	...	...	...	0.2	0.4
19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.5	0.6
20	...	...	...	...	...	.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.3	...	...	...	0.4	0.3
21	...	...	...	...	...	...	.2	1.6	1.8	1.0	1.1	2.7	1.3	.7	.7	.1	...	...	...	...	...	...	...	...	11.2	8.6
22	.1	.2	.2	1.3	1.0	...	...	...	.1	.2	...	...	...	.1	.1	...	.1	...	...	...	...	...	...	...	3.4	3.3
23	...	...	...	2.0	1.1	1.4	1.1	1.5	1.3	3.2	.3	...	...	.1	.6	.3	...	...	...	...	.4	...	.1	.5	13.9	8.9
24	...	.2	...	...	.5	.1	.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.9	0.5
25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
28	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
29	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sum.	0.9	0.6	0.7	4.7	4.3	3.2	3.6	4.7	4.5	7.9	4.2	10.2	4.6	4.2	2.5	4.7	1.8	0.2	1.7	0.8	0.7	1.2	1.0	1.4	74.3	57.5
Total Duration	hr. 1.3	hr. 1.1	hr. 1.4	hr. 3.4	hr. 3.2	hr. 2.9	hr. 4.4	hr. 4.6	hr. 3.7	hr. 4.2	hr. 3.6	hr. 3.9	hr. 2.2	hr. 3.4	hr. 3.7	hr. 2.2	hr. 0.9	hr. 0.2	hr. 1.7	hr. 0.9	hr. 0.5	hr. 1.3	hr. 1.4	hr. 1.5	hr. 57.5	
Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	0-24	



RAINFALL

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Amounts in millimetres, for periods of sixty minutes between the exact hours, Greenwich Mean Time.  
395. CAHRCIVEEN (VALENTIA OBSERVATORY):  $H_r$  (height of receiving surface above M.S.L.) =  $H$  (height of station above M.S.L.) +  $h_r$   
(height of receiving surface above ground) = 9.1 metres + 0.5 metre.

JULY, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	0-24	Duration 0-24
Day	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	hr.
1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7	...	...	...	...	2.2	2	...	1.1	5	3.4	3.0	9	...	...	...	1	...	1	1	...	...	...	...	...	11.6	3.6
8	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.2	0.3
9	...	...	...	...	...	...	5	3	1.6	2.0	4.0	3.1	2.6	9	...	1.1	3.8	2.9	...	...	...	...	...	...	22.8	8.9
10	...	...	5	...	1.3	4	...	...	...	...	...	...	...	2	1	...	...	...	...	...	1	2	...	...	2.8	1.2
11	...	1	...	1.0	...	2	1	3	1	4	1	...	...	...	1.7	...	...	...	...	2	1	6	...	...	4.9	1.9
12	...	2	...	...	...	3	4.6	2	...	...	...	3	...	...	...	...	...	...	...	...	...	1	2.3	2.7	10.7	3.5
13	2.7	2.6	2.0	3	...	1	3	...	...	...	2	...	...	...	...	...	...	...	1	...	...	1	5	4	9.3	4.3
14	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	4	4	2	...	2	2	3	...	2.0	3.2
15	...	...	...	...	...	...	...	...	...	...	1.8	...	...	...	...	...	1	...	...	...	...	...	1	...	2.0	0.5
16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.6	1.6	0.6
17	1.5	6	2.3	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7	...	4.5	2.8
18	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.8	0.7
19	8	2	2.2	1.8	...	...	...	2	...	5	1	...	...	...	...	...	...	...	...	...	...	...	...	2	6.0	2.9
20	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.4	0.2
21	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
22	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.2	0.9
23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
24	(...)	(...)	(1)	(...)	(...)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.1	...
25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	0.1	0.3
26	...	2	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.7	1.9
27	...	...	...	...	...	...	2	2.5	1.3	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4.2	1.9
28	...	...	...	7	3.6	3.7	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8.4	2.8
29	...	...	...	...	...	...	1	4	...	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.1	0.4
30	...	(P)	(P)	(1)	(P)	(P)	...	...	...	3	8	1.0	1	4	1.8	2	...	...	...	8	...	1	...	...	5.6	6.1
31	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sum.	5.4	4.1	7.6	4.2	7.2	4.9	6.4	5.0	3.5	7.4	8.2	7.1	2.7	1.5	3.6	1.5	4.3	3.4	0.4	1.0	0.5	1.3	3.9	4.9	100.0	48.9
Total Duration	hr. 2.5	hr. 2.9	hr. 4.0	hr. 3.4	hr. 2.1	hr. 1.8	hr. 2.3	hr. 3.1	hr. 1.9	hr. 3.3	hr. 3.4	hr. 2.7	hr. 1.2	hr. 1.5	hr. 1.5	hr. 1.2	hr. 2.0	hr. 1.4	hr. 0.6	hr. 1.0	hr. 0.8	hr. 1.1	hr. 1.7	hr. 1.5	hr. 48.9	

396. CAHRCIVEEN (VALENTIA OBSERVATORY):  $H_r$  = 9.1 metres + 0.5 metre.

AUGUST, 1933.

Day	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	hr.
1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2	...	...	...	(...)	(...)	(...)	(...)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.1
3	...	(...)	(...)	(...)	(...)	(...)	(...)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.2
4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
8	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.7
9	...	...	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.2
10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.5
11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13	...	...	...	3	2	...	...	...	...	...	...	...	...	...	4.0	...	2.4	...	...	...	...	...	...	...	6.9
14	...	...	2	4	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.1	1.7	4	2	...	1.4
15	1.7	1.0	4	2	1	1	...	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3.4
16	...	...	...	...	...	1.7	1	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4.8
17	...	1	3	8	2	4	5	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.5
18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2.6
19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4.2
20	9	1.1	...	...	...	...	...	...	...	...	...	...	2	1	...	...	...	...	...	...	...	...	...	...	0.3
21	...	...	...	2	5	1	1.8	...	6	...	4	3	1	1	...	...	...	...	...	...	...	...	...	...	0.4
22	...	...	...	...	...	1	4	5	1.1	1.6	2.0	2.2	1.7	8	1	...	...	...	...	...	...	...	...	...	1.1
23	...	...	...	...	...	...	4	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
24	...	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
25	5.0	7.0	5.2	...	...	...	7	5	5	4	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...
26	...	1.4	8	1	...	6	2	1	1.0	...	4	5	...	...	...	...	1	1.2	1	6.0	1.2	7	1	...	9.5
27	1.8	1.7	3	2	7	1.7	8	...	...	...	1.0	1.0	...	5	8	3.3	1.9	3	1.2	3.9	1.2	9	3	...	...
28	(P)	(1)	(P)	(P)	(P)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	(P)	(P)	...	...
29	(P)	(1)	(P)	(P)	(P)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	(P)	(P)	...	...
30	(P)	(1)	(P)	(P)	(P)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	(P)	(P)	...	...
31	(P)	(P)	(P)	(P)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sum.	9.6	13.0	7.3	2.5	2.0	4.8	4.9	2.2	3.4	2.6	4.3	4.2	1.9	2.0	4.9	3.3	4.4	1.5	2.1	4.7	9.5	4.9	2.4	3.5	105.9
Total Duration	hr. 3.2	hr. 4.4	hr. 3.7	hr. 3.4	hr. 2.2	hr. 3.6	hr. 3.8	hr. 3.0	hr. 3.4	hr. 2.0	hr. 2.2	hr. 3.1	hr. 1.2	hr. 1.4	hr. 1.6	hr. 1.0	hr. 1.1	hr. 1.1	hr. 1.8	hr. 1.8	hr. 3.3	hr. 3.5	hr. 2.9	hr. 2.5	hr. 61.2
Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	0-24



397. CAHIRCIVEEN (VALENTIA OBSERVATORY):  $H_r$  (height of receiving surface above M.S.L.) =  $H$  (height of station above M.S.L.) +  $h_r$   
(height of receiving surface above ground) = 9.1 metres + 0.5 metre.

SEPTEMBER, 1933.

[illegible]

398. CAHIRCIVEEN (VALENTIA OBSERVATORY):  $H_T = 9.1$  metres + 0.5 metre.

OCTOBER, 1933.

Day	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	hr.
1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
9	...	...	...	...	...	1-3	*7	1-6	1-7	2-0	3-8	...	...	...	...	...	...	2	...	...	...	...	...	...	...
10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
11	...	...	...	...	*3	2-8	...	*7	...	*2	*1	...	...	*4	-1	...	...	...	-1	*3	1-6	*1	...	...	...
12	...	...	*7	...	*7	*2	...	...	-1	...	...	...	...	-1	-3	...	...	...	...	*1	...	...	*2	...	...
13	...	...	...	...	...	...	...	*3	...	...	...	...	...	*3	-3	...	...	...	...	...	...	...	...	...	...
14	...	...	...	...	...	*3	...	...	...	...	...	...	...	...	-2	...	...	...	...	...	...	...	...	...	...
15	...	...	...	*2	...	...	...	*2	...	...	...	...	...	...	*4	*1	...	...	...	...	...	...	*1	...	...
16	...	*2	...	*2	*5	*3	*3	-1	*1	...	...	...	...	...	*5	...	*2	-1	...	...	...	...	...	...	...
17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
18	...	...	...	...	...	*5	*2	...	...	...	...	...	...	*3	1-5	1-2	*9	*1	...	...	...	...	...	...	...
19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
20	...	*5	1-1	1-0	*1	*1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
21	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
24	...	...	...	...	*1	*2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
28	*3	*6	*4	...	*1	*3	...	*8	*6	*2	*3	*3	*9	*3	*2	*5	*7	1-2	1-3	1-5	*6	1-3	*5	*3	...
29	...	*4	*3	*3	*5	1-1	*4	*9	1-1	*1	*7	...	...	...	*6	*6	*3	*7	*5	1-1	...	...	*1	...	...
30	*2	*1	...	...	...	*4	*3	...	...	*1	...	...	...	...	...	...	...	...	...	...	...	...	*1	...	...
31	*4	...	...	...	*1	...	*4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sum.	0-9	1-8	2-5	1-6	4-0	<u>9-2</u>	3-4	5-3	4-0	3-2	5-0	3-3	0-9	3-1	5-0	2-9	2-7	5-0	3-5	5-4	4-0	1-1	1-6	1-4	81-0
Total Duration	hr. 0-9	hr. 1-6	hr. 1-5	hr. 1-5	hr. 2-4	hr. 2-4	hr. <u>2-9</u>	hr. 2-2	hr. 1-7	hr. 1-6	hr. 1-3	hr. 0-9	hr. 0-7	hr. 1-9	hr. <u>2-9</u>	hr. 2-7	hr. 2-1	hr. 2-2	hr. 1-6	hr. 1-6	hr. 1-6	hr. 0-8	hr. 0-6	hr. 1-2	hr. 41-4
Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	0-24



399. CAHIRCIVEEN (VALENTIA OBSERVATORY):  $H_r$  (height of receiving surface above M.S.L.) =  $H$  (height of station above M.S.L.) +  $h_r$  (height of receiving surface above ground) = 9.1 metres + 0.5 metre.

[illegible]

DECEMBER, 1933.

[illegible]



## DURATION OF BRIGHT SUNSHINE.

For periods of sixty minutes, between the exact hours of Local Apparent Time.

401. CAHIRCIVEEN (VALENTIA OBSERVATORY):  $H_s$  (height of recorder above ground) = 12.8 metres.

JANUARY, 1933.

Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day	Per cent of Possible
Day	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%
1	--	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	1.2	15
2	--	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3	--	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	1.3	17
4	--	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	0.4	5
5	--	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	0.3	4
6	--	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	4.1	52
7	--	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
8	--	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
9	--	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	4.1	51
10	--	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	0.2	3
11	--	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	3.8	47
12	--	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	1.0	12
13	--	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	3.3	41
14	--	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15	--	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	2.4	30
16	--	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	3.9	48
17	--	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	4.9	59
18	--	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	3.6	43
19	--	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
20	--	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	3.8	45
21	--	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
22	--	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	0.7	8
23	--	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	0.5	6
24	--	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	1.5	17
25	--	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	6.6	76
26	--	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	1.3	15
27	--	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	7.3	84
28	--	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	6.7	76
29	--	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
30	--	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	2.9	33
31	--	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sum	--	--	--	--	...	1.1	8.3	13.2	11.6	10.4	8.8	8.9	3.5	...	--	--	--	--	65.8	--
Mean	--	--	--	--	...	0.04	0.27	0.43	0.37	0.34	0.28	0.29	0.11	...	--	--	--	--	2.12	26

402. CAHIRCIVEEN (VALENTIA OBSERVATORY):  $H_s$  = 12.8 metres.

FEBRUARY, 1933.

Day	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%
1	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.5	6
3	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.4	4
6	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.1	1
8	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.4	4
9	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3.6	38
10	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4.6	53
11	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8.4	87
12	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5.2	54
13	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3.0	31
14	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3.6	37
15	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7.8	79
16	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8.2	83
17	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6.8	68
18	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6.7	67
19	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5.7	56
20	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.0	10
21	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4.4	43
22	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3.6	35
23	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.3	3
24	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
25	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5.3	50
26	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4.1	39
27	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.2	2
28	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.7	16
Sum	--	--	--	...	0.1	8.1	10.2	12.3	12.6	11.5	10.0	9.8	8.0	3.0	...	--	--	--	85.6	
Mean	--	--	--	...	0.00	0.29	0.36	0.44	0.45	0.41	0.36	0.35	0.29	0.11	...	--	--	--	3.06	31
Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day	Per cent. of Possible



## DURATION OF BRIGHT SUNSHINE.

321

For periods of sixty minutes, between the exact hours of Local Apparent Time.

403. CAHRCIVEEN (VALENTIA OBSERVATORY):  $H_s$  (height of recorder above ground) = 12.8 metres.

MARCH, 1933.

Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day	Per cent. of Possible
Day	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%
1	---	---	---	---	---	---	1.0	1.0	1.0	1.0	1.0	.8	.8	---	---	---	---	---	6.4	59
2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	1	.7	.9	1.0	.6	.3	.5	.8	.9	.4	---	---	---	---	6.2	57
5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	.2	.5	.2	---	---	.3	1.0	.7	.1	---	---	---	---	---	3.0	27
7	---	---	---	---	.2	.5	.2	.1	.2	.1	.3	.3	---	---	---	---	---	---	1.9	19
8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	(.2)	(.5)	(.7)	(.8)	(1.0)	(1.0)	(.8)	(.3)	(.1)	---	---	---	---	(5.4)*	47
11	---	---	---	---	.5	1.0	.5	---	.7	1.0	1.0	1.0	1.0	1.0	---	---	---	---	7.7	67
12	---	---	---	---	.6	1.0	.6	.8	.8	.3	.5	1.0	1.0	1.0	.1	---	---	---	7.7	67
13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	.4	.5	---	---	---	---	.2	---	---	---	---	---	---	---	1.1	9
15	---	---	---	---	---	.1	---	.2	---	.1	---	---	---	---	---	---	---	---	0.4	3
16	---	---	---	---	---	.4	.6	.8	1.0	1.0	.8	---	.2	.5	---	---	---	---	5.3	45
17	---	---	---	---	.5	1.0	.7	.7	1.0	1.0	1.0	1.0	.9	.6	.1	---	---	---	8.5	72
18	---	---	---	---	.2	.8	.9	.6	1.0	.5	---	---	---	---	.1	---	---	---	4.1	35
19	---	---	---	---	---	---	---	---	.1	.2	.1	---	.1	.4	---	---	---	---	0.9	8
20	---	---	---	.1	.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.8	---	---	---	---	9.7	81
21	---	---	---	---	---	---	---	.1	.6	.4	.4	---	---	---	---	---	---	---	1.5	12
22	---	---	---	---	---	---	.1	.2	.6	---	---	---	---	---	---	---	---	---	0.9	7
23	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	.2	.4	---	.1	---	---	---	---	---	---	---	---	---	---	0.7	6
26	---	---	---	---	---	---	.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.5	---	---	---	8.2	66
27	---	---	---	.4	1.0	1.0	1.0	.5	1.0	1.0	1.0	1.0	1.0	1.0	.8	---	---	---	10.7	86
28	---	---	---	---	---	---	.4	1.0	1.0	1.0	1.0	1.0	1.0	.9	---	---	---	---	7.3	58
29	---	---	---	.5	.5	.8	.8	.6	1.0	.9	.9	1.0	.8	.8	.3	---	---	---	8.9	70
30	---	---	---	.2	.4	1.0	.4	.4	.1	.8	1.0	.8	.3	---	---	---	---	---	5.8	46
31	---	---	---	---	---	---	---	---	---	---	.4	.5	.9	.4	.3	---	---	---	2.5	20
Sum	---	---	---	1.2	5.6	10.9	10.5	10.8	13.8	12.2	13.9	12.9	11.6	9.2	2.2	---	---	---	114.8	---
Mean	---	---	---	0.04	0.18	0.35	0.34	0.35	0.45	0.39	0.45	0.42	0.37	0.30	0.07	---	---	---	3.70	31

404. CAHRCIVEEN (VALENTIA OBSERVATORY):  $H_s$  = 12.8 metres.

APRIL, 1933.

Day	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%
1	---	---	---	---	---	---	1.0	1.0	.9	1.0	1.0	1.0	1.0	.5	---	---	---	---	8.4	65
2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	.2	.5	---	---	---	---	---	---	---	---	---	---	---	---	---	0.7	5
5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	.5	.2	---	---	---	---	---	---	0.7	5
7	---	---	---	---	---	.7	1.0	.9	.6	---	.2	.4	---	.4	---	---	---	---	4.2	32
8	---	---	---	---	---	---	---	---	.1	---	---	---	---	---	---	---	---	---	0.1	1
9	---	---	---	---	---	---	.1	.3	.1	---	---	---	---	.1	---	---	---	---	0.6	4
10	---	---	---	---	---	---	---	---	---	---	.7	.7	---	---	---	---	---	---	1.4	10
11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	.8	.5	.4	1.0	1.0	1.0	.7	.5	1.0	1.0	.2	---	---	---	8.1	60
13	---	---	.2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.8	.1	---	---	---	11.1	81
14	---	---	---	.2	.4	.3	---	---	---	---	---	---	---	---	---	---	---	---	0.9	7
15	---	---	---	---	---	---	---	---	.2	.2	.2	.1	---	---	---	---	---	---	0.7	5
16	---	---	---	---	.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.4	---	---	11.1	80
17	---	---	---	.2	.3	.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.3	---	---	10.4	75
18	---	---	---	---	---	---	---	.3	.1	.1	---	---	---	---	---	---	---	---	0.5	4
19	---	---	---	---	.4	.5	.1	.7	.5	.2	.2	.5	.1	.1	.9	---	---	---	4.2	30
20	---	---	.2	1.0	1.0	1.0	1.0	.9	.4	---	---	.1	---	---	---	---	---	---	5.6	40
21	---	---	---	.7	1.0	1.0	1.0	.5	.4	.3	.4	.3	---	---	.8	.2	---	---	6.6	47
22	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	.6	.9	.5	.8	.8	.5	.8	.8	.1	---	---	---	---	---	---	5.8	41
24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	.3	---	---	---	0.3	2
25	---	---	---	.1	.6	.7	.5	.2	.4	.1	---	---	---	---	---	---	---	---	2.6	18
26	---	---	.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.1	1
27	---	---	---	.2	.3	.6	.6	.7	.9	.9	.8	.9	1.0	1.0	.8	.1	---	---	8.2	56
28	---	---	.3	.4	.5	.8	.9	.9	.2	.6	.3	.3	---	.4	.3	.4	---	---	6.3	43
29	---	---	---	.5	1.0	1.0	1.0	.3	.8	1.0	.7	.5	.5	.3	---	---	---	---	7.6	52
30	---	---	.6	1.0	1.0	1.0	1.0	.4	.5	---	---	---	.3	.1	---	---	---	---	5.9	40
Sum	---	---	1.4	5.9	10.3	10.9	12.4	11.9	10.6	9.2	8.3	8.9	7.8	7.2	5.9	1.4	---	---	112.1	---
Mean	---	---	0.05	0.20	0.34	0.36	0.41	0.40	0.35	0.31	0.28	0.30	0.26	0.24	0.20	0.05	---	---	3.74	27
Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day	Per cent. of Possible

\* Sphere found out of position. Values interpolated.



For periods of sixty minutes, between the exact hours of Local Apparent Time.

405. CAHIRCIVEEN (VALENTIA OBSERVATORY): H<sub>S</sub> (height of recorder above ground) = 12.8 metres.

MAY, 1933.

Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day	Per cent. of Possible
Day	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%
1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5.8	39
2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3.6	24
4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6.4	43
5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.2	1
6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8.4	56
7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4.4	29
8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7.2	47
9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.2	8
10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8.4	56
11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6.0	39
12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.1	1
13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6.6	43
15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.1	1
16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4.6	29
18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.1	1
19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.9	6
20	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11.0	69
21	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9.9	63
22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14.7	93
23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14.6	91
24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4.9	31
25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7.2	46
26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10.7	67
28	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2.9	18
29	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6.4	40
30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
31	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11.5	71
Sum	...	1.2	5.6	7.4	7.4	10.6	11.5	14.3	15.1	16.0	17.2	13.7	10.9	10.1	9.2	6.8	0.7	...	157.8	--
Mean	...	0.04	0.18	0.24	0.24	0.34	0.37	0.46	0.49	0.51	0.56	0.44	0.35	0.33	0.29	0.22	0.02	...	5.09	33

406. CAHIRCIVEEN (VALENTIA OBSERVATORY): H<sub>S</sub> = 12.8 metres.

JUNE, 1933.

Day	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%
1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
20	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
21	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
28	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
29	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sum	...	4.1	7.8	7.6	8.2	10.7	9.7	9.3	8.9	9.6	10.4	11.5	9.9	10.2	10.1	7.8	3.0	...	138.8	--
Mean	...	0.14	0.26	0.25	0.27	0.36	0.32	0.31	0.30	0.32	0.35	0.38	0.33	0.34	0.34	0.26	0.10	...	4.63	28
Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day	Per cent. of Possible



407. CAHIRCIVEEN (VALENTIA OBSERVATORY):  $H_a$  (height of recorder above ground) = 12.8 metres.

JULY, 1933.

408. CAHIRCIVEEN (VALENTIA OBSERVATORY):  $H_s = 12.8$  metres.

AUGUST, 1933.

Day	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%	
1	--	...	...	...	...	-1	+3	+2	+2	+2	+1	...	...	...	+1	...	...	--	1.2	8	
2	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	--	...	...	
3	--	...	...	...	...	...	...	+2	+4	+6	+7	1.0	+9	1.0	1.0	1.0	+1	--	6.9	46	
4	--	+2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	+9	...	--	<u>14.1</u>	<u>92</u>	
5	--	...	+7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	+5	+2	...	...	--	11.4	76
6	--	...	...	...	...	+2	+3	+9	1.0	+5	+5	+1	+1	+9	1.0	+6	...	--	6.1	40	
7	--	...	+5	1.0	1.0	1.0	+8	1.0	+9	+7	...	...	...	...	...	...	...	--	6.9	46	
8	--	...	+1	...	+1	+9	+8	+1	+7	+1	...	...	...	...	...	...	...	--	2.8	19	
9	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	+1	...	--	0.1	1	
10	--	...	+9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	+9	+9	...	--	13.7	92	
11	--	...	+2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	...	--	13.2	89	
12	--	+1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	+3	...	--	13.4	90	
13	--	...	...	...	...	...	+2	...	...	...	...	...	...	...	+1	+4	...	--	0.7	6	
14	--	...	...	...	+1	+5	1.0	+3	1.0	+8	+2	...	...	...	...	...	...	--	3.9	26	
15	--	...	...	...	...	...	...	+2	+2	+1	+7	+7	+5	+1	+4	...	...	--	2.9	20	
16	--	...	...	+4	+3	+2	+5	1.0	+9	+8	+3	+3	...	+4	...	...	...	--	5.1	35	
17	--	...	...	...	...	+2	+5	+7	+7	+8	+9	+6	+7	+8	+7	+1	...	--	6.7	46	
18	--	...	...	...	...	...	+5	1.0	1.0	1.0	1.0	+8	+4	+1	+3	...	...	--	6.1	42	
19	--	...	...	...	...	...	...	...	...	+4	+3	...	+1	+1	+2	+4	...	--	1.5	10	
20	--	...	...	+6	+7	+4	+8	+2	...	+6	+2	+4	+2	+3	...	...	...	--	4.4	31	
22	--	...	...	...	+2	...	...	...	+5	+8	1.0	+5	+4	...	...	+1	...	--	3.5	25	
23	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	--	...	...	
24	--	...	...	...	+4	+7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	+9	...	...	--	10.0	71	
25	--	...	...	...	+1	+3	+2	+4	+6	...	...	...	...	...	...	...	...	--	1.6	11	
26	--	...	...	...	...	...	...	...	...	...	...	...	...	...	+2	...	...	--	0.2	1	
27	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	--	...	...	
28	--	...	...	...	...	...	...	+1	+3	...	+4	+2	+4	+3	...	...	...	--	1.7	12	
29	--	+2	+5	1.0	+3	+2	+6	1.0	1.0	1.0	1.0	1.0	1.0	+7	+4	...	...	--	8.9	65	
30	--	...	+4	+2	1.0	1.0	1.0	1.0	1.0	+4	+2	1.0	1.0	1.0	1.0	+3	--	--	9.5	69	
31	--	...	+2	+1	+7	+1	+4	...	+5	+3	...	...	+1	...	...	--	--	--	2.4	18	
Sum	--	0.3	4.6	8.1	9.2	11.5	13.2	14.3	<u>16.4</u>	15.3	13.8	12.6	11.7	11.5	10.2	6.1	0.1	--	158.9	--	
Mean	--	0.01	0.15	0.26	0.30	0.37	0.43	0.46	<u>0.53</u>	0.49	0.45	0.41	0.38	0.37	0.33	0.20	0.00	--	5.13	35	
Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day	Per cent. of Possible	



For periods of sixty minutes, between the exact hours of Local Apparent Time.

409. CAHIRCIVEEN (VALENTIA OBSERVATORY):  $H_s$  (height of recorder above ground) = 12.8 metres.

SEPTEMBER, 1933.

Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day	Per cent. of Possible
Day	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%
1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Sum	---	---	---	7.1	16.0	17.9	18.2	20.8	20.4	20.1	18.9	20.3	20.2	17.7	7.4	0.2	---	---	205.2	---
Mean	---	---	---	0.24	0.53	0.60	0.61	0.69	0.68	0.67	0.63	0.68	0.67	0.59	0.25	0.01	---	---	6.84	54

410. CAHIRCIVEEN (VALENTIA OBSERVATORY):  $H_s$  = 12.8 metres.

OCTOBER, 1933.

Day	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%
1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Sum	---	---	---	---	1.4	7.9	11.8	10.0	13.4	12.5	8.6	9.2	6.7	1.9	---	---	---	---	83.4	---
Mean	---	---	---	---	0.05	0.25	0.38	0.32	0.43	0.40	0.28	0.30	0.22	0.06	---	---	---	---	2.69	25
Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day	Per cent. of Possible



## DURATION OF BRIGHT SUNSHINE.

For periods of sixty minutes, between the exact hours of Local Apparent Time.

411. CAHIRCIVEEN (VALENTIA OBSERVATORY):  $H_s$  (height of recorder above ground) = 12.8 metres.

NOVEMBER, 1933.

Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day	Per cent. of Possible
Day	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%
1	---	---	---	---	...	..1	...	...	...	...	...	...	...	...	---	---	---	---	0.1	1
2	---	---	---	---	...	...	...	..7	1.0	1.0	1.0	..8	..8	---	---	---	---	---	5.3	55
3	---	---	---	---	...	..1	..1	..3	..7	..8	..6	..1	...	---	---	---	---	---	2.7	28
4	---	---	---	---	...	...	...	...	..1	..1	..1	...	...	---	---	---	---	---	0.3	3
5	---	---	---	---	...	...	...	...	..2	..6	..5	..1	...	---	---	---	---	---	1.4	15
6	---	---	---	---	...	...	...	...	...	...	...	..2	...	---	---	---	---	---	0.2	2
7	---	---	---	---	...	..6	..7	..7	..1	..1	...	..5	..3	---	---	---	---	---	3.0	32
8	---	---	---	---	...	...	...	...	...	...	...	...	...	---	---	---	---	---	...	...
9	---	---	---	---	...	...	..4	1.0	1.0	1.0	..9	..8	..2	---	---	---	---	---	5.3	55
10	---	---	---	---	...	..5	1.0	..7	..7	1.0	..6	1.0	..2	---	---	---	---	---	5.7	63
11	---	---	---	---	...	...	...	...	...	..1	..9	..2	...	---	---	---	---	---	1.2	13
12	---	---	---	---	...	...	..6	..8	..3	..8	..5	..3	..1	---	---	---	---	---	3.4	36
13	---	---	---	---	...	...	..7	..9	1.0	..9	1.0	..8	..2	---	---	---	---	---	5.5	62
14	---	---	---	---	...	...	...	...	...	...	...	...	...	---	---	---	---	---	...	...
15	---	---	---	---	...	...	...	...	..1	...	..2	...	...	---	---	---	---	---	0.3	3
16	---	---	---	---	...	...	...	..1	..5	1.0	..3	...	...	---	---	---	---	---	1.9	22
17	---	---	---	---	...	..3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	---	---	---	---	---	7.3	84
18	---	---	---	---	...	..3	1.0	..6	...	...	..4	..2	..5	---	---	---	---	---	3.0	35
19	---	---	---	---	...	...	..4	1.0	..3	...	..2	..7	...	---	---	---	---	---	2.6	30
20	---	---	---	---	...	...	..1	..7	..1	..1	..4	..1	...	---	---	---	---	---	1.5	17
21	---	---	---	---	...	..2	1.0	1.0	1.0	1.0	1.0	1.0	..5	---	---	---	---	---	5.7	79
22	---	---	---	---	...	..2	1.0	1.0	1.0	..7	...	...	...	---	---	---	---	---	3.9	46
23	---	---	---	---	...	...	...	...	...	...	...	...	...	---	---	---	---	---	...	...
24	---	---	---	---	...	..1	1.0	1.0	1.0	1.0	1.0	1.0	..6	---	---	---	---	---	5.7	80
25	---	---	---	---	...	...	1.0	..9	..9	..4	1.0	1.0	..5	---	---	---	---	---	5.7	69
26	---	---	---	---	...	...	1.0	1.0	1.0	1.0	..8	..1	...	---	---	---	---	---	4.9	59
27	---	---	---	---	...	..6	..9	...	...	..1	...	...	...	---	---	---	---	---	1.6	19
28	---	---	---	---	...	...	...	...	...	...	...	...	...	---	---	---	---	---	...	...
29	---	---	---	---	...	...	...	...	...	...	...	...	...	---	---	---	---	---	...	...
30	---	---	---	---	...	...	...	...	...	...	...	...	...	---	---	---	---	---	...	...
Sum	---	---	---	---	...	2.4	11.6	14.2	11.6	12.2	13.1	10.2	4.9	...	---	---	---	---	80.2	---
Mean	---	---	---	---	...	0.08	0.39	0.47	0.39	0.41	0.44	0.34	0.16	...	---	---	---	---	2.67	30

412. CAHIRCIVEEN (VALENTIA OBSERVATORY):  $H_s$  = 12.8 metres.

DECEMBER, 1933.

Day	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%
1	---	---	---	---	---	...	1.0	1.0	1.0	..6	1.0	..8	..2	---	---	---	---	---	5.6	69
2	---	---	---	---	---	...	..8	1.0	1.0	1.0	1.0	..8	..2	---	---	---	---	---	5.5	68
3	---	---	---	---	---	...	..1	...	...	...	...	..6	..2	---	---	---	---	---	0.9	11
4	---	---	---	---	---	...	..9	1.0	1.0	1.0	1.0	1.0	..3	---	---	---	---	---	5.2	78
5	---	---	---	---	---	...	...	..1	...	...	...	...	...	---	---	---	---	---	0.1	1
6	---	---	---	---	---	...	..7	1.0	1.0	..4	..6	..3	...	---	---	---	---	---	4.0	50
7	---	---	---	---	---	...	...	...	..8	..7	1.0	1.0	..1	---	---	---	---	---	3.6	46
8	---	---	---	---	---	...	..8	1.0	..1	..3	..5	...	...	---	---	---	---	---	2.7	35
9	---	---	---	---	---	...	...	..3	..7	..3	..6	..1	...	---	---	---	---	---	2.0	26
10	---	---	---	---	---	...	..8	1.0	1.0	1.0	1.0	1.0	..3	---	---	---	---	---	6.1	78
11	---	---	---	---	---	...	..8	1.0	..8	1.0	1.0	1.0	..4	---	---	---	---	---	6.0	77
12	---	---	---	---	---	...	..3	..5	..6	..2	..3	..7	...	---	---	---	---	---	2.6	34
13	---	---	---	---	---	...	..1	...	...	..8	..4	..1	...	---	---	---	---	---	1.4	18
14	---	---	---	---	---	...	..8	..9	1.0	..2	..8	...	...	---	---	---	---	---	3.7	48
15	---	---	---	---	---	...	..7	1.0	1.0	..6	...	...	...	---	---	---	---	---	3.3	43
16	---	---	---	---	---	...	...	...	...	...	...	...	...	---	---	---	---	---	...	...
17	---	---	---	---	---	...	...	...	...	...	...	...	...	---	---	---	---	---	...	...
18	---	---	---	---	---	...	...	...	...	...	...	...	...	---	---	---	---	---	...	...
19	---	---	---	---	---	...	..1	..7	1.0	..7	..8	..6	..1	---	---	---	---	---	4.0	52
20	---	---	---	---	---	...	...	...	...	...	...	...	...	---	---	---	---	---	...	...
21	---	---	---	---	---	...	...	...	...	...	...	...	...	---	---	---	---	---	...	...
22	---	---	---	---	---	...	...	...	...	...	...	...	...	---	---	---	---	---	...	...
23	---	---	---	---	---	...	...	..1	..2	...	...	...	...	---	---	---	---	---	0.3	4
24	---	---	---	---	---	...	...	...	...	...	...	...	...	---	---	---	---	---	...	...
25	---	---	---	---	---	...	...	...	..1	..8	..8	..7	...	---	---	---	---	---	2.4	31
26	---	---	---	---	---	...	..8	1.0	1.0	..9	1.0	..8	...	---	---	---	---	---	5.5	72
27	---	---	---	---	---	...	...	...	...	...	...	...	...	---	---	---	---	---	...	...
28	---	---	---	---	---	...	...	...	...	...	...	...	...	---	---	---	---	---	...	...
29	---	---	---	---	---	...	...	...	...	...	...	...	...	---	---	---	---	---	...	...
30	---	---	---	---	---	...	...	...	..1	..1	..2	...	...	---	---	---	---	---	0.4	5
31	---	---	---	---	---	...	...	...	...	...	...	...	...	---	---	---	---	---	...	...
Sum	---	---	---	---	---	...	8.7	11.6	12.4	10.6	12.0	9.2	1.8	---	---	---	---	---	66.3	---
Mean	---	---	---	---	---	...	0.28	0.37	0.40	0.34	0.39	0.30	0.06	---	---	---	---	---	2.14	26
Annual Totals	...	7.6	24.1	43.5	66.6	101.5	136.0	154.6	159.7	154.4	145.9	139.7	107.6	81.5	56.1	31.3	6.4	...	1416.5	---
Annual Mean	...	..02	..07	..12	..18	..28	..37	..42	..44	..42	..40	..38	..29	..22	..15	..09	..02	...	3.88	32
Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day	Per cent. of Possible



Direction expressed in degrees from North (E = 90°, S = 180°, W = 270°, N = 360°) : Speed in metres per second.

413. CAHIRCIVEEN (Valentia Observatory):  
Dines Anemograph from Jan., 1926.H<sub>a</sub> (height of anemograph above M.S.L.) = Height of ground above

Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	
Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	210	7.0	215	6.7	205	5.8	190	5.6	190	5.6	180	5.3	175	5.2	175	5.6	175	6.5	165	7.6	175	8.0	175	10.0
2	205	8.3	200	10.0	195	12.2	190	13.0	190	14.5	190	14.8	180	16.7	187	15.6	190	15.2	190	15.7	195	14.6	195	14.9
3	230	11.6	230	11.8	235	12.3	230	13.6	230	14.5	235	15.1	235	13.3	240	13.2	240	13.2	230	14.0	230	12.3	230	13.2
4	200	7.9	210	7.4	215	7.1	205	7.9	215	6.3	175	5.0	130	3.6	210	5.4	220	5.4	195	6.0	190	7.0	185	8.0
5	(290)	8.0	(295)	6.9	(280)	11.0	280	5.1	280	7.8	270	9.1	260	7.6	265	6.5	240	6.5	225	6.7	240	8.5	220	5.5
6	280	8.2	280	8.9	280	6.9	280	5.6	280	4.9	285	6.6	275	5.0	270	6.4	265	2.0	260	3.9	255	4.0	250	4.7
7	190	6.7	190	7.9	190	8.6	190	9.0	190	8.6	190	8.6	190	9.6	200	8.9	200	9.6	200	10.0	200	10.0	205	13.2
8	215	8.4	215	9.5	215	10.8	215	12.6	220	12.5	225	12.2	230	12.4	230	12.6	225	12.1	230	12.7	225	13.3	225	12.2
9	355	4.9	25	3.1	55	1.7	40	3.0	55	3.1	70	4.6	80	4.1	150	1.8	140	5.0	140	1.3	---	---	---	---
10	180	5.3	215	4.9	210	4.7	185	5.0	175	5.9	180	5.1	185	4.7	195	4.8	200	5.2	200	4.8	190	6.2	190	6.5
11	340	3.5	330	6.9	335	8.0	330	7.1	340	7.1	345	7.4	350	6.9	360	6.9	15	6.9	30	4.4	35	3.8	30	2.9
12	90	1.5	60	2.1	55	2.3	155	5.3	165	5.6	155	6.9	155	7.8	160	7.1	155	8.0	165	6.4	190	6.1	195	7.5
13	325	2.1	325	3.9	325	1.0	305	4.3	295	4.2	295	4.6	300	4.5	300	3.0	295	2.8	295	4.5	295	4.1	310	3.8
14	---	---	150	2.3	185	(4.4)	180	(5.0)	180	(5.5)	200	(6.5)	195	(7.2)	195	(7.3)	205	(8.7)	200	(9.5)	200	9.8	195	10.5
15	295	4.9	305	5.4	300	6.1	300	7.5	295	7.2	320	6.2	295	6.7	305	6.0	350	3.6	300	1.0	330	3.9	55	5.4
16	150	1.5	85	1.9	95	2.1	80	1.8	195	1.6	60	1.4	185	2.7	290	3.1	85	1.9	100	2.2	145	2.4	50	3.6
17	50	2.0	---	---	55	1.2	65	1.5	65	1.7	60	1.8	90	1.4	---	---	60	1.2	60	2.0	60	1.5	---	---
18	155	6.4	150	7.6	150	7.7	155	7.5	175	6.4	250	7.0	305	5.3	350	3.2	340	4.9	300	8.2	330	7.1	320	8.3
19	---	---	60	1.7	65	1.8	60	2.4	105	1.7	60	1.8	70	2.2	55	2.1	125	3.8	140	6.2	140	8.7	130	8.5
20	125	5.5	90	1.1	85	3.2	95	6.1	85	5.9	80	6.8	90	9.7	80	9.4	100	10.3	100	10.7	110	9.0	120	8.9
21	150	11.7	150	12.3	150	12.1	150	12.4	150	11.6	150	11.6	145	13.0	150	12.4	145	11.3	145	10.9	150	11.5	150	10.7
22	155	12.0	155	12.2	150	10.5	155	10.8	150	11.7	155	11.6	155	12.1	155	12.4	160	12.5	160	13.3	155	12.2	160	13.0
23	150	8.4	160	8.5	140	7.3	140	6.9	145	7.6	150	8.9	155	9.9	160	9.5	155	10.3	155	11.2	155	11.0	155	10.4
24	155	7.4	155	7.4	150	7.3	150	7.1	150	6.7	150	7.2	145	6.7	140	6.5	140	5.8	130	5.6	130	5.1	130	5.5
25	85	2.5	90	3.8	100	4.7	90	4.4	90	3.7	60	2.6	90	4.3	90	4.9	95	5.2	100	4.8	75	2.8	95	2.4
26	---	---	70	1.3	60	2.6	60	3.0	65	3.0	55	2.7	55	1.0	---	---	---	---	55	1.8	55	1.4	60	2.4
27	65	2.3	85	2.4	95	4.5	95	3.8	80	2.3	45	4.0	80	3.8	100	6.5	95	5.8	85	4.9	50	2.1	95	3.4
28	90	4.0	95	4.2	75	4.2	75	3.8	45	3.3	60	3.1	90	3.7	120	1.8	110	4.0	110	4.9	20	1.8	50	4.6
29	80	7.0	90	8.5	75	8.1	70	5.4	70	6.7	140	3.1	45	3.6	75	4.0	90	4.1	120	2.8	---	---	---	---
30	360	4.3	5	3.8	35	1.3	---	---	345	1.0	320	1.7	310	3.5	300	4.6	280	4.1	285	7.3	310	5.8	310	5.6
31	265	8.3	255	8.4	250	7.7	235	6.0	225	5.5	230	6.5	230	6.5	225	8.1	215	8.5	215	11.1	210	10.5	210	11.8
Mean	---	5.6	---	5.9	---	6.1	---	6.2	---	6.2	---	6.4	---	6.6	---	6.5	---	6.6	---	7.0	---	6.6	---	7.1

414. CAHIRCIVEEN (Valentia Observatory): H<sub>a</sub> = 17 metres + 13 metres.

Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	210	15.9	215	17.0	215	16.5	220	15.4	230	16.1	235	16.4	245	14.9	245	12.2	260	9.4	265	6.1	285	4.1	270	3.0
2	325	5.0	325	5.1	335	4.7	320	5.9	310	4.9	310	5.1	320	4.0	310	4.3	315	4.1	310	3.4	310	3.6	320	3.0
3	90	4.8	95	4.8	95	4.3	110	5.1	110	7.1	105	7.4	95	7.1	100	8.5	95	7.0	115	7.7	150	11.0	165	10.5
4	215	9.0	215	9.2	215	9.3	210	9.2	215	9.7	215	9.9	215	9.8	210	9.7	210	10.0	210	9.8	210	10.2	210	10.2
5	205	12.8	210	14.0	225	14.5	230	13.0	230	12.4	235	12.0	235	10.5	235	10.5	235	10.0	230	9.5	230	9.0	230	8.7
6	210	7.5	195	6.0	190	6.5	185	7.3	180	7.5	175	9.0	170	9.2	155	7.3	160	9.7	155	10.4	160	12.0	150	12.0
7	240	6.4	235	7.2	240	8.2	250	9.5	255	10.5	265	9.5	265	7.8	270	8.4	265	7.6	265	6.2	265	7.2	270	6.8
8	240	8.7	235	8.1	235	8.3	235	8.5	235	8.2	235	8.0	225	8.0	230	9.4	225	9.5	220	9.8	210	10.4	215	12.0
9	210	8.7	210	10.0	210	11.0	215	11.3	215	11.6	225	12.2	230	12.6	230	11.9	230	12.4	230	12.0	240	12.5	260	12.5
10	245	6.9	245	7.9	250	7.7	260	8.5	270	9.4	285	7.9	300	7.6	320	8.0	345	9.0	355	9.3	350	8.0	350	7.7
11	70	7.1	40	7.6	35	9.0	35	9.5	70	6.6	130	3.0	40	5.4	60	2.2	60	7.0	90	5.6	95	2.5	75	2.7
12	60	2.5	70	1.2	65	1.8	60	2.9	65	2.2	---	---	65	1.7	65	2.2	65	1.4	60	1.5	---	---	---	---
13	---	---	---	---	50	1.2	50	3.1	65	3.4	60	3.5	65	3.9	50	4.4	60	4.4	65	3.5	70	4.0	70	4.3
14	95	1.1	85	1.1	75	2.5	80	2.0	90	2.6	80	2.4	75	2.8	75	3.4	65	1.7	65	3.1	60	4.5	55	6.0
15	50	1.0	45	1.7	70	3.3	60	1.7	70	2.2	65	3.5	60	3.7	55	2.9	65	2.1	---	---	60	3.3	60	3.8
16	60	2.2	---	---	60	1.0	---	---	60	1.5	---	---	---	---	---	---	60	1.0	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	330	3.5	350	2.1	40	1.5	65	3.3	35	1.5	45	2.2	55	2.4	65	2.6
18	340	5.7	350	7.2	350	10.0	350	10.0	355	9.8	355	11.5	15	12.2	35	9.9	40	8.7	40	10.5	45	10.0	30	10.8
19	20	8.0	20	8.5	20	7.2	25	10.0	30	11.4	35	9.8	35	9.0	90	5.0	95	2.2	55	3.2	40	3.9	55	5.4
20	65	1.0	---	---	---	---	60	1.2	65	2.0	70	1.0	60	1.0	65	1.7	65	1.3	---	---	---	---	---	---
21	330	5.6	5	6.2	20	5.6	20	4.8	10	5.3	15	5.3	10	5.0	5	5.8	15	5.6	30	4.4	360	6.5	360	7.5
22	355	9.5	355	8.8	350	8.2	355	9.2	10	8.0	15	7.0	10	7.5	15	8.5	15	8.0	15	6.3	15	7.1	30	7.3
23	---	---	---	---	---	---	---	---	170	1.0	165	1.0	---	---	55	1.1	55	1.4	---	---	---	---	---	---
24	15	9.5	20	10.4	20	10.0	25	11.4	30	13.8	30	11.8	30	10.7	25	11.0	10	11.6	10	13.0	10	12.0	10	12.3
25	10	14.5	5	13.2	10	9.9	10	8.0	25	7.9	25	7.8	20	7.0	30	5.0	50	5.2	65	4.5	55	4.5	60	3.6
26	135	8.0	140	8.2	130	8.3	135	8.5	135	7.4	140	9.9	110	9.0	105	6.8	90	7.5	95	8.0	100	8.5	110	7.3
27	85	6.5	85	5.7	95	7.8	105	9.0	110	10.1	90	7.2	100	9.2	80	6.0	80	9.2	105	11.1	105	8.1	90	7.7
28	90	5.9	95	5.8	110	5.0	135	3.2	160	3.5	165	4.8	175	4.4	165	3.7	155	5.5	170	6.5	165	6.2	175	6.3
Mean	---	6.3	---	6.3	---	6.5	---	6.8	---	7.1	---	6.8	---	6.7	---	6.2	---	6.2	---	6.1	---	6.2	---	6.3
Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	



## WIND: DIRECTION AND SPEED.

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Averages for periods of sixty minutes, ending at the exact hours, Greenwich Mean Time.

M.S.L. +  $h_a$  (height of anemograph above ground) = 17 metres + 13 metres.

JANUARY, 1933.

12 - 13		13 - 14		14 - 15		15 - 16		16 - 17		17 - 18		18 - 19		19 - 20		20 - 21		21 - 22		22 - 23		23 - 24		Mean	Day.
°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	°	m/s.	m/s.	
170	11.4	170	10.5	165	11.0	160	11.1	170	10.6	200	7.6	175	6.8	170	7.9	185	6.2	195	4.7	200	4.8	210	7.1	7.4	1
195	15.0	205	15.7	205	16.8	205	17.2	220	16.4	235	14.1	230	14.4	235	12.3	235	13.1	235	12.9	235	13.0	230	12.4	14.2	2
240	12.0	230	13.0	235	12.8	240	13.1	240	12.0	240	11.5	220	10.4	220	9.1	220	8.2	205	9.0	220	7.8	210	10.1	12.0	3
190	8.2	210	12.0	205	7.5	180	5.9	300	4.0	330	2.2	305	1.2	315	4.4	(320)	6.4	(305)	8.4	(300)	6.5	(290)	8.4	6.3	4
220	8.6	225	6.7	225	8.8	225	9.2	225	7.1	225	6.5	230	6.7	260	9.2	280	8.2	280	7.8	280	8.3	285	7.1	7.6	5
270	5.6	265	4.9	265	5.1	275	3.2	220	2.9	200	3.5	200	1.5	175	3.2	175	5.1	175	5.9	190	5.2	200	6.0	5.0	6
210	14.7	210	13.1	205	14.1	210	12.5	210	11.8	215	11.4	220	10.6	225	(9.8)	230	(10.7)	225	8.8	220	8.2	220	8.5	10.2	7
225	11.9	225	11.7	225	12.0	230	11.8	235	10.7	235	10.3	230	10.8	230	10.4	230	9.9	235	8.9	250	8.8	340	5.3	11.0	8
165	4.8	160	7.6	165	6.4	155	5.0	170	4.7	175	5.2	160	5.1	160	5.0	175	4.8	160	7.3	195	4.1	170	6.0	4.1	9
190	6.7	195	7.3	205	8.4	205	8.3	200	7.8	210	7.6	210	7.1	210	7.6	215	8.5	295	7.1	340	4.5	355	2.7	6.1	10
60	1.8	20	6.3	50	3.0	75	2.1	100	1.7	90	1.4	60	1.8	70	1.1	75	1.0	---	...	60	1.1	70	1.7	4.0	11
195	7.4	190	6.6	190	5.7	185	5.3	190	5.7	280	5.5	360	7.0	10	4.7	360	3.2	10	2.6	360	2.9	360	3.4	5.3	12
320	1.8	290	3.7	305	3.8	315	3.5	90	1.0	---	...	195	1.0	---	...	180	1.4	110	1.0	120	1.1	---	...	2.6	13
195	10.6	200	10.0	200	11.0	205	12.8	210	12.1	210	12.1	215	13.3	215	12.7	210	12.0	210	12.2	295	8.4	300	5.5	8.7	14
315	1.4	335	2.0	20	4.6	330	6.3	345	6.3	330	4.4	325	4.6	355	3.2	280	4.0	190	2.8	160	2.2	80	1.8	4.5	15
55	2.4	195	2.1	50	2.6	55	2.3	65	3.2	60	2.7	135	3.1	95	1.5	75	1.7	50	1.4	60	1.8	60	1.0	2.2	16
---	...	---	...	---	...	---	...	120	1.0	60	1.6	100	1.5	55	2.3	60	2.0	105	1.4	135	4.0	150	4.9	1.5	17
310	8.4	305	8.1	315	7.8	320	8.0	340	7.6	310	5.9	315	5.8	305	5.2	340	4.5	55	2.4	75	1.8	180	1.0	6.1	18
135	9.7	135	9.8	135	9.9	135	9.7	130	10.2	130	8.8	120	11.6	95	12.2	95	11.0	95	9.8	85	8.7	90	7.6	6.7	19
125	8.8	125	8.0	135	7.4	140	9.6	145	10.2	150	10.4	150	10.2	145	10.1	145	10.8	160	11.2	160	11.5	160	12.1	8.6	20
150	11.6	150	11.8	150	11.8	160	11.5	150	11.1	150	10.6	155	9.9	160	9.6	160	9.8	155	10.4	155	11.1	160	11.1	11.3	21
160	13.2	160	13.8	150	13.1	160	12.7	160	11.7	160	11.2	155	10.8	155	10.2	150	10.0	150	11.0	160	10.5	150	8.2	11.7	22
155	9.7	155	10.4	160	9.4	145	9.7	145	9.6	145	9.7	145	9.0	150	8.1	150	8.5	150	8.5	155	7.6	160	8.6	9.1	23
130	4.7	125	4.7	115	4.4	115	5.0	110	4.4	115	5.3	110	5.9	100	4.6	95	3.9	105	4.5	105	5.5	85	3.8	5.6	24
95	2.9	105	2.4	195	1.8	335	2.5	35	1.4	115	1.4	75	1.5	70	1.6	85	1.0	65	1.3	95	1.6	70	1.4	2.8	25
55	2.3	40	2.6	40	1.4	60	2.6	80	4.7	75	3.0	80	4.3	85	4.1	85	3.7	80	5.4	85	5.0	15	2.0	2.6	26
80	5.8	80	6.0	80	6.2	50	5.6	60	4.9	85	3.5	95	5.2	85	6.0	70	5.1	55	3.1	90	5.2	85	3.7	4.4	27
85	5.4	90	4.8	80	6.1	90	7.2	90	6.5	85	6.1	75	9.8	80	10.9	80	10.9	80	11.0	75	9.7	80	8.5	5.8	28
35	1.3	25	1.5	55	1.4	40	2.2	25	1.4	---	...	50	1.5	---	...	---	...	---	...	---	...	10	2.3	2.9	29
300	7.0	310	6.2	275	6.6	275	5.8	280	6.2	275	4.4	255	6.8	270	6.9	270	8.2	265	9.0	270	8.3	270	8.1	5.3	30
210	12.4	210	13.5	210	13.6	210	14.5	210	14.5	210	15.9	210	15.8	210	16.6	210	17.5	210	15.8	210	15.8	210	15.5	11.7	
---	7.4	---	7.7	---	7.6	---	7.6	---	7.2	---	6.6	---	6.9	---	6.8	---	6.8	---	6.7	---	6.3	---	6.0	6.7	

FEBRUARY, 1933.

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Direction expressed in degrees from North (E = 90°, S = 180°, W = 270°, N = 360°): Speed in Metres per second.

415. CAHRCIVEEN (Valentia Observatory):  
Dines Anemograph from Jan., 1926.H<sub>a</sub> (height of anemograph above M.S.L.) = Height of ground above.

Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	
Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	130	5.6	120	5.5	100	4.9	90	4.8	100	5.2	110	5.3	105	3.0	---	---	50	2.6	---	---	---	---	---	---
2	155	7.6	155	6.7	155	6.5	145	7.4	140	6.7	155	7.4	145	7.1	135	6.5	120	6.4	90	4.5	105	5.1	105	7.3
3	350	2.7	350	3.3	340	5.5	340	6.5	340	6.6	345	5.5	350	4.6	350	4.2	355	4.2	350	3.1	360	4.1	5	4.3
4	300	5.5	290	3.8	275	4.6	275	5.6	275	5.8	275	4.5	270	5.2	270	4.7	270	4.1	290	4.4	275	4.5	270	6.4
5	205	5.5	230	6.0	235	6.0	235	5.5	220	4.4	200	4.7	180	5.2	185	5.9	185	7.6	190	9.5	195	12.0	185	12.2
6	195	5.1	200	7.1	215	9.5	210	9.8	215	9.9	225	10.6	235	10.8	250	10.2	255	9.3	240	7.4	230	10.6	230	9.3
7	265	9.7	270	9.7	275	8.4	285	8.5	295	8.0	285	4.9	290	6.2	305	6.9	310	5.5	305	6.9	295	6.3	290	5.4
8	190	6.4	185	6.6	180	7.9	180	8.9	180	9.9	180	11.0	185	11.5	180	12.0	180	12.1	175	12.1	180	12.6	180	12.7
9	195	12.2	195	11.6	195	11.2	190	10.6	185	10.5	185	10.7	185	9.9	185	9.7	180	10.4	185	10.2	180	10.1	175	9.7
10	170	11.6	170	11.2	165	11.6	160	11.1	165	9.7	180	11.1	165	10.0	150	10.1	150	8.3	145	7.6	145	4.8	145	5.7
11	130	5.3	125	4.6	130	4.9	140	5.4	145	6.5	140	6.3	135	6.3	135	4.9	145	4.9	140	4.2	135	2.7	160	4.4
12	---	---	---	---	---	---	---	---	65	1.6	---	---	60	1.0	60	1.8	55	2.7	---	---	200	2.0	190	3.1
13	55	1.6	65	1.4	---	---	---	---	---	---	---	---	175	2.9	170	(4.0)	175	(4.1)	170	(4.0)	175	4.3	180	4.8
14	235	4.3	270	4.1	310	3.9	310	2.5	245	1.0	---	---	---	---	65	1.0	---	---	185	4.2	180	6.9	185	9.1
15	175	3.5	180	5.2	195	5.5	195	5.3	195	6.9	190	5.6	190	6.6	195	7.0	170	7.5	165	9.0	185	8.3	180	9.7
16	200	5.0	245	9.0	220	4.4	220	6.3	235	5.8	245	5.9	215	4.6	230	6.4	230	7.0	235	9.0	235	8.5	235	10.0
17	175	4.1	175	3.9	190	5.4	205	6.2	200	2.4	145	2.3	175	4.0	85	3.3	65	2.8	60	1.8	60	1.1	320	2.4
18	65	(1.4)	---	(...)	265	(1.2)	290	(4.4)	285	4.6	290	5.3	285	6.0	(285)	5.9	(290)	6.3	(280)	6.6	280	6.5	265	6.7
19	225	4.4	215	5.9	220	8.1	215	7.2	205	4.9	165	3.9	160	6.0	170	8.1	200	7.0	215	4.5	240	6.8	240	5.2
20	345	7.4	325	7.8	320	8.1	320	8.2	315	7.3	315	8.2	310	8.1	320	5.9	315	4.9	315	4.9	300	4.9	285	3.8
21	175	12.1	170	12.1	170	12.4	170	12.5	175	11.1	180	11.4	180	12.0	180	11.6	180	11.2	180	11.5	175	13.3	170	15.0
22	175	12.2	170	12.5	160	12.9	160	13.5	160	13.7	155	12.8	155	13.3	150	13.5	150	11.5	145	11.6	150	14.9	155	15.9
23	160	13.3	155	13.4	165	10.6	160	8.4	160	8.6	150	7.5	150	7.1	135	4.7	140	8.5	135	8.2	140	8.5	145	8.4
24	155	5.1	135	5.0	110	6.5	95	7.0	105	6.5	110	6.2	130	4.5	125	3.5	125	4.7	120	5.1	105	5.3	160	3.7
25	155	9.5	160	9.3	160	10.0	160	9.5	155	8.0	160	7.9	160	8.1	160	9.5	160	10.0	155	10.2	155	9.2	160	10.7
26	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	55	2.1	40	2.2	60	2.2	360	2.8
27	---	---	55	1.0	---	---	55	1.0	55	1.1	---	---	---	---	---	---	---	---	---	---	280	1.3	280	2.4
28	---	---	---	---	---	---	---	---	170	3.7	160	2.8	175	3.0	165	4.6	155	5.1	150	4.5	165	5.0	170	6.9
29	195	4.4	180	3.0	200	3.2	275	3.7	295	4.0	300	5.0	280	2.6	285	3.0	295	4.0	290	3.5	285	4.8	275	5.4
30	270	6.2	275	6.9	280	8.2	280	7.3	300	7.1	300	6.8	300	6.3	335	6.1	315	5.9	300	6.6	320	7.8	300	7.5
31	260	4.1	225	4.7	240	5.1	225	4.6	230	5.0	230	5.2	240	5.7	235	6.6	230	5.6	205	6.2	240	7.2	240	4.2
Mean	---	5.7	---	5.9	---	6.1	---	6.2	---	6.1	---	5.9	---	5.9	---	5.9	---	6.0	---	6.0	---	6.5	---	7.0

416. CAHRCIVEEN (Valentia Observatory): H<sub>a</sub> = 17 metres + 13 metres.

Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	355	2.7	360	1.0	360	1.7	5	2.4	20	3.0	15	5.5	10	5.5	35	4.2	55	3.7	25	4.5	25	6.3	25	6.1
2	65	1.0	110	1.1	175	4.4	190	4.8	220	6.5	220	7.5	220	6.8	220	7.0	220	6.6	225	7.0	225	7.9	230	8.0
3	235	5.5	230	5.7	235	5.8	230	5.6	230	5.6	230	5.2	220	4.6	230	5.0	230	4.9	230	5.8	235	5.0	230	5.0
4	180	5.7	165	5.3	155	5.4	155	5.6	150	6.0	150	6.0	150	7.0	150	7.5	160	7.1	170	5.0	170	5.5	180	5.9
5	170	5.9	170	5.0	170	5.2	165	5.0	160	5.9	180	2.2	165	4.0	165	4.5	155	4.0	165	4.5	165	5.0	160	5.0
6	125	3.8	160	5.1	140	5.1	150	4.4	135	4.1	165	4.7	150	4.8	130	5.1	155	5.8	160	6.7	160	7.6	175	7.4
7	200	1.3	155	2.5	155	2.2	160	1.7	165	3.2	70	1.4	---	---	145	4.5	105	4.5	145	6.0	165	7.7	170	9.4
8	200	3.6	195	3.5	195	3.4	180	3.2	170	4.5	185	3.8	175	4.3	180	5.3	190	5.8	190	5.7	190	6.8	190	7.8
9	200	7.6	210	8.0	220	7.8	230	8.6	235	7.1	230	6.3	230	6.7	230	6.8	220	6.7	210	6.8	230	7.8	225	8.4
10	185	10.0	180	10.7	175	10.8	170	11.6	175	9.9	175	8.4	165	8.1	170	8.5	175	8.0	175	8.8	175	8.4	175	8.1
11	170	5.5	180	5.1	185	5.7	185	6.0	180	5.7	180	4.3	170	6.2	175	5.7	185	4.8	190	4.9	185	5.9	210	6.3
12	345	2.8	340	3.5	350	5.5	360	5.3	360	6.5	5	6.0	20	5.2	5	5.3	5	7.1	360	8.2	15	7.2	25	7.9
13	60	2.4	50	2.2	45	2.5	80	4.2	80	4.7	80	3.9	---	---	---	---	---	---	---	---	290	2.2	285	2.6
14	120	3.2	155	5.8	150	6.5	155	4.9	145	5.2	145	6.2	145	6.0	160	6.5	155	6.7	160	8.0	175	7.7	180	7.9
15	175	6.4	180	6.0	175	5.9	175	7.0	185	5.8	180	6.4	185	5.2	195	4.8	200	5.0	210	6.5	215	7.5	225	7.6
16	185	3.0	180	2.0	170	1.7	140	1.5	60	1.0	50	1.3	100	1.3	110	1.4	130	2.1	160	2.5	180	4.0	195	5.0
17	---	---	---	---	70	1.0	85	3.4	90	2.2	95	2.9	75	2.2	55	2.8	85	5.6	100	3.1	95	2.4	310	3.0
18	110	5.0	110	4.8	115	7.3	110	6.9	105	5.3	100	4.9	110	6.0	105	5.2	90	5.6	90	7.4	95	5.3	105	5.2
19	100	6.1	100	4.2	70	4.1	75	4.8	85	5.0	85	4.0	90	5.4	90	6.1	95	7.5	95	8.1	90	6.5	100	7.0
20	85	5.0	75	5.4	85	5.0	80	3.5	80	5.0	80	4.0	85	4.5	70	5.2	60	5.5	70	6.2	65	6.8	60	6.5
21	90	1.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	60	2.3	55	3.1	50	1.6
22	120	5.4	125	6.0	125	6.5	125	6.4	120	7.1	140	7.5	145	8.1	140	8.3	150	10.0	160	11.2	150	12.6	160	11.7
23	215	3.7	225	3.0	215	2.4	210	2.4	200	2.7	180	3.6	170	3.0	170	3.1	185	3.6	210	3.9	230	4.6	215	5.0
24	170	8.4	170	7.3	175	7.6	165	8.0	165	8.5	160	8.7	160	10.6	155	10.0	155	9.7	155	8.6	160	9.2	165	10.5
25	185	8.8	180	9.2	175	8.5	175	9.0	175	10.2	175	11.5	180	10.1	200	9.5	195	10.0	195	11.0	200	10.4	195	9.7
26	255	9.6	250	9.5	255	9.6	250	8.5	245	7.7	230	5.8	220	6.7	215	6.8	210	6.8	210	8.0	215	8.4	225	8.0
27	270	7.5	265	7.2	250	6.4	240	5.4	240	5.7	235	6.3	230	7.6	235	6.4	255	6.8	260	7.4	260	8.6	265	8.3
28	185	4.5	185	3.9	190	4.0	190	3.9	190	4.5	185	4.1	170	4.3	200	4.4	210	4.7	230	5.7	230	5.6	215	6.2
29	70	1.2	55	1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	360	(4.2)	360	4.9	355	5.0
30	50	1.1	75	1.6	85	2.6	50	2.9	75	2.1	65	3.3	60	3.4	50	5.2	35	6.2	55	5.5	15	6.1	5	6.2
Mean	---	4.6	---	4.6	---	4.9	---	4.9	---	5.1	---	4.9	---	5.0	---	5.2	---	5.5	---	6.1	---	6.6	---	6.7
Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	



## WIND: DIRECTION AND SPEED.

329

Averages for periods of sixty minutes, ending at the exact hours, Greenwich Mean Time.

M.S.L. +  $h_a$  (height of anemograph above ground) = 17 metres + 13 metres.

MARCH, 1933.

12 - 13		13 - 14		14 - 15		15 - 16		16 - 17		17 - 18		18 - 19		19 - 20		20 - 21		21 - 22		22 - 23		23 - 24		Mean	Day	
°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	m/s		
190	3.5	190	5.3	190	5.2	175	5.7	175	6.1	170	5.1	170	4.9	155	6.4	155	7.0	170	6.0	160	5.5	155	7.3	4.5	1	
95	6.1	80	5.9	80	6.7	65	6.4	50	5.4	60	2.6	75	2.2	70	3.7	5	2.6	5	1.0	---	---	---	---	---	2	
360	4.0	360	4.4	350	4.5	340	5.0	340	4.2	345	4.1	360	4.3	360	2.2	325	4.3	320	5.3	310	5.4	305	5.8	4.5	3	
265	5.8	280	5.7	275	5.6	285	6.8	280	5.7	275	6.5	260	5.0	240	7.0	255	5.8	265	5.4	240	6.1	210	4.9	5.4	4	
180	13.2	180	14.9	190	15.0	200	15.1	210	12.3	220	12.4	240	12.5	265	11.0	275	8.3	240	5.8	215	4.5	190	4.9	8.9	5	
220	8.5	200	9.5	220	5.3	230	11.5	230	10.8	240	10.0	235	8.8	230	7.8	255	6.2	210	4.3	240	7.4	255	7.6	8.6	6	
315	5.1	295	5.9	280	4.8	280	4.5	270	5.2	285	2.4	205	1.8	180	3.5	175	4.0	175	5.3	170	5.1	190	5.0	5.8	7	
185	12.5	185	13.2	190	12.0	190	12.2	195	11.0	195	11.0	195	10.8	195	10.0	195	10.9	195	11.6	200	12.0	195	13.3	11.0	8	
170	11.2	170	12.5	165	12.4	170	12.4	170	12.0	170	11.7	165	12.3	170	12.4	175	11.9	175	11.4	170	11.4	170	11.7	11.3	9	
140	5.6	140	5.6	145	3.9	130	5.4	110	4.5	120	6.5	115	8.3	110	8.7	100	7.4	60	5.1	100	5.1	135	7.0	7.7	10	
155	6.4	155	6.5	160	7.0	195	5.8	190	6.1	180	5.5	160	3.2	115	3.2	50	1.0	---	---	---	---	---	---	4.4	11	
200	4.5	205	4.4	195	4.4	180	4.8	210	4.9	210	3.3	175	3.0	155	3.3	145	1.5	70	1.3	60	1.4	55	1.8	2.2	12	
205	4.2	220	5.5	220	5.2	220	5.8	220	4.9	230	4.7	250	4.1	275	1.7	---	---	---	---	215	2.6	200	2.8	210	3.3	13
180	9.8	180	10.8	180	11.7	200	11.4	215	11.5	210	10.2	210	8.8	230	7.8	220	6.7	260	3.8	190	2.7	185	3.4	5.7	14	
180	10.6	180	11.4	180	10.4	180	9.9	185	10.8	190	12.8	185	13.6	225	12.0	255	8.2	245	7.3	240	7.0	255	7.4	8.4	15	
235	10.5	230	10.9	230	11.5	235	7.7	225	8.4	215	8.4	220	6.5	225	6.1	205	5.8	210	5.2	185	4.3	180	5.0	7.2	16	
285	3.4	310	4.7	345	5.9	340	5.8	345	6.6	340	5.8	355	(3.0)	---	(...)	---	(...)	---	(...)	---	(...)	---	60	(2.4)	3.3	17
265	6.9	265	7.3	230	6.5	220	5.5	240	1.3	270	2.7	105	2.1	210	6.8	265	9.6	255	8.4	240	6.0	235	5.3	5.2	18	
285	7.1	290	8.5	315	13.0	315	10.2	320	8.7	315	7.6	310	7.6	340	8.7	360	6.9	360	7.0	360	5.8	345	7.0	7.1	19	
280	3.2	265	4.3	230	4.6	195	6.7	190	7.5	180	7.5	170	8.0	175	8.5	170	8.7	170	8.8	165	11.2	170	11.4	7.1	20	
175	14.9	175	15.1	170	14.9	165	14.3	170	14.1	170	12.9	170	13.0	175	11.6	175	12.1	175	11.9	175	11.5	175	11.6	12.7	21	
160	16.6	160	17.0	165	16.8	165	16.3	160	15.8	160	15.1	160	14.7	155	14.1	160	14.6	160	14.5	165	13.3	160	13.9	14.2	22	
145	7.8	145	8.5	150	8.3	160	8.4	150	6.7	150	4.9	145	5.0	145	5.4	145	6.0	150	5.3	145	5.8	155	5.2	7.7	23	
145	7.3	150	7.6	160	6.2	165	6.2	160	7.1	160	8.3	155	7.5	160	8.6	155	9.3	155	8.3	150	9.4	155	9.4	6.6	24	
165	10.4	160	10.3	165	9.5	165	9.0	165	9.2	165	9.2	160	8.4	155	7.1	155	2.9	---	---	---	---	---	---	7.9	25	
335	(4.9)	335	(4.4)	330	4.2	315	3.6	320	3.5	335	4.4	350	2.8	---	---	---	---	---	---	---	---	---	---	1.8	26	
280	2.0	280	3.0	285	3.8	265	3.4	255	(3.4)	255	(3.1)	215	(2.9)	175	3.1	165	2.2	70	1.0	60	1.6	60	1.5	1.7	27	
190	6.4	200	7.1	200	7.0	185	7.7	190	7.3	185	7.7	190	7.0	175	5.6	185	5.0	210	4.1	185	6.2	180	5.7	4.8	28	
265	5.8	270	6.3	285	4.6	285	4.6	275	4.8	260	6.3	265	6.5	250	5.7	255	4.9	255	7.0	275	7.1	270	7.6	4.9	29	
330	5.7	305	5.8	315	6.2	315	6.7	305	6.1	300	5.8	295	3.8	290	3.6	290	3.8	270	3.9	245	4.9	250	4.7	6.0	30	
180	4.7	210	5.5	275	5.5	270	6.1	280	6.0	290	5.0	305	4.2	315	2.6	320	1.4	345	1.2	20	1.9	10	2.7	4.7	31	
---	7.4	---	8.0	---	7.8	---	7.9	---	7.5	---	7.2	---	6.7	---	6.4	---	5.8	---	5.3	---	5.4	---	5.8	6.4		

APRIL, 1933.

°	m/s.	°	m/s.	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°</
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417. CAHRCIVEEN (Valentia Observatory):  
Dines Anemograph from Jan., 1926. $H_a$  (height of anemograph above M.S.L.) = Height of ground above

Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	
Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	60	4.9	70	4.6	65	4.1	50	4.6	40	5.0	55	5.0	50	4.8	55	5.5	55	7.0	60	6.2	50	7.0	50	7.3
2	85	3.9	75	3.7	80	4.9	80	6.8	75	7.1	70	8.5	65	8.1	65	9.5	65	9.4	60	9.6	60	9.9	65	10.8
3	90	10.8	75	7.9	60	7.0	60	6.8	85	8.5	65	8.0	70	9.7	80	12.2	75	11.2	85	10.1	100	9.8	100	9.1
4	155	9.8	140	10.3	140	11.0	155	11.5	165	11.2	165	10.5	155	11.1	160	9.6	160	8.5	160	8.5	145	6.5	155	6.6
5	160	10.1	165	11.0	165	11.4	165	11.9	170	10.5	170	11.2	165	11.7	165	11.2	175	11.0	170	10.9	175	11.8	175	12.1
6	180	4.0	190	4.8	210	3.9	200	3.3	170	(3.3)	160	(3.7)	150	(3.7)	160	(3.3)	190	(2.7)	190	2.4	235	3.0	275	2.1
7	290	5.2	290	5.5	295	6.6	295	6.2	290	6.4	300	7.7	300	8.3	300	8.5	305	8.0	310	7.2	305	7.2	315	6.9
8	170	4.7	175	5.5	175	6.3	180	8.4	170	9.1	175	8.7	195	7.5	235	7.5	250	8.7	265	8.9	270	9.4	265	9.1
9	280	9.5	290	9.8	300	8.4	310	7.8	300	8.0	295	6.5	300	7.4	300	7.7	285	6.9	275	8.7	270	8.6	275	9.3
10	275	5.9	280	4.2	295	4.0	300	5.2	320	5.1	5	2.6	360	2.2	350	1.4	345	3.0	350	4.0	320	3.5	320	3.9
11	270	2.0	330	6.7	335	8.1	345	7.9	355	6.6	355	5.5	350	5.4	360	5.2	335	5.5	330	5.0	320	5.1	310	3.7
12	---	---	---	---	160	2.3	170	3.3	165	2.8	145	2.5	120	3.3	90	4.1	95	4.4	110	4.0	105	(4.1)	140	(3.6)
13	---	---	---	---	---	---	195	3.3	185	4.8	175	5.3	175	5.5	175	5.6	175	7.1	210	5.9	225	7.4	245	8.0
14	285	3.1	285	2.9	310	2.8	335	1.7	335	1.4	---	---	---	---	340	1.7	330	2.4	280	1.5	15	4.0	25	3.9
15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	175	2.3	180	4.1	180	5.0	175	5.5
16	180	6.3	185	6.9	190	6.4	185	5.6	190	5.3	185	5.9	190	5.8	195	5.5	185	(5.6)	190	(5.4)	210	4.3	215	4.7
17	175	1.3	180	2.5	165	3.3	160	3.0	175	2.7	180	2.6	185	2.9	190	2.2	185	2.4	160	3.6	180	3.5	190	5.1
18	175	3.9	180	4.3	180	4.1	175	5.2	165	5.7	170	6.5	180	8.1	170	9.4	175	8.8	185	9.2	185	9.7	185	9.6
19	180	6.1	180	5.4	175	6.2	175	5.0	175	5.5	175	5.8	175	7.4	185	7.6	180	9.2	175	9.2	180	9.2	175	8.5
20	175	8.0	165	8.3	180	9.5	180	9.1	185	9.1	205	6.3	215	7.0	215	7.7	220	8.5	225	9.0	220	8.8	215	9.2
21	170	4.7	170	4.7	170	4.4	200	4.4	180	2.8	125	2.6	160	2.7	175	3.6	185	3.6	230	2.6	265	2.6	255	4.5
22	---	---	---	---	55	1.5	55	1.1	60	1.5	---	---	---	---	---	---	325	1.0	360	3.6	325	4.7	330	5.3
23	---	---	---	---	45	1.2	35	1.5	45	1.2	---	---	---	---	---	---	360	1.0	340	3.1	345	4.2	325	4.5
24	55	1.9	50	1.2	---	---	165	3.0	170	4.6	215	4.4	250	4.5	260	4.2	260	4.1	260	4.8	280	5.6	320	5.4
25	315	5.8	310	5.3	315	5.5	300	5.7	300	5.4	300	6.1	305	7.2	305	6.6	300	7.5	300	6.9	305	7.3	300	7.7
26	330	5.9	320	5.7	305	6.4	305	6.8	305	5.7	305	4.1	295	5.0	290	5.2	280	5.5	270	4.6	275	3.9	225	2.1
27	360	3.5	355	1.6	355	3.0	345	3.9	345	4.5	345	4.6	335	4.6	335	5.2	350	5.5	345	6.0	345	5.5	340	5.5
28	60	1.1	---	---	---	---	---	---	---	---	---	---	145	1.7	165	1.8	175	3.0	160	3.8	170	3.9	180	4.9
29	(325)	1.8	---	---	---	---	---	---	---	---	---	---	---	---	(310)	1.0	---	---	(290)	2.0	280	3.3	280	4.8
30	150	4.9	155	5.9	160	6.5	160	6.7	160	7.5	160	8.9	150	7.7	150	8.8	155	9.4	155	9.0	155	9.1	150	8.9
31	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	190	1.5	190	2.7	185	2.8	195	5.0
Mean	---	4.2	---	4.3	---	4.6	---	4.9	---	4.9	---	4.8	---	5.1	---	5.4	---	5.8	---	6.0	---	6.2	---	6.4

418. CAHRCIVEEN (Valentia Observatory):  $H_a$  = 17 metres + 13 metres.

Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	170	6.4	180	4.4	175	4.5	165	4.5	160	7.1	145	8.7	150	9.4	170	8.5	170	7.7	160	8.8	150	9.1	170	10.0
2	185	5.6	185	5.4	180	5.5	175	5.9	170	6.7	175	6.7	170	7.8	175	9.0	175	9.2	180	9.5	180	10.0	180	10.1
3	105	4.1	105	4.0	105	2.9	120	2.4	---	---	100	1.3	---	---	---	---	---	---	10	3.0	45	3.5	50	2.8
4	80	1.0	---	---	---	---	160	1.2	155	3.7	155	2.7	145	2.8	160	4.7	185	4.4	185	6.5	180	8.4	170	6.9
5	180	5.8	175	6.8	180	5.7	175	5.3	180	4.6	180	4.5	180	4.7	180	7.0	180	8.6	185	8.5	185	7.9	190	7.0
6	175	4.0	165	3.9	160	4.4	155	5.0	160	4.9	155	6.3	160	6.0	160	5.7	160	7.2	160	8.2	170	8.4	180	9.4
7	160	7.9	170	7.5	170	7.7	170	6.4	165	6.6	160	6.4	165	6.0	170	5.7	175	5.6	170	6.7	170	5.6	170	5.2
8	10	4.2	25	4.1	30	4.5	50	2.5	50	2.5	30	3.5	20	5.9	25	6.4	20	6.9	10	7.3	30	7.4	30	7.0
9	40	5.5	55	6.3	60	6.1	60	5.0	5	1.6	30	4.5	30	7.5	35	8.0	30	8.5	30	8.0	30	8.4	30	9.2
10	95	3.0	50	4.5	60	4.0	70	3.7	40	3.6	50	3.0	50	4.1	45	4.5	35	4.8	20	5.3	360	7.0	360	7.0
11	355	3.5	355	2.9	350	3.6	345	2.8	330	4.7	335	4.5	330	4.4	325	6.0	330	7.1	335	7.8	320	6.0	305	4.5
12	330	5.0	340	5.6	340	5.7	350	4.3	335	3.8	340	2.6	340	3.9	340	4.0	340	5.0	330	4.2	330	4.6	320	4.7
13	330	3.9	335	4.5	340	3.5	340	4.4	335	4.0	340	3.4	345	4.9	350	4.5	350	4.5	340	4.5	340	4.9	330	4.3
14	15	1.0	25	1.4	340	2.4	350	1.9	---	---	30	1.2	20	1.2	330	(3.2)	15	(3.0)	25	(2.3)	320	3.9	310	3.4
15	270	1.3	---	---	180	1.3	180	1.7	180	2.1	180	4.3	175	5.0	175	4.5	235	2.1	275	3.4	275	3.3	275	3.8
16	5	2.3	350	1.1	---	---	---	---	---	---	---	---	190	1.7	180	3.8	205	5.0	220	6.0	215	7.1	220	7.5
17	315	7.7	315	8.0	315	9.3	310	8.1	310	8.2	305	8.5	305	8.1	300	8.9	300	8.2	300	9.7	310	8.1	305	9.0
18	320	9.1	315	9.5	315	9.3	300	9.8	315	9.6	315	10.1	310	10.4	315	9.9	305	9.0	305	8.8	315	9.1	315	9.1
19	320	4.0	315	4.5	315	4.4	335	5.4	320	5.3	330	5.4	315	4.8	310	5.1	315	5.8	310	6.1	310	5.9	300	6.8
20	275	3.3	275	3.2	295	4.0	300	4.5	295	4.4	305	5.0	310	4.4	305	5.0	310	4.8	315	4.8	305	4.3	320	5.2
21	355	9.5	350	8.0	345	5.0	345	5.2	330	5.0	310	3.9	305	4.9	295	4.5	315	5.2	350	8.7	345	8.7	345	8.7
22	345	5.1	340	5.0	330	5.2	325	4.6	335	4.9	335	5.6	335	5.7	340	6.1	345	7.8	340	8.1	345	8.0	345	6.8
23	295	1.2	225	1.4	195	2.1	155	2.2	55	1.7	120	1.2	135	1.7	170	(2.2)	210	(3.7)	215	3.8	255	4.6	265	5.0
24	310	5.4	315	4.6	315	3.6	325	4.2	335	3.0	350	3.6	360	4.3	360	5.2	365	5.1	360	5.3	345	6.8	345	6.2
25	280	3.6	330	4.2	20	5.1	20	5.1	40	5.8	35	7.4	25	8.9	35	8.3	40	8.4	30	8.4	20	7.0	5	8.5
26	---	---	310	2.9	5	3.2	355	4.5	360	2.8	355	3.0	350	4.0	350	2.7	340	3.8	340	6.4	345	5.9	350	7.2
27	35	1.6	50	2.1	75	4.0	55	3.9	60	4.0	50	3.7	65	1.9	40	2.2	25	5.1	40	5.4	5	5.1	345	6.0
28	360	4.6	360	4.0	355	3.6	10	3.2	360	4.4	355	5.5	355	6.2	355	6.5	350	6.5	345	7.4	350	6.7	350	7.2
29	5	5.1	10	3.6	15	4.4	20	4.9	40	2.7	25	3.3	10	3.6	5	4.9	20	4.9	15	5.2	10	4.7	355	6.5
30	355	3.5	360	2.5	5	2.2	---	---	---	---	---	---	---	---	280	1.0	270	1.9	280	1.7	280	2.3	275	3.1
Mean	---	4.3	---	4.2	---	4.3	---	4.1	---	4.0	---	4.4	---	4.8	---	5.3	---	5.7	---	6.3	---	6.4	---	6.6
Hour G. M. T.	0 - 1	1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12		



## 331

**M.S.L. +  $h_a$  (height of anemograph above ground) = 17 metres + 13 metres.**

MAY, 1933.

12 - 13		13 - 14		14 - 15		15 - 16		16 - 17		17 - 18		18 - 19		19 - 20		20 - 21		21 - 22		22 - 23		23 - 24		Mean	Day
°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	m/s	
50	7.3	50	6.9	50	6.6	60	5.9	70	5.5	75	4.6	65	6.0	80	5.3	95	4.0	90	4.0	80	3.5	90	4.7	5.4	1
65	10.8	65	10.3	65	9.8	70	9.2	80	10.0	85	11.4	80	10.0	65	7.9	60	5.4	60	4.6	80	4.7	75	10.7	8.2	2
110	9.1	145	7.4	155	8.4	170	9.1	165	9.1	160	9.0	140	7.1	130	6.5	105	8.0	125	8.5	140	7.3	155	10.0	8.8	3
160	6.9	170	6.3	185	9.2	180	8.3	180	9.1	175	9.2	175	9.8	170	9.3	170	8.6	170	8.4	170	8.2	165	8.8	9.1	4
180	11.0	185	11.3	185	11.2	195	10.0	195	9.9	190	9.0	180	7.7	175	6.7	155	5.4	155	6.0	170	5.7	170	4.7	<u>2.7</u>	5
280	1.4	285	4.4	310	5.3	310	5.5	315	5.9	320	5.0	325	4.8	330	3.5	310	4.3	300	3.6	290	3.5	285	4.0	3.8	6
315	7.4	320	7.8	315	6.9	310	5.6	320	5.3	310	5.2	305	4.4	305	3.3	275	2.8	240	2.0	185	3.1	175	3.9	5.9	7
265	9.6	260	10.2	265	11.1	265	10.3	265	10.9	260	10.0	260	10.8	245	8.7	265	10.8	275	10.9	275	10.3	275	10.2	9.1	8
270	8.2	265	7.9	270	8.1	270	9.7	275	9.6	275	8.3	275	8.2	275	8.1	275	6.1	275	6.2	275	5.7	275	6.4	8.0	9
320	4.1	310	3.6	300	3.5	350	2.5	280	3.0	275	2.2	280	1.0	---	---	---	---	---	---	220	1.1	---	---	2.8	10
315	3.9	285	4.0	280	4.7	275	5.1	270	5.2	270	5.6	275	5.2	280	3.3	---	---	250	3.6	250	3.6	245	1.8	4.7	11
110	(3.3)	130	3.6	90	3.1	330	2.8	---	---	335	1.8	335	(3.0)	325	(2.0)	330	(1.7)	340	(.1)	335	2.0	325	(1.7)	2.6	12
265	9.0	270	7.0	270	4.9	270	5.7	270	6.1	280	4.8	280	4.7	280	3.9	275	4.1	285	3.1	280	4.0	290	3.7	4.8	13
5	5.0	335	5.1	330	5.5	340	5.5	330	6.1	335	5.4	335	4.1	345	2.0	---	---	---	---	---	---	---	---	3.0	14
190	5.7	190	6.2	180	6.5	185	6.6	190	7.0	190	6.1	180	5.3	175	4.9	170	5.4	160	5.9	160	5.0	170	4.9	4.0	15
230	5.0	230	4.9	230	4.6	235	4.1	235	3.7	240	2.9	230	2.7	230	1.2	240	1.8	215	1.0	170	2.7	175	2.5	4.4	16
190	5.7	190	6.6	190	6.9	180	7.0	190	6.1	185	5.5	185	5.5	170	5.4	180	4.5	160	5.1	160	4.4	170	4.4	4.3	17
180	9.6	180	10.2	185	9.8	185	9.2	185	8.8	185	7.9	185	7.4	195	6.7	210	6.3	205	5.2	190	4.3	185	4.7	7.3	18
180	8.9	170	8.3	155	9.2	165	10.3	170	11.4	170	11.0	170	10.4	175	10.3	175	10.6	180	10.0	165	8.7	185	8.0	8.4	19
215	9.8	220	9.5	215	10.0	215	9.7	215	9.0	215	9.0	210	7.8	210	6.9	200	5.4	200	5.0	195	4.5	185	3.8	8.0	20
270	4.9	280	5.1	280	4.9	280	4.4	280	4.0	280	3.5	280	2.8	285	1.6	---	---	---	---	---	---	---	---	3.2	21
325	5.4	330	6.3	330	6.7	335	6.0	330	5.8	335	6.2	340	6.2	350	5.0	20	1.0	---	---	---	---	---	---	3.0	22
315	5.6	310	5.2	315	5.2	315	5.3	315	5.0	320	4.8	315	4.0	320	2.7	---	---	---	---	---	---	---	---	2.6	23
330	6.8	330	8.5	335	9.3	335	8.8	330	9.2	335	8.9	340	8.5	330	8.1	330	7.9	330	6.4	340	7.1	325	6.2	5.8	24
295	8.0	295	8.5	300	9.1	295	8.0	295	7.9	300	7.4	295	7.0	300	6.7	305	7.6	305	8.0	305	7.2	305	6.8	7.1	25
190	5.2	170	6.9	175	7.6	240	5.3	275	5.0	280	4.6	300	5.2	355	5.3	35	5.2	25	4.1	10	4.3	5	3.0	5.1	26
330	5.5	325	6.1	330	4.7	320	4.8	315	4.4	320	4.1	315	3.3	300	2.6	325	1.3	---	---	---	---	---	---	3.8	27
190	4.8	190	4.8	200	4.6	215	4.5	255	3.4	275	4.8	300	2.1	(330)	3.2	(325)	2.0	(325)	2.2	(325)	2.7	(325)	2.3	2.8	28
280	5.0	280	5.0	285	4.8	280	4.7	285	3.8	285	2.7	280	1.6	235	2.8	210	3.0	180	2.9	165	3.5	155	4.1	<u>2.5</u>	29
155	10.0	160	10.4	160	10.1	160	10.6	160	10.3	160	9.9	190	8.5	180	1.9	205	1.2	---	---	---	---	---	---	7.0	30
195	6.5	190	7.5	190	6.8	200	7.0	180	7.0	175	4.9	145	4.5	155	6.2	155	7.5	140	6.0	145	7.5	150	6.2	3.9	31
---	6.8	---	7.0	---	<u>7.1</u>	---	6.8	---	6.7	---	6.3	---	5.8	---	4.9	---	4.3	---	<u>4.1</u>	---	4.1	---	4.2	5.5	

JUNE, 1933.

[illegible]



Direction expressed in degrees from North (E = 90°, S = 180°, W = 270°, N = 360°): Speed in Metres per second.

419. CAHIRCIVEEN (Valentia Observatory):  
Dines Anemograph from Jan., 1926.H<sub>a</sub> (height of anemograph above M.S.L.) = Height of ground above

Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	
Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	---	---	---	---	---	---	65	1.0	---	---	---	---	---	---	---	---	---	---	---	---	310	2.2	270	2.4
2	---	---	---	---	---	55	2.0	70	2.7	25	1.4	---	---	---	50	2.0	55	3.6	30	3.7	45	5.0	25	4.6
3	200	1.7	185	2.6	190	1.5	---	---	---	---	60	1.4	65	1.0	---	---	---	---	---	---	270	2.0	260	2.5
4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	350	1.4	290	1.3	275	1.4	275	2.4
5	---	---	---	---	---	---	75	1.3	---	---	190	1.4	90	3.8	105	7.8	105	7.2	100	6.1	90	5.3	120	7.5
6	100	3.9	120	3.1	100	4.5	105	4.8	110	5.1	100	5.7	105	6.8	115	8.0	105	5.1	110	3.6	125	5.5	115	7.0
7	135	6.9	120	7.6	120	6.7	100	5.5	105	3.5	105	4.0	140	3.0	190	2.4	180	2.1	180	1.8	---	---	---	---
8	205	7.4	205	7.8	195	8.0	190	7.4	185	6.0	180	4.8	180	4.9	180	2.7	70	1.6	270	1.7	275	3.0	240	5.3
9	230	4.6	230	4.3	220	4.7	210	4.7	210	5.1	210	6.0	210	6.9	195	5.9	195	7.3	190	8.6	190	8.0	215	(9.0)
10	230	7.3	225	8.5	235	8.1	235	7.4	240	8.4	245	7.4	240	6.6	245	7.1	245	7.2	240	7.4	235	8.0	235	8.6
11	240	5.7	240	5.4	240	5.7	250	6.6	255	6.9	260	7.1	270	6.6	275	5.4	270	6.5	265	6.7	265	6.7	265	7.0
12	275	5.1	280	4.6	270	5.6	275	5.6	275	5.0	290	5.1	335	4.5	275	(3.5)	280	(5.2)	300	(5.0)	275	3.9	280	5.0
13	180	10.2	170	9.8	190	(8.6)	235	(8.0)	235	(7.8)	230	(6.6)	250	6.1	245	5.9	235	5.8	230	5.5	245	7.6	260	8.3
14	305	8.4	305	8.5	300	7.1	305	7.8	305	7.5	300	7.8	300	6.2	290	5.1	280	5.6	275	6.5	270	6.4	270	7.4
15	175	3.5	170	4.0	155	2.2	---	---	95	1.2	65	1.2	---	---	---	---	5	3.0	335	4.6	325	5.8	340	5.6
16	355	4.9	355	3.4	350	4.4	360	3.0	30	1.3	335	4.2	340	4.0	335	4.2	330	4.4	335	4.5	325	3.4	280	4.4
17	170	7.1	175	5.7	180	4.0	230	3.1	245	4.1	235	4.2	240	4.0	250	3.5	270	1.8	250	4.2	255	4.3	250	4.2
18	185	5.1	180	4.3	185	8.6	185	6.5	180	6.6	175	7.1	175	6.2	180	6.1	185	6.4	185	7.0	185	8.1	185	8.6
19	185	8.1	180	8.9	180	8.4	215	4.1	200	4.5	215	6.0	230	5.4	230	5.8	230	5.8	245	6.0	230	7.2	240	7.7
20	275	4.5	255	2.9	285	2.8	280	1.3	270	(4.0)	270	(5.0)	290	(3.8)	270	(5.0)	280	5.2	275	3.4	280	4.1	280	4.9
21	---	---	---	---	---	---	---	---	---	---	---	---	---	---	180	2.1	170	2.9	185	4.3	180	4.7	180	5.1
22	145	2.0	150	1.2	170	1.4	170	1.6	175	1.8	---	---	185	1.6	200	2.0	220	1.3	265	1.7	275	3.0	275	3.2
23	---	---	320	1.0	330	1.2	---	---	325	1.1	330	1.0	---	---	300	1.3	270	1.9	275	2.0	275	3.1	275	3.5
24	215	2.6	255	3.5	265	2.3	---	---	260	1.8	260	1.7	---	---	190	1.8	180	3.8	190	3.8	175	4.7	190	5.3
25	205	6.0	195	4.4	200	4.0	195	6.1	185	4.1	195	3.9	190	4.7	185	5.9	185	7.0	175	7.0	175	7.4	180	7.5
26	190	5.9	190	7.4	200	7.1	240	4.7	245	3.7	245	4.0	270	5.5	270	4.7	275	4.2	285	3.6	280	3.1	275	3.9
27	---	---	---	---	---	---	30	1.2	75	3.6	120	1.3	130	1.2	45	2.3	70	3.6	350	3.2	360	(4.4)	355	(5.0)
28	165	3.9	180	5.7	190	6.8	195	7.2	195	8.1	195	9.2	210	10.0	235	8.4	255	7.5	260	8.6	260	8.7	270	8.0
29	275	7.1	270	7.8	275	8.6	275	8.5	270	9.0	275	9.8	275	9.6	275	10.0	280	9.5	290	8.7	305	8.6	310	9.3
30	160	1.6	110	1.3	65	1.2	65	1.3	165	3.5	160	5.0	170	6.4	175	8.5	180	9.9	180	10.0	175	10.9	175	11.6
31	300	10.4	300	12.0	300	11.6	300	11.0	310	10.8	310	11.2	315	12.0	320	10.7	335	9.7	330	10.1	330	12.0	330	11.1
Mean	---	4.4	---	4.5	---	4.5	---	4.0	---	4.1	---	4.3	---	4.3	---	4.5	---	4.8	---	4.9	---	5.5	---	6.0

420. CAHIRCIVEEN (Valentia Observatory): H<sub>a</sub> = 17 metres + 13 metres.

Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	300	2.7	300	2.8	285	2.8	270	1.4	265	1.1	250	2.2	245	1.0	250	2.4	230	2.6	225	2.6	240	4.1	240	4.5
2	185	6.6	185	7.0	200	6.4	190	6.0	200	4.9	190	5.3	205	4.6	210	4.5	220	4.5	215	4.4	220	6.4	225	6.2
3	245	2.0	245	2.1	245	1.7	---	---	---	---	245	1.0	---	---	---	---	---	---	330	2.1	315	2.8	305	3.0
4	---	---	50	2.1	45	1.4	45	1.4	60	1.5	65	1.2	---	---	60	1.0	65	2.7	110	2.7	165	3.2	215	5.2
5	---	---	---	---	---	---	80	1.0	---	---	---	---	---	---	---	---	200	2.1	210	3.0	170	5.0	190	5.9
6	215	2.6	165	2.4	160	3.6	165	4.2	175	4.4	210	3.8	275	1.8	---	---	285	1.3	290	1.5	270	2.8	295	3.8
7	65	5.4	60	1.1	45	1.9	---	---	---	---	140	1.2	---	---	20	1.6	270	1.9	285	3.9	280	4.2	270	4.3
8	315	4.4	315	4.4	305	4.1	320	4.1	320	2.5	295	3.4	325	2.9	320	2.1	285	2.7	280	2.9	280	3.3	280	3.2
9	225	4.0	230	4.7	260	4.8	270	4.0	280	3.0	310	1.8	305	2.6	330	2.9	350	3.8	345	4.0	340	3.8	340	4.5
10	80	2.9	90	2.7	75	3.8	80	3.0	65	3.3	70	3.0	60	2.6	70	4.1	70	5.1	60	5.0	65	4.9	40	3.9
11	---	---	---	---	---	---	100	1.0	55	1.7	60	1.2	70	1.2	300	1.0	340	1.3	65	4.4	50	4.3	60	4.1
12	170	1.9	---	---	---	---	50	1.0	70	1.4	60	2.5	---	---	---	---	---	---	275	1.5	130	1.5	150	3.7
13	95	3.0	120	4.8	140	4.5	155	3.9	155	4.7	140	3.4	155	3.9	155	4.0	165	4.8	155	5.1	160	4.8	170	5.3
14	---	---	55	1.0	---	---	---	---	---	---	---	---	---	---	325	3.0	325	2.4	320	3.4	335	4.0	290	3.8
15	195	9.8	200	10.0	205	11.7	225	9.9	240	8.6	255	9.1	270	8.1	275	8.1	290	6.7	305	7.1	305	6.5	305	6.6
16	305	3.8	305	4.2	295	3.1	295	3.1	300	2.7	315	2.1	40	1.3	275	1.6	310	2.8	330	2.5	275	2.5	270	3.5
17	205	9.6	210	10.4	210	11.6	210	10.7	215	10.6	220	10.6	225	9.9	240	7.5	235	7.4	245	8.3	250	8.4	240	8.6
18	255	5.8	250	5.9	245	5.1	245	5.2	240	5.4	230	4.6	235	5.4	240	5.4	240	7.2	240	8.0	235	7.8	235	9.4
19	250	3.9	270	5.3	260	4.9	265	5.9	270	6.0	270	5.3	275	4.5	260	4.6	270	5.7	270	5.5	270	5.0	280	5.6
20	245	7.0	265	8.9	290	6.5	300	7.1	300	7.0	300	6.2	300	6.5	300	5.6	300	6.2	290	6.1	280	6.8	275	7.7
21	315	6.2	315	6.5	315	5.3	325	5.4	330	6.2	325	5.8	330	6.5	325	7.4	330	7.9	335	9.7	340	9.0	345	8.2
22	---	---	175	1.4	180	2.8	60	1.1	55	1.0	---	---	---	---	175	1.9	175	2.5	180	3.0	185	5.1	220	7.0
23	325	6.5	320	6.1	310	6.9	305	7.1	300	6.0	310	5.8	315	6.3	310	6.7	325	6.2	320	5.9	305	6.1	300	5.8
24	180	3.5	130	2.0	175	3.6	175	4.3	170	2.6	180	3.9	180	4.9	190	5.6	190	5.5	195	6.7	200	6.0	195	7.3
25	175	8.6	175	8.0	180	7.5	185	8.6	190	8.6	195	9.7	190	8.6	190	9.6	190	8.4	190	7.5	180	8.0	180	9.0
26	170	7.3	165	7.9	165	8.5	155	10.2	160	9.9	160	9.2	165	9.0	165	9.6	165	9.3	170	8.5	170	8.2	175	8.9
27	185	7.5	190	7.5	190	7.3	185	6.3	185	6.0	185	4.9	180	4.3	175	5.2	175	5.2	180	5.4	190	5.0	185	4.1
28	270	4.2	310	4.4	325	4.5	345	2.0	325	2.6	335	2.8	340	2.6	---	---	355	1.0	---	---	295	1.3	295	1.3
29	60	1.8	55	2.3	55	1.6	50	1.0	175	3.6	180	2.7	180	2.1	195	2.5	265	3.4	275	3.1	280	4.0	280	4.7
30	275	5.7	290	4.5	290	4.1	295	4.0	320	3.6	335	1.7	315	1.0	300	2.9	305	3.5	295	3.4	280	4.1	275	4.4
31	60	1.6	60	2.7	60	1.2	60	1.5	---	---	165	2.3	180	4.0	180	4.1	190	4.2	225	5.4	230	6.0	230	6.4
	---	4.2	---	4.3	---	4.3	---	4.1	---	3.9	---	3.9	---	3.6	---	3.8	---	4.2	---	4.7	---	5.0	---	5.5
Hour G. M. T.	0 - 1	1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12		



JULY, 1933.



Direction expressed in degrees from North (E = 90°, S = 180°, W = 270°, N = 360°): Speed in Metres per second

421. CAHIRCIVEEN (Valentia Observatory):  
Dines Anemograph from Jan., 1926.H<sub>a</sub> (height of anemograph above M.S.L.) = Height of ground above

Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	
Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	220	5.0	220	5.0	220	5.0	225	4.8	220	4.1	225	4.9	230	5.1	230	5.5	225	5.4	240	5.8	255	(5.6)	260	(6.0)
2	270	1.1	---	---	---	---	---	---	---	---	295	1.0	---	---	---	---	---	---	---	---	270	1.3	285	1.4
3	55	1.2	60	2.6	65	2.3	65	1.6	60	2.1	55	2.0	60	1.0	---	---	70	1.1	---	---	300	1.0	300	1.7
4	---	---	---	---	---	---	160	3.7	175	4.4	185	2.9	140	3.0	140	3.4	150	3.5	150	2.6	160	2.1	210	1.5
5	105	7.0	90	5.0	90	4.4	90	5.0	100	5.0	120	5.5	140	5.0	145	4.3	135	4.1	120	4.8	130	4.9	170	6.4
6	345	7.7	355	7.7	355	8.5	355	8.0	355	7.8	5	7.4	15	6.7	15	6.3	15	8.1	20	7.7	25	7.7	20	8.8
7	50	5.0	50	7.3	60	7.5	60	7.9	60	9.1	65	9.4	65	9.7	70	9.2	65	10.2	75	10.8	70	7.9	70	7.7
8	140	1.2	---	---	---	---	35	1.0	---	---	30	3.3	85	6.1	90	4.9	80	2.3	55	3.7	65	6.0	55	6.1
9	50	1.0	70	1.2	---	---	150	1.1	85	5.7	75	6.6	80	5.7	90	4.8	100	3.7	105	2.9	60	3.3	75	4.1
10	65	3.3	40	1.1	---	---	40	1.5	80	5.5	95	2.6	105	2.5	50	1.6	350	1.0	85	2.7	65	4.1	50	4.8
11	75	4.6	60	3.5	50	3.8	60	4.1	95	1.9	---	---	95	5.1	90	5.6	85	3.4	75	3.2	75	3.2	55	4.7
12	---	---	---	---	45	1.0	50	1.0	---	---	---	---	---	---	---	---	---	---	---	---	55	2.9	50	2.6
13	80	1.7	90	1.0	---	---	50	1.0	---	---	---	---	---	---	---	---	---	---	360	3.0	15	3.6	5	3.9
14	40	2.6	40	2.6	60	2.4	55	2.3	75	2.9	50	1.9	50	2.4	50	1.4	45	1.4	45	2.9	65	3.7	35	3.5
15	140	2.0	130	4.5	140	4.5	145	5.5	140	6.0	145	5.1	210	1.1	150	4.7	150	5.7	155	7.0	165	7.7	170	7.9
16	135	3.5	140	6.9	150	7.1	140	5.9	140	8.0	145	5.2	150	9.1	135	7.7	135	7.3	145	7.2	165	7.9	175	8.2
17	165	7.9	160	8.9	165	8.9	150	10.0	155	9.6	165	9.8	170	9.4	170	9.2	170	9.9	165	10.0	170	10.9	175	11.0
18	250	6.5	265	7.3	265	7.2	250	5.5	230	4.5	230	4.1	190	3.4	185	3.5	190	4.3	200	5.5	205	6.8	195	7.6
19	180	9.3	185	7.7	195	9.1	195	7.2	195	6.5	190	6.1	220	7.0	200	5.0	205	5.1	220	7.4	215	6.7	225	9.0
20	230	5.4	235	4.7	175	5.0	155	2.9	50	3.2	60	3.1	60	2.3	50	2.3	115	2.4	100	1.1	---	---	230	1.4
21	360	5.7	350	7.4	360	4.4	5	4.9	360	6.7	15	5.9	20	6.0	20	7.2	35	5.5	40	6.2	40	6.5	35	6.0
22	---	---	---	---	---	---	60	1.0	45	1.7	95	2.1	145	2.9	145	4.3	145	5.2	145	6.2	150	6.8	165	8.6
23	290	4.5	295	5.5	300	4.6	295	4.7	300	4.3	300	4.1	295	4.5	285	4.5	290	4.6	295	5.0	290	5.7	295	5.4
24	20	6.8	30	6.9	15	9.4	15	10.1	15	8.5	20	8.3	25	8.4	35	7.6	55	4.9	35	6.7	20	7.0	10	7.8
25	5	9.0	10	6.8	360	6.7	360	10.8	360	11.7	360	9.5	360	7.9	360	8.0	25	6.5	20	6.5	35	6.6	15	7.2
26	65	1.4	---	---	40	1.3	50	2.7	35	4.2	40	3.6	70	1.8	30	3.0	40	5.3	40	5.4	50	4.9	55	5.2
27	55	(3.2)	55	(3.2)	45	(2.6)	40	(1.0)	360	(1.3)	15	(1.0)	---	(...)	---	(...)	90	(1.6)	50	(1.6)	50	3.2	60	4.6
28	---	---	105	1.4	---	---	---	---	140	1.1	35	1.0	---	---	---	---	55	1.1	360	2.0	50	5.2	55	5.3
29	50	1.0	60	1.0	65	1.7	60	1.2	55	1.6	60	1.0	55	1.8	60	1.2	---	---	45	1.5	25	1.2	245	1.1
30	70	4.6	40	3.0	65	4.8	60	3.8	55	6.7	65	7.7	70	6.4	70	5.9	75	7.2	75	6.3	75	4.2	80	4.5
Mean	---	3.8	---	3.8	---	3.9	---	4.0	---	4.5	---	4.2	---	4.2	---	4.1	---	4.1	---	4.6	---	5.0	---	5.5

422. CAHIRCIVEEN (Valentia Observatory): H<sub>a</sub> = 17 metres + 13 metres.

Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	50	1.4	20	2.0	60	2.9	60	3.1	10	1.5	80	2.0	---	...	70	5.7	65	5.3	60	6.0	60	5.4	60	5.2
2	80	4.3	60	3.8	65	6.4	65	6.8	75	4.9	350	1.5	65	4.0	70	6.0	70	5.1	340	1.7	300	1.6	45	1.9
3	60	(2.1)	60	(2.5)	70	(2.7)	85	3.0	75	2.8	75	2.9	70	2.3	70	4.4	75	6.1	75	6.0	85	5.8	90	4.4
4	70	2.1	---	...	---	...	40	1.0	60	1.7	50	2.1	50	2.3	45	1.4	---	...	40	2.0	50	2.4	50	2.4
5	---	...	---	...	80	3.4	80	5.4	80	4.8	80	5.2	80	2.9	---	...	---	...	---	...	---	...	---	...
6	85	5.5	85	4.8	85	5.6	85	5.5	85	4.4	85	5.1	85	5.0	85	4.8	85	5.5	90	5.2	90	5.2	90	5.1
7	---	...	10	1.5	35	1.5	60	1.5	50	2.2	70	1.5	35	2.6	10	2.5	30	1.1	75	3.2	80	2.0	65	2.3
8	---	...	---	...	---	---	---	...	---	...	60	1.5	60	1.0	50	1.2	150	2.0	195	2.7	230	4.6	215	5.8
9	195	8.8	195	9.5	195	11.4	200	11.2	195	13.1	195	13.3	205	13.9	200	14.2	190	16.8	195	17.0	225	14.1	260	10.7
10	235	7.4	240	7.6	235	7.7	235	7.9	235	6.9	235	7.2	235	7.2	235	7.2	230	6.0	220	6.2	230	7.0	205	7.4
11	310	5.9	335	6.2	335	6.2	345	5.7	310	5.5	330	3.5	310	5.8	325	4.8	300	7.1	295	7.1	290	7.4	290	7.2
12	295	5.4	300	4.8	325	3.0	10	1.0	300	(3.8)	290	(4.8)	300	5.2	295	5.5	310	4.5	305	(3.3)	300	4.2	300	4.3
13	185	3.2	190	4.4	220	4.6	220	5.2	215	5.2	200	6.0	190	6.4	205	7.0	205	7.6	210	9.0	210	9.9	210	9.7
14	280	4.2	280	4.6	290	5.6	295	5.2	300	4.6	290	3.0	290	4.4	330	4.5	320	3.4	320	4.5	300	4.0	315	3.6
15	210	4.5	225	6.2	220	6.3	220	6.1	225	6.0	235	6.7	230	6.2	220	6.6	235	7.1	240	8.4	235	9.4	255	9.1
16	295	9.0	300	8.9	300	9.8	300	9.4	295	9.1	305	8.4	305	8.1	315	8.7	315	8.2	310	7.5	305	7.9	310	9.1
17	310	3.7	315	1.8	300	1.5	290	2.4	260	2.0	200	2.5	180	1.5	110	1.1	120	1.2	170	4.0	215	5.6	200	5.2
18	175	9.0	170	8.7	175	9.1	175	10.4	170	11.2	170	10.2	170	11.0	165	11.0	160	12.2	160	12.3	150	13.8	150	14.7
19	205	2.0	205	2.9	180	1.7	---	...	50	2.0	50	1.9	50	1.9	55	1.8	50	2.4	50	1.7	50	1.5	---	...
20	360	5.2	345	5.1	340	7.3	5	4.1	10	2.7	70	4.5	60	5.5	65	7.5	60	7.5	55	8.4	55	8.6	60	8.4
21	60	3.6	85	3.5	50	2.4	130	2.0	70	2.3	80	4.7	---	...	75	3.6	20	(1.8)	70	4.6	85	4.0	65	3.1
22	55	3.0	60	2.3	65	(3.2)	70	(2.4)	90	(3.2)	75	(2.1)	55	(3.6)	40	(3.8)	50	1.2	50	2.3	60	4.8	30	(5.0)
23	35	4.4	30	5.2	20	5.7	30	6.1	45	4.0	40	(4.4)	40	(4.6)	45	(4.6)	45	(4.7)	55	5.6	50	6.2	55	5.9
24	15	5.9	25	4.7	45	2.6	40	2.1	75	2.4	45	1.0	---	...	---	...	40	2.6	40	4.0	50	4.3	35	4.1
25	30	7.5	40	5.3	35	9.2	35	9.0	40	9.2	45	8.4	50	8.4	50	9.3	45	10.9	50	9.6	50	8.7	50	9.5
26	50	5.0	45	6.4	45	6.3	40	6.7	40	6.1	40	4.8	45	5.9	45	4.9	45	4.8	55	4.4	45	4.9	40	5.5
27	320	8.0	325	9.6	310	8.2	305	8.4	300	9.7	305	9.8	325	10.8	345	11.0	340	11.8	350	10.7	350	11.0	360	10.2
28	5	10.8	10	9.2	355	11.0	360	12.2	355	11.9	5	10.6	360	8.9	10	9.0	360	9.5	360	11.5	360	12.5	355	12.8
29	5	10.4	5	10.3	360	11.2	360	10.7	360	9.9	360	11.1	10	10.3	15	8.9	10	9.8	5	9.1	360	9.4	5	8.5
30	5	7.7	15	5.5	360	6.6	355	7.5	360	5.8	5	5.5	360	4.5	360	4.0	360	4.0	350	4.4	355	3.7	310	3.6
31	255	6.1	290	5.9	305	5.4	320	6.7	330	6.7	325	7.7	320	6.8	315	5.9	315	7.0	325	8.0	320	9.6	325	8.5
Mean	---	5.1	---	5.1	---	5.5	---	5.5	---	5.4	---	5.3	---	5.2	---	5.5	---	5.7	---	6.2	---	6.5	---	6.3
Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	







423. CAHIRCIVEEN (Valentia Observatory):  
Dines Anemograph from Jan., 1926.

H<sub>a</sub> (height of anemograph above M.S.L.) = Height of ground above

Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	
Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	335	8.4	345	7.9	340	7.3	350	6.0	340	6.0	350	6.0	345	5.9	350	5.7	345	5.2	320	6.4	315	5.6	300	5.4
2	310	6.9	315	7.3	320	8.7	320	9.0	315	9.1	315	8.9	345	8.3	350	9.8	355	9.4	355	10.1	350	10.2	345	9.2
3	70	1.9	30	4.1	55	1.9	15	6.0	10	6.6	5	8.5	5	7.6	15	6.3	25	5.1	30	5.4	30	5.3	20	5.2
4	35	6.2	30	6.3	125	2.1	5	1.6	165	2.3	105	1.0	90	1.0	100	1.2	---	---	50	2.6	20	4.9	40	5.6
5	---	---	---	---	---	---	---	---	---	---	---	---	50	1.6	55	1.8	55	2.0	35	3.4	20	7.6	10	5.8
6	25	5.5	360	2.6	15	5.0	15	3.8	360	4.0	345	3.2	350	3.8	345	5.2	350	5.9	355	5.3	360	3.6	355	3.1
7	40	3.4	55	2.0	60	3.6	50	3.2	50	3.4	55	2.6	40	1.8	50	4.9	40	4.1	40	4.7	45	4.7	35	4.1
8	70	1.7	70	2.4	55	2.4	70	2.6	60	1.2	---	---	---	---	---	---	---	---	---	---	120	1.2	170	3.1
9	165	6.4	160	6.4	165	8.0	205	6.2	230	3.9	295	4.1	300	6.8	(315)	6.9	(330)	---	---	---	---	---	---	---
10	325	3.5	345	4.8	350	3.5	335	5.0	335	3.7	355	3.2	10	2.9	20	2.5	35	1.9	---	---	330	3.1	15	3.2
11	65	1.1	70	1.1	60	1.3	60	1.2	---	---	---	---	55	1.0	120	1.2	155	2.6	160	3.9	250	6.0	325	9.0
12	355	8.4	360	7.1	360	7.2	360	6.6	350	7.0	345	5.9	325	6.7	325	5.4	320	5.0	310	5.5	310	5.0	300	4.0
13	200	(3.0)	210	(3.3)	160	(3.0)	175	(3.9)	195	(4.2)	180	(4.2)	185	(3.8)	325	5.2	335	8.7	335	9.4	335	10.0	330	9.8
14	300	4.3	280	3.4	260	4.4	190	3.2	210	3.0	175	5.0	175	3.4	180	2.7	185	5.2	180	5.8	180	8.3	180	8.4
15	285	5.9	265	6.8	255	4.6	260	9.5	240	6.2	230	7.2	225	6.8	250	9.3	245	9.3	250	8.5	265	5.6	265	4.5
16	70	6.2	80	5.4	30	5.2	45	9.1	35	10.5	50	6.9	40	7.5	30	7.8	35	8.8	40	6.8	40	6.8	30	10.2
17	65	8.8	70	8.9	75	8.3	65	7.3	55	7.7	65	8.0	50	7.9	40	9.0	60	8.9	60	7.8	70	9.1	65	8.0
18	60	3.5	70	4.8	70	4.0	60	3.4	60	4.0	35	2.4	65	3.3	70	3.1	80	5.6	75	5.3	80	5.0	70	1.7
19	---	---	80	1.7	150	1.0	95	2.1	90	3.2	85	4.1	65	2.1	45	1.0	65	1.2	50	1.0	60	1.8	140	1.1
20	125	3.9	135	4.5	130	4.2	130	4.9	140	5.2	145	6.3	180	4.5	215	4.6	285	4.4	300	5.4	305	6.1	325	6.9
21	5	2.7	5	2.7	15	2.0	40	2.0	45	1.3	40	2.1	45	2.3	55	1.5	55	1.0	---	---	---	---	---	---
22	60	2.3	---	---	60	1.3	65	1.5	60	1.3	60	1.7	---	---	55	2.4	70	1.6	55	1.7	70	1.4	165	4.0
23	145	5.5	145	4.8	140	5.1	140	5.7	145	6.0	145	5.6	140	6.0	140	5.7	145	5.1	145	5.2	140	5.5	145	5.5
24	90	3.4	65	1.5	55	1.2	115	2.5	50	1.4	45	1.7	50	1.6	---	---	60	1.3	65	1.1	55	2.0	50	1.7
25	---	---	---	---	---	---	45	1.1	65	2.3	85	1.5	65	1.4	40	1.4	65	1.1	105	1.0	50	3.2	---	---
26	105	5.0	110	4.7	105	4.9	115	5.1	110	5.2	120	5.4	135	7.1	140	6.5	140	5.7	150	5.2	150	7.3	150	7.1
27	130	8.0	100	7.9	120	8.0	130	10.0	130	9.8	130	10.6	130	11.1	125	9.8	115	9.9	120	7.5	120	8.2	135	9.5
28	110	12.2	110	13.1	110	11.2	105	12.6	95	11.0	90	8.1	110	10.2	105	9.1	105	9.3	105	9.7	100	10.0	105	10.3
29	105	10.1	105	10.7	105	10.4	110	9.0	110	8.4	130	7.6	135	7.7	140	7.1	150	8.9	145	9.0	140	9.5	145	8.6
30	145	9.8	145	10.1	150	11.4	150	10.6	150	11.3	150	13.1	150	13.0	160	13.0	150	14.2	150	13.3	155	12.6	170	11.1
Mean	---	5.0	---	4.9	---	4.7	---	5.2	---	5.0	---	4.9	---	4.9	---	5.0	---	5.3	---	5.3	---	5.9	---	5.8

424. CAHIRCIVEEN (Valentia Observatory): H<sub>a</sub> = 17 metres + 13 metres.

Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	135	16.7	140	15.4	140	15.1	135	15.8	140	14.8	170	12.2	225	8.6	245	7.8	270	6.0	275	5.3	280	4.6	275	4.4
2	---	...	---	...	60	1.1	---	...	55	2.1	---	...	65	1.5	---	...	---	...	55	1.4	55	1.7	---	...
3	70	2.2	90	3.8	85	4.8	90	4.9	95	4.4	105	3.9	95	1.9	95	2.6	80	2.2	90	2.3	70	2.2	70	2.5
4	75	3.9	80	6.0	80	2.6	80	3.1	90	5.5	80	5.6	85	5.9	70	5.7	80	6.2	70	6.1	75	8.6	80	9.1
5	70	5.0	65	4.0	70	5.1	70	7.5	80	7.5	90	9.1	85	9.2	90	9.0	90	10.0	90	10.0	65	8.0	45	5.3
6	100	7.3	85	4.7	55	4.0	70	2.6	115	2.6	105	6.4	90	5.5	70	5.1	80	8.2	60	5.3	45	4.5	15	4.8
7	80	5.3	85	6.0	95	6.1	90	6.5	80	5.8	90	6.1	90	6.4	90	6.2	90	5.5	85	5.4	80	4.7	90	6.3
8	70	3.8	75	6.7	85	6.9	85	5.8	70	6.6	70	6.0	65	6.8	75	8.4	80	9.0	80	7.8	95	10.9	100	8.1
9	65	3.7	75	2.6	65	3.0	65	2.8	70	4.0	65	4.3	50	4.7	60	4.6	60	4.0	80	3.1	75	4.9	65	5.0
10	75	3.3	95	4.2	95	4.1	85	4.7	80	5.9	80	5.7	75	4.9	80	3.9	70	2.6	75	3.4	80	4.0	50	2.2
11	50	4.4	40	4.9	60	4.4	65	3.7	80	1.5	55	3.0	65	2.2	70	2.0	60	2.6	60	2.7	220	1.6	---	...
12	335	5.4	335	7.5	350	7.5	360	5.4	360	8.1	5	7.5	5	7.1	10	7.1	15	7.6	360	6.4	355	8.0	360	6.2
13	85	4.5	50	6.3	40	6.0	50	5.8	45	5.9	55	3.3	60	6.1	60	8.5	70	8.0	45	9.8	55	7.6	65	7.9
14	85	5.3	70	3.3	120	2.4	120	2.4	80	4.6	80	5.3	145	3.1	135	3.6	70	7.5	60	10.2	75	8.0	60	6.1
15	---	...	65	1.4	100	1.0	---	...	---	...	80	1.5	20	(5.0)	20	(4.6)	20	(3.4)	25	(3.7)	30	4.4	20	4.5
16	---	...	55	1.0	60	1.3	---	...	---	...	55	1.5	---	...	55	1.1	60	1.7	---	...	---	...	---	...
17	(45)	2.2	(55)	1.3	---	...	---	...	---	...	(50)	1.7	(60)	1.7	(60)	1.2	---	(...)	---	(...)	---	(...)	---	(...)
18	155	5.7	170	4.8	170	3.5	185	2.6	150	5.6	155	7.0	155	6.2	165	5.5	150	5.8	150	4.5	155	5.0	160	5.0
19	140	4.5	135	3.5	140	2.4	155	1.8	155	4.7	140	4.1	135	4.0	140	4.3	140	4.5	140	4.8	135	4.4	145	5.0
20	160	6.9	165	6.3	170	8.1	170	7.6	170	7.6	170	7.4	160	7.7	145	8.1	150	8.2	155	7.6	175	7.6	170	7.7
21	165	11.6	165	12.4	165	12.0	170	12.5	170	12.2	170	12.3	165	11.9	170	11.6	170	10.5	170	11.0	170	11.5	170	10.8
22	165	10.6	165	10.3	170	10.0	170	9.5	165	10.4	170	10.0	170	10.4	165	10.3	170	9.9	170	10.4	175	10.0	175	9.2
23	150	9.5	150	9.0	155	9.0	150	8.6	155	7.9	150	8.4	150	8.0	150	7.6	145	8.1	150	8.1	155	9.2	160	7.3
24	155	9.0	170	8.1	165	9.0	175	8.2	175	7.6	175	8.5	175	8.3	180	8.1	180	8.3	180	8.6	190	9.4	185	9.2
25	190	10.9	185	10.3	185	8.8	180	9.7	175	10.6	175	10.3	175	10.1	170	10.2	175	10.3	200	5.8	180	5.0	195	6.2
26	310	(4.5)	240	(4.0)	250	(2.5)	55	1.3	---	(...)	45	(1.5)	55	(1.7)	160	(1.7)	50	(2.7)	60	(1.6)	60	(1.3)	55	(1.3)
27	60	(1.2)	45	(1.4)	145	4.2	150	7.0	150	8.9	170	8.6	180	8.5	185	8.9	180	9.8	165	10.5	160	10.7	175	8.6
28	315	10.2	315	10.5	320	11.0	320	11.7	320	12.7	320	11.5	330	12.7	330	11.5	330	11.7	335	10.8	360	9.2	50	6.4
29	---	...	150	1.4	105	1.4	55	2.0	60	1.6	70	1.5	65	1.3	50	1.5	60	2.1	55	2.5	50	1.8	135	2.5
30	305	6.5	315	5.5	300	7.0	290	6.4	290	5.9	280	7.2	270	9.6	285	9.0	300	9.8	300	8.0	305	9.9	305	10.1
31	300	2.6	300	1.5	195	1.3	55	1.9	90	1.7	95	1.8	165	(1.3)	160	(4.8)	155	(6.5)	175	(7.0)	165	9.1	165	8.1
Mean	---	5.4	---	5.4	---	5.4	---	5.3	---	5.8	---	5.9	---	5.9	---	6.0	---	6.2	---	6.0	---	6.1	---	5.5
Annual Mean	---	4.9	---	4.9	---	5.1	---	5.1	---	5.2	---	5.1	---	5.2	---	5.3	---	5.5	---	5.8	---	6.0	---	6.2



NOVEMBER, 1933.

DECEMBER AND YEAR, 1933.

260	3.6	275	6.9	275	5.8	285	5.2	300	5.2	300	4.7	310	3.0	355	2.1	10	2.8	10	2.6	50	2.8	---	...	7.2	1
160	2.1	345	3.5	5	3.9	40	3.6	50	3.2	50	2.8	70	4.1	60	3.4	70	5.0	80	4.2	90	2.4	80	2.4	2.2	2
65	2.9	65	3.0	55	4.5	50	5.0	65	5.4	75	6.0	85	4.0	65	2.6	75	2.6	60	1.2	55	2.6	70	2.2	3.3	3
65	7.8	70	9.8	70	6.5	70	7.2	75	7.7	80	8.1	70	6.9	55	3.8	50	1.7	160	2.5	80	4.5	70	3.5	5.8	4
30	4.6	70	3.7	75	5.2	90	5.9	85	4.7	90	6.7	50	3.3	80	3.1	25	1.7	10	1.0	100	1.4	90	4.0	5.6	5
25	4.8	35	5.2	25	4.9	60	4.3	65	4.4	65	4.9	70	5.3	60	5.0	75	5.0	75	5.5	80	5.3	80	4.9	5.0	6
85	3.0	85	3.3	85	3.6	215	1.3	155	1.4	20	1.1	20	1.2	---	...	---	...	55	1.3	65	1.4	75	3.6	3.9	7
90	5.3	85	5.0	80	5.2	80	2.9	70	1.9	90	4.5	90	4.0	80	2.7	60	2.0	95	2.1	75	4.0	75	3.4	5.4	8
60	4.2	65	3.4	70	4.0	75	3.4	70	2.9	75	3.1	95	4.1	85	1.2	75	2.1	75	2.6	75	3.2	50	2.1	3.5	9
65	3.8	65	3.7	70	2.8	75	3.2	65	3.4	90	3.0	120	1.8	75	3.4	65	5.4	60	5.1	70	6.5	60	5.5	4.0	10
40	1.2	10	1.8	330	2.2	295	1.3	---	...	90	1.4	55	2.0	---	...	50	1.3	120	1.8	235	2.8	320	5.4	2.3	11
20	5.6	20	4.4	20	7.8	10	7.0	30	6.0	20	6.2	20	5.3	75	3.6	50	3.1	85	4.2	55	4.6	75	4.2	6.1	12
50	7.4	60	6.5	45	9.2	55	5.5	55	6.9	55	12.5	60	13.3	60	12.0	50	11.1	50	11.0	45	12.2	55	10.4	8.2	13
60	4.8	35	6.8	40	7.5	35	5.9	85	3.7	45	2.5	50	1.5	60	2.8	15	2.1	310	1.9	---	...	---	...	4.2	14
20	5.3	10	5.9	20	4.5	35	4.0	45	4.0	25	3.6	35	3.9	40	1.7	45	2.6	50	1.0	---	...	---	...	2.9	15
---	...	---	...	---	...	---	...	---	...	---	...	---	...	---	...	30	1.0	---	...	---	...	20	1.2	<u>0.7</u>	16
---	(4.5)	85	1.2	80	2.2	140	3.5	130	3.3	140	3.0	135	3.6	140	4.4	140	5.2	155	4.2	150	5.2	150	5.5	2.2	17
170	4.5	195	3.8	175	5.5	170	5.3	190	4.2	180	3.2	180	2.7	165	3.6	165	4.6	160	4.6	155	5.0	150	5.6	4.7	18
140	5.0	145	4.8	140	4.8	145	5.5	140	5.9	140	5.6	140	6.2	140	6.4	145	6.6	150	6.3	145	7.3	150	7.2	5.0	19
170	8.7	170	8.9	170	9.9	170	9.5	165	10.5	160	11.2	165	10.3	165	8.0	170	8.1	165	8.3	165	8.5	160	10.4	8.5	20
170	10.8	175	10.3	175	10.2	170	10.0	170	9.8	170	9.9	170	11.0	170	10.9	170	10.0	165	11.2	165	11.0	165	11.5	<u>11.1</u>	21
175	7.9	175	9.7	170	9.2	165	8.2	155	8.5	155	8.9	150	7.8	155	7.7	155	9.6	155	9.4	150	6.7	150	7.8	9.3	22
150	9.8	150	9.2	155	10.3	155	10.4	150	11.4	150	9.9	155	11.6	155	9.9	150	9.0	150	9.6	150	9.6	150	9.8	9.2	23
190	9.1	185	9.0	180	9.0	180	8.4	175	9.0	180	8.2	175	(8.0)	180	(8.0)	180	(8.3)	185	(8.7)	190	9.3	190	10.0	8.6	24
215	5.0	230	7.3	230	6.5	230	5.9	200	4.5	195	4.6	205	3.6	195	4.4	220	4.8	235	4.5	290	4.2	305	3.3	6.9	25
195	1.5	200	2.0	235	2.4	355	1.9	---	...	70	1.8	100	(2.1)	55	(2.4)	60	(2.7)	60	(1.6)	55	(2.4)	55	(1.7)	2.0	26
235	7.3	290	6.9	320	10.1	320	9.1	310	9.4	320	10.0	310	9.1	315	9.6	315	9.7	320	10.0	320	9.4	320	10.1	8.3	27
60	5.9	30	7.8	30	7.2	30	5.9	30	6.9	30	6.4	25	4.7	30	4.8	10	6.3	10	6.7	15	4.9	65	2.5	8.3	28
165	(4.7)	180	(5.0)	205	(4.3)	190	(4.0)	200	(3.7)	295	(6.0)	(310)	6.5	(315)	8.0	320	8.2	315	7.8	320	6.8	310	6.7	3.8	29
310	10.8	325	11.2	325	11.2	330	10.0	330	11.4	330	9.9	340	8.5	340	5.5	325	6.4	335	7.1	350	3.9	360	1.4	8.0	30
165	9.7	165	9.9	165	9.8	165	(9.5)	170	(9.1)	175	8.9	180	8.7	175	7.4	180	7.0	180	6.9	210	7.7	200	6.1	6.2	31
---	5.4	---	5.8	---	6.2	---	5.6	---	5.5	---	5.8	---	5.4	---	<u>4.8</u>	---	5.0	---	5.0	---	5.1	---	5.0	5.6	
---	6.4	---	6.7	---	<u>6.7</u>	---	6.6	---	6.4	---	6.1	---	5.8	---	5.4	---	5.2	---	5.1	---	5.0	----	5.0	5.6	



425. CAHIRCIVEEN (Valentia Observatory):  $H_a = 17$  metres + 13 metres.

1933.

Day.	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.
1	m/s 22	h. m. 17 00	m/s 22	h. m. 5 45	m/s 13	h. m. 20 05	m/s 10	h. m. 11 30	m/s 12	h. m. 11 35	m/s 23	h. m. 14 15	m/s 8	h. m. 17 50	m/s 13	h. m. 23 45	m/s 11	h. m. 9 40	m/s 13	h. m. 19 15	m/s 15	h. m. 13 50	m/s 32	h. m. 4 25
2	m/s 20	h. m. 16 20	m/s 15	h. m. 2 00	m/s 15	h. m. 11 55	m/s 9	h. m. 14 40	m/s 25	h. m. 17 15	m/s 18	h. m. 11 40	m/s 11	h. m. 18 55	m/s 11	h. m. 0 35	m/s 7	h. m. 15 15	m/s 11	h. m. 7 50	m/s 17	h. m. 7 10	m/s 9	h. m. 20 20
3	m/s 28	h. m. 5 35	m/s 19	h. m. 19 00	m/s 12	h. m. 21 55	m/s 11	h. m. 1 25	m/s 22	h. m. 11 30	m/s 7	h. m. 0 25	m/s 6	h. m. 13 45	m/s 6	h. m. 14 25	m/s 5	h. m. 15 25	m/s 10	h. m. 8 15	m/s 14	h. m. 20 35	m/s 11	h. m. 17 00
4	m/s 22	h. m. 13 30	m/s 23	h. m. 20 05	m/s 15	h. m. 19 40	m/s 12	h. m. 15 10	m/s 23	h. m. 3 25	m/s 14	h. m. 12 55	m/s 5	h. m. 11 25	m/s 9	h. m. 11 15	m/s 12	h. m. 23 40	m/s 11	h. m. 19 25	m/s 13	h. m. 1 35	m/s 15	h. m. 13 00
5	m/s 20	h. m. 3 00	m/s 25	h. m. 2 35	m/s 27	h. m. 14 30	m/s 11	h. m. 18 10	m/s 22	h. m. 3 30	m/s 13	h. m. 10 35	m/s 15	h. m. 20 15	m/s 11	h. m. 13 15	m/s 12	h. m. 11 45	m/s 8	h. m. 4 55	m/s 13	h. m. 20 20	m/s 17	h. m. 8 45
6	m/s 20	h. m. 1 50	m/s 22	h. m. 11 50	m/s 26	h. m. 15 55	m/s 13	h. m. 10 30	m/s 10	h. m. 23 50	m/s 16	h. m. 12 40	m/s 15	h. m. 6 55	m/s 11	h. m. 21 25	m/s 15	h. m. 18 15	m/s 9	h. m. 10 10	m/s 11	h. m. 22 50	m/s 15	h. m. 0 30
7	m/s 23	h. m. 12 10	m/s 18	h. m. 3 55	m/s 17	h. m. 4 50	m/s 17	h. m. 13 15	m/s 16	h. m. 7 55	m/s 15	h. m. 1 10	m/s 16	h. m. 20 35	m/s 12	h. m. 18 35	m/s 17	h. m. 6 55	m/s 6	h. m. 16 35	m/s 11	h. m. 7 10	m/s 14	h. m. 4 05
8	m/s 23	h. m. 10 25	m/s 21	h. m. 14 10	m/s 23	h. m. 23 20	m/s 14	h. m. 13 40	m/s 20	h. m. 21 10	m/s 13	h. m. 17 50	m/s 14	h. m. 2 15	m/s 9	h. m. 0 15	m/s 11	h. m. 14 25	m/s 17	h. m. 14 20	m/s 10	h. m. 18 30	m/s 21	h. m. 10 15
9	m/s 12	h. m. 13 30	m/s 22	h. m. 6 35	m/s 23	h. m. 0 10	m/s 14	h. m. 11 50	m/s 17	h. m. 1 40	m/s 18	h. m. 7 50	m/s 20	h. m. 19 30	m/s 11	h. m. 17 10	m/s 11	h. m. 5 10	m/s 31	h. m. 8 55	m/s 14	h. m. 8 05	m/s 10	h. m. 5 40
10	m/s 13	h. m. 15 40	m/s 19	h. m. 18 55	m/s 22	h. m. 1 35	m/s 17	h. m. 14 15	m/s 10	h. m. 2 50	m/s 14	h. m. 1 45	m/s 16	h. m. 5 00	m/s 12	h. m. 17 20	m/s 13	h. m. 13 40	m/s 14	h. m. 12 20	m/s 9	h. m. 1 15	m/s 13	h. m. 22 00
11	m/s 14	h. m. 6 45	m/s 15	h. m. 2 20	m/s 13	h. m. 6 05	m/s 10	h. m. 13 15	m/s 13	h. m. 3 15	m/s 13	h. m. 9 10	m/s 13	h. m. 5 30	m/s 11	h. m. 16 00	m/s 10	h. m. 6 45	m/s 19	h. m. 19 30	m/s 21	h. m. 14 45	m/s 14	h. m. 23 40
12	m/s 13	h. m. 11 40	m/s 6	h. m. 13 35	m/s 9	h. m. 15 35	m/s 14	h. m. 9 40	m/s 9	h. m. 9 00	m/s 12	h. m. 20 30	m/s 22	h. m. 23 30	m/s 7	h. m. 11 40	m/s 9	h. m. 19 10	m/s 13	h. m. 4 05	m/s 18	h. m. 15 20	m/s 24	h. m. 14 00
13	m/s 10	h. m. 1 15	m/s 9	h. m. 8 30	m/s 9	h. m. 15 40	m/s 11	h. m. 20 10	m/s 13	h. m. 12 20	m/s 9	h. m. 0 05	m/s 19	h. m. 0 15	m/s 10	h. m. 10 00	m/s 12	h. m. 22 40	m/s 18	h. m. 12 15	m/s 17	h. m. 8 35	m/s 25	h. m. 19 25
14	m/s 22	h. m. 18 15	m/s 12	h. m. 16 40	m/s 20	h. m. 14 45	m/s 13	h. m. 16 10	m/s 9	h. m. 14 25	m/s 7	h. m. 15 30	m/s 15	h. m. 0 40	m/s 15	h. m. 23 45	m/s 8	h. m. 10 45	m/s 14	h. m. 16 40	m/s 24	h. m. 23 35	m/s 20	h. m. 9 00
15	m/s 18	h. m. 5 00	m/s 9	h. m. 13 15	m/s 24	h. m. 19 30	m/s 11	h. m. 10 05	m/s 12	h. m. 16 30	m/s 9	h. m. 21 20	m/s 16	h. m. 16 05	m/s 18	h. m. 2 20	m/s 15	h. m. 14 40	m/s 25	h. m. 11 15	m/s 20	h. m. 3 55	m/s 10	h. m. 13 10
16	m/s 12	h. m. 7 30	m/s 6	h. m. 14 45	m/s 21	h. m. 1 45	m/s 11	h. m. 15 05	m/s 12	h. m. 1 05	m/s 17	h. m. 16 55	m/s 12	h. m. 23 25	m/s 15	h. m. 23 20	m/s 15	h. m. 6 10	m/s 19	h. m. 5 30	m/s 21	h. m. 13 30	m/s 4	h. m. 15 15
17	m/s 8	h. m. 23 50	m/s 11	h. m. 22 15	m/s 15	h. m. 2 20	m/s 14	h. m. 21 45	m/s 10	h. m. 15 45	m/s 20	h. m. 13 25	m/s 11	h. m. 0 50	m/s 19	h. m. 2 10	m/s 21	h. m. 15 30	m/s 17	h. m. 23 50	m/s 16	h. m. 9 05	m/s 9	h. m. 21 50
18	m/s 19	h. m. 12 10	m/s 20	h. m. 6 35	m/s 16	h. m. 20 30	m/s 15	h. m. 9 10	m/s 17	h. m. 14 20	m/s 21	h. m. 5 40	m/s 16	h. m. 21 40	m/s 15	h. m. 13 30	m/s 22	h. m. 23 20	m/s 27	h. m. 11 55	m/s 13	h. m. 16 55	m/s 11	h. m. 5 10
19	m/s 22	h. m. 19 10	m/s 18	h. m. 3 55	m/s 25	h. m. 14 20	m/s 16	h. m. 18 25	m/s 18	h. m. 18 40	m/s 13	h. m. 9 25	m/s 15	h. m. 2 20	m/s 12	h. m. 3 00	m/s 19	h. m. 15 30	m/s 12	h. m. 23 05	m/s 8	h. m. 5 25	m/s 14	h. m. 22 50
20	m/s 21	h. m. 23 10	m/s 11	h. m. 23 45	m/s 20	h. m. 22 45	m/s 13	h. m. 10 50	m/s 15	h. m. 14 20	m/s 14	h. m. 23 50	m/s 10	h. m. 0 30	m/s 16	h. m. 2 00	m/s 13	h. m. 13 45	m/s 17	h. m. 15 30	m/s 13	h. m. 10 25	m/s 19	h. m. 23 55
21	m/s 23	h. m. 1 40	m/s 19	h. m. 21 00	m/s 25	h. m. 12 05	m/s 10	h. m. 23 10	m/s 9	h. m. 13 50	m/s 17	h. m. 16 20	m/s 11	h. m. 15 45	m/s 17	h. m. 12 10	m/s 14	h. m. 4 05	m/s 11	h. m. 15 05	m/s 5	h. m. 12 25	m/s 22	h. m. 5 25
22	m/s 24	h. m. 11 10	m/s 16	h. m. 0 45	m/s 30	h. m. 12 15	m/s 25	h. m. 16 55	m/s 10	h. m. 14 05	m/s 14	h. m. 9 50	m/s 7	h. m. 17 45	m/s 19	h. m. 19 10	m/s 15	h. m. 16 25	m/s 11	h. m. 20 40	m/s 11	h. m. 18 00	m/s 18	h. m. 1 10
23	m/s 19	h. m. 10 45	m/s 17	h. m. 20 20	m/s 22	h. m. 1 10	m/s 16	h. m. 23 35	m/s 9	h. m. 15 05	m/s 12	h. m. 23 45	m/s 7	h. m. 12 50	m/s 15	h. m. 6 40	m/s 15	h. m. 14 50	m/s 13	h. m. 19 45	m/s 11	h. m. 11 40	m/s 18	h. m. 9 50
24	m/s 14	h. m. 1 15	m/s 25	h. m. 17 00	m/s 17	h. m. 22 25	m/s 24	h. m. 14 40	m/s 14	h. m. 18 55	m/s 12	h. m. 13 40	m/s 10	h. m. 23 30	m/s 15	h. m. 17 55	m/s 17	h. m. 23 30	m/s 16	h. m. 18 25	m/s 8	h. m. 0 35	m/s 17	h. m. 23 50
25	m/s 9	h. m. 9 00	m/s 23	h. m. 1 00	m/s 19	h. m. 8 30	m/s 20	h. m. 10 10	m/s 17	h. m. 16 25	m/s 16	h. m. 7 00	m/s 15	h. m. 21 10	m/s 17	h. m. 16 15	m/s 18	h. m. 3 30	m/s 18	h. m. 8 20	m/s 9	h. m. 23 30	m/s 19	h. m. 0 45
26	m/s 10	h. m. 22 10	m/s 17	h. m. 5 40	m/s 7	h. m. 13 00	m/s 17	h. m. 0 30	m/s 13	h. m. 2 55	m/s 14	h. m. 16 30	m/s 11	h. m. 1 45	m/s 19	h. m. 16 40	m/s 10	h. m. 9 00	m/s 14	h. m. 3 10	m/s 17	h. m. 21 55	m/s 13	h. m. 0 05
27	m/s 15	h. m. 19 20	m/s 25	h. m. 9 00	m/s 6	h. m. 16 00	m/s 21	h. m. 11 35	m/s 10	h. m. 7 20	m/s 15	h. m. 14 40	m/s 10	h. m. 15 50	m/s 24	h. m. 20 00	m/s 10	h. m. 14 35	m/s 26	h. m. 10 25	m/s 25	h. m. 20 20	m/s 20	h. m. 20 00
28	m/s 17	h. m. 22 15	m/s 15	h. m. 14 00	m/s 13	h. m. 11 45	m/s 11	h. m. 12 30	m/s 9	h. m. 11 55	m/s 13	h. m. 13 00	m/s 17	h. m. 5 55	m/s 9	h. m. 1 20	m/s 10	h. m. 11 10	m/s 25	h. m. 13 55	m/s 23	h. m. 1 20	m/s 25	h. m. 6 40
29	m/s 15	h. m. 1 45	m/s -	h. m. -	m/s 15	h. m. 23 30	m/s 10	h. m. 14 55	m/s 9	h. m. 13 50	m/s 13	h. m. 12 25	m/s 20	h. m. 3 55	m/s 10	h. m. 12 50	m/s 9	h. m. 20 40	m/s 21	h. m. 5 05	m/s 19	h. m. 22 05	m/s 16	h. m. 19 05
30	m/s 17	h. m. 9 35	m/s -	h. m. -	m/s 21	h. m. 4 55	m/s 13	h. m. 17 20	m/s 19	h. m. 15 35	m/s 6	h. m. 15 00	m/s 24	h. m. 23 55	m/s 11	h. m. 0 40	m/s 14	h. m. 9 10	m/s 14	h. m. 1 55	m/s 27	h. m. 22 40	m/s 23	h. m. 13 10
31	m/s 27	h. m. 20 10	m/s -	h. m. -	m/s 14	h. m. 7 25	m/s -	h. m. -	m/s 14	h. m. 22 50	m/s -	h. m. -	m/s 24	h. m. 4 45	m/s 12	h. m. 17 10	m/s -	h. m. -	m/s 18	h. m. 17 45	m/s -	h. m. -	m/s 15	h. m. 13 40

## DISTRIBUTION OF WIND SPEED: EXTREME VELOCITIES AS RECORDED BY THE DINES TUBE ANEMOGRAPH.

426. CAHIRCIVEEN (Valentia Observatory):  $H_a = 17$  metres + 13 metres.

1933.

Month.	DISTRIBUTION OF WIND SPEED.								EXTREME VELOCITIES.					
	More than 17.1 m/s.		10.8 to 17.1 m/s.		5.5 to 10.7 m/s.	1.6 to 5.4 m/s.	Less than 1.6 m/s.	No Record.	Highest Hourly Wind.			Highest Gust.		
	Dates of Occurrence.	Duration.	No. of Days.	Duration.	Duration.	Duration.	Duration.	Duration.	Veer from N.	Speed.	Mid Time.	Speed.	Dates.	
Jan. ...	2nd., 31st.	2 hr.	15	136	290	242	74	0	210	17	31 21	30	2 16 20	
Feb. ...	---	-	14	83	306	205	78	0	215	17	1 2	29	1 5 45	
Mar. ...	---	-	13	115	307	246	76	0	160	17	22 14	30	22 12 15	
Apr. ...	---	-	5	23	358	286	53	0	185	13	24 16	25	22 16 55	
May. ...	---	-	6	30	320	300	94	0	80	12	3 8	25	2 17 15	
June. ...	---	-	3	7	322	340	51	0	180	13	1 15	23	1 14 15	
July. ...	---	-	3	22	326	290	106	0	230	14	30 17	24	30 23 55	
Aug. ...	---	-	4	10	287	341	106	0	200	14	27 23	24	27 20 00	
Sept. ...	---	-	4	10	244	336	130	0	5	12	24 24	22	18 23 20	
Oct. ...	---	-	6	47	326	309	62	0	195	17	9 10	31	9 8 55	
Nov. ...	---	-	6	34	299	300	87	0	140	15	30 24	27	30 23 00	
Dec. ...	---	-	9	46	304	298	96	0	135	17	1 1	32	1 4 25	
Year. ...	2 Days.	2	88	563	3689	3493	1013	0	210	17	Jan. 31 21	32	Dec. 1 4 25	



427. CAHIRCIVEEN (Valentia Observatory).

Readings in degrees absolute, at 9h Greenwich Mean Time.

1933.

Day.	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
	30cm	122cm	30cm	122cm	30cm	122cm	30cm	122cm	30cm	122cm	30cm	122cm	30cm	122cm	30cm	122cm	30cm	122cm	30cm	122cm	30cm	122cm	30cm	122cm
1	80.2	82.2	79.1	79.4	78.1	80.0	81.9	82.0	84.0	83.2	88.5	85.9	88.9	86.9	89.7	88.6	90.0	88.9	87.5	87.6	83.0	85.0	82.1	82.5
2	80.2	82.0	79.2	79.5	78.9	80.0	82.0	82.0	84.1	83.3	88.0	86.0	90.3	86.9	90.0	88.6	90.0	88.9	87.6	87.4	83.4	85.0	80.6	82.6
3	80.8	82.0	78.5	79.6	79.6	80.0	82.0	82.0	83.6	83.3	88.8	86.0	91.0	87.0	90.1	88.6	90.2	88.8	87.3	87.4	82.7	85.0	79.4	82.8
4	79.9	82.0	80.1	79.9	80.0	80.0	82.1	82.0	84.5	83.5	88.4	86.1	92.0	87.1	91.0	88.6	90.8	88.8	86.6	87.4	82.0	84.9	78.3	82.6
5	79.5	82.0	81.2	79.6	79.9	80.0	82.8	82.1	85.1	83.5	88.9	86.2	92.5	87.4	92.0	88.6	91.0	88.9	86.5	87.4	82.1	84.8	77.5	82.5
6	79.2	81.9	81.6	80.0	79.6	80.1	83.0	82.0	85.0	83.6	89.3	86.4	92.4	87.7	92.2	88.7	91.0	88.9	86.7	87.3	82.9	84.5	77.0	82.2
7	79.2	81.7	81.5	80.1	79.7	80.2	83.0	82.2	85.5	83.6	89.4	86.4	91.9	87.9	92.0	88.8	89.7	89.0	86.9	87.3	82.8	84.5	78.7	82.0
8	81.0	81.4	82.0	80.5	80.0	80.2	83.6	82.2	85.7	83.9	88.3	86.6	91.1	88.0	91.4	89.0	89.1	89.0	87.0	87.2	82.6	84.6	78.1	81.9
9	81.3	81.6	82.5	80.6	81.0	80.4	84.0	82.3	85.2	84.0	88.5	86.7	90.8	88.0	91.5	89.0	89.1	88.9	87.0	87.2	83.0	84.5	77.6	81.9
10	81.0	81.6	81.9	80.9	81.2	80.6	84.0	82.5	84.9	84.0	88.4	86.6	89.8	88.1	90.6	89.1	89.0	89.2	86.1	87.1	82.9	84.5	76.9	81.7
11	81.0	81.6	80.5	81.0	81.6	80.7	84.0	82.6	86.0	84.0	88.0	86.7	89.5	88.1	90.8	89.1	89.4	89.0	85.6	87.1	82.3	84.5	76.0	81.6
12	79.4	81.6	78.9	81.0	81.1	80.9	84.2	82.8	86.0	84.1	88.0	86.7	89.2	88.1	90.9	89.0	89.1	88.8	85.2	87.1	82.0	84.3	74.0	81.3
13	79.4	81.6	79.0	81.0	81.0	81.0	83.5	83.0	86.2	84.2	88.3	86.6	89.4	88.0	91.4	89.0	89.0	88.7	85.5	87.0	82.2	84.4	76.4	81.1
14	79.1	81.3	78.4	81.0	81.1	81.0	83.6	82.9	86.1	84.4	88.5	86.6	89.1	88.0	91.0	89.1	88.2	88.7	85.8	86.9	82.1	84.2	76.1	81.0
15	80.0	81.4	77.9	80.9	81.3	81.0	83.8	82.9	86.4	84.5	89.2	86.7	89.0	88.0	90.7	89.0	87.9	88.7	85.7	86.7	81.9	84.1	75.8	80.9
16	78.5	81.3	77.9	80.8	81.2	81.0	84.0	83.0	86.6	84.5	88.9	86.7	89.2	88.0	90.3	89.0	88.0	88.2	85.0	86.6	81.5	84.0	76.2	80.6
17	78.5	81.3	78.4	80.6	80.6	81.2	84.4	83.0	86.9	84.7	88.0	86.8	89.8	88.0	90.3	89.0	89.0	88.2	84.6	86.6	80.8	84.5	77.5	80.5
18	78.6	81.1	79.0	80.6	80.6	81.2	84.9	83.0	87.3	84.7	87.0	86.8	89.9	88.0	90.2	89.0	88.8	88.3	85.0	86.5	79.6	84.0	78.3	80.5
19	78.9	80.9	78.0	80.4	80.5	81.1	84.2	83.2	87.0	84.0	86.7	86.7	90.0	88.0	90.0	89.0	88.7	88.3	86.0	86.4	79.6	83.8	78.8	80.5
20	77.5	80.7	77.5	80.4	80.0	81.2	82.8	83.3	87.2	85.0	86.6	86.6	89.8	88.0	89.6	89.0	87.7	88.1	85.0	86.2	80.0	83.6	78.5	80.5
21	78.4	80.5	78.3	80.3	81.0	81.1	82.0	83.3	87.0	85.1	87.5	86.5	89.9	88.0	89.0	89.0	87.1	88.1	84.2	86.2	80.1	83.4	79.1	80.6
22	79.0	80.2	78.3	80.2	81.6	81.1	82.0	83.0	87.3	85.2	87.0	86.5	90.5	88.3	88.9	88.9	87.2	88.0	84.3	86.1	79.0	83.3	80.1	80.7
23	78.9	80.2	78.0	80.2	82.1	81.1	82.0	83.0	87.6	85.3	86.9	86.4	91.0	88.0	88.8	88.8	87.6	88.0	84.7	86.1	79.6	83.9	80.5	80.8
24	78.4	80.4	78.1	80.1	82.1	81.2	83.6	83.0	87.9	85.4	87.0	86.4	91.5	88.1	89.4	88.6	87.3	88.0	85.0	86.0	80.5	83.0	80.8	81.0
25	77.5	80.3	77.3	80.0	82.1	81.4	83.8	83.0	87.0	85.5	87.8	86.4	91.2	88.2	90.0	88.6	87.0	87.9	85.0	86.0	80.2	83.0	81.4	81.0
26	76.4	80.3	77.1	80.0	82.2	81.4	84.0	83.0	86.7	85.5	88.1	86.5	91.1	88.5	90.0	88.6	87.4	87.8	83.7	86.0	79.0	82.9	80.5	81.2
27	76.0	80.0	77.7	80.0	82.7	81.8	84.0	83.0	86.5	85.6	88.5	86.5	91.0	88.5	90.1	88.8	87.2	87.8	83.5	85.8	79.1	82.8	78.9	81.3
28	75.5	80.0	77.8	80.0	82.6	81.8	83.8	83.1	87.1	85.6	88.5	86.5	91.0	88.6	90.4	88.7	87.0	87.8	82.0	85.6	79.8	82.7	78.8	81.3
29	75.5	79.8	-	-	82.7	82.0	83.6	83.2	88.0	86.5	87.9	86.9	90.3	88.6	90.2	88.8	87.0	87.7	82.3	85.6	80.5	82.5	78.0	81.2
30	76.0	79.6	-	-	82.2	82.0	84.2	83.2	88.2	85.6	88.5	86.8	90.0	88.7	90.2	88.9	87.3	87.6	82.2	85.3	81.5	82.5	78.5	81.1
31	76.1	79.5	-	-	82.1	82.0	-	-	87.5	85.9	-	-	89.5	88.6	89.9	88.9	-	-	82.8	85.1	-	-	78.1	81.0
Mean	78.6	81.0	79.1	80.3	81.0	80.9	83.4	82.7	86.3	84.5	88.1	86.5	90.4	88.0	90.4	88.9	88.6	88.4	85.2	86.6	81.3	84.0	78.3	81.4
The initial 2 or 3 of the readings is omitted, i.e. 275.0 degrees absolute is written 75.0.																					Year		84.3	84.5

MINIMUM TEMPERATURE "ON THE GRASS" DURING THE INTERVAL 18h. to 7h. G.M.T.

428. CAHIRCIVEEN (Valentia Observatory).

Readings in degrees absolute.

1933.

Month.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	74.1	81.3	74.1	76.3	79.7	84.3	77.6	86.2	87.5	81.6	81.0	82.1
2	77.0	74.7	77.7	73.6	80.3	82.8	84.2	86.9	87.3	86.5	82.4	71.2
3	74.7	72.3	78.0	81.4	81.6	79.0	84.6	87.8	80.4	79.6	76.7	73.1
4	74.2	83.4	78.7	79.7	82.1	79.6	-	-	86.8	76.5	75.7	70.2
5	73.0	82.7	76.4	82.1	82.1	83.2	84.8	85.1	86.6	80.2	80.2	71.3
6	75.8	81.1	76.0	80.6	80.5	84.4	84.5	87.4	86.7	81.9	81.8	72.9
7	74.1	80.9	77.7	76.8	81.9	85.6	87.0	82.8	83.5	83.6	77.8	78.2
8	82.9	83.0	77.4	82.0	80.8	78.0	85.9	86.3	79.3	83.1	79.7	70.3
9	76.9	84.0	82.6	83.1	79.1	79.6	83.9	88.0	80.2	84.1	80.8	73.6
10	79.7	79.7	81.3	81.9	79.7	79.6	85.8	79.1	81.4	80.3	77.8	69.8
11	77.1	71.5	79.0	82.4	80.8	80.2	85.7	81.3	81.2	80.4	74.8	69.8
12	70.8	68.8	72.9	80.3	81.3	84.1	85.2	80.2	81.3	78.1	78.2	71.2
13	74.1	77.3	75.8	71.9	82.9	85.3	85.2	83.4	79.1	82.6	80.3	73.4
14	74.6	71.3	75.7	78.0	83.5	81.0	85.2	82.4	74.8	81.1	79.1	72.2
15	74.6	-	77.4	81.8	77.3	84.6	80.8	85.3	77.4	80.2	77.9	70.1
16	72.6	70.8	75.7	79.1	84.1	80.6	81.8	84.1	83.7	79.2	76.1	72.4
17	69.0	72.9	75.2	74.6	83.8	81.3	86.4	86.4	89.1	80.7	75.1	78.2
18	70.4	76.6	73.3	81.3	82.3	81.0	87.3	85.9	81.8	84.1	71.6	78.4
19	71.4	73.6	76.7	78.6	85.1	80.6	86.1	85.4	84.7	78.0	76.8	74.6
20	75.7	70.1	75.7	72.9	84.7	80.8	85.3	83.6	78.7	80.2	77.3	78.1
21	79.6	76.9	80.0	70.8	80.9	82.6	82.0	84.1	83.0	76.9	73.6	80.6
22	79.2	76.2	82.1	74.2	77.6	83.6	88.2	83.6	80.6	80.6	70.8	81.9
23	77.6	73.0	81.8	79.9	77.4	81.1	86.3	85.7	83.9	82.0	80.1	80.4
24	76.3	73.1	80.8	82.4	78.0	82.9	87.4	84.7	83.6	81.3	79.6	80.7
25	68.9	73.0	79.9	81.8	79.7	84.5	88.0	87.9	84.6	82.3	73.1	82.3
26	87.1	73.4	78.9	80.9	81.8	79.7	85.2	88.5	82.8	77.1	71.2	73.7
27	70.7	75.9	73.6	79.7	78.9	80.9	83.6	89.4	79.2	80.7	77.2	70.8
28	70.6	75.7	73.5	77.1	80.9	82.0	84.4	85.8	78.0	74.5	80.1	76.9
29	74.4	-	77.8	75.8	83.2	79.9	84.7	83.0	79.1	80.4	80.9	71.6
30	71.7	-	77.1	76.5	82.7	78.8	82.0	82.6	82.6	78.1	82.1	78.0
31	77.1	-	78.9	-	77.4	-	85.9	80.3	-	80.3	-	74.6
Mean	74.4	76.0	77.5	78.6	81.0	81.7	84.8	84.8	82.3	80.5	77.7	74.9

Annual Mean 278.9.

Mean for February



Day.	Cloud Forms.			Cloud Amount (All Forms).					Visibility.					Precipitation.					Remarks on the Weather of the Day.
	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h				
1	Cus Stou.	Cus Stous Ast: Acu.	St: Ast.	4	6	9	10	10	6	1	1	1	1	1	1	p to bc a: p to bc p: continuous to bc n.			
2	Nb.	Nb.	Nb.	10	10	10	10	10	10	G	G	h	h	J	J	continuous to bc a: continuous to bc p: i to bc n.			
3	Cus Nb.	Cunbs Nb.	Cus Nb.	7	6	8	6	3	8	k	1	1	1	1	1	p to bc a: bc to p: q to p: i to bc n.			
4	Cunb: Nb.	St: Nb.	St: Ast.	9	8	10	10	10	10	k	1	k	k	k	k	p to bc a: bc to p: q to p: i to bc n.			
5	Cunb: Nb.	Nb.	St: Stou.	7	2	9	9	9	9	k	1	J	k	k	k	p to bc a: bc to p: q to p: i to bc n.			
6	Cus Stou.	Cus Stous Ci.	Stou.	6	7	2	4	1	1	k	1	1	1	1	1	p q to bc a: bc p: b to bc n.			
7	St: Cus Nb.	St: Stous Ast.	St: Nb.	9	9	10	10	10	10	k	k	k	I	F	F	p to bc a: i to bc continuous to bc p: continuous to bc n.			
8	St: Nb.	St: Stou.	St: Stou.	10	10	10	9	10	10	J	I	J	I	G	d	p to bc a: i to bc continuous to bc p: continuous to bc n.			
9	Acu.	Stous Ci.	St: Stou.	1	3	4	9	8	10	1	m	1	1	h	d	p to bc a: bc to p: q to p: i to bc n.			
10	Cus Stou.	St: Stous Ast.	St: Stou.	9	9	9	9	10	10	1	I	1	1	I	d	p to bc a: bc to p: q to p: i to bc n.			
11	Cus Nb.	Nb: Stou.	Cus Ci.	7	3	8	1	1	1	1	1	1	1	1	1	p to bc a: p to bc p: b to bc n.			
12	St: Stou.	St: Stous Ast.	St: Stou.	9	9	10	10	6	2	1	k	1	1	1	1	p to bc a: i to bc continuous to bc p: bc to p to bc n.			
13	Cunbs Cus Acu.	Cus Stou.	Cu.	5	4	5	6	2	2	1	1	1	1	1	1	p to bc a: i to bc continuous to bc p: bc to p to bc n.			
14	Cus Stous Ast: Acu.	St: Stou.	St: Stou.	9	10	8	10	10	10	k	k	1	1	1	1	p to bc a: i to bc continuous to bc p: bc to p to bc n.			
15	Cus Stou.	St: Cus Ast: Acu.	Cus Cunb.	7	5	8	8	3	1	1	1	1	1	1	1	p to bc a: i to bc continuous to bc p: bc to p to bc n.			
16	Cus Nb.	Cunb: Nb.	Cunb.	8	8	9	2	4	5	1	k	1	1	1	1	p to bc a: i to bc continuous to bc p: bc to p to bc n.			
17	Cunb.	Cus Ci.	St: Stous Ci.	1	1	1	6	7	1	1	1	1	1	1	1	p to bc a: i to bc continuous to bc p: bc to p to bc n.			
18	St: Stous Ast: Acu.	Cunb: Cu.	Fret: Cunb.	9	8	4	6	4	2	1	1	1	1	1	1	p to bc a: i to bc continuous to bc p: bc to p to bc n.			
19	Cus Stous Cist.	St: Stous Ast.	St: Stous Ast.	5	10	10	10	7	1	1	1	1	1	1	1	p to bc a: i to bc continuous to bc p: bc to p to bc n.			
20	Cus Stou.	Fret: Stous Cist: Cl.	St: Stou.	5	6	7	9	9	10	1	1	1	1	1	1	p to bc a: i to bc continuous to bc p: bc to p to bc n.			
21	St: Stous Ast.	St: Stou.	St: Stou.	9	10	10	10	10	10	k	k	k	J	k	J	c a: i to bc p and n.			
22	St: Stou.	St: Stou.	Cus Stous Ci.	10	9	9	7	7	3	k	k	k	k	1	1	c a and p: c to bc n.			
23	Cus Stou.	Cus Stous Ci.	St: Stous Ci.	6	6	5	7	5	4	1	1	1	1	1	1	c to bc all day.			
24	Cus Stou.	Stou.	Stou.	5	7	9	5	1	3	1	1	1	1	1	1	c to bc a and p: bc to b n.			
25	Stou.	Cu.	Cus Stou.	1	1	1	1	1	0	k	k	k	k	J	J	Fine: early a and n.			
26	Cus Stou.	Acu.	Acu.	1	8	8	8	7	2	1	k	k	k	k	J	b to c a: c p: c to bc n.			
27	---	Fret.	Fret.	0	0	1	3	1	1	J	k	k	k	1	1	Fine: y p.			
28	Cus Stou.	Cus Stou.	Acu.	6	2	3	0	1	1	k	k	k	k	k	k	Fine: y p and n.			
29	St: Stou.	St: Stou.	St: Stou.	10	10	10	10	10	10	k	k	J	k	J	I	bc y to c a: c p: c to bc n.			
30	Cu.	St: Stous Ci.	Stou.	4	9	6	9	9	2	1	k	k	1	1	1	bc to p a: bc to c p: p to bc n.			
31	St: Stous Ast.	St: Stous Ast.	St: Nb.	10	10	10	10	10	10	k	k	k	h	G	G	p to q a: continuous to bc p: continuous to bc n.			
Mean Cloud Am't.				6.4	6.5	7.2	7.2	6.3	5.3										

1	Sts Stou.	St.	Sts Stou.	10	10	10	10	10	10	J	k	h	k	1	1	...	...	...	...	...	...	i to c a: id <sub>0</sub> i <sup>0</sup> p: c p <sup>0</sup> to bc n.
2	Cus Stou.	Sts Ast.	Stous Ci.	4	9	9	10	7	1	1	1	1	1	1	k	...	...	...	...	...	...	Fair to cloudy: $\Delta$ n.
3	Stou Ast.	Sts Stou.	St.	9	10	10	10	10	10	1	h	J	G	G	...	...	...	...	...	...	...	b $\Delta$ to id <sub>0</sub> a: id <sub>0</sub> p: $\bullet$ $\bullet$ $\bullet$ n.
4	St.	St.	St.	10	10	10	10	10	10	I	h	I	I	I	G	...	...	...	...	...	...	i $\bullet$ $\bullet$ id a and p: i $\bullet$ d p $\bullet$ n.
5	Cus Stou.	Sts Stou.	St.	8	9	10	10	10	10	1	J	J	G	G	h	...	...	...	...	...	...	p $\bullet$ $\bullet$ to c a: id <sub>0</sub> p and n.
6	Stous Ast: Acu.	Sts Stou.	Sts Nb.	9	9	10	10	10	10	1	k	J	J	h	J	...	...	...	...	...	...	id <sub>0</sub> a: continuous $\bullet$ $\bullet$ $\bullet$ $\bullet$ $\bullet$ p: i $\bullet$ $\bullet$ $\bullet$ $\bullet$ n.
7	Cus Stou: Acu.	Sts Stou.	Sts Stou.	8	7	10	10	10	10	1	k	k	J	h	G	...	...	...	...	...	...	p $\bullet$ $\bullet$ $\bullet$ to c a: c p: i $\bullet$ id <sub>0</sub> n.
8	St.	Sts Stou.	Sts Stou: Cicus Ci.	10	10	9	8	9	9	G	J	J	J	I	J	...	...	...	...	...	...	id <sub>0</sub> to ca and p: c n.
9	Cus Nb.	Cus Stou: Cicus Ci.	Cunbs Cus Ci.	9	4	6	8	4	4	k	J	k	1	k	1	...	...	...	...	...	...	p $\bullet$ $\bullet$ to bc a: c to bc p: p $\bullet$ n.
10	Cunbs Cus Nb.	Cunbs Nb.	Nb: Stou.	9	4	6	8	9	9	1	1	1	1	1	1	...	...	...	...	...	...	p $\bullet$ $\bullet$ to bc a: p $\bullet$ $\bullet$ to bc p: c to bc n.
11	Cu.	---	Frous Ci.	1	1	0	0	3	0	1	m	m	m	m	m	...	...	...	...	...	...	Fine: vy p.
12	Stou.	Stous Ci.	Stou.	1	1	3	9	9	10	1	1	k	1	1	1	...	...	...	...	...	...	early, fine a: bc to c p: c to o n.
13	Stou.	Stou.	Stou.	9	8	6	9	9	1	1	1	m	m	m	1	...	...	...	...	...	...	Mainly fair: vy p.
14	Stou.	Stou.	Stou	1	8	6	9	7	7	1	m	m	m	m	m	...	...	...	...	...	...	early: fine a: bc vy p: cv n.
15	Stou.	Cus Stou: Ci.	Sts Stou.	1	1	3	7	7	2	m	m	m	m	m	1	...	...	...	...	...	...	Fine: early, v a and p.
16	Stou.	Cus Ci.	Cus Stou: Ci.	9	7	4	5	4	4	1	1	m	m	m	m	...	...	...	...	...	...	$\Delta$ early: p $\bullet$ $\bullet$ to bc v a: bc v p: bc v $\Delta$ c n.
17	Stou Ast: Acu.	Cus Stou: Ci.	Cus Stou: Ci.	8	9	3	2	2	3	1	1	m	m	m	1	...	...	...	...	...	...	p $\bullet$ $\bullet$ $\bullet$ to c a: bc y v p: p $\bullet$ $\bullet$ to bc n.
18	Nb: St.	Cus Stou.	Cus Stou: Ci.	9	3	3	6	4	2	k	m	m	m	m	1	...	...	...	...	...	...	p $\bullet$ $\bullet$ i $\bullet$ $\bullet$ to bc vy a: bc vy p: p $\bullet$ $\bullet$ n.
19	Cus Stou.	Cus Stou.	St: Cus Stou: Ci.	3	7	8	6	6	1	1	1	1	m	1	1	...	...	...	...	...	...	bc to c a: bc v p: fine n.
20	Stous Ci.	Stou.	St: Stou.	2	9	8	8	9	8	1	1	m	m	1	1	...	...	...	...	...	...	early a: p $\bullet$ $\bullet$ n otherwise bc to c.
21	Stou Ast.	Nbs Stou.	Cunbs Ci.	9	1	9	3	6	6	1	1	1	1	1	1	...	...	...	...	...	...	p $\bullet$ $\bullet$ all day: y p.
22	Cunbs Cu.	Stou.	St: Stou: Cicus Ci.	8	8	9	7	8	3	k	1	m	m	1	1	...	...	...	...	...	...	p $\bullet$ $\bullet$ $\bullet$ to bc a: c to bc y p: c to bc n.
23	Stou Ast.	Sts Stou: Ast.	St: Stou.	10	10	10	10	10	10	1	1	1	1	k	J	...	...	...	...	...	...	bc to j p a: i $\bullet$ p $\bullet$ $\bullet$ p: p $\bullet$ to $\star$ n.
24	Cus Nb.	Nb.	Nb.	9	10	10	10	10	10	1	J	F	F	h	h	...	...	...	...	...	...	$\boxtimes$ $\star$ $\star$ a: continuous $\star$ p and n.
25	Cus Nb.	Cunbs Cu.	St: Stou.	10	8	4	3	8	3	k	J	1	1	1	1	...	...	...	...	...	...	$\star$ $\star$ to i $\star$ $\star$ a: bc p: p $\blacktriangle$ 1 n.
26	Cunbs Nb: Ast: Acu.	Cunbs Stou: Ast: Ci.	Nb.	9	9	4	6	9	4	1	J	1	1	1	1	...	...	...	...	...	...	early i $\bullet$ p $\bullet$ $\bullet$ $\bullet$ a: c to bc p: p $\bullet$ n.
27	Cus Stou: Ci.	St: Acu: Ast.	St: Stou: Ci.	8	9	9	9	7	6	1	1	1	1	1	1	...	...	...	...	...	...	p $\bullet$ $\bullet$ to c a: c p: i $\leq$ i $\bullet$ $\bullet$ n.
28	Cus Nb: Stou: Ast.	Cunbs Cus Stou.	Cunbs Nb.	7	7	7	7	9	3	1	1	1	1	1	1	...	...	...	...	...	...	p $\bullet$ $\bullet$ i $\bullet$ $\bullet$ $\bullet$ a: p $\blacktriangle$ $\bullet$ $\bullet$ p: p $\bullet$ to bc n.
Mean Cloud Am't.				7.1	7.1	7.7	7.6	7.7	6.9													
Day	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	Remarks on the Weather of the Day.
	Cloud Forms.			Cloud Amount (All Forms).						Visibility.			Precipitation.									

NOTE.—Visibility in these tables refers to a landwards direction; visibility seawards, when it differs from visibility landwards, is given on p. 285.



## 431. CAHIRCIVEEN (VALENTIA OBSERVATORY).

MARCH, 1933.

Day.	Cloud Forms.			Cloud Amount (All Forms).						Visibility.						Precipitation.						Remarks on the Weather of the Day.
	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	
1	Frst: Steu. Ci.	Cus. Ci.	Sts. Steu.	6	6	3	7	9	6	1	1	m	m	1	1	...	...	...	...	...	...	bc a: bc v p: p <sup>0</sup> i <sup>2</sup> n.
2	Sts. Nb.	Sts. Steu.	Sts. Steu. Ci.	10	10	9	9	6	7	J	k	1	1	1	1	...	...	...	...	...	...	Cloudy a and p: c to bc n.
3	Sts. Steu.	Sts. Steu.	Frst: Cus. Steu.	10	10	10	10	9	10	k	1	k	k	J	J	...	...	...	...	...	...	p <sup>0</sup> to bc a and p: p <sup>0</sup> n.
4	Cumb.	Cumb: Cus. Ci.	Cumb: Cus. Nb.	3	4	5	8	7	7	1	1	m	m	1	1	...	...	...	...	...	...	bc to continuous a: i <sup>0</sup> p: p <sup>0</sup> to bc n.
5	Sts. Steu. Acu.	Sts. Nb.	Cus. Steu. Acu.	7	10	10	10	8	3	1	J	J	I	k	k	...	...	...	...	...	...	
6	Cumb: Cus. Steu.	Cumb: Steu. Ci.	Nb.	8	6	6	6	10	9	k	1	1	1	1	J	...	...	...	...	...	...	p <sup>0</sup> q a: p <sup>0</sup> p <sup>0</sup> p <sup>0</sup> p <sup>0</sup> p <sup>0</sup> n 21h.
7	Cus. Steu.	Cus. Steu.	Nb: Steu. Ci.	7	9	6	6	8	6	k	1	1	1	1	1	...	...	...	...	...	...	p <sup>0</sup> to bc a: p <sup>0</sup> to bc p: p <sup>0</sup> to bc n.
8	Sts. Nb.	Sts. Steu.	Sts. Nb.	10	10	10	10	10	10	I	I	I	h	h	h	...	...	...	...	...	...	continuous a and p: dd <sub>0</sub> late p: d <sub>0</sub> i <sup>0</sup> n.
9	Sts. Nb.	Sts. Steu.	Sts. Steu.	10	10	10	9	9	10	G	I	k	k	k	k	...	...	...	...	...	...	i <sup>0</sup> id <sub>0</sub> a: c p and n.
10	Sts. Acu: Cist: Cl.	Aculent: Ci.	Sts. Acu: Cist: Cl.	8	9	5	9	9	5	k	1	1	1	1	J	...	...	...	...	...	...	c a: bcy p: c to bc n.
11	Cus. Steu. Ci.	Cus. Steu.	Cu.	4	4	8	6	1	0	k	k	k	k	k	k	...	...	...	...	...	...	Fair: <u>n</u> .
12	Cu.	Cus. Steu.	Cus. Steu. Ci.	1	1	9	1	1	1	k	k	k	k	k	k	...	...	...	...	...	...	Fine generally: <u>n</u> early a and n.
13	Sts. Steu.	Sts. Steu.	Sts. Steu.	9	9	10	9	1	1	k	k	k	k	k	k	...	...	...	...	...	...	b <sub>0</sub> to c a: p <sup>0</sup> i <sup>0</sup> p: c to b <sub>0</sub> n.
14	Sts. Steu. Ci.	Sts. Steu. Ast.	Sts. Steu.	4	5	10	9	10	9	1	1	1	k	k	k	...	...	...	...	...	...	b <sub>0</sub> to c a: c p: i <sup>0</sup> n.
15	Sts. Steu.	Sts. Steu.	Sts. Steu.	9	9	9	10	10	1	k	k	k	k	k	1	...	...	...	...	...	...	p <sup>0</sup> to c a: c p: <sup>0</sup> 2 to b to p <sup>0</sup> n.
16	Frst: Ci.	Cumb: Cu.	Sts. Cumb: Steu. Ci.	7	6	4	9	6	4	k	1	1	k	1	1	...	...	...	...	...	...	p <sup>0</sup> a: p <sup>0</sup> p <sup>0</sup> p: p <sup>0</sup> n.
17	Nb.	Cus. Steu. Ci.	Cus. Ci.	9	3	4	4	2	1	J	1	m	m	m	m	...	...	...	...	...	...	K <sub>0</sub> 2 <sup>30</sup> m: bc v p: b v n.
18	Nb.	Cus. Steu. Acu: Cist.	Nb: Steu.	4	6	7	10	9	1	1	1	1	k	J	k	...	...	...	...	...	...	p <sup>0</sup> a: <sup>0</sup> p: p <sup>0</sup> to b n.
19	Sts. Steu. Ast.	Cus. Steu. Ci.	Cumb: Steu. Acu.	10	10	9	10	9	10	1	k	J	J	1	1	...	...	...	...	...	...	K <sub>0</sub> 7 <sup>20</sup> m to 8 h 1 <sup>m</sup> a: <sup>0</sup> 2 q a: p <sup>0</sup> p: p <sup>0</sup> q n.
20	Sts. Cus. Steu. Acu.	Cus. Ci.	Frst: Cist: Ci.	5	3	1	1	6	8	1	1	m	m	m	1	...	...	...	...	...	...	p <sup>0</sup> to bc a: b v y p: bc to c n.
21	Sts. Steu.	Sts. Steu.	Sts. Steu.	10	10	9	9	10	10	J	J	k	k	J	J	...	...	...	...	...	...	Continuous <sup>0</sup> to c a: c p: i <sup>0</sup> i <sup>0</sup> n.
22	Sts. Nb: Steu.	Sts. Steu. Cist: Cl.	Sts. Steu. Ast.	9	9	9	9	10	10	k	k	1	1	k	J	...	...	...	...	...	...	c a and p: y late a: continuous <sup>0</sup> n: 11h-16h.
23	Sts. Nb.	Sts. Nb.	Sts. Nb: Steu.	10	10	10	10	10	10	I	I	J	k	k	k	...	...	...	...	...	...	continuous <sup>0</sup> a: continuous <sup>0</sup> p: ci <sup>0</sup> n.
24	Sts. Nb: Steu.	Sts. Steu.	Sts. Cus. Steu. Ci.	9	9	9	10	6	10	k	k	k	k	k	k	...	...	...	...	...	...	i <sup>0</sup> to c a: c p: c to bc n.
25	Sts. Steu. Acu: Ci.	Sts. Steu.	Sts. Steu. Ast.	8	8	10	10	10	7	1	1	J	J	J	k	...	...	...	...	...	...	bc to c a: continuous <sup>0</sup> p: i <sup>0</sup> n.
26	Sts. Steu.	Cus. Steu. Ci.	Frst: Ci.	10	10	3	4	3	1	1	1	k	1	1	1	...	...	...	...	...	...	c to bc a: bc p: b <sub>0</sub> n.
27	Ci.	Frst: Cus. Ci.	Frst: Ci.	4	4	1	3	1	0	1	1	1	1	1	1	...	...	...	...	...	...	Fine: <u>n</u> early a and n.
28	Sts. Steu.	Acu.	Frst: Cus. Ci.	7	9	1	5	5	k	k	k	k	k	J	J	...	...	...	...	...	...	b <sub>0</sub> to c a: b to bc p: bc <sub>0</sub> to ci <sup>0</sup> n.
29	Cumb: Cus. Ci.	Cumb: Ci.	Cumb: Steu.	3	3	3	2	3	1	1	1	1	m	1	1	...	...	...	...	...	...	i <sup>0</sup> to bc p <sup>0</sup> a: p <sup>0</sup> p and n.
30	Sts. Nb: Steu.	Sts. Steu.	Cus. Steu. Ci.	8	4	9	7	9	9	J	1	1	1	1	1	...	...	...	...	...	...	p <sup>0</sup> to bc a: p <sup>0</sup> to c p: c to p <sup>0</sup> n.
31	Sts. Steu.	Sts. Nb.	Sts. Cus. Steu. Ci.	9	10	10	8	7	3	k	J	k	1	1	1	...	...	...	...	...	...	p <sup>0</sup> i <sup>0</sup> a: p <sup>0</sup> to bc p: p <sup>0</sup> to bc n.
Mean Cloud Am't.				7.4	7.3	7.0	7.3	7.5	6.6													

## 432. CAHIRCIVEEN (VALENTIA OBSERVATORY).

APRIL, 1933.

Day.	Cloud Forms.			Cloud Amount (All Forms).						Visibility.						Precipitation.						Remarks on the Weather of the Day.
	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	
1	Sts. Steu.	Cus. Steu. Ci.	Cist: Ci.	9	9	5	4	2	1	1	J	m	m	m	1	...	...	...	...	...	...	p <sup>0</sup> to bc a: bc v y p: fine n.
2	Sts. Steu.	Sts. Steu.	Sts. Steu.	9	9	10	10	10	10	1	1	k	k	k	k	...	...	...	...	...	...	b early otherwise cloudy.
3	Sts. Steu.	Sts. Steu.	Sts. Steu.	10	9	10	10	9	8	1	1	1	1	1	1	...	...	...	...	...	...	Cloudy all day.
4	Cus. Steu. Ci.	Sts. Steu.	Sts. Steu.	6	10	10	9	8	9	k	k	k	k	k	k	...	...	...	...	...	...	bc to c a: c p and n: <u>n</u> .
5	Sts. Steu.	Sts. Steu.	Sts. Steu.	9	9	10	10	9	9	k	1	1	1	1	k	...	...	...	...	...	...	<u>n</u> early a: i <sup>0</sup> n otherwise cloudy.
6	Sts. Steu.	Sts. Steu.	Sts. Steu. Cist: Cl.	9	10	9	9	7	6	k	k	k	1	1	1	...	...	...	...	...	...	i <sup>0</sup> to c a: c p: c to bc <u>n</u> .
7	Cus. Steu. Acu: Cist.	Sts. Cus. Steu. Ci.	Sts. Cus. Steu. Acu.	8	6	9	9	9	10	1	1	k	k	k	k	...	...	...	...	...	...	<u>n</u> bc a: c p: c to id <sub>0</sub> n.
8	Sts. Steu.	Sts. Steu.	Sts. Steu.	10	9	9	9	10	10	k	k	k	k	k	k	...	...	...	...	...	...	id <sub>0</sub> to c a: c p: c to id <sub>0</sub> n.
9	Sts. Steu.	Sts. Steu.	Sts. Steu.	10	10	10	10	9	10	J	I	J	k	1	k	...	...	...	...	...	...	id <sub>0</sub> a: id <sub>0</sub> to c p: c n.
10	Sts. Steu.	Sts. Steu.	Sts. Steu. Ci.	9	9	10	8	8	10	1	k	J	k	k	J	...	...	...	...	...	...	id <sub>0</sub> to c a and p: c n.
11	Sts. Steu.	Sts. Steu.	St.	10	10	9	10	10	10	J	I	k	k	J	J	...	...	...	...	...	...	oid <sub>0</sub> a: c to id <sub>0</sub> p: <sup>0</sup> d n.
12	Sts. Steu. Ci.	Cus. Steu.	Steu.	7	9	5	5	4	1	m	m	m	m	m	m	...	...	...	...	...	...	id <sub>0</sub> to bc v a: bc v y p: b v n.
13	Ci.	Cus. Steu. Ci.	Steu. Cist: Ci.	1	1	3	6	3	9	m	m	m	m	1	1	...	...	...	...	...	...	<u>n</u> early: fine to fair: v p.
14	Sts. Steu.	Steu.	Steu. Ci.	9	9	9	9	8	10	1	1	1	1	1	1	...	...	...	...	...	...	Cloudy.
15	Sts. Steu.	Steu.	Sts. Steu.	10	9	9	9	9	10	1	1	m	m	1	1	...	...	...	...	...	...	Cloudy: v p.
16	Sts. Cus. Steu.	Acu. Ci.	---	9	1	1	1	0	1	k	k	k	k	J	J	...	...	...	...	...	...	Fine: <u>n</u> early and late.
17	Sts. Acu: Ci.	Cus. Acu.	Cist: Ci.	9	8	1	2	1	8	m	m	m	m	J	J	...	...	...	...	...	...	<u>n</u> early: bc v a: bc p: bc to c n.
18	Cus. Nb: Ast: Acu.	Sts. Ast: Acu: Ci.	Sts. Ast: Acu.	10	9	9	10	9	9	k	J	1	1	1	1	...	...	...	...	...	...	bc to c a: c y p: c y to bc n.
19	Cus. Steu. Acu.	Steu.	Cus. Steu.	9	9	9	6	6	1	k	k	k	1	1	1	...	...	...	...	...	...	Fair a and p: y p: fine n.
20	Cus. Acu.	Cus. Steu.	Cus. Steu.	1	1	9	9	9	9	k	k	1	1	1	1	...	...	...	...	...	...	b to bcy a: c y p: c to bc n.
21	Sts. Steu.	Sts. Cus. Steu.	Sts. Steu.	3	1	9	8	8	2	1	1	m	1	1	1	...	...	...	...	...	...	bc <sub>0</sub> to bcy a: c y to c p: c to bc <u>n</u> .
22	Sts. Cus. Steu. Ast.	Sts. Nb: Ast.	Sts. Nb.	10	10	10	10	10	10	k	1	J	I	k	J	...	...	...	...	...	...	bc to c a: continuous <sup>0</sup> p: continuous <sup>0</sup> i <sup>0</sup> n.
23	Sts. Steu. Ci.	Cus. Acu: Cist: Cl.	Sts. Ast.	5	6	8	8	10	10	1	1	1	1	1	J	...	...	...	...	...	...	bc to c a: c to continuous <sup>0</sup> p: <sup>0</sup> n.
24	Sts. Ast.	St.	Sts. Steu. Cist.	10	10	10	10	9	8	J	I	I	J	k	J	...	...	...	...	...	...	<sup>0</sup> a: i <sup>0</sup> to id <sub>0</sub> p: c to bc n.
25	Cumb: Nb.	Cumb: Nb: Steu.	Sts. Nb.	9	9	9	10	10	10	k	J	k	J	I	J	...	...	...	...	...	...	p <sup>0</sup> p <sup>0</sup> a: continuous <sup>0</sup> p: i <sup>0</sup> i <sup>0</sup> n.
26	Sts. Steu.	St.	Sts. Steu.	9	10	10	9	10	9	k	h	h	J	J	J	...	...	...	...	...	...	i <sup>0</sup> to d a: d id <sub>0</sub> p: c to bc n.
27	Sts. Steu.	Cumb: Steu.	Cumb.	9	9	6	3	2	2	1	1	1	1	1	1	...	...	...	...	...	...	p <sup>0</sup> p <sup>0</sup> a: bc p: p <sup>0</sup> n.
28	Cumb: Cus. Steu. Ci.	Cumb: Cus. Nb: Ci.	Cumb: Steu. Ci.	6	7	7	3	6	1	1	1	1	1	1	1	...	...	...	...	...	...	p <sup>0</sup> p <sup>0</sup> a: p <sup>0</sup> p: bc <sub>0</sub> to c n.
29	Frst: Steu.	Cus. Steu.	Cus. Nb: Ast: Acu.	7	2	6	6	8	3	m	m	m	m	m	m	...	...	...	...	...	...	<u>n</u> early and late: p <sup>0</sup> late p otherwise fair.
30	Frst: Cus. Acu.	Cus. Steu.	Nb: Steu.	2	4	9	9	9	9	1	1	1	1	k	k	...	...	...	...	...	...	<u>n</u> early: fair a: p <sup>0</sup> p: i <sup>0</sup> i <sup>0</sup> n.
Mean Cloud Am't.				7.8	7.8	8.3	7.8	7.5	7.1													
Day	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	Remarks on the Weather of the Day.
	Cloud Forms.			Cloud Amount (All Forms).						Visibility.						Precipitation.						

NOTE.—Visibility in these tables refers to a landwards direction; visibility seawards, when it



433. CAHIRCIVEEN (VALENTIA OBSERVATORY).

MAY, 1933.

Day.	Cloud Forms.			Cloud Amount (All Forms).						Visibility.						Precipitation.						Remarks on the Weather of the Day.
	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	
1	Cus Stou.	Cus Stou.	St: Cum: Stou.	9	7	6	9	8	9	J	k	k	l	l	k	...	...	...	...	...	...	c to bc a and p: p n.
2	St: Stou: Cist.	St: Nb: Ast.	St: Stou.	9	10	10	10	10	8	h	J	I	I	k	k	...	...	...	...	...	...	bc to p a: continuous p: c to bc n.
3	Nb: Stou: Ast: Acu.	St: Stou.	Cus Stou.	9	9	10	10	5	10	k	k	h	J	k	I	...	...	...	...	...	...	bc p to id a: id p: bc to continuous n.
4	St: Stou.	Frst: Cus Stou: Ast.	St: Stou.	9	7	9	9	9	9	k	l	l	k	k	k	...	...	...	...	...	...	p to c a and p: c n.
5	St: Nb.	Cus Stou.	St: Stou.	10	9	10	9	9	10	J	k	k	k	k	J	...	...	...	...	...	...	i n: i to c a: p p p: i i n.
6	Frst: Acu: Cist.	Cus Stou: Ci.	Cus Stou.	4	9	6	6	3	8	l	k	m	m	m	l	...	d	...	...	...	...	i i n: to bc a: bc to b p: bc to c n.
7	St: Stou.	Cus Stou.	St: Stou.	9	7	9	9	9	5	k	k	k	k	k	l	...	...	...	...	...	...	i n: p to c a: c p: c to bc n.
8	St.	Cus Ci.	St: Cus Stou.	10	10	6	9	5	4	h	J	k	k	l	l	...	...	...	...	...	...	Continuous n: to bc a: p n: p n.
9	Cum: Stou: Cist.	St: Stou: Ast.	St: Stou.	8	9	10	10	9	9	k	k	J	J	J	J	...	...	...	...	...	...	p to c a: n: to c p: c n.
10	Cu.	Cus Ci.	Frst: Stou.	1	7	2	5	9	10	k	k	l	l	l	J	...	...	...	...	...	...	Early: fair a and p: n.
11	Cus Stou: Ci.	St: Cus Stou.	St: Stou.	3	6	8	9	10	10	k	k	l	k	k	J	...	...	...	...	...	...	Fair a: c p: continuous n: to c n.
12	St: Stou.	St: Stou.	St: Stou.	10	9	9	10	10	10	k	l	m	m	m	l	...	...	...	...	...	...	d to cv a: cv p: i n.
13	St.	St.	St.	10	10	10	10	10	10	J	J	G	F	F	F	...	...	...	...	...	...	i n: i a: id p and n.
14	St: Stou.	Cus Stou.	Acu: Cist: Ci.	10	9	8	7	6	8	l	l	l	m	m	m	...	...	...	...	...	...	id to c a: cv bc p: bc n.
15	Frst: Acu: Ci.	St: Stou.	St.	9	10	10	10	10	10	m	k	J	k	h	J	...	...	...	...	...	...	bc n: to id a: cid p: id n.
16	St.	St: Stou.	St: Stou.	10	10	9	9	10	10	h	h	J	k	l	J	d	d	...	...	...	...	n: d a: c p: id id n.
17	St: Stou.	Frst: Stou: Ci.	Cus Stou: Ci.	10	9	7	4	4	9	k	J	m	m	l	l	...	d	...	...	...	...	id a: c to bc p and n.
18	St: Nb.	St: Stou.	St.	9	10	9	10	10	10	l	l	k	h	J	G	...	...	...	...	...	...	c to id a: d d p: m id n.
19	St.	St: Stou.	St: Stou.	10	9	9	10	10	10	G	k	k	k	k	h	d	...	...	...	...	...	id d to c a: id p: id n.
20	St: Cus Nb.	Cus Stou.	Cus Stou: Ci.	9	6	6	6	7	3	k	l	l	l	l	k	...	...	...	...	...	...	Continuous n: to bc a: fair p and n.
21	Cus Stou: Acu.	Cus Stou.	Cu.	6	7	4	3	2	1	l	l	l	l	l	l	...	...	...	...	...	...	i n: to bc a: fair p: bc to b n.
22	Frst.	Cus Stou.	Cu.	1	2	1	1	1	1	l	l	m	m	m	l	...	...	...	...	...	...	Fine: n early and late: v p.
23	Frst: Ci.	Cus Ci.	Cus Ci.	4	1	1	1	1	1	m	m	m	m	m	l	...	...	...	...	...	...	Fine: n early a: v a and p.
24	St: Stou: Ci.	St: Cus Stou: Ci.	St: Cus Stou.	9	10	5	8	8	6	k	k	l	l	l	k	...	...	...	...	...	...	b to id a: bc to c p and n.
25	St: Stou.	St: Stou.	Cus Stou.	9	9	8	3	7	9	l	l	l	l	l	k	...	...	...	...	...	...	p to bc a: c to bc p: p n.
26	St: Stou: Ast.	St: Stou.	St.	10	10	10	10	10	8	l	l	J	G	F	l	...	...	...	...	...	...	p n: i n: a: continuous n: d p: of d to bc n.
27	St: Stou.	Cus Stou.	Cus Acu: Ci.	7	3	5	2	1	3	l	l	m	m	m	m	...	...	...	...	...	...	Fine: v p: n.
28	St: Nb: Stou: Acu.	St: Stou.	St: Stou.	9	9	9	10	10	9	m	m	m	m	J	k	...	...	...	...	...	...	i n: to cv a: cv to id p: c n.
29	St: Stou.	Cus Stou: Acu: Cist.	Frst: Stou: Acu.	9	4	5	6	8	9	k	l	l	l	m	l	...	...	...	...	...	...	c to bc a: bc p: bc to c n.
30	St: Nb: Ast.	St: Nb.	St: Nb.	10	10	10	10	10	9	J	I	h	h	G	k	...	...	...	...	...	...	i n: to continuous n: a: continuous n: p: d to bc n.
31	Cus Acu: Ci.	Cus Stou: Ci.	Stou.	5	3	2	1	9	10	l	l	l	l	m	J	...	...	...	...	...	...	Fair to fine a and p: n early a: id n.
Mean Cloud Am't.				8.0	7.7	7.2	7.3	7.4	7.7													

434. CAHIRCIVEEN (VALENTIA OBSERVATORY).

JUNE, 1933.

1	St: Steu.	St: Nb.	St: Cus Steu: Ci.	10	10	10	10	8	6	h	k	J	J	k	J	d <sub>0</sub>	d <sub>0</sub>	...	...	id <sub>0</sub> a: i ● id <sub>0</sub> p: c to bc n.			
2	St: Cum.	Cu.	St: Cus Ci.	8	5	5	6	5	6	k	k	l	l	l	l	...	...	...	...	cid <sub>0</sub> to bc a: fair to fine p and n.			
3	St: Steu: Acu.	St: Steu.	Cus Ci.	9	9	10	10	1	1	m	l	m	k	l	k	...	...	...	...	b <u>Δ</u> to c p ● <sup>0</sup> a: id <sub>0</sub> p: fine with <u>Δ</u> n.			
4	Cus Steu.	Cus Steu: Ast: Acu.	Cus Acu: Ci.	6	8	9	6	6	9	k	k	l	l	l	m	...	...	...	...	b <u>Δ</u> to c a: c to bc p: bc to cv n.			
5	Cus Ci.	Cus Ci.	St: Steu.	5	8	6	8	9	10	l	l	l	l	k	I	...	...	...	...	<u>Δ</u> bc to c a: c to bc p: bc to i ● <sup>0</sup> i ● n.			
6	St: Cus Steu: Ci.	Cus Steu: Ci.	St: Cus Steu: Ci.	7	7	7	8	9	9	l	l	m	m	m	k	...	...	...	...	c to bc a: c p and n.			
7	St: Steu.	St: Nb.	St: Steu.	10	10	10	10	9	3	J	I	J	J	k	l	● <sup>0</sup>	● <sup>0</sup>	● <sup>0</sup>	...	continuous ● 9 h to 15 h: i ● <sup>0</sup> early a: c to bc n.			
8	Cu.	Cus Ci.	Cus Ci.	2	2	1	1	1	1	l	l	m	m	m	l	...	...	...	...	Fine: <u>Δ</u> early and late.			
9	Cus Ci.	Cus Ci.	Frst: Ci.	3	4	6	6	3	4	l	m	m	m	m	l	...	...	...	...	Fine: <u>Δ</u> early and late: v p.			
10	St: Steu.	Steu.	Steu: Acu.	9	9	9	9	9	9	m	m	m	m	m	...	...	...	...	bc <u>Δ</u> to cv a: cv p: cv to bc n.				
11	St: Steu.	St.	St.	9	9	10	10	10	10	l	l	h	h	J	G	...	...	...	...	bc to p ● <sup>0</sup> a: i ● <sup>0</sup> id <sub>0</sub> p: o f id <sub>0</sub> n.			
12	St: Steu.	St: Steu.	St.	10	9	9	10	10	10	l	l	l	k	I	h	...	...	...	...	id <sub>0</sub> to c a: p ● <sup>0</sup> p: i ● <sup>0</sup> id <sub>0</sub> n.			
13	St: Nb.	St: Steu.	St: Steu.	10	10	9	10	9	8	J	k	J	k	J	k	...	...	...	...	i ● <sup>0</sup> to id <sub>0</sub> a: id <sub>0</sub> to c p: c to bc <u>Δ</u> n.			
14	St: Steu.	Frst: Steu.	Frst: Cus Acu: Ci.	10	10	9	6	6	9	J	J	l	l	l	J	...	...	...	...	bc <u>Δ</u> to c a: c to bc p and n.			
15	St.	St: Steu.	St.	10	10	10	10	10	9	h	G	k	k	k	J	d	d <sub>0</sub>	...	...	● <sup>0</sup> to id <sub>0</sub> a: p ● <sup>0</sup> id p: p ● <sup>0</sup> to bc n.			
16	St: Nb.	St: Nb.	St: Nb.	10	10	10	10	10	9	J	J	h	G	h	k	● <sup>0</sup>	● <sup>0</sup>	d <sub>2</sub>	● <sup>0</sup>	Continuous ● ● <sup>0</sup> 7 h to 12 h: d p: p ● <sup>0</sup> n.			
17	St: Steu.	St: Steu.	Cus Nb: Steu.	8	9	9	8	9	9	l	k	l	l	k	k	...	...	...	...	p ● <sup>0</sup> to c a: p ● <sup>0</sup> p and n.			
18	Frst: Cus Steu.	Nb: Steu.	St: Cus Steu.	9	9	9	9	9	9	k	k	k	k	k	J	...	...	...	...	p ● <sup>0</sup> a: c p: c to p ● <sup>0</sup> n.			
19	St: Steu.	St: Steu.	St: Steu.	10	10	10	9	10	9	k	J	k	J	k	k	...	...	...	...	p ● <sup>0</sup> a: c p: c to p ● <sup>0</sup> n.			
20	Cus Steu.	Cus Steu: Cist: Ci.	St: Steu.	7	7	8	8	9	10	l	l	l	l	l	J	...	...	...	...	p ● <sup>0</sup> to bc a: c p: p ● <sup>0</sup> n.			
21	St: Nb.	St: Nb.	St: Nb: Steu.	10	10	10	10	10	10	J	I	J	J	k	J	● <sup>0</sup>	● <sup>0</sup>	● <sup>0</sup>	...	Continuous ● 7 h to 14 h 30 m: ● <sup>0</sup> p: id <sub>0</sub> p ● n.			
22	St: Steu.	St: Steu.	St: Steu.	9	10	10	10	10	9	J	J	I	J	l	...	d	d <sub>0</sub>	d	...	p ● <sup>0</sup> to id a: id id <sub>0</sub> p and n.			
23	Nb.	St: Nb.	St: Steu.	10	10	10	10	10	10	G	G	I	h	l	...	l	● <sup>0</sup>	● <sup>0</sup>	...	Continuous ● 3h 45 m to 10h 15m: ● <sup>0</sup> id <sub>0</sub> p: p ● n.			
24	Frst: Cus Steu.	St: Cus Steu.	St: Steu: Ci.	9	7	9	8	9	9	l	l	l	l	l	k	...	...	...	...	p ● <sup>0</sup> to bc a: c p: p ● <sup>0</sup> n.			
25	St: Cus Acu: Ci.	Cus Frst: Steu.	Cus Acu: Ci.	7	6	9	6	5	2	l	l	k	k	k	k	...	...	...	...	Mainly fair: p ● <sup>0</sup> early p.			
26	Cus Acu.	Cus Steu: Acu: Ci.	Cus Acu: Cist: Ci.	1	1	1	5	8	6	k	l	l	l	l	J	...	...	...	...	<u>Δ</u> early and late: fine.			
27	Frst: Ast: Acu: Ci.	Cus Steu: Ci.	Cus Steu.	9	6	3	9	9	10	l	l	m	m	l	l	...	...	...	...	Fair: <u>Δ</u> early: p ● <sup>0</sup> n.			
28	St: Steu.	St: Steu.	St: Steu.	9	10	9	9	7	1	l	l	l	l	l	l	...	...	...	...	c a and p: c to b <u>Δ</u> n.			
29	Cus Steu: Ci.	St: Steu.	Cus Steu.	6	4	9	2	3	9	l	l	m	m	l	...	...	...	...	...	Fair: <u>Δ</u> early and late: v p.			
30	St: Steu.	St: Steu.	Cu.	9	9	9	10	3	9	l	l	l	k	l	k	...	...	...	...	<u>Δ</u> c a: c to bc p: bc to f n.			
Mean Cloud Am't.				8	7	9	8	2	8	1	7	5	7	5									
Day	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	Remarks on the Weather of the Day.	
	Cloud Forms.			Cloud Amount (All Forms).						Visibility.					Precipitation.								

NOTE.—Visibility in these tables refers to a landwards direction; visibility seawards, when it differs from visibility landwards, is given on p. 285.



## 435. CAHRCIVEEM (VALENTIA OBSERVATORY).

JULY, 1933.

Day.	Cloud Forms.			Cloud Amount (All Forms).						Visibility.						Precipitation.						Remarks on the Weather of the Day.
	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	
1	Cl.	Acus Cl.	Acus Cl.	3	1	2	1	1	7	m	m	m	m	m	m	...	...	...	...	...	...	Fine: i early a: $\Delta$ early a and n.
2	St: Stou: Acu.	Cus Stou: Acu.	St: Stou: Acu: Cl.	9	9	8	2	9	2	m	1	1	1	1	m	...	...	...	...	...	...	$\Delta$ to p $\bullet$ to c a: c to bc p: bc $\Delta$ n.
3	Acu.	Cu.	Cu.	1	1	1	1	1	1	m	m	m	m	m	m	...	...	...	...	...	...	Fine: $\Delta$ early and late.
4	Cl.	Cus Cl.	Cus Cl.	7	5	1	3	6	6	1	1	m	m	m	m	...	...	...	...	...	...	Fair to fine: $\Delta$ early.
5	Acu.	Cus Cl.	Cus Acu: Cl.	9	9	1	1	1	2	1	m	m	1	1	1	...	...	...	...	...	...	b to cy to bc a: fine p: b to bc n.
6	Stou: Acu: Cl.	Cus Stou: Cus Cl.	Cus Stou: Cl.	6	3	9	9	8	10	k	k	k	1	k	J	...	...	...	...	...	...	Fair: p $\bullet$ a: p and n.
7	St: Cumb: Nb: Ast.	St: Cus Stou: Cl.	St: Nb.	9	10	7	10	10	9	1	J	1	k	J	1	...	...	...	...	...	...	Continuous $\bullet$ 9h to 11h 15m: p $\bullet$ a: p and n.
8	Cumb: Cus Nb: Cl.	St: Cus Stou.	Cu.	9	9	8	9	4	9	J	1	1	1	1	k	...	...	...	...	...	...	p $\bullet$ to bc a: c p: p $\bullet$ n.
9	St: Stou: Ast.	St: Nb.	St: Nb.	10	10	10	10	10	4	J	h	I	I	J	J	...	...	...	...	...	...	Continuous $\bullet$ 8h to 14h: i $\bullet$ a: p $\bullet$ n.
10	St: Stou.	St: Stou.	St: Stou.	9	9	10	7	9	10	k	k	k	k	k	J	...	...	...	...	...	...	p $\bullet$ all day.
11	St: Stou.	St: Stou.	St: Stou.	10	9	9	9	10	10	k	J	k	k	k	J	...	...	...	...	...	...	p p $\bullet$ a: p $\bullet$ to bc p: p $\bullet$ n.
12	St: Nb.	St: Stou.	Frst: St: Ast.	10	9	9	4	10	10	J	k	1	1	1	k	...	...	...	...	...	...	p $\bullet$ to c a: fair p: p $\bullet$ to continuous $\bullet$ n.
13	St: Stou.	St: Stou.	St: Stou.	9	9	9	10	10	10	k	k	k	k	k	J	...	...	...	...	...	...	Continuous $\bullet$ to p $\bullet$ a: c p: p $\bullet$ n.
14	St: Cumb: Stou: Cl.	St: Stou.	St: Nb.	8	3	9	10	10	9	k	1	1	1	J	J	...	...	...	...	...	...	p $\bullet$ to bc a: continuous $\bullet$ 16h to 18h: p $\bullet$ n.
15	St: Cumb: Stou.	Cumb: Stou: Cl.	Cus Stou: Acu.	8	3	5	6	6	7	k	1	1	1	1	1	...	...	...	...	...	...	bc to p $\bullet$ a: bc to p $\bullet$ a: p and n.
16	Cus Stou: Cl.	Cus Stou: Acu: Cl.	Nb: Stou: Ast.	7	8	9	10	10	10	1	1	1	1	1	k	...	...	...	...	...	...	bc to c a: c to $\bullet$ p: i $\bullet$ i $\bullet$ n.
17	St: Stou.	St: Stou.	St: Stou.	10	10	10	10	10	10	h	I	J	I	k	G	...	...	...	...	...	...	i $\bullet$ id $\bullet$ a: c to $\bullet$ p: id $\bullet$ n.
18	St: Stou.	St: Cus Stou.	St: Stou.	10	10	9	10	10	10	I	1	1	1	1	k	...	...	...	...	...	...	id $\bullet$ a: c p: id $\bullet$ p $\bullet$ n.
19	St: Stou: Ast: Acu.	St: Stou.	Cus Stou: Acu: Cl.	9	9	9	8	8	9	1	k	1	1	1	k	...	...	...	...	...	...	p $\bullet$ to c a: c p: p $\bullet$ n.
20	Frst: Cus Stou.	Cus Stou: Cl.	Cus Stou: Cl.	9	9	6	7	6	8	1	1	m	m	m	1	...	...	...	...	...	...	p $\bullet$ to bc v a: bc v p: bc v to c n.
21	St: Stou: cus Cl.	St: Stou.	St: Stou.	8	9	9	9	10	10	1	1	1	1	k	k	...	...	...	...	...	...	bc $\Delta$ to c a: c p and n.
22	St.	St: Stou.	St: Stou.	10	10	9	9	10	10	G	J	1	1	k	d $\bullet$	...	...	...	...	...	...	d $\bullet$ to c a: c p and n.
23	St: Stou.	St: Stou.	St: Stou.	9	9	7	6	9	10	k	k	k	1	h	...	...	...	...	...	...	...	id $\bullet$ to c a: c to bc p: im $\bullet$ n.
24	St: Stou.	St: Stou.	St: Stou.	9	10	9	10	10	9	k	h	k	k	k	J	...	...	...	...	...	...	id $\bullet$ to c a: c p: id $\bullet$ n.
25	St.	St: Stou.	St: Stou.	10	10	9	9	9	9	I	k	k	k	k	J	...	...	...	...	...	...	id $\bullet$ to c a: c p: id $\bullet$ n.
26	St: Stou: Cl.	Frst: Ast: Acu: Cl.	Frst: Ast: Acu: Cl.	8	6	8	8	7	5	k	1	1	1	m	1	...	...	...	...	...	...	i $\bullet$ to bc a: c p: c to bc n.
27	Nb.	Cus Stou: Cl.	Cus Cl.	10	10	5	3	2	4	k	k	m	m	m	m	...	...	...	...	...	...	$\bullet$ to bc a: bc v p: bc v to c n.
28	St: Nb: Stou.	St: Stou.	St: Stou.	9	9	9	8	9	9	J	1	1	1	1	1	...	...	...	...	...	...	Continuous $\bullet$ 3h to 6h: p $\bullet$ to c p: c n.
29	Nb.	St: Stou.	St: Cus Stou: Acu.	9	9	9	9	9	9	I	k	J	k	1	1	...	...	...	...	...	...	p $\bullet$ p $\bullet$ a: p $\bullet$ p: c to bc n.
30	Cus Stou: Acu.	St: Nb.	St: Nb: Ast.	8	10	10	10	10	10	k	I	G	I	I	I	...	...	...	...	...	...	Continuous $\bullet$ 10h-12h and 14h-15h 30m: i $\bullet$ id $\bullet$ p and n.
31	Cus Stou.	Cus Stou.	St: Stou.	8	9	5	9	10	9	k	k	k	k	k	k	...	...	...	...	...	...	i $\bullet$ to c a: bc to c p and n.
Mean Cloud Am't.				8.4	7.9	7.4	7.3	7.8	8.0													

## 436. CAHRCIVEEM (VALENTIA OBSERVATORY).

AUGUST, 1933.

1	St: Steu.	Steu.	Steu.	10	9	9	9	9	9	k	k	1	1	1	1	...	...	...	...	...	...	Mainly cloudy.
2	St: Nb.	St: Steu.	St.	9	10	10	9	10	10	I	I	J	k	I	G	...	...	...	...	...	...	id <sub>0</sub> to c a and p: c to o n.
3	St.	Cus Steu.	Frst: Steu.	10	10	7	1	2	10	G	J	1	1	1	C	d <sub>0</sub>	...	...	...	...	...	id <sub>0</sub> to c a: c to bc p: f n.
4	---	Cus Steu.	Cus Cl.	0	0	3	2	1	2	m	m	m	m	m	m	...	...	...	...	...	...	Fine: Δ early: v a and p.
5	---	Frout Cus Acus Ci.	Frout Steus Acus Ci.	0	1	1	2	7	7	1	k	k	1	1	k	...	...	...	...	...	...	Δ early: fine a and p: p ● n.
6	St.	St: Steu:Acu:Clcu.	St: Cus Acus Ci.	10	9	9	9	5	3	h	J	J	J	k	k	...	...	...	...	...	...	Δ early: c to o a: c p: c to bc n.
7	Frst: Cus Ci.	CusSteus:AcusLent: Cl.	St.	7	5	4	10	10	10	1	1	1	k	G	F	...	...	d	d	...	...	Δ early: fair a: p ● d p: continuous d n.
8	St: Cumb: Nb.	Cus Steu.	St: Steu.	9	4	9	9	9	10	k	1	1	1	k	J	●	...	...	...	...	...	p ● to bc a: c p: id <sub>0</sub> n.
9	St.	St: Steus Ast.	Steus: Ast: Acus Ci.	10	9	10	9	8	7	J	1	m	m	m	m	d <sub>0</sub>	...	...	...	...	...	id <sub>0</sub> to c a: c p: c to b n.
10	Frout Ci.	Frout Ci.	Frout Steus Ci.	2	1	4	2	5	5	1	1	m	m	m	m	...	...	...	...	...	...	Fine: Δ early: v p.
11	Acus Ci.	Frout.	Frout.	3	1	1	1	1	1	1	m	m	m	m	m	...	...	...	...	...	...	Fine: Δ early.
12	---	Frout.	Frout.	0	0	1	1	1	0	m	m	m	m	m	m	...	...	...	...	...	...	Fine: Δ early and late.
13	St: Steu.	Sts.Cus Steus Acu.	St: Nbs Steus Ci.	9	9	9	9	9	4	k	k	k	J	J	1	...	...	...	...	...	...	p ● to c a: i ● to c p: c to bc n.
14	Cus Steus Ast:Acu.	Cus Steus AcusCicu.	Cus Steus Ast: Acu.	8	7	7	9	9	10	1	1	1	m	J	...	...	...	...	...	...	p ● to bc a: c p: ● ● n.	
15	Cus Nb.	Cus Steu.	Sts Cus Steu.	9	9	7	5	9	8	J	J	1	1	1	1	...	...	...	...	...	...	Continuous ● to p ● a: c to bc p and n.
16	Cus Steu.	Cus Steus Ci.	Cus Steus Acus Ci.	9	9	8	8	7	9	1	m	m	m	1	k	...	...	...	...	...	...	p ● to c a: c to p ● p: c n.
17	St: Nb.	Sts Cus Steu.	Cus Ci.	10	9	7	8	3	9	h	k	k	k	k	k	●	...	...	...	...	...	Continuous ● 2h 30m to 6h: c to bc p and n.
18	St: Nbs Ast: Acu.	Sts Cus Steus Ci.	St: Steu.	9	9	8	7	9	2	J	k	k	k	k	1	●	...	...	...	...	...	p ● a: c to p ● p: p ● to b n.
19	Frout Steu.	Cus Steu.	St: Steu.	9	9	8	9	5	1	1	1	1	1	1	1	...	...	...	...	...	...	bc to cp ● a: c p: p ● p ● n.
20	Cumb.	Cus Steus Acu.	St: Steu.	2	8	7	9	9	9	1	1	k	k	1	1	...	...	...	...	...	...	p ● a: p ● p and n.
21	Nbs Steu.	Cumb: Cus Steu.	Cumb: Nbs Steu.	8	7	5	8	9	9	1	1	1	1	1	1	...	...	...	...	...	...	p ● p ● a: p ● p: p ● p ● n.
22	St.	Nb.	St: Nbs Steu.	10	10	10	10	9	9	J	J	I	J	J	J	●	...	...	...	...	...	Continuous ● ● a: ● to p ● p: p ● n.
23	Nbs Steu.	Cu.	Cus Steus Acu.	10	6	1	2	2	4	k	1	1	m	1	1	...	...	...	...	...	...	p ● to b a: b to bc p: bc to c n.
24	St: Steu.	St: Steu.	St: Steus Ast:Acu.	10	9	9	9	10	10	k	k	k	k	k	J	...	...	...	...	...	...	p ● to c a: c p: i ● ● n.
25	Nb.	St: Steu.	St: Cus Steus Ast.	10	10	9	9	9	10	G	I	k	k	k	J	●	...	...	...	...	...	Continuous ● 1 Ch to 2h 30m: p ● p ● p and n.
26	Nb.	St: Steu.	St: Nb.	10	10	10	10	10	10	J	J	k	J	J	h	●	...	...	...	...	...	i ● i ● a: p ● p: p: ● i ● n.
27	St.	St: Nbs Ast.	Nb.	10	10	10	10	10	10	J	E	J	J	I	G	●	d	●	●	●	●	i ● i ● f a: continuous ● 17h 30m to 20h: i ● n.
28	St: Steus Ast: Acu.	Cus Acus Ci.	Cus Ast: Acus Ci.	9	9	9	9	9	9	1	1	m	m	m	m	...	...	...	...	...	...	c a and p: v p: cv to bc Δ n.
29	Cus Steu.	Cu.	Nbs Steu.	3	8	2	4	8	7	1	k	1	1	1	1	...	...	...	...	...	...	bc Δ to p ● a: fair p and n.
30	Cus Steu.	Cus Steus Ci.	Cus Cl.	6	6	6	4	3	3	1	1	m	m	m	m	...	...	...	...	...	...	Fair to fine: Δ early and late.
31	Cus Frout Cist:Cl.	Cus Steus Ast: Acu.	Sts Cus Steus Acu.	9	9	9	10	9	9	1	1	1	k	k	k	...	...	...	...	...	...	b Δ to c a: c p and n.
Mean Cloud Am't.				7.4	7.2	6.7	6.9	7.1	7.1													
Day	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	Remarks on the Weather of the Day.
	Cloud Forms.			Cloud Amount (All Forms).						Visibility.						Precipitation.						



437. CAHIRCIVEEN (VALENTIA OBSERVATORY).

SEPTEMBER, 1933.

Day.	Cloud Forms.			Cloud Amount (All Forms).						Visibility.						Precipitation.						Remarks on the Weather of the Day.
	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	
1	St: Stcu.	St.	St.	10	10	10	10	10	10	J	h	h	D	D	D	...	...	...	...	...	...	d 0° a: d <sub>0</sub> continuous f p: i d n.
2	St: Stcu: Ci.	Stcu: Acu.	Cus Stcu: Acu: Ci.	7	5	2	9	6	1	J	l	m	m	m	m	...	...	...	...	...	...	f d <sub>0</sub> to bc a: bc v p: bc to b n.
3	Stcu: Acu.	Stcu: Acu.	Stcu.	2	8	9	9	9	9	m	m	m	m	m	m	...	...	...	...	...	...	b n to cv a: cv p and n.
4	St: Stcu.	Cus Stcu: Acu.	---	10	10	9	4	0	1	k	J	k	k	k	1	...	...	...	...	...	...	p 0° to c a: bc p: fine n.
5	Cus Stcu: Acu: Ci.	Freu: Ci.	Cus Stcu: Acu: Ci.	3	1	1	2	9	9	k	k	k	k	k	J	...	...	...	...	...	...	Fair to fine n early and late.
6	St: Stcu.	St: Stcu.	Frst: Stcu.	9	9	9	9	4	1	k	1	1	1	1	1	...	...	...	...	...	...	c n to c a: c to bc p: bc b n.
7	Cus Stcu.	Cu.	Freu: Ci.	1	1	1	1	1	1	m	1	1	1	1	k	...	...	...	...	...	...	Fine.
8	---	Freu.	Ci.	0	0	1	1	1	0	k	1	1	1	1	1	...	...	...	...	...	...	Fine: n early: y p.
9	Acu.	Cu.	Cus Stcu.	1	0	1	2	3	0	k	1	1	1	1	k	...	...	...	...	...	...	Fine: n early: y p.
10	Freu.	Cus Acu: Ci.	Cus Stcu: Acu: Ci.	1	1	5	5	7	1	k	k	k	k	1	1	...	...	...	...	...	...	Fine: n early: y p.
11	Cus Stcu: Acu: Ci.	Cus Stcu: Acu: Ci.	Stcu: Acu: Ci.	6	4	5	7	5	1	k	1	1	1	1	1	...	...	...	...	...	...	Fair to fine: y p: n.
12	Acu.	Cu.	Cus Stcu: Acu: Ci.	6	0	1	1	3	1	k	k	k	k	J	J	...	...	...	...	...	...	n early and late: fine.
13	Stcu.	Cus Stcu: Ci.	Freu.	9	9	8	8	1	4	k	1	1	1	1	1	...	...	...	...	...	...	b n to c a: c to bc p: bc to b n.
14	Cus Stcu: Acu.	Cus Acu.	Ci.	1	1	1	6	5	1	1	m	m	m	m	1	...	...	...	...	...	...	Fine: n early and late: y p.
15	Cus Stcu: Ci.	Freu: Ci.	Ci.	7	3	1	6	7	1	m	m	m	m	1	1	...	...	...	...	...	...	Fair to fine: n early: y p.
16	St: Stcu: Acu.	St: Stcu.	St: Cus Stcu.	9	10	9	9	7	9	k	1	1	1	1	1	...	...	...	...	...	...	b to i 0° a: c to bc p: p 0° n.
17	St: Nb: Stcu.	St: Nb.	St: Nb: Stcu.	10	9	10	10	9	4	J	k	1	1	1	1	...	...	...	...	...	...	p 0° i 0° a: i 0° p: i 0° to bc n.
18	Cu.	St: Cus Stcu.	St: Cu.	3	4	8	7	9	10	1	1	1	1	1	1	...	...	...	...	...	...	Fair a: p 0° p: K 0° 21h to 23h.
19	Cumb: Nb.	Cus Stcu: Acu.	Cumb: Nb: Stcu: Ast.	9	8	4	9	7	8	J	1	1	1	1	1	...	...	...	...	...	...	p 0° a: p 0° T p 0° p: p 0° p 0° to bc n.
20	Cumb: Nb.	Cumb: Ast: Acu: Ci.	Cus Cumb: Ast: Ci.	9	9	7	6	8	3	k	1	1	m	m	1	...	...	...	...	...	...	p 0° p 0° a: p 0° p 0° p: p 0° to bc n.
21	Cus Ci.	Cu.	Cus Acu: Ci.	3	8	2	3	1	1	1	k	J	J	J	J	...	...	...	...	...	...	p 0° early otherwise fair to fine: n.
22	St: Stcu.	St: Stcu: Ast.	St: Nb: Stcu: Ast.	10	9	10	10	10	9	k	k	1	1	1	1	...	...	...	...	...	...	b n to c a: i 0° to continuous 0° p: p 0° n.
23	St: Cumb.	Cumb: Stcu.	Frst: Stcu: Ci.	5	7	9	10	3	10	1	1	1	1	1	1	...	...	...	...	...	...	p 0° a: p 0° to p 0° i 0° n.
24	Cu.	Cumb: Cus Stcu.	Cumb.	1	4	4	4	4	4	J	1	1	1	1	1	...	...	...	...	...	...	Fair: p 0° a.
25	Nb: Stcu.	Cus Stcu.	St: Cus Stcu: Ci.	9	6	7	6	5	8	1	1	1	1	1	1	...	...	...	...	...	...	Fair.
26	St: Stcu.	Cus Stcu.	Cus Stcu.	9	9	8	9	8	3	k	k	1	1	1	1	...	...	...	...	...	...	n early and late: c a and p: bc n.
27	Cus Acu: Ci.	Freu: Acu.	Cu.	4	2	1	1	1	0	1	m	m	m	1	1	...	...	...	...	...	...	Fine: n early and late: v a.
28	Freu: Ci.	Cus Acu: Ci.	Freu: Ci.	1	1	1	1	2	4	1	1	1	1	1	1	...	...	...	...	...	...	Fine: n early and late.
29	Ci.	Cu: Ci.	Ci.	9	8	3	1	1	2	k	k	k	k	k	k	...	...	...	...	...	...	Fair to fine: n early and late.
30	Frst: Ci.	Freu.	Cus Ci: Ci.	1	1	1	1	3	3	k	k	k	J	J	G	...	...	...	...	...	...	Fine: n early and late.
Mean Cloud Am't.				5.5	5.2	4.9	5.6	5.0	4.0													

438. CAHIRCIVEEN (VALENTIA OBSERVATORY).

OCTOBER, 1933.

1	Cus Stcu: Acu.	Cus Acu.	Stcu: Acu: Ci.	4	4	7	8	9	9	h	h	I	I	I	I	...	...	...	...	...	...	n early: fair a: c p and n: z <sub>0</sub> all day.	
2	St: Stcu: Acu.	Stcu.	St: Stcu.	9	10	6	9	9	7	J	k	J	J	J	J	...	...	...	...	...	...	c <sub>z</sub> to bc a: bc to c p: c to b n.	
3	St: Stcu.	Stcu.	Stcu: Ci.	9	9	9	6	7	1	J	J	k	k	k	k	...	...	...	...	...	...	n early and late: variable cloud: y p.	
4	Acu: Ci.	Stcu: Acu: Ci.	Stcu: Acu: Ci: Ci.	6	8	7	4	6	1	k	J	k	k	k	k	...	...	...	...	...	...	n early and late: fair to fine.	
5	St: Stcu.	Cus Stcu: Acu: Ci.	St: Stcu.	9	8	8	9	10	8	m	m	m	m	m	m	...	...	...	...	...	...	bc n to c a: c p: c to b n.	
6	Stcu: Acu.	Stcu.	St: Stcu.	9	9	10	10	9	8	k	J	J	J	J	I	...	...	...	...	...	...	n early: b to c a otherwise cloudy.	
7	St: Stcu.	St: Stcu.	St: Stcu.	9	10	9	9	9	10	J	J	J	J	J	J	...	...	...	...	...	...	Cloudy: n early and late.	
8	St: Stcu.	Cus Stcu: Ast: Acu.	Cus Stcu: Acu: Ci: Ci.	9	4	9	7	8	9	h	h	J	k	1	1	...	...	...	...	...	...	n early p 0° a: c p: p 0° n.	
9	St: Nb.	St: Stcu: Acu.	Cus Nb: Ast: Ci.	10	10	9	9	9	9	h	h	1	k	1	1	0°	0°	...	...	...	...	Continuous 0° 0° a: p 0° p: c p 0° n.	
10	Cus Stcu: Ast.	Frst: St: Ast.	St: Ast.	10	10	10	10	10	7	1	1	1	k	1	1	...	...	...	...	...	...	c to p 0° a: p 0° p 0° p: p 0° n.	
11	Cumb: Nb.	Cus Ci.	Cumb: Stcu.	8	7	4	8	6	9	k	1	1	1	1	1	0°	0°	...	...	...	...	p 0° a: p 0° p: i 0° p 0° n.	
12	Cumb: Cu	Cus Stcu: Ci.	St: Stcu.	5	4	7	9	9	3	1	1	1	1	1	1	...	...	...	...	...	...	p 0° p 0° all day.	
13	Frst: Stcu: Acu.	Nb: Stcu: Ast.	St: Nb.	8	9	9	10	10	9	1	1	1	J	I	k	...	...	...	...	...	...	p 0° to c a: i 0° p: i 0° to p 0° n.	
14	Cus Stcu: Acu.	Cus Stcu.	Stcu: Ci.	8	4	9	4	5	4	1	1	1	1	1	1	...	...	...	...	...	...	bc p 0°.	
15	St: Nb: Stcu: Ast.	Cus Stcu.	Cus Stcu.	9	9	6	9	4	9	1	1	k	1	1	1	...	...	...	...	...	...	p 0° a: p 0° p: i 0° p 0° n.	
16	Cumb: Nb.	Cumb: Stcu.	Cumb: Nb.	6	9	5	7	8	8	1	1	1	1	1	1	...	...	...	...	...	...	p 0° p 0° all day.	
17	St: Stcu.	St: Stcu.	St: Stcu.	10	10	10	10	10	10	1	1	1	k	1	k	...	...	...	...	...	...	c a and n: p 0° p.	
18	St: Stcu.	St: Nb.	St: Nb: Stcu.	9	9	10	10	9	8	1	1	I	0	k	k	...	...	...	...	...	...	i 0° to c a: continuous 0° 13h to 16h: p 0° n.	
19	St: Cus Ci.	Cumb: Stcu: Ci.	Cus Stcu: Acu: Ci.	7	2	7	8	9	3	1	1	1	1	1	1	...	...	...	...	...	...	n bc p 0° a: c p 0° p: p 0° bc n.	
20	St: Stcu.	Cus Stcu: Aculent.	Aculent: Ast: Cist.	10	7	9	9	9	2	J	J	J	k	k	k	...	...	...	...	...	...	Mainly cloudy: p 0° early a: by n	
21	Stcu: Acu: Ci.	Frst: Stcu.	Cus Stcu: Acu: Ci.	6	9	7	8	3	6	k	k	k	J	k	k	...	...	...	...	...	...	n early and late: p 0° a and p.	
22	St: Stcu.	Cus Stcu: Cist: Ci.	Cus Stcu.	3	9	6	8	8	10	J	J	k	k	k	k	...	...	...	...	...	...	n early, fair a: bc to c p: i 0° n.	
23	St: Stcu: Ci.	Cus Stcu: Ci.	Cumb: Stcu.	6	7	4	6	8	6	k	1	1	1	1	1	...	...	...	...	...	...	c to bc all day.	
24	St: Stcu.	St: Stcu.	St: Nb.	7	8	9	10	10	10	1	1	k	J	I	I	...	...	...	...	...	...	p 0° to bc a: c p and n.	
25	Cus Stcu: Ci.	Cus Stcu.	Cu.	6	3	3	2	1	8	1	m	m	m	m	m	...	...	...	...	...	...	Fair: y p.	
26	Stcu.	Cus Stcu.	Cus Stcu: Ast: Acu.	6	7	6	7	9	10	1	1	m	1	m	m	...	...	...	...	...	...	p 0° a and p: c n.	
27	St: Nb.	Cumb: Nb.	Cumb: Nb.	10	10	10	10	9	9	k	1	1	1	1	1	0°	0°	...	...	...	...	i 0° p 0° q a: q p 0° p: i 0° p 0° q n.	
28	Nb: Cumb.	Cumb: Nb.	Cumb: Nb.	4	4	9	9	10	1	1	1	1	1	1	1	...	...	...	...	...	...	q p 0° a: p 0° p: p 0° p 0° n.	
29	Cus Nb.	Cumb: Nb.	Cumb: Cus Nb.	9	9	6	9	5	4	J	1	1	k	1	1	0°	0°	...	...	...	...	i 0° p 0° a: p 0° p and n.	
30	Cumb: Cus Stcu: Acu.	Cumb: Stcu: Acu: Ci.	St: Stcu.	4	5	7	9	9	9	1	1	1	m	m	1	...	...	...	...	...	...	p 0° a: p 0° p and n.	
31	Cus Nb: Stcu.	St: Stcu.	St: Stcu.	8	7	9	10	10	9	1	1	1	1	1	1	...	...	...	...	...	...	p 0° a: c p: p 0° n.	
Mean Cloud Am't.				7.5	7.4	7.6	8.2	7.9	7.3														
Day	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	Remarks on the Weather of the Day.	
	Cloud Forms.			Cloud Amount (All Forms).						Visibility.						Precipitation.							

NOTE.—Visibility in these tables refers to a landwards direction; visibility seawards, when it differs from visibility landwards, is given on p. 285.



439. CAHRCIVEEN (VALENTIA OBSERVATORY).

NOVEMBER, 1933.

Day.	Cloud Forms.			Cloud Amount (All Forms).						Visibility.						Precipitation.						Remarks on the Weather of the Day.
	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	
1	Cut Steu.	Frst: Steu.	Frst: Steu.	9	7	6	7	6	9	k	k	k	k	k	k	...	...	...	...	...	...	Mainly fair: p $\bullet^{\circ}$ early and late.
2	Cut Steu: Acu.	St: Cut: Steu: Ci.	St: Steu.	8	9	6	4	8	8	k	l	l	l	l	J	...	...	...	...	...	...	Mainly fair: p $\bullet^{\circ}$ early: p $\bullet^{\circ}$ n.
3	St: Cut: Steu.	Cu.	Nb: Steu.	6	4	3	9	9	9	l	m	m	m	l	l	...	...	...	...	...	...	Fair: p $\bullet^{\circ}$ n.
4	St: Steu.	Steu: Ci.	Steu.	9	8	9	9	10	9	l	l	l	l	l	l	...	...	...	...	...	...	p $\bullet^{\circ}$ early a: otherwise fair to cloudy.
5	St.	St: Cut: Steu: Ci.	St: Steu.	10	10	9	9	10	6	G	I	k	k	k	l	d	...	...	...	...	...	Continuous $\bullet^{\circ}$ d to c a: c p: c to bc n.
6	St: Steu.	St: Steu: Ci.	Cut Steu: Acu.	9	10	9	9	4	3	J	I	k	k	l	l	d <sub>0</sub>	...	...	...	...	...	id <sub>0</sub> to c a: c p: bc n.
7	St: Steu.	St: Steu.	Steu.	2	3	9	4	2	8	l	l	l	l	l	l	...	...	...	...	...	...	Fine to fair.
8	St: Steu.	St: Steu.	St: Steu.	10	9	10	9	10	10	l	l	l	l	l	l	...	...	...	...	...	...	c a: id <sub>0</sub> p: $\bullet^{\circ}$ n.
9	St: Nb.	Cu.	Cum: Steu.	10	8	2	3	3	7	I	l	l	l	l	l	$\bullet^{\circ}$	...	...	...	...	...	i $\bullet^{\circ}$ i $\bullet^{\circ}$ to bc a: bc p: p $\bullet^{\circ}$ n.
10	Cut Steu: Acu.	Cut Steu.	St: Steu: Ci.	6	1	2	6	8	8	l	l	l	m	m	m	...	...	...	...	...	...	Fair a and p: c n.
11	Steu: Ast.	St: Steu.	Cum: Cut: Steu.	10	10	9	8	7	8	l	h	l	l	l	k	$\bullet^{\circ}$	...	...	...	...	...	$\Delta$ early to continuous $\bullet^{\circ}$ d <sub>0</sub> : p $\Delta$ q p $\bullet^{\circ}$ p: p $\bullet^{\circ}$ q n.
12	Cum: Cu.	Cum: Cut: Steu: Ci.	Cum: Cut: Nb.	5	8	5	9	8	5	l	l	l	k	k	k	...	...	...	...	...	...	p $\bullet^{\circ}$ q p $\bullet^{\circ}$ a and p: p $\bullet^{\circ}$ to $\bullet^{\circ}$ n.
13	St: Steu.	St: Steu.	St: Steu.	10	8	8	6	4	10	J	l	l	l	l	J	...	...	...	...	...	...	Continuous $\bullet^{\circ}$ to 6h 30m: bc p: p $\bullet^{\circ}$ n.
14	St: Steu: Ast.	St: Nb.	Cut Nb.	10	10	10	10	9	5	l	l	G	h	k	k	$\bullet^{\circ}$	...	...	...	...	...	Continuous $\bullet^{\circ}$ 12h to 15h: $\bullet^{\circ}$ p: $\Delta$ n.
15	St: Nb.	Cum: Steu: Ci.	Cum: Steu.	9	9	6	6	4	8	J	k	l	l	l	k	$\bullet^{\circ}$	...	...	...	...	...	p $\bullet^{\circ}$ $\Delta$ $\bullet^{\circ}$ a: p $\bullet^{\circ}$ to bc p: i $\bullet^{\circ}$ to bc n.
16	Cut Steu: Acu.	Cut Steu.	Cut Steu.	8	6	6	8	3	1	l	k	k	k	k	k	...	...	...	...	...	...	Fair: fine n.
17	St: Steu.	Cu.	Freu.	4	1	1	1	1	0	k	l	l	m	m	m	...	...	...	...	...	...	Fine.
18	Steu.	Steu.	St: Steu.	1	1	7	5	8	5	l	l	l	l	k	k	$\bullet^{\circ}$	...	...	...	...	...	$\Delta$ fine a: fair p: p $\bullet^{\circ}$ n.
19	St: Steu.	Steu: Ci.	Cut Ci.	6	8	9	9	6	8	k	k	k	k	k	J	...	...	...	...	...	...	Fair: p $\bullet^{\circ}$ early a: $\Delta$ n.
20	St: Nb.	Cut Nb: Steu: Acu.	St: Acu.	10	8	8	8	9	5	I	k	l	l	l	l	$\bullet^{\circ}$	...	...	...	...	...	$\bullet^{\circ}$ 5h 45m to 7h 45m: c p: c to bc n.
21	Steu.	Cut Ci.	Acu: Ci.	1	1	1	1	1	1	l	m	m	m	m	l	...	...	...	...	...	...	Fine: v p: $\Delta$ early and late: $\Delta$ late n.
22	Steu.	Cut Steu: Ci.	St: Steu.	1	6	8	9	9	6	l	m	m	l	l	l	...	...	...	...	...	...	b $\Delta$ to bc v a: bc v to c p: c to bc n.
23	St: Steu: Ci.	St: Steu: Acu.	St: Steu.	9	9	9	9	9	4	l	l	m	m	m	m	...	...	...	...	...	...	p $\bullet^{\circ}$ to c a: c p: c to bc n.
24	St: Steu: Ast: Acu.	Cut Steu: Ci.	Cut Steu: Acu: Ci.	9	1	1	1	5	9	l	l	l	l	k	J	...	...	...	...	...	...	Fair to fine: $\Delta$ n.
25	Steu.	Steu.	Steu.	1	1	8	1	1	0	k	l	l	l	l	k	...	...	...	...	...	...	Fine: $\Delta$ early and late.
26	Steu.	Cut Steu: Cist.	Steu.	1	1	4	9	4	8	l	l	l	k	k	k	...	...	...	...	...	...	Fine a: bc to c p and n.
27	St: Steu.	Cut Steu: Ast: Acu.	St: Steu: Ast.	9	6	7	9	9	9	k	l	l	l	l	l	...	...	...	...	...	...	c to bc y a: cy p: p $\bullet^{\circ}$ n.
28	St: Steu.	Nb: Steu: Ast.	Nb: Steu.	10	10	9	8	8	9	I	l	k	k	k	k	d <sub>0</sub>	...	...	...	...	...	id <sub>0</sub> to c a: c to bc p: c to id <sub>0</sub> n.
29	St: Steu.	St: Steu.	St: Steu.	10	10	9	9	7	10	I	J	J	k	k	k	$\bullet^{\circ}$	...	...	...	...	...	Continuous $\bullet^{\circ}$ 3 h 30 m to 7h: cloudy p and n.
30	St: Steu.	St: Nb.	St: Nb.	10	9	10	10	10	10	J	G	I	I	I	I	...	...	...	...	...	...	Continuous $\bullet^{\circ}$ $\bullet^{\circ}$ 10h 45m to 15h: $\bullet^{\circ}$ p: $\bullet^{\circ}$ to c n.
Mean Cloud Am't.				7.1	6.4	6.7	6.8	6.4	6.6													

440. CAHRCIVEEN (VALENTIA OBSERVATORY).

DECEMBER, 1933.

1	St: Steu.	St: Steu.	Cut Steu.	9	6	6	1	3	1	k	k	k	l	l	l	$\bullet^{\circ}$	...	...	...	...	...	Continuous $\bullet^{\circ}$ 1h to 6h: fair p: p $\bullet^{\circ}$ n.
2	Steu.	Cu.	Cut Steu.	1	1	1	3	7	1	l	l	m	m	l	k	...	...	...	...	...	...	$\Delta$ a $\Delta$ n: fair to fine.
3	Cut Steu.	Cut Steu.	Cu.	9	9	9	4	1	0	k	k	k	k	k	k	...	...	...	...	...	...	$\Delta$ a $\Delta$ n: c a: fair to fine p and n.
4	---	Freu.	Freu.	0	0	1	0	1	3	l	k	l	l	l	l	...	...	...	...	...	...	Fine: $\Delta$ early a: y p.
5	Steu.	St: Steu.	Freu: Acule: Ci.	9	9	9	6	2	7	k	k	k	k	k	k	...	...	...	...	...	...	$\Delta$ early a: $\Delta$ late n: fair to cloudy.
6	Cut Steu.	St: Steu.	St: Steu.	3	3	9	7	7	9	k	k	k	k	k	J	...	...	...	...	...	...	bc to c a: c p: id <sub>0</sub> n.
7	Cut Steu.	Cu.	Freu.	3	6	2	1	1	0	k	k	k	k	k	J	...	...	...	...	...	...	Mainly fine: $\Delta$ n.
8	Steu: Acu.	St: Steu.	Steu.	8	3	8	7	4	7	k	l	l	l	l	l	...	...	...	...	...	...	Fair: y p: c n.
9	Steu.	Steu.	Freu.	9	7	5	3	1	0	l	l	k	k	l	l	...	...	...	...	...	...	c a: bc p: b $\Delta$ n.
10	Steu.	Cu.	Cu.	1	1	1	1	1	1	l	l	k	k	k	k	...	...	...	...	...	...	$\Delta$ early and late: fine.
11	Steu: Acu.	Cut Ci.	Cut Ci.	3	3	1	1	1	10	l	l	l	l	l	I	...	...	...	...	...	...	Fair to fine: p $\bullet^{\circ}$ n.
12	Cum: Cut: Ast: Acu.	Nb: Ast.	Cum.	7	6	9	3	2	3	l	l	l	l	l	l	...	...	...	...	...	...	p $\bullet^{\circ}$ p $\Delta$ a and p: bc p $\bullet^{\circ}$ n.
13	Cut Ast: Acu.	St: Cut: Steu: Ci.	Cu.	9	6	9	7	3	2	l	J	J	k	l	l	...	...	...	...	...	...	Fair to cloudy: p $\bullet^{\circ}$ p.
14	Steu.	Steu: Ci.	Steu.	2	3	6	4	1	1	l	l	l	l	l	l	...	...	...	...	...	...	Fine to fair: y a.
15	Steu.	Cut Steu.	Acu.	3	7	4	9	1	1	l	m	m	m	m	m	...	...	...	...	...	...	p $\Delta$ early to bc a: bc p: bc to b $\Delta$ n.
16	Steu.	St: Steu.	St: Steu.	9	9	10	9	9	9	l	l	l	l	l	l	...	...	...	...	...	...	b $\Delta$ to c a: c p and n.
17	Steu.	Steu.	St: Steu.	9	9	9	10	9	9	l	l	l	m	m	m	...	...	...	...	...	...	c a and n: c to o p.
18	St: Steu.	St: Cum: Steu.	St: Steu.	9	7	9	9	9	9	l	l	k	k	k	k	...	...	...	...	...	...	cp $\bullet^{\circ}$ a and p: c n.
19	Cut Steu.	Cut Steu.	St: Steu.	3	7	4	1	8	9	l	l	l	l	l	l	...	...	...	...	...	...	Fair to fine.
20	St: Steu.	St: Steu.	St: Steu.	10	10	10	9	9	9	l	l	l	l	l	l	...	...	...	...	...	...	Cloudy all day.
21	St: Steu.	St: Steu.	St: Steu.	10	10	10	10	10	10	J	J	I	I	k	k	...	...	...	...	...	...	id <sub>0</sub> a and p: id <sub>0</sub> p $\bullet^{\circ}$ n.
22	St: Steu.	St.	St.	10	10	10	10	10	9	J	I	I	I	k	k	$\bullet^{\circ}$	...	...	...	...	...	p $\bullet^{\circ}$ a: o id <sub>0</sub> p: p $\bullet^{\circ}$ to c n.
23	St: Steu.	St: Steu: Ast: Acu.	St: Steu: Ast: Acu.	9	9	9	10	8	10	k	l	l	l	k	k	...	...	...	...	...	...	c a and p: id <sub>0</sub> to i $\bullet^{\circ}$ n.
24	St: Steu.	St: Nb.	Nb.	10	10	9	10	10	10	I	h	J	h	G	G	$\bullet^{\circ}$	...	...	...	...	...	i $\bullet^{\circ}$ a: i $\bullet^{\circ}$ i $\bullet^{\circ}$ p: continuous $\bullet^{\circ}$ i $\bullet^{\circ}$ n.
25	St.	Cut Steu: Ci.	Cum: Cut: Nb.	10	10	5	7	7	7	G	J	l	l	l	l	$\bullet^{\circ}$	...	...	...	...	...	$\bullet^{\circ}$ $\bullet^{\circ}$ $\bullet^{\circ}$ a: p $\bullet^{\circ}$ p: p $\bullet^{\circ}$ to bc n.
26	Cut Steu: Ci.	Cut Steu: Acu: Ci.	Cut Steu.	4	6	5	6	4	1	l	l	l	l	l	l	...	...	...	...	...	...	p $\bullet^{\circ}$ to bc a: bc p: b $\Delta$ n.
27	Nb.	St: Nb.	Cum: Steu: Ci.	10	10	10	10	7	8	J	I	J	l	k	k	$\bullet^{\circ}$	...	...	...	...	...	Continuous $\bullet^{\circ}$ 9h to 14h: p $\Delta$ $\Delta$ p: p $\bullet^{\circ}$ n.
28	Cum: Cu.	St: Nb: Ast: Acu.	St: Steu.	9	10	8	8	8	2	k	J	J	J	J	k	...	...	...	...	...	...	p $\bullet^{\circ}$ p $\bullet^{\circ}$ a: c p: c to b n.
29	Steu.	St: Steu: Ast.	Nb.	9	9	9	10	9	9	l	l	J	I	k	l	...	...	...	...	...	...	p $\bullet^{\circ}$ to c a: i $\bullet^{\circ}$ d p: c n.
30	Cum: Cut: Acu.	St: Cum: Steu.	Cut Ci.	8	6	9	7	2	3	l	l	k	k	l	l	...	...	...	...	...	...	p $\bullet^{\circ}$ p $\bullet^{\circ}$ a: p $\bullet^{\circ}$ to bc p: bc y, bc n.
31	St: Steu: Ast.	Nb: Steu: Ast.	Nb.	10	10	10	10	10	10	l	l	J	h	h	G	...	...	...	...	...	...	bc p $\bullet^{\circ}$ to c a: continuous $\bullet^{\circ}$ 12h to 22h 30m.
Mean Cloud Am't.				6.9	6.8	7.0	6.5	6.5	6.5													
Mean Annual Cloud Am't.				7.3	7.1	7.2	7.2	6.9	6.5													
Day	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	Remarks on the Weather of the Day.
	Cloud Forms.			Cloud Amount (All Forms).						Visibility.						Precipitation.						

NOTE.—Visibility in these tables refers to a landwards direction; visibility seawards, when it differs from visibility landwards, is given on p. 285.







M.O. 370  
(Richmond)

Air Ministry  
METEOROLOGICAL OFFICE

THE  
OBSERVATORIES' YEAR BOOK  
1933

Comprising the meteorological and geophysical results obtained from autographic records and eye observations at the observatories at Lerwick, Aberdeen, Eskdalemuir, Cahirciveen (Valentia Observatory), and Richmond (Kew Observatory), and the results of soundings of the upper atmosphere by means of registering balloons.

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RICHMOND (KEW OBSERVATORY)

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Published by the authority of the  
METEOROLOGICAL COMMITTEE



LONDON  
HIS MAJESTY'S STATIONERY OFFICE  
1935



# RICHMOND (KEW OBSERVATORY).

Latitude	..	..	..	..	..	..	51° 28	N.
Longitude	..	..	..	..	..	..	0° 19	W.
G.M.T. of Local Mean Noon	..	..	..	..	..	..	12h	lm.

## "Heights in Metres above Sea Level".

Barometer	..	..	..	..	..	..	10.4
Raingauge Site	..	..	..	..	..	..	5.5
Dines Tube Anemograph	..	..	..	..	..	..	28

## "Heights in Metres above Ground"

Thermometer Bulbs	..	..	..	..	..	..	3.0
Sunshine Recorder	..	..	..	..	..	..	13.3
Dines Tube Anemograph	..	..	..	..	..	..	23
Beckley Raingauge Rim	..	..	..	..	..	..	0.53

## INTRODUCTION.

The Observatory was built in 1769 as the private observatory of King George III. Since 1842 it has been devoted to physics and meteorology. The meteorological records are continuous from 1854. The Observatory is in the Old Deer Park, Richmond (Surrey), about 10 miles (16 km.) to the west of the City of London. The Observatory stands on a low artificial mound whose level is about  $1\frac{1}{2}$  metres higher than that of the surrounding park. Round the Observatory a golf course has been laid out. The river Thames is distant about 300 metres on the north and west. Kew Gardens, which are extensively wooded, lie to the east-north-east, the nearest point of the Gardens being about 600 metres away. The town of Richmond, to the south-east, is about 1,100 metres distant. On the east side of the Park is the main road from Richmond to Kew; on the south side the railway from Richmond to Twickenham. An open area partly wooded, Syon Park, lies to the north-north-east across the river. Richmond Park is about  $1\frac{1}{2}$  miles ( $2\frac{1}{2}$  km.) to the south-east. General views of the Observatory building and the exposure lawn are to be found in the 1928 volume. The photographs were taken in 1925, but the only changes (before the end of 1933) which need be noted are the substitution of other experimental screens for the small marine screens which were being tested in 1925, the removal in 1929 of the hedge near the North Wall Screen and the



erection in place of the Robinson anemometer of the New Dines Anemometer with its vane 5.3 metres above the dome. For the early history of the Observatory reference may be made to papers by S.P. Rigaud\*, R.H. Scott †, C. Chree‡, R.S. Whipple†† and O.J.R. Howarth‡‡.

# METEOROLOGY.

The elements dealt with in the following tables are: atmospheric pressure, temperature, humidity, rainfall, sunshine, solar radiation, wind speed and direction, earth temperature, minimum temperature on the grass, level of underground water; there is also a diary of cloud and weather.

For brief descriptions of most of the instruments from which values of the above elements have been obtained and of the methods of tabulating the records, reference should be made to the General Introduction. The following notes supplement, where necessary, the information contained therein.

## Notes on Instruments.

"Pressure".-The barograph is mounted in the basement of the Observatory, where the diurnal variation of temperature is very small. The normal position of the instrument has been in the north room occupied by the magnetographs. When the magnetographs were removed and the preparations for the installation of the seismographs were commenced, the barograph was placed in the photographic darkroom (June 16th, 1925). The instrument remained in that position until May 21st, 1928, when it was restored to its original site and electric lighting installed. The barograph magnifies barometric changes in the ratio 1.553: 1, i.e., the change of ordinate equivalent to a change of 1 mm. in the height of the barometer is 1.553 mm. "Residual corrections," obtained from the control observations taken daily with the Newman barometer at 9h, 15h and 21h, are applied to the hourly measurements. The same correction is applied to all the readings on the same photographic sheet, i.e., generally for forty-eight hours. The individual entries published for the hours of the control observations may differ by .3mb from those observations. The Newman barometer is compared from time to time with the two large mercury barometers, which were set up in 1855 and 1860 respectively, the accuracy of which has been confirmed by indirect comparisons with the new standard of the N.P.L.\*\* A zero correction for the Newman barometer is based on these comparisons. The correction + 0.2 mb. (+.006 mercury inch) which has been applied for many years, remained in use. Comparisons are made on the assumption that the value of the acceleration due to gravity is  $g = 981.199 \text{ cm/sec}^2$ . This is the value given by pendulum observations.†††

\* The Observatory 1882, p.279

‡The Record of the R. Soc., 1897.

† R.Sec.Proc., Vol. 39 (1885) pp. 37-86 ††Proc. of the Optical Convention, 1926

‡‡History of the British Association, 1922.

††† A comparison between the values of "g" at Cambridge and Kew Observatory was made during the year 1925 by Sir. G.P. Lenox-Conyngham with the assistance of Mr. G. Manley. A similar comparison between Potsdam and Cambridge was made by Prof. Meinesz earlier in the year. These observations are in accord with those made at Kew and Potsdam by Putnam in 1900, from which the value stated above was derived. The value for Potsdam,  $g = 981.274$ , based on the observations of Kühnen and Fürtwangler, is adopted as the standard of reference. For the latitude of Kew Observatory,  $51^\circ, 28'$ , the formula in the General Introduction gives  $g = 981.185$ .

\*\* Met. Mag. June 1933.



The departure from the value given for the latitude by the formula quoted in the General Introduction is insignificant. On occasions when a loss of trace occurred, the missing hourly values were derived from the Dines Float Barograph.\* There were 13 hours in the year for which this was necessary.

"Temperature and Humidity."—The thermograph is mounted in the West Room on the first floor of the Observatory, the thermometer bulbs being exposed in the screen attached to the north wall of the building. This screen has single louvres and the bottom is open. There is an additional flat louvred screen which shields the main screen from direct sunshine when the sun is in the West and not too low. The height of the bottom of the bulbs of the recording thermometers above the bottom of the sides of the screen containing them is 30 cm. in summer, 33 cm. in winter. The height of the bulbs above the top of the artificial mound on which the Observatory stands is approximately 3 metres; the height above the lawn where the rain-gauge is situated is approximately 5 metres. The scale values of the photographic records are not identical for the dry- and wet-bulb curves. For the dry-bulb, tube No. 4 II was in use and the scale value was  $1 \text{ mm.} = 0.3336^{\circ}\text{A}$ ; for the wet-bulb, the old Falmouth wet-bulb tube (no number) was in use and the scale value was  $1 \text{ mm.} = 0.290^{\circ}\text{A}$ .

Up to the year 1916 thermometers graduated on the Fahrenheit scale were in use in the North Wall Screen for controlling the thermograph readings. Then thermometers graduated in the absolute scale were introduced. Of these two absolute thermometers one was broken in June, 1933 and one of the old Fahrenheit thermometers took its place. Readings of the control thermometers are used for the daily weather service and for that purpose readings on the absolute scale have to be converted to Fahrenheit. It was decided that it would be more convenient to make the alternative conversion from Fahrenheit to Absolute and accordingly the use of thermometers with the absolute graduation terminated with the year under review. Before the Fahrenheit thermometers which had been in use up to 1916 were put back in the screen they were tested at the National Physical Laboratory. It is satisfactory to note that the two thermometers are correct within  $0.1^{\circ}\text{F}$ . The close agreement of the scale of the Kew standards with the scale of the hydrogen thermometers was demonstrated by Harker in 1905\*\*. The recent tests indicate that these thermometers with large bulbs keep their zeros well.

The water for the wet-bulb thermometers is supplied from a tank fitted outside the screen. A large bottle is inverted over the tank and water flowing from this bottle keeps the level constant in the tank and in the cups from which wicks are taken to the wet-bulbs. The height of the apparatus is adjusted so that the water drips steadily from the wet-bulbs. A bottleful of water lasts at least a week. It is found that the bottle survives severe frost.

Control eye-readings of the standard thermometers are taken daily at 9h, 15h and 21h. Residual corrections obtained from the control observations are applied to the hourly measurements of the curves. The same correction is applied to all the readings on the same photographic sheet, i.e., generally for forty-eight hours. The individual entries published for the hours of the control observations may differ by  $0.3^{\circ}\text{A}$ . from these observations. The larger departures refer to occasions when temperature is oscillating or changing rapidly.

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\*For descriptions of this instrument see "Observatories' Year Book," 1923 p. 94, and "London, Q. J. R. Meteor. Soc.," 55, 1929, p. 37.

\*\*Proc. R. Soc. A 78, p.225, 1907. and N.P.L Coll. Res. II, p.215 n.d.



In cases of loss of the dry-bulb record owing to the failure of the electric light or any other cause the readings of a mercury in steel thermograph are adopted. There were 25 hours in the year for which this was necessary. The auxiliary thermograph which had been in a second North Wall Screen was moved in November to the screen containing the bulbs of the photo-thermograph.

When the wet-bulb trace is missing or defective, the missing values are derived from the dry-bulb trace and the records of a hair hygograph. The same procedure is always adopted when the wet-bulb reading is below 273°A. 663 hours had thus to be dealt with during the year. Humidity was determined from the dry and wet-bulb readings by the procedure described in the General Introduction to this volume\*.

It may be noted that during 1933, as in previous years, the temperatures published for Kew Observatory in the Daily Weather Report and elsewhere also refer to the North Wall Screen. For the daily and weekly reports the readings of maximum and minimum thermometers exposed in that screen are utilised.

"Rainfall".-As from January, 1921, the standard raingauge for the Observatory has been an 8 - inch gauge with the deep "Snowdon" funnel. The site is level and protected from wind, principally by hedges about 1½m. high and distant 11 metres to East and 17 metres to West. The readings of this standard gauge are at 7h and 18h. The hourly readings of the Beckley gauge are adjusted to give totals in agreement with the standard gauge.

"Sunshine".-The sunshine recorder is mounted on the south parapet of the roof. The same frame has been in use since 1880 and it is believed that the ball has not been changed. The ball is now somewhat yellow. The exposure is satisfactory. The greatest elevations of the sky line in the azimuths in which the sun can rise and set are 1° and 3° respectively.

"Solar Radiation".-Observations are made with an Ångström pyrheliometer, which measures the intensity of the direct radiation received from the sun by a surface which is normal to the sun's rays. The observations are made with in half an hour of noon on all days except Sundays, provided that the sun is visible and not too much obscured by cloud, fog or thick haze. The conditions of the intervening atmosphere are indicated in Tables 499-510 in the column "sky". The amount of radiation is given in milliwatts per square centimetre in the column headed "total". For conversion to the unit more ordinarily employed abroad, the following relation may be used, lmw. per sq. cm. = 0.01435 gramme-calorie per sq. cm. per minute. The vertical component, i.e., the direct radiation received per square centimetre of a horizontal surface, is also given.

The Ångström instruments in use are by Rose, Stockholm. No. 24 was in use throughout the year. The ammeter is No. 68956, which was certified at the National Physical Laboratory in 1919.† The readings are evaluated according to Ångström's original instructions.†† To bring the readings into accordance with the scale adopted by the Smithsonian Institution, a correction of + 3.5 per cent. would be required.‡

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\*Prior to 1926 the tables, based on Glaisher's factors, published in "The Computer's Handbook," M.O. 223, Sec. 1, 1916, were used.

†In view of the discovery by Marten ("Berlin. Ber. Meteor. Inst.," 1928, p.64) that errors are likely to be caused by temperature changes produced in a microammeter when sunshine falls on it, it may be noted that the instrument used at Kew is always in shadow.

††Report of the International Meteorological Committee, St. Petersburg, 1899, p. 57.

‡R. E. Watson, "Geophysical Memoirs," No. 21, 1923.



"Wind Speed and Direction".-A new chapter in the record of the wind opened with the year 1931. From 1869 to the end of 1925 the velocity of the wind was estimated by means of the Robinson-Beckley cup anemograph mounted above the observatory dome. From the beginning of 1926 the Dines anemograph, already in use for some purposes, was adopted for the hourly tabulations. This anemograph, now known as the "Old Dines anemograph," had its head at the same height as the Robinson cups. In 1929 the cup-anemograph was dismantled and a new Dines instrument was erected with the vane over the middle of the dome. This vane is three metres higher than that of the old Dines anemograph. There are other differences\* between the two instruments, the new one having larger tubes between the vane and the receiver and having below the head a shield designed to eliminate the effects of any lack of symmetry in the attachment of the tubes to the head. After comparisons lasting a year the new anemograph was brought into regular use on January 1st 1931. The following details refer to the two instruments.

	New.	Old.
Pattern .. ..	Mark II	
Suction holes ..	80 holes in 4 rows of 20. Diameter 2 mm.	80 holes in 4 rows of 20. Diameter 3 mm.
Connecting tubes..	Length 8 m. Internal diameter 24 mm.	Length 17 m. Internal diameter 12 mm.
Height of vane above lawn ..	23 m.	20 m.

There is a continuous belt of trees along the river about 300 metres away and other tall trees at shorter distances, but few of the trees have their summits above the level of the new vane.

As was anticipated, the mean velocity of the wind as recorded by the new anemometer at 23 metres above the ground is in excess of that recorded at 20 metres. The difference is about 9 per cent. Winds from various quarters are however affected differently as may be seen from a table published in the Introduction to the Year Book 1931.

"Earth Temperature".-The two thermometers in use were at 30 cm. and 122 cm. The ground in which the tubes for the thermometers are sunk is under grass. The soil is gravel. The site is well exposed. There are, however, three fruit trees about 9 metres to the east and 6 metres high. The bulb of the lower thermometer is 430 cm. above sea level. In some years the underground water surpasses this level.

"Minimum Temperature on the Grass".-The grass minimum thermometer is set at 18h and read at 7h on the succeeding day, the reading being assigned to

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\*The anemometer of the new type is described in the "Geophysical Memoirs" (No. 54, 1932) devoted to the Cardington researches on wind structure.



the day of reading.\* The thermometer is placed with the bulb about 25 mm. above the turf. The exposure is good there being no obstruction within  $76^{\circ}$  from the zenith. The thermometer in use was M.O. 23007. This thermometer has a spherical bulb, diameter 17 mm.

## Identification Numbers of Instruments in use in 1933.

Control barometer	..	..	..	..	..	Newman 34
Control Dry Bulb Thermometer	..	..	..	..	..	Negretti & Zambra 173971
Control Wet Bulb Thermometer	..	..	..	..	..	Negretti & Zambra 173969
Control Raingauge (8-inch)	..	..	..	..	..	M.O. 1271
Measuring Glass for the Control Raingauge	..	..	..	..	..	M.O. 1615 & 1693
Campbell-Stokes Sunshine Recorder	..	..	..	..	..	M.O. 12
Dines Tube Anemograph Head	..	..	..	..	..	M.O. 1057
Dines Tube Anemograph Recorder	..	..	..	..	..	M.O. 1057
Earth Thermometer 1 ft.	..	..	..	..	..	M.O. 5
Earth Thermometer 4 ft.	..	..	..	..	..	M.O. 10
Grass Minimum Thermometer	..	..	..	..	..	M.O. 23007
Photo-thermograph (Dry Bulb	..	..	..	..	..	4 11
(Wet Bulb (Old Falmouth Wet Bulb)	..	..	..	..	..	No number
Photo barograph	..	..	..	..	..	"

## Thermometer Corrections, 1933.

173971 N.P.L. 1915					173969. N.P.L. 1915				MO 5 N.P.L. 1913		MO 10 N.P.L. 1913		MO 23007 N.P.L. 1918	
Certified.	°A 255	+0.20	°A 285	-0.10	°A 255	+0.15	°A 285	-0.10	°A 260	+0.1	°A 260	+0.3	°A 253	-0.1
	260	+ .15	290	- .10	260	+ .15	290	- .10	273	.0	273	+ .1	263	- .1
	265	+ .10	295	- .05	265	+ .10	295	- .05	280	.0	280	+ .2	273	.0
	270	+ .05	300	- .10	270	+ .10	300	- .05	290	.0	290	+ .1	283	.0
	273	- .05	305	- .05	273	.00	305	- .05	300	.0	300	.0	293	.0
	275	.00	310	- .05	275	.00	310	- .05	310	.0	316	+ .1	303	.0
	280	- .05	-	-	280	- .05	-	-	-	-	-	-	-	-
Applied.	260) 270)	+0.1	-	-	260) 270)	+0.1	-	-	-	-	-	-	255) 268)	-0.1
	270.1) 283.0)	0.0	-	-	270.1) 283.0)	0.0	-	-	260) 310)	0.0	275) 295)	+0.1	268.1) 303 )	0.0
	283.1) 310.0)	-0.1	-	-	283.1) 310.0)	-0.1	-	-	-	-	-	-	-	-

\*The hour of the readings to be published in the "Observatories' Year Book" was changed from 9h. to 7h. as from January 1st, 1924.



### Notes on Meteorological Tables.

The year was notably warm and sunny, especially in the summer months.

The lowest reading of the "grass minimum" thermometer was  $262.2^{\circ}\text{A}$  ( $12.6^{\circ}\text{F}$ ) on Feb. 20th.

The lowest temperature in the North Wall Screen,  $267.8^{\circ}\text{A}$  ( $22.6^{\circ}\text{F}$ ) was recorded between 6h. and 7h. on Jan. 23rd.

Jan. 24th. was an "ice day" the maximum temperature in the North Wall Screen being  $272.8^{\circ}\text{A}$  ( $31.6^{\circ}\text{F}$ ).

The maximum temperature in the same screen was  $304.9^{\circ}\text{A}$  ( $89.4^{\circ}\text{F}$ ) on Aug. 6th.

There were 20 days on which the maximum temperature exceeded  $300^{\circ}\text{A}$  ( $80.6^{\circ}\text{F}$ ).

The rainfall for the year was nearly 24% below the normal. The deficiency occurred in the second half of the year, the first six months being normal.

The heaviest fall occurred on Feb. 10th, 22 mm.

There were only four days of precipitation in August; this is the lowest number for that month since 1871.

The sunshine for the year, 1758 hours was 285 hours in excess of the normal. This is the second highest total since 1880, the record being 1765 hours in 1899.

The excess was greatest in March and in the summer months, June to September.

The highest wind velocity recorded in a gust was 26 m/s (58mi/hr) on Dec. 13th.

"Diurnal Variation of Pressure and Temperature".-Harmonic Analysis. The first four harmonic components computed for each month are tabulated in Tables A and B.

The inequality is supposed to be given by the expression,  

$$c_1 \sin (15 t^{\circ} + \alpha_1) + c_2 \sin (30 t^{\circ} + \alpha_2) + \dots,$$
 $t$  being the time in hours since midnight. The angles  $\alpha$  are the phases of the several sine-waves at midnight. The curves are tabulated according to Greenwich mean time but the phases in Table A have been reduced to local mean time. The difference in Longitude between Kew and Greenwich being only 19' the correction is hardly appreciable in the figures, which are rounded to the nearest degree.



TABLE A.

Diurnal Variation of Barometric Pressure. Fourier Coefficients.  $\Sigma c \sin (nt + \alpha)$ .  
 Richmond (Kew Observatory), Longitude  $0^\circ 19' W$ . Local Mean Time.

1933	$c_1$	$\alpha_1$	$c_2$	$\alpha_2$	$c_3$	$\alpha_3$	$c_4$	$\alpha_4$
	mb.	°	mb.	°	mb.	°	mb.	°
January .. ..	·309	213	·394	156	·177	349	·094	211
February . . .	·287	126	·376	147	·147	331	·046	88
March .. ..	·295	310	·501	159	·056	349	·053	39
April .. ..	·410	14	·408	141	·038	192	·040	320
May .. ..	·269	23	·334	149	·071	160	·043	338
June .. ..	·389	19	·321	138	·080	172	·012	285
July .. ..	·351	10	·314	142	·103	147	·017	299
August .. ..	·436	343	·374	148	·070	164	·032	341
September .. .	·211	22	·450	145	·019	48	·034	309
October .. .	·061	109	·408	149	·105	353	·005	308
November.. .	·146	292	·301	149	·103	359	·034	233
December.. .	·067	219	·343	146	·131	352	·077	191
Arithmetic Mean ..	·269	-	·377	-	·092	-	·041	-
Year .. ..	·129	360	·374	148	·031	355	·010	272
Winter .. ..	·131	200	·352	150	·137	347	·045	194
Equinox .. .	·166	1	·438	149	·034	352	·025	347
Summer .. .	·347	7	·335	145	·080	160	·024	326

Note:—"Winter" comprises the four months, January, February, November, December,  
 "Equinox" the months March, April, September, October, and "Summer"  
 May to August.

TABLE B.

Diurnal Variation of Temperature. Fourier Coefficients.  $\Sigma c \sin (nt + \alpha)$ .  
 Richmond (Kew Observatory), Longitude  $0^\circ 19' W$ . Local Mean Time.

1933	$c_1$	$\alpha_1$	$c_2$	$\alpha_2$	$c_3$	$\alpha_3$	$c_4$	$\alpha_4$
	°A	°	°A	°	°A	°	°A	°
January .. ..	·917	225	·420	28	·102	211	·004	5
February . . .	1·520	223	·609	30	·110	201	·080	150
March .. ..	3·369	220	1·005	40	·131	336	·118	199
April .. ..	3·789	222	·437	50	·340	18	·129	213
May .. ..	3·754	227	·378	50	·287	43	·039	157
June .. ..	4·104	227	·122	141	·374	48	·106	27
July .. ..	4·016	223	·041	290	·333	27	·107	62
August .. ..	4·517	222	·477	55	·376	27	·032	222
September .. .	3·404	229	·697	47	·207	8	·167	210
October .. .	2·197	227	·709	52	·143	267	·079	204
November.. .	1·261	225	·544	41	·137	251	·034	136
December.. .	·789	222	·336	41	·140	213	·036	348
Arithmetic Mean ..	2·803	-	·481	-	·223	-	·078	-
Year .. ..	2·800	225	·460	44	·121	17	·034	185
Winter .. ..	1·122	224	·475	35	·115	220	·020	132
Equinox .. .	3·184	224	·709	46	·161	354	·122	207
Summer .. .	4·095	225	·210	58	·338	36	·040	58

Note:—"Winter" comprises the four months, January, February, November, December,  
 "Equinox" the months March, April, September, October, and "Summer"  
 May to August.



"Level of Underground Water".-In Table 527 there is given for each day the height above sea-level of the surface of the underground water. Up to August 1934 the level recorded was that of the surface of the water in a pipe passing through the floor of the basement. From August 17th the float rested on the bottom of this 'well', the water being lower than at any previous time since the installation of the apparatus in 1914. In November 1933 measurements were commenced on the site of a pump in the garden about 25 metres west of the well in the basement. The water was then 32 cm below the lowest level which could be recorded in the well. On Dec. 29th. the water went down to 114 cm. above Mean Sea Level.

The persistent lowness of the water is due in part to the drought but there are special local circumstances, the effect of which cannot be estimated, such as the pumping by the Corporation of Richmond of water from a well about 500 metres south of the Observatory.

"Cloud Amount".-The mean cloud amounts for the six hours of observations are given month by month in the diary of cloud and weather. The following means are derived from these data:-

"Mean Amount of Cloud from Six Observation Hours."

Month	Jan.	Feb.	Mar.	Apl.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Cloud	6.5	7.0	5.1	6.1	7.5	5.6	6.0	5.4	5.3	6.5	7.6	7.8	6.4

"Mean Amount of Cloud for the Year at the Six Observation Hours".

Hour	..	7h	9h	13h	15h	18h	21h
Cloud	..	6.4	6.5	7.0	6.9	6.1	5.3

"Visibility".-The objects used for the classification of visibility are enumerated below. The Observatory is on very low ground. The view is bounded on the south-east by Richmond Hill and on the west by the trees near the river. For object H a church tower seen through trees and with high ground behind it has to be used. There is no conspicuous object at the appropriate distance to serve as I, and interpolation is necessary. The object J is in London and is therefore more affected by atmospheric pollution than the other objects.

LIST OF OBJECTS.

Identification Letter.	Object	View Point	Bearing	Actual Distance	Standard Distance
X	(A not visible) .. ..	-	m	m	m
A	Verification House .. ..	S.W. Corner of Observatory Bldg.	-	-	-
B	17ft. Stevenson Screen.. ..	S.E. Corner of Observatory Bldg.	S.W.	25	25
C	New Magnetic Hut .. ..	S.W. Corner of Observatory Bldg.	S.W.	50	50
D	S.W. Tree .. ..	" "	S.	110	100
E	Golf Club House .. ..	" "	S.W.	200	200
F	Orange Tree Hotel.. ..	Observatory	S.E.	500	500
G	St. Matthias's Church .. ..	"	S.E.	970	1,000
H	South Ealing Church .. ..	"	S.E.	1,900	2,000
	Mortlake Chimney well visible	"	N.	4,000	4,000
i	Chelsea Chimneys not visible	"	E.	3,500	7,000
J	Chelsea Chimneys .. ..	"	E.	9,300	10,000
K	Surrey Hills .. ..	"	E.	9,300	10,000
l	Surrey Hills well visible ..	"	S.	20,000	20,000
m	Surrey Hills, exceptionally visible. .. ..	"	S.	>20,000	>30,000
			S.	>20,000	>50,000



## ATMOSPHERIC ELECTRICITY.

In Atmospheric Electricity the systematic observations reported in the Year Book are devoted to potential gradient, air-earth current and conductivity. These three elements are observed each afternoon when conditions are favourable. In the case of potential gradient the continuous autographic records are also utilised.

"Potential Gradient, Conductivity and Air-Earth Current".-Since 1909 the current flowing from air to earth has been estimated by the method developed by C.T.R. Wilson.\* Until the end of 1930 the observations incorporated in the Year Book were made with an electrometer set up on a tripod. The current received by a small plate mounted on the electrometer was measured, as well as the strength of the electric field over this plate. From these measurements the effective conductivity of the air was deduced and hence the strength of the current in the natural electric field.

It was always realised this scheme was not entirely satisfactory. The construction of an underground laboratory has facilitated an improvement. The current which is now measured is that flowing into a plate which is flush with the roof of the laboratory and nearly at ground level. The plate is supported from below on a stand which carries a Lindemann electrometer and a variable condenser or "compensator". The cover for the plate is mounted on a long handle which can be manipulated from below. A detailed description of the installation has been published in a Geophysical Memoir† prepared by Mr. F.J. Scrase. The electrometer is calibrated once a month by means of Weston standard cells. Since the beginning of 1932 absolute measurements on fine afternoons at 14h 30m of potential gradient, air-earth current and conductivity have all been made with this apparatus.

The potential gradient,  $F$ , is given in volts per centimetre by the formula,

$$F = 4\pi (9 \times 10^{11}) C v / A,$$

where  $C$  is the capacity, in farads, of the system (when shielded),  $v$  the voltage acquired by the test plate after being exposed to the field, earthed and then shielded, and  $A$  is the area of the plate. A minor alteration was made to the apparatus on 11th October 1933 when a shutter was fitted to the electrometer system so that the latter can be completely screened from the compensator whilst readings are being made. This involved a slight change in the capacity from 6.00 to  $5.91 \times 10^{11}$  farads. The diameter of the test plate is 20.8 cm. The mean strength of the electric field is derived from five observations made at intervals of about 6 minutes.

The air-earth current is given in amperes per square centimetre by the formula

$$i = C \delta v / A t$$

where  $v$  is the voltage acquired by the plate in  $t$  seconds. For obtaining the mean value of the current four observations, each lasting five minutes, are averaged. The observations of the current are sandwiched between the observations of the field strength and from the two mean values  $i$  and  $F$  the conductivity  $\lambda_+$  is deduced. No observations are made during rain nor

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\* Cambridge Proc. Phil. Soc., 13, 1906, p. 184

† London Meteor. Off., Geophys. Mem. No. 60, 1934.



when the potential gradient is negative.

The use of the test plate at ground level introduced a discontinuity in the series of observations. Revised mean values for the period up to 1931 have been published in Mr. Scrase's memoir. In 1933 the mean value of the current for the year, allowing equal weight to each month is  $106 \times 10^{-18}$  amp.  $\text{cm}^{-2}$ . This is somewhat higher than the corresponding values for other years, the mean value for the period 1912 to 1932 being  $98 \times 10^{-11}$  amp.  $\text{cm}^{-2}$ . The mean value of the conductivity for the year is  $39 \times 10^{-16}$  ohm $^{-1}$   $\text{cm}^{-1}$  whilst the mean of corresponding values for the period 1912 to 1932 is  $37 \times 10^{-16}$  ohm $^{-1}$   $\text{cm}^{-1}$ .

"Potential Gradient".—Two changes in the system by which potential gradient is estimated were made in 1932.

The Kelvin electrograph, which has been housed since 1915 in a low building known as the Clinical House, provides a record of the electrical potential at a point not far from the wall of the building. By the application of a factor the potential gradient at a specified site is deduced.

Up to Feb. 10th., 1932 the point at which the potential was measured was where the jet from a water dropper broke into spray. On that date a radio-active collector was substituted for the water dropper. The collector is 1.21m from the window and 1.87m above ground level. A collector freshly coated with polonium is now installed every six months. The adoption of the radio-active collector in place of the water dropper eliminates the risk of failure of the apparatus owing to frost.

The second change of practice was in the system adopted for standardization. Previously the absolute observations were made at a site in the Observatory garden, the potential at points one metre and two metres above the ground being determined with the aid of a lighted fuse carried by a long insulated rod and connected to an electrostatic voltmeter.

As from the beginning of 1932 the electrograph has been standardized by means of the observations of the field strength over the test plate of the Wilson apparatus at the underground laboratory. Experiments have shewn that the potential gradient found in this way is, to a very close approximation, equal to that found by measuring the potential at a height of one metre in the open part of the grounds.

Owing to this change of practice there is a discontinuity in the published record of potential gradient. Amended values of the monthly and annual means of potential gradient for earlier years have been published in Mr. Scrase's memoir. The amended figures represent more closely the potential gradient in the open. The correction to be applied is 12 per cent.

The control observations are now taken at 14h 30m. From the observations the factor is derived by which the potential gradient recorded by the electrograph must be multiplied to obtain the potential gradient in the open.

The mean factor for the year was 2.65. The equivalent height of the collector of the electrograph may be estimated by dividing one metre by this factor, i.e., the collector was on the average at the same potential as a point 37.7 cm. above ground in the paddock.



On the few occasions when the electrograph in the Clinical House was out of action the values of potential gradient were derived from a subsidiary electrograph in the New Magnetic Hut.

The data appearing in Table 541 include the electrical character figure assigned to each day from the consideration of the electrograms. Of the character figures, 0 denotes the absence of negative potential, 1 implies the existence of negative potential at one or more times during the day but with a total duration of less than 3 hours, while 2 implies the existence of negative potential with a total duration of 3 hours or more. As a negative potential gradient hardly ever occurs except when rain is in the neighbourhood, character 0 occurs on dry days and character 2 on days with continuous rainfall. The present criteria for character figures were adopted as from the beginning of 1914. Correcting for missing days, the average frequency of character figures 0, 1, and 2 during the years 1914-1932 inclusive were 188: 137: 40. The corresponding figures for 1933 are 187: 140: 38.

In accordance with a resolution of the International Union for Geodesy and Geophysics (Section for Terrestrial Magnetism and Atmospheric Electricity: Prague Meeting 1927) tabulations of the duration of negative potential gradient have been included in the Year Book since 1928. The total duration of negative gradient is given for each day for which the electrographic record is satisfactory.

Table 542 contains daily data derived from measurements of the electrograms. They represent means for the 60-minute intervals ending at 3h, 9h, 15h and 21h G.M.T. respectively. On occasions when the trace was defective, either through failure of insulation or some other cause, values of potential gradient have been omitted. The electrograph is intended to record the potential gradient of fine weather and the limits are approximately -1500 and +2000 volts per metre. In showers and thunderstorms gradients of 10000 volts per metre or more may occur. These are, of course, beyond the range of the instrument. Even when the curve does not go beyond the limits of the chart the changes may be so rapid that no satisfactory estimate is possible of the mean value of the ordinate. All such occurrences are indicated by the letter z. If there is no doubt as to the sign of the hourly mean value, though a numerical measure is unobtainable, the sign is indicated by a + or a - attached to the z. The symbol  $z\pm$  indicates that there were oscillations on both sides of the zero line, and that the sign of the mean value was uncertain.

The extreme hourly values in Table 542 are 1635 v/m at 9h on Jan 10th and -1055 at 9h on March 19th. The former value is representative of foggy conditions; on this occasion fog developed after 21h on the 9th after a fine evening and continued until about 20h on the 10th, the potential gradient exceeding 1000 v/m from 2h to 12h on the 10th. The extreme negative gradient was associated with moderate rain.

At the foot of each section of Table 542 there are two sets of mean values. These are obtained according to different rules. The (a) mean is the arithmetic mean of all the positive potential gradients in the column. The (b) mean is the algebraic mean of all the entries which remain in the column after those have been eliminated which refer to days in which at least one of the four hourly values is indeterminate. The last line gives the mean value for each month as derived from the (a) and (b) means for the four hours.



The diurnal inequalities and the mean monthly and annual values in Table 543 are based on the curves of certain quiet days selected from those entirely free from negative potential gradient. Other objects aimed at in the selection of the days are freedom from large irregular movements, absence of indications of inferior insulation in the electrograph and the avoidance, so far as possible, of large non-cyclic changes. The quiet days numbered 10 in each month. The noncyclic change is given explicitly in Table 543, so that anyone who may desire to reproduce the figures as they were before the non-cyclic correction was applied can easily do so.

All the inequalities shew a well marked double oscillation with minima in the early morning and early afternoon, maxima in the late morning as well as in the evening. The diurnal inequalities for the whole year shew the higher maximum at 9h., the lower minimum at 3h. This is not the case in every year. The following list gives the annual mean potential gradient for selected quiet days together with the hours of the extremes and the range of the inequality for each year from 1910. The correction of 12 per cent has been applied to the means and ranges of all years from 1910 to 1931.

KEW OBSERVATORY POTENTIAL GRADIENT (REFERRED TO PADDOCK) 1910-1933.

Year	Mean v/m	Range v/m	Max. hr.	Min. hr.	Year	Mean v/m	Range v/m	Max. hr.	Min. hr.	Year	Mean v/m	Range v/m	Max. hr.	Min. hr.
1910	347	155	20	4	1918	388	156	20	2	1926	313	132	20	4
1911	337	172	9	4	1919	371	139	8	4	1927	353	144	19	3
1912	336	167	9	4	1920	353	137	9	3	1928	334	139	9	3
1913	375	179	19	3,4	1921	315	148	20	3,4	1929	379	153	9	4
1914	386	189	20	3	1922	356	161	20	4	1930	373	183	9	3
1915	397	194	19	5	1923	356	179	9	4	1931	379	171	20	4
1916	411	169	20	4	1924	368	149	20	4	1932	391	173	21	4
1917	397	172	20	4	1925	365	144	19	3	1933	363	183	9	3

#### ATMOSPHERIC POLLUTION.

The Owens atmospheric pollution recorder or air filter No. 1\* is situated in the Clinical House, and the level of the intake is about 1½m. above that of the adjacent ground. The weight of the pollution is not obtained directly but is deduced from shade numbers 0, 1, 2, etc., assigned to the deposit left on the filter paper through which the air is drawn. The equivalents of the shade numbers are allotted in accordance with the results of an invest-

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\* A description of the instrument is given in the "Report of the Advisory Committee for Atmospheric Pollution", 4th Report, 1917-1918, p. 20.



igation carried out for the Atmospheric Pollution Committee by Mr. J. G. Clark.† When the normal volume of air, 2 litres, is aspirated (it is drawn through a hole 3.2 mm. in diameter) shade number 1 answers to 0.32 milligrams per cubic metre. The Owens apparatus was designed in the first place for dealing with the air of cities, and the amount of pollution at the Observatory is usually so small that the shade recorded when the 2 litres are aspirated is either 0 or 1.

Preliminary experiments with a spare recorder having justified the assumption that increasing the volume of air would increase the shade number in proportion, an auxiliary tank was brought into use at the beginning of July, 1928. With this tank in operation each spot on the filter paper corresponds with 6.4 litre of air. The unit shade is therefore equivalent to  $0.1 \text{ mg/m}^3$ . When fog prevails the auxiliary tank is put out of action and the unit shade reverts to the value  $0.32 \text{ mg/m}^3$ .

Special attention is now paid to the maintenance of consistency in the standard of shades. Each new scale of shades is compared directly with the standard preserved by Dr. Owens. New scales of shades were taken into use on the following dates:-

June 7, 1925; July 1, 1926; (retrospectively) January 1, 1928; August 1, 1930; January 1, 1931; June 1, 1931; and March 1, 1933.

	days	hours
During 1933 the highest estimate of pollution was $3.2 \text{ mg/m}^3$ , this value occurring on December 18th from 21h to 23h. There were 52 days on which the pollution reached $1.0 \text{ mg/m}^3$ ; the number of hours credited with $1.0 \text{ mg/m}^3$ or more being 261. The months in which these days and hours occurred are given in the accompanying table.	Jan. 11	37
	Feb. 3	7
	Mar. 5	13
	Sept. 1	7
	Oct. 7	43
	Nov. 12	70
	Dec. 13	84
	Year	52 261

Table 544 gives for each month mean hourly values derived from all the days for which complete records were obtained. There were 351 such days in the year. The highest and lowest of these hourly values are in heavy type.

Table 545 gives diurnal inequalities derived from the data in Table 544 after the application of non-cyclic corrections. The principal reason for computing the diurnal inequalities was to facilitate comparisons with the corresponding diurnal variations in barometric pressure and in the potential gradient of atmospheric electricity.

The mean values computed for recent years are given in the following table, together with the means for successive pairs of months. The unit is  $1 \text{ mg/m}^3$ .

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†"Report of the Advisory Committee for Atmospheric Pollution," 3rd Report, 1916-1917, p. 20.



	1926	1927	1928	1929	1930	1931	1932	1933
Jan.-Feb. ..	•29	•25	•22	•40	•18	•24	•32	•25
Mar.-Apr. ..	•30	•10	•18	•27	•13	•15	•26	•17
May-June ..	•08	•07	•09	•05	•05	•06	•09	•10
July-Aug. ..	•07	•05	•05	•06	•07	•07	•05	•08
Sept.-Oct. ..	•19	•17	•15	•10	•13	•25	•15	•21
Nov.-Dec. ..	•26	•21	•25	•21	•29	•33	•29	•43
Year	•20	•14	•15	•18	•14	•18	•19	•21

The nature of the diurnal variation is most easily recognised in Table 545. There is always a well defined minimum during the night and another in the early afternoon. The first maximum of the day usually occurs about 9h and the second one follows about 12 hours later. This double oscillation is apparently due to two causes, the variation in human activity in producing pollution and the variation in the wind which disperses it. In 1933 the principal maximum was in the evening from January to May and from October to December; in the forenoon in the remaining months. The principal minimum occurred in the afternoon from March to September; in the early morning in the remaining months. Curves illustrating the diurnal variation of atmospheric pollution will be found in the Annual Reports of the Advisory Committee on Atmospheric Pollution and in a paper† by Dr. Whipple on the relation between Atmospheric Pollution and Potential Gradient.

#### SEISMOLOGY

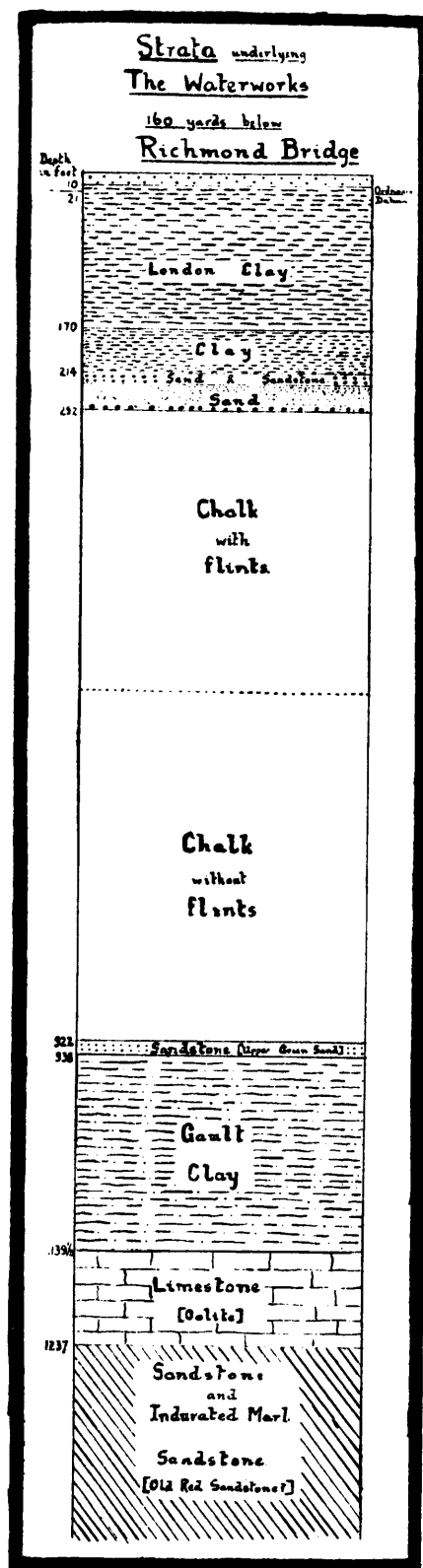
**Notes on Instruments.**— The seismographs, three Galitzin pendulums with galvanometric registration, were transferred from Eskdalemuir Observatory during the latter part of 1925 and have been in regular operation since the beginning of 1926. Earth movements in the north, east and vertical directions are recorded. The pendulums, which are in the old magnetograph room, are mounted on a massive concrete pillar, separated from the floor. The galvanometers and recording apparatus are accommodated on slate slabs in the old seismograph room, which housed the Milne instrument until it was put out of action on June 17th, 1925. To eliminate temperature variation as far as possible, the windows of the pendulum room are provided with triple glass and also shielded by louvred screens from direct sunshine which might fall on them morning and evening. The annual range of temperature variation is about 10°C and the mean daily range about 0.2°C. To diminish the sensitivity of the vertical pendulum to temperature changes the steel controlling spring was replaced in May, 1928, by one made of elinvar, an alloy which has a temperature coefficient of elasticity about one-tenth that of steel\*. A detailed report on the behaviour of the spring has been published in a paper† by F.J. Scrase. The difficulties usually associated with the operation of the vertical pendulum have been greatly diminished.

† "London, Roy. Met. Soc., Q.J.," Vol. 55 (1929) No. 231.

\* Y. Dammann. "Contribution à l'étude des propriétés élastiques de l'élinvar. Son utilisation dans les séismographes," Publ. Bur. Cent. Seis. Int., Strasbourg, Ser. A, Fasc. No. 5, 1927, pp. 122-129.

† "London, Inst. Physics, J. Sci. Instr.," 6, 1929, p.385





The concrete pillar rests on gravel. The underlying geological strata are shown in the diagram on this page. The diagram is based on the results obtained\*in sinking a well near Richmond Bridge. The Richmond boring terminated at a depth of 440 metres in Old Red Sandstone. At Stonebridge Park, 8 km. to the north, a boring was carried down† to a depth of 600 metres, the last 280 metres being in Old Red Sandstone. There is no information as to deeper strata near Richmond. It may be noted, however, that the sandstone beds dip at about 30° and that a boring at Little Missenden, Bucks, entered Silurian rocks at a depth of 370 metres with no evidence of the presence of Old Red Sandstone.

For detailed description of the Galitzin seismograph and for particulars of interpretation of the records, reference may be made to Fürst B Galitzin's "Vorlesungen über Seismometrie (Leipzig, 1914), or to G.W. Walker's "Modern Seismology" (London, 1913).††

Timing is controlled by a half-seconds clock (Morrison 8587) which is rated daily by comparison with the Greenwich wireless time-signal relayed from Daventry. Time breaks are made electro-magnetically every minute and seismometric readings can be determined to the nearest second.

The free periods of the Galvanometers ( $T_1$ ), were determined in November, 1925, and were found to have suffered very little change since the original determinations at Eskdalemuir were made. The lengths of the simple equivalent pendulums(1) are assumed to have remained unaltered.

The values of the other constants which are used for deriving the scale values were re-determined in October, 1933. In the case of the horizontal instruments it was found that the magnifications agreed closely with those obtained from the previous tests in September, 1932. The pendulums were adjusted on January, 30th, May 30th and December 6th, to counter slight tilting of the pillar.

In the following table are summarised the values of the constants.  $T$  is the free period of the pendulum,  $\mu$  is a damping coefficient which varies

\* "London. J. Geol. Soc.", 40, 1884, 41, 1885, p. 523.

† Records of London Wells, "Mem. Geol. Surv. Eng., London", 1913.

†† The graphical method adopted at Kew for determining the constants of the pendulums is explained in a memoir by F.J. Scraser, "Geophysical Memoirs" No. 49, 1930.



ishes when the free movement of the pendulum is just aperiodic,  $A$  is the length of the beam of light from the galvanometer mirror to the recording drum (usually about 1100 mm), and  $k$  is the "transmission" factor. The factor

$\frac{kAT}{4\pi l}$  determines the magnification for regular earth movements with a period equal to that of the pendulum.

Component	$l$	$T_1$	1933	$T$	$\mu^2$	$\frac{kA}{\pi l}$	$\frac{kAT}{4\pi l}$
	mm.	sec.		sec.		sec. <sup>-1</sup>	
N	118	24.68	Jan. 1 to Oct. 3	25.1	0.00	47.2	296
			Oct. 3 to Dec. 31	24.9	-0.04	47.1	293
E	118	24.80	Jan. 1 to Oct. 3	25.1	+0.01	43.4	272
			Oct. 3 to Dec. 31	24.8	-0.04	43.3	269
Z	360	13.04	Jan. 1 to Oct. 4	12.8	+0.07	109	349
			Oct. 4 to Dec. 31	12.3	+0.13	109	335

In windy weather the seismographs, especially the horizontal components, are affected by slow oscillations, which are attributed to the tilting of the ground, the movement being conveyed through the foundations of the Observatory. On occasions the reading of an earthquake record is rendered very difficult, if not impossible, by these irregular disturbances.

Notes on Tables.—The "Seismological Diary", Table 546, contains the particulars of the earthquake recorded at the Observatory. The notation employed is as follows\*—

In the second column of the diary the entries N, E, Z, refer to the records from the north-south, east-west and vertical seismographs respectively.

P is the normal first phase (longitudinal waves). Other types of longitudinal vibrations occur when the waves are reflected from (R<sub>1</sub>P) or penetrate (PKP) the earth's central core.

PP, PPP... are longitudinal waves reflected once, twice ... near the earth's surface.

S is the normal second phase (transverse waves). The waves which penetrate the central core and pass through it as longitudinal vibrations are designated by the symbol SKS.

PS and PPS are waves which suffer a change or changes from longitudinal to transverse oscillation or vice versa, on reflection near the surface.

SS, SSS... are transverse waves reflected once, twice... near the surface

For the supplementary reflected waves from deep focus earthquakes the notation used is that introduced by F.J. Scrase, London. Proc. Roy. Soc., A. 132 (1931).

L indicates long waves (surface waves).

i is the sudden commencement of a phase. e means a gradual or indistinct commencement. These letters are used as prefixes to the phase symbols, but where the character of the phase is not assignable the letters are used as independent symbols. When the commencement of a phase is moderately clear the prefixes are not used.

\*The notation was amended from the beginning of 1933, the most important change being the adoption of a special letter, K, for the compressional waves through the core. This symbol has been taken from the Georgetown bulletins, and is now being introduced in the International Seismological Summary, 1930. Previously a pulse which started and finished as a transverse wave but passed through the core as a compressional wave was denoted by ScPcS. In the new notation such a pulse is denoted by SKS.



All times entered against the above phases are the times of arrival of the phases at the station. The phases denoted by M are successive prominent maxima occurring during the principal or surface phase. The period is the duration of a double oscillation (to and fro movement).

The entries under A are the amplitudes, in microns ( $=0.001$  mm.), of the components of the true displacement of the ground from the position of rest. Displacements to the north, east and upwards are regarded as being positive. When successive positive and negative displacements have the same magnitude the time of occurrence is given for the positive one.

The following formulæ, due to Galitzin, are employed for computing the times of the maxima and the amplitudes of sinusoidal waves:-

(1) Lag of the displacement shown by the galvanometer after the maximum displacement of the ground

$$= \frac{T_p}{2\pi} \left[ \left( \frac{\pi}{2} + \arctan \frac{2u_1}{u_1^2 - 1} \right) + \arctan \frac{2u(1-\mu^2)^{\frac{1}{2}}}{u^2 - 1} \right]$$

each inverse tangent being taken as between 0 and  $\pi$

(2) Magnification of record=

$$u = \frac{kA T_p}{\pi \ell} \frac{1}{(1+u^2)(1+u_1^2) \{1-\mu f(u)\}^{\frac{1}{2}}}$$

in these formulæ  $T_p$  is the period of the earth wave considered,  $T$ ,  $T_1$ , and  $\mu$  are as defined on p.363

$$u = \frac{T_p}{T}, u_1 = \frac{T_p}{T_1} \text{ and } f(u) = \left[ \frac{2u}{1+u^2} \right]^2$$

$\Delta$  is the distance in kilometres of the epicentre measured along the arc of a great circle. For earthquakes located within 10,000 km. of Kew the distance is generally derived from the interval between P. and S. by the tables, due to Zeissig, given in Klotz's "Seismological Tables" (Publication of the Dominion Observatory, Ottawa, Vol. III, No. 2). For greater distances other phases are considered and  $\Delta$  is obtained from the travel curves given by Gutenberg.\* The azimuth of the epicentre ( $0^\circ$  to  $360^\circ$ ) is measured from north through east. When an estimation of the azimuth is possible, it is used, together with  $\Delta$ , for provisional determination of the co-ordinates of the epicentre. The co-ordinates given in the Diary have generally been received at a later date; the authorities for these determinations are inserted in brackets. Here the letters J.S.A. signify the Jesuit Seismological Association of America, U.S.C.G.S., the United States Coast and Geodetic Survey., and U.R.S.S. the bulletins issued by the United Soviet States.

Brackets enclosing figures of phase symbols indicate that the information is uncertain.

The total number of shocks recorded during the year was 263. The phases being sufficiently well defined, estimates of the epicentral distances were obtained for 71 shocks, whilst in 8 cases the records of the initial impulses were sufficiently sharp to allow of computations of azimuth and so of estimates of the co-ordinates of the epicentres. There were 8 earthquakes which produced a disturbance at the observatory with an amplitude exceeding 0.1mm. in a horizontal component. These earthquakes originated, in the Pacific Ocean off Northern Chili (February 23rd), in Japan (March 2nd and June 18th) in Alaska (April 27th), in Sumatra (June 24th), in China (August 25th) in the S. Atlantic, Sandwich Group (August 28th), and in Baffin Bay (November 20th).

For comparison the statistics for all the years in which the Galitzin seismographs have been in operation at Kew Observatory are given:-

YEAR	Shocks recorded.	Epicentral distances.	Azimuths estimated.	Shock exceeding 0.1 mm.
1926	306	55	-	10
1927	314	76	6	9
1928	339	97	19	18
1929	320	74	6	12
1930	301	56	6	8
1931	274	53	11	16
1932	246	57	8	8
1933	263	71	8	8

\* Handbuch der Geophysik, Berlin, 1929, p. 212.



"Microseisms".-In Table 547 are given the amplitude (A) and period ( $T_p$ ) of the microseisms shown by the north component seismograph on each day at 0h, 6h, 12h, and 18h. On a few occasions (less than 2 per cent, of the total number) when the north component record was not available measurements of the east component record have been included. The group of waves of greatest amplitude occurring in the 30 minutes centring at the hour in question is selected, and the amplitude tabulated in the mean obtained from the three largest complete waves in that group. The period is derived from a measurement made on the same group\*. The total time, to the nearest second, for a number of complete consecutive waves is measured, the number of waves being chosen so that the time is between 23 and 30 seconds. The period is then derived from the following division table:-

Number of Waves	Time interval in seconds.							
	30	29	28	27	26	25	24	23
3	10.0	9.7	9.3	9.0	8.7	8.3	8.0	7.7
4	7.5	7.3	7.0	6.7	6.5	6.3		
5	6.0	5.8	5.6	5.4	5.2			
6	5.0	4.8	4.7	4.5				
7	4.3	4.1	4.0	3.9				
8	3.7	3.6	3.5					
9	3.3	3.2	3.1					
10	3.0	2.9	2.8					
11	2.7	2.6						
12	2.5							

In computing the mean period occasions of zero amplitude are omitted. The mean values of amplitude and period of each month of 1933 and for the year, together with the corresponding mean values for the period 1926 to 1932, are given below:-

#### MICROSEISMS-MONTHLY AND ANNUAL MEANS

1926 to 1932	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Amplitude ( $\mu$ ) .. ..	2.3	1.6	1.4	0.9	0.5	0.5	0.4	0.5	0.7	1.1	1.8	2.1	1.1
Period (sec.) .. ..	6.5	6.2	5.8	5.5	4.8	4.6	4.4	4.6	5.0	5.4	6.0	6.4	5.4
1933													
Amplitude ( $\mu$ ) .. ..	2.1	1.7	1.2	0.7	0.4	0.1	0.1	0.2	0.2	0.8	0.7	1.4	0.8
Period (sec.) .. ..	6.7	5.7	5.7	5.3	5.3	5.2	4.9	4.5	4.8	5.1	5.8	6.4	5.5

The means for the several hours are as follows:-

#### MICROSEISMS-MEANS AT SPECIFIED HOURS.

1926 to 1932	0h.	6h.	12h.	18h.
Amplitude ( $\mu$ ) .. ..	1.16	1.16	1.12	1.15
Period (sec.) .. ..	5.43	5.44	5.40	5.43
1933				
Amplitude ( $\mu$ ) .. ..	0.84	0.79	0.79	0.79
Period (sec.) .. ..	5.46	5.46	5.42	5.46

These figures indicate that there is no regular diurnal variation in amplitude or period of the microseisms recorded at Kew Observatory.†

\* F.J.W. Whipple and F.J. Scrase, "On the Frequency of Microseisms of Different Periods at Eskdalemuir and at Kew," "London, Mon. Not. R. Astr. Soc. Geophys. Supp." 2, No. 2, 1928.

† F.J. W. Whipple and A.W. Lee, "Studies in Microseisms," "London, Mon. Not. R. Astr. Soc. Geophys. Supp." 2, No. 7, 1931.



PRESSURE.  
Readings in millibars at exact hours, Greenwich Mean Time.

441. RICHMOND (Kew Observatory):  $H_b$  (height of barometer cistern above M.S.L.) = 10.4 metres.

JANUARY, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
1	004.4	005.8	006.8	007.9	008.7	009.6	010.7	011.7	012.8	013.4	013.4	013.0	012.6	012.3	012.5	012.9	012.9	012.9	012.8	012.7	012.5	012.3	011.9	011.5	011.0
2	011.2	010.9	010.7	009.8	009.8	009.9	009.9	010.2	010.3	010.8	010.5	009.4	008.4	008.2	007.3	008.9	006.3	005.6	005.1	004.5	004.2	003.8	003.3	002.7	008.1
3	001.4	001.3	000.3	000.3	000.2	000.5	002.6	004.1	005.9	006.9	008.7	009.3	009.5	010.5	011.5	012.1	012.4	013.0	013.4	013.6	014.3	014.5	015.0	015.1	007.9
4	015.1	015.3	015.3	015.3	015.2	015.2	015.2	015.4	015.5	015.4	015.3	015.1	014.3	014.4	014.7	014.8	015.6	015.4	015.3	015.1	014.4	013.6	013.6	012.3	014.9
5	011.2	010.5	009.8	008.7	008.4	008.5	009.0	010.4	011.7	013.2	014.0	014.1	014.4	015.1	016.1	016.4	017.3	017.8	018.3	018.7	019.2	019.3	019.1	018.9	014.0
6	018.4	017.8	017.7	017.7	017.7	018.2	019.3	020.4	021.7	022.6	023.6	023.6	024.1	024.5	025.0	025.7	026.3	027.1	027.6	027.8	028.3	028.8	029.2	029.6	023.2
7	029.8	029.9	030.8	030.9	031.0	031.1	031.1	031.7	032.2	032.6	032.6	032.1	031.5	030.9	031.0	031.1	031.1	030.4	030.2	029.7	029.5	029.1	028.7	028.7	030.8
8	028.1	028.1	028.0	027.6	027.3	027.4	027.5	027.7	027.7	027.8	027.4	026.9	026.5	026.7	026.9	027.0	027.3	027.1	027.1	027.1	027.3	027.3	027.8	027.8	027.4
9	027.4	028.0	028.1	028.3	028.5	028.9	029.2	030.7	032.5	033.6	034.4	034.4	034.8	035.5	036.1	036.4	036.8	037.5	037.9	038.3	039.0	039.0	038.6	038.6	033.6
10	037.8	037.5	037.8	037.7	037.7	036.9	036.8	036.3	036.2	036.0	035.1	034.2	033.3	032.5	032.0	031.2	030.6	029.8	029.2	028.8	028.4	027.9	027.5	027.1	033.5
11	026.1	025.7	025.0	024.3	023.3	022.5	022.3	022.3	022.1	021.4	020.6	020.0	019.3	018.9	018.7	018.8	019.2	019.3	019.8	020.6	021.2	021.5	021.7	021.7	021.6
12	021.7	022.0	022.3	022.0	022.0	022.3	022.7	023.1	023.7	024.0	023.9	023.4	023.2	023.1	023.1	023.4	023.9	024.2	024.3	024.4	024.1	024.2	024.1	024.1	023.2
13	023.9	024.0	024.0	023.8	023.7	023.5	023.2	023.3	023.4	023.4	023.5	022.9	022.5	022.5	022.7	022.9	023.4	023.8	024.2	024.6	024.8	025.2	025.2	025.3	023.7
14	025.0	024.8	025.3	025.5	025.5	025.1	025.0	025.4	025.3	025.1	024.1	023.5	022.8	022.3	021.7	021.2	019.8	019.2	018.9	018.1	017.2	016.0	015.2	013.7	022.1
15	013.1	012.1	011.0	009.7	008.1	007.2	006.1	005.2	004.8	004.1	003.2	002.0	000.7	000.7	000.7	000.7	000.7	000.7	000.7	000.7	000.7	000.7	000.7	000.7	002.8
16	994.7	994.4	994.1	993.8	993.8	994.1	994.7	995.0	995.6	996.0	996.4	996.3	996.1	996.3	996.3	997.0	997.2	997.3	997.3	997.3	997.2	997.2	997.1	997.0	995.9
17	997.1	996.7	996.5	996.4	996.3	996.2	996.2	996.2	996.1	996.0	995.6	995.1	994.7	994.7	994.6	994.8	995.0	995.1	995.4	995.5	995.8	996.0	996.2	996.3	995.8
18	996.5	996.6	997.0	997.3	997.5	997.9	998.6	999.3	999.8	000.4	001.3	001.4	001.2	001.4	001.7	002.0	002.5	003.2	003.3	003.6	003.5	003.4	003.5	000.5	000.5
19	003.4	003.6	004.3	004.8	005.5	006.4	007.7	009.0	010.1	010.7	011.7	012.1	012.5	013.2	013.8	014.4	015.0	015.4	015.7	016.2	016.6	016.4	016.5	016.9	011.1
20	017.2	018.0	018.2	018.2	018.5	019.4	020.4	021.4	022.4	023.4	024.6	025.2	025.8	026.3	027.1	027.9	028.8	029.6	030.6	031.8	032.1	032.2	032.9	033.5	024.9
21	034.1	034.6	035.1	035.6	036.2	036.7	037.3	037.7	038.5	038.9	038.9	038.7	038.6	038.6	038.8	038.8	038.9	038.9	039.1	039.3	039.6	039.5	039.4	039.4	037.8
22	039.5	039.5	039.3	039.0	038.7	038.6	038.6	038.9	039.3	039.2	039.1	038.9	038.7	038.7	038.8	038.8	038.8	038.9	039.1	039.4	039.6	039.7	039.6	039.5	039.1
23	039.5	039.2	039.3	039.3	039.2	039.3	039.6	040.0	040.4	040.3	039.8	039.5	038.8	038.4	038.1	038.1	037.9	037.8	037.7	037.6	037.3	037.1	037.1	037.0	038.7
24	036.9	037.0	036.9	036.8	037.0	037.2	037.5	037.5	037.7	037.5	037.2	036.9	036.3	035.7	035.7	035.6	035.6	035.7	035.7	035.6	035.7	035.5	035.5	035.1	036.5
25	034.6	034.3	034.2	033.9	033.7	033.8	033.9	034.1	034.2	034.3	034.2	033.5	033.1	032.4	032.3	032.4	032.5	032.6	032.6	032.6	032.5	032.4	032.3	031.9	033.3
26	031.3	031.3	031.0	030.8	030.5	030.2	030.2	030.0	029.6	029.5	029.3	028.8	028.2	027.5	027.3	027.2	027.2	027.2	027.5	027.3	027.2	027.0	026.9	026.8	028.9
27	026.6	026.5	026.5	026.2	026.0	025.9	025.9	026.0	026.1	026.3	026.2	025.8	025.1	024.6	024.5	024.4	024.3	024.4	024.5	024.5	024.5	024.3	024.5	024.6	025.4
28	024.5	024.3	024.2	023.9	023.4	023.2	022.9	022.9	023.0	022.9	022.4	021.5	020.5	019.6	018.9	018.7	018.3	017.9	017.7	017.1	016.7	015.9	015.0	014.7	020.6
29	013.9	013.2	012.4	011.7	010.9	010.5	009.9	009.5	009.4	009.0	008.4	007.4	006.0	005.0	004.4	003.9	004.1	004.0	003.7	003.4	003.3	002.7	002.0	001.4	007.4
30	000.5	000.7	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.8	000.1
31	008.3	008.5	009.4	009.6	010.0	010.6	011.4	012.3	012.7	013.5	013.9	014.0	013.6	013.2	012.9	012.7	012.5	012.4	012.4	012.1	011.8	011.3	010.8	009.9	011.6
Mean (Station Level)	1019 .14	1019 .07	1019 .04	1018 .88	1018 .79	1018 .85	1019 .12	1019 .50	1019 .92	1020 .15	1020 .19	1019 .86	1019 .49	1019 .37	1019 .43	1019 .55	1019 .69	1019 .78	1019 .90	1019 .96	1020 .02	1019 .85	1019 .78	1019 .59	1019 .53
Mean (Sea Level)	1020 .45	1020 .38	1020 .36	1020 .19	1020 .10	1020 .16	1020 .43	1020 .82	1021 .23	1021 .47	1021 .50	1021 .17	1020 .79	1020 .69	1020 .74	1020 .86	1021 .00	1021 .09	1021 .22	1021 .27	1021 .33	1021 .16	1021 .09	1020 .91	1020 .84

442. RICHMOND (Kew Observatory):  $H_b$  = 10.4 metres.

FEBRUARY, 1933.

Station Level	Day	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	
	1	008.6	008.2	007.4	006.4	006.0	003.7	003.3	002.4	002.2	001.5	001.3	000.8	000.7	000.4	000.6	001.3	001.4	001.2	001.1	000.5	999.7	999.3	998.5	998.1	002.5
	2	997.8	997.9	998.0	999.4	001.1	002.5	003.7	005.2	006.4	007.8	008.6	009.2	009.5	010.0	010.5	011.2	012.2	013.3	013.8	014.6	015.3	016.1	016.6	016.9	007.8
	3	017.1	017.3	017.5	017.7	018.0	018.4	018.5	018.5	019.0	019.5	019.9	019.0	018.3	017.6	017.3	016.9	017.2	015.7	015.1	014.3	013.3	011.8	011.0	010.3	016.8
	4	009.7	009.2	008.7	008.5	008.5	008.5	008.9	009.1	009.7	010.4	011.1	011.1	011.2	011.2	011.3	011.7	011.8	012.3	012.4	012.2	012.2	011.8	011.5	011.1	010.6
	5	010.5	010.2	009.3	008.3	008.3	008.2	008.0	007.9	007.7	008.1	008.4	008.1	008.0	008.0	008.4	008.7	009.2	009.9	010.9	011.8	012.3	012.9	013.8	014.5	009.6
	6	014.8	015.2	015.4	015.9	015.9	016.1	016.6	017.2	017.6	017.4	017.4	016.8	015.5	014.6	013.8	013.4	012.4	011.6	011.0	009.7	009.0	007.2	006.2	005.4	013.8
	7	003.7	002.8	001.3	000.1	998.9	998.0	997.9	998.1	998.0	998.3	999.1	999.2	999.2	999.5	000.0	001.0	002.1	003.2	004.3	005.0	005.9	006.3	007.2	008.2	001.5
	8	009.0	009.3	009.4	009.4	010.1	010.3	010.9	010.9	011.5	011.8	012.3	012.5	012.8	012.8	013.0	013.3	013.7	014.1	014.4	014.8	015.2	015.9	016.1	016.3	012.3
	9	016.7	016.7	017.0	017.0	017.3	017.7	017.8	017.8	017.8	017.5	017.7	017.4	016.8	015.8	016.1	015.7	015.5	016.1	016.5	016.9	017.1	017.0	017.4	017.7	016.9
	10	017.8	017.7	017.6	017.6	017.5	017.3	017.4	017.5	017.6	017.8	018.0	017.5	017.2	016.5	016.7	017.4	018.1	019.7	021.0	021.9	022.8	023.3	024.2	025.0	018.8
	11	025.4	025.9	026.6	027.4	027.8	028.5	029.2	029.9	030.8	031.2	031.3	031.4	031.5	031.6	031.9	032.2	033.2	033.9	034.5	034.7	035.2	035.4	035.5	035.4	031.1
	12	035.4	035.3	035.2	035.3	035.1	035.3	035.5	035.3	035.3	035.3	035.2	034.3	033.7	033.5	033.4	033.5	033.6	033.5	033.5	033.6	033.5	033.4	033.5	033.9	034.4
	13	034.0	034.1	033.9	033.6	033.5	033.5	034.0	034.3	034.7	034.9	034.8	034.6	034.2	033.5	033.2	033.0	033.1	033.1	032.9	032.7	032.6	032.2	031.5	033.6	033.8
	14	031.2	030.8	030.4	029.9	029.4	028.8	028.7	028.4	028.4	028.4	028.0	027.2	026.4	025.7	025.2	024.7	024.5	024.6	024.6	024.2	023.9	023.8	023.8	027.1	033.6
	15	023.4	022.9	022.5	022.0	021.7	021.3	021.3	021.4	021.2	021.1	020.9	020.0	019.7	019.3	019.2	019.2	019.3	019.4	019.6	019.6	019.7	019.8	020.3	020.5	020.7
	16	020.7	020.9	020.9	021.0	021.2	021.6	022.2	023.0	023.3	023.7	024.2	024.3	024.3	024.3	024.4	024.4	024.4	024.6	024.8	024.7	024.5	024.3	024.2	024.1	023.3
	17	024.0	023.6	023.0	022.7	022.6	022.3	022.4	022.5	022.8	023.0	023.0	022.9	022.6	022.1	021.4	021.1	020.7	020.8	020.5	019.9	019.1	018.1	017.4	016.6	021.6
	18	015.7	014.7	013.6	012.6	011.9	011.7	011.5	011.7	011.6	011.6	011.9	011.7	011.1	010.7	010.0	010.0	010.0	010.0	010.2	010.5	010.6	010.8	010.6	010.4	011.6
	19	009.9	009.6	009.1	008.8	009.0	008.9	009.0	009.2	009.5	009.7	010.0	010.1	010.4	010.9	011.6	012.6	014.0	015.4	016.6	017.7	018.5	019.0	019.8	020.4	012.3
	20	021.1	021.4	021.6	021.7	022.0	022.3	022.8	023.7	024.3	024.7	024.9	024.8	024.4	024.1	023.7	023.6	023.1	022.9	022.5	022.2	021.9	021.3	020.3	019.8	022.7
	21	019.1	018.3	017.8	017.3	017.3	017.0	016.8	016.7	016.5	016.4	016.1	016.0	015.7	015.1	014.3	013.4	013.4	013.3	013.2	013.3	013.9	013.8	013.4	013.1	015.6
	22	013.0	012.6	012.7	012.7	012.8	012.8	013.2	013.3	013.4	013.7	013.6	013.4	013.2	013.0	013.0	013.0	013.0	013.0	013.0	013.0	013.0	013.0	012.9	012.5	013.2
	23	012.3	012.1	012.1	012.0	012.0	011.7	011.6	011.3	011.1	010.9	010.7	010.2	009.4	009.1	008.5	008.3	008.1	008.0	008.0	007.7	007.3	007.3	007.2	007.2	009.9
	24	006.9	006.5	006.0	005.1	004.7	004.2	004.1	004.1	003.1	003.0	002.7	001.7	000.5	999.8	998.6	998.4	998.3	998.2	998.1	998.3	998.5	998.9	999.0	999.1	001.7
	25	999.1	999.0	998.7	998.4	998.4	998.4	998.8	999.2	999.8	000.1	000.7	001.2	000.6	001.1	001.4	001.3	001.2	002.0	002.3	002.2	002.2	002.1	002.1	002.1	000.5
	26	002.0	001.2	000.9	001.1	001.0	000.1	999.9	999.5	998.8	998.8	998.4	997.9	997.2	997.3	997.6	997.7	998.1	998.3	998.7	998.7	998.8	999.1	998.7	998.6	999.2
	27	998.6	998.1	997.7	997.2	996.5	996.5	997.2	997.4	997.9	999.0	000.2	001.3	002.1	003.1	003.3	003.9	004.7	005.7	006.3	006.7	006.7	006.8	006.9	007.3	001.5
28	007.4	007.5	007.5	007.8	007.9	008.2	008.8	009.4	009.8	010.2	010.6	011.1	011.1	011.1	011.3	011.8	012.1	012.9	013.1	013.3	013.7	013.8	013.7	013.6	010.6	
Mean (Station Level)		1014 -46	1014 +25	1013 -99	1013 -82	1013 -80	1013 -71	1013 -93	1014 -12	1014 -29	1014 +49	1014 +68	1014 +49	1014 +19	1013 +99	1013 +91	1014 +04	1014 +24	1014 +55	1014 +78	1014 +89	1014 +93	1014 +83	1014 +79	1014 +76	1014 +33
Mean (Sea Level)		1015 +76	1015 +55	1015 +29	1015 +12	1015 +10	1015 +02	1015 +23	1015 +42	1015 +59	1015 +79	1015 +97	1015 +78	1015 +48	1015 +28	1015 +20	1015 +32	1015 +53	1015 +84	1016 +08	1016 +19	1016 +23	1016 +13	1016 +09	1016 +07	1015 +62
Hour G. M. T.		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean



Readings in millibars at exact hours, Greenwich Mean Time.

443. RICHMOND (Kew Observatory):  $H_b$  (height of barometer cistern above M.S.L.) = 10.4 metres.

MARCH, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
1	013.7	013.8	013.6	013.6	013.6	013.5	013.5	013.4	013.2	013.1	012.3	011.7	010.6	009.9	009.2	009.0	008.6	008.0	007.2	006.3	006.3	005.7	005.4	005.4	010.7
2	005.0	004.9	004.5	004.6	004.7	004.6	004.2	004.0	003.8	003.3	002.4	001.3	000.2	000.2	000.8	000.7	000.6	000.7	000.7	000.7	000.7	000.7	000.7	000.7	000.7
3	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2
4	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2
5	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2
6	001.3	000.3	000.3	000.3	000.3	000.3	000.3	000.3	000.3	000.3	000.3	000.3	000.3	000.3	000.3	000.3	000.3	000.3	000.3	000.3	000.3	000.3	000.3	000.3	000.3
7	005.9	006.5	006.7	007.2	007.5	008.2	009.0	009.7	010.4	010.9	011.5	012.1	012.5	012.8	013.5	014.4	015.2	017.5	019.0	019.6	021.2	021.9	023.1	023.5	012.9
8	024.5	025.0	025.7	026.4	027.2	027.8	028.5	029.4	030.2	030.5	030.5	030.5	030.3	030.1	030.1	030.0	030.0	030.6	031.1	031.0	031.0	030.9	030.7	029.1	029.1
9	030.2	029.7	029.2	029.1	029.0	028.9	028.8	028.9	028.9	028.9	028.9	028.6	028.1	027.4	027.3	027.2	027.2	027.3	027.3	027.3	026.9	026.2	025.7	025.7	028.2
10	025.2	024.9	024.5	024.2	024.2	024.1	024.0	024.1	023.8	023.2	022.2	021.7	020.3	019.4	018.6	018.1	018.2	018.2	018.2	018.1	018.1	018.0	017.7	017.1	021.3
11	016.9	016.6	016.4	016.1	016.1	016.0	016.0	016.0	015.9	015.9	015.9	015.3	014.9	014.3	013.8	014.0	014.1	014.3	014.7	014.8	014.9	015.1	015.1	015.2	015.4
12	015.4	015.5	015.6	015.6	015.9	016.1	016.4	017.2	017.5	017.7	017.7	017.7	017.3	017.1	017.0	017.2	017.2	017.4	018.1	018.3	018.9	019.0	019.2	019.3	017.2
13	019.5	019.5	019.2	019.3	019.5	019.7	020.0	020.4	020.7	020.6	020.4	020.2	019.8	019.3	018.8	018.7	018.8	018.8	019.2	019.3	019.3	019.3	019.3	019.4	019.5
14	019.5	019.6	019.6	019.6	020.2	020.8	021.2	021.7	022.1	022.7	023.1	023.8	021.7	021.4	021.0	021.0	021.0	021.1	021.5	021.8	021.9	021.9	021.9	021.9	021.0
15	021.2	021.1	020.2	019.9	019.9	019.2	019.1	019.0	019.0	019.1	018.5	018.0	017.1	016.5	015.8	014.9	014.8	013.9	013.4	012.9	011.6	010.4	009.3	007.8	016.6
16	006.8	005.2	004.4	003.7	002.9	002.1	001.8	001.8	001.2	000.8	000.6	000.8	000.8	000.6	000.4	000.3	000.3	000.3	000.3	000.3	000.3	000.3	000.3	000.3	000.3
17	009.7	008.1	007.4	006.4	005.5	004.5	003.5	002.5	001.5	000.5	000.5	000.5	000.5	000.5	000.5	000.5	000.5	000.5	000.5	000.5	000.5	000.5	000.5	000.5	000.5
18	009.8	009.5	009.1	008.1	007.2	006.2	005.2	004.2	003.2	002.2	001.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2	000.2
19	009.8	009.3	008.7	007.7	006.7	005.7	004.7	003.7	002.7	001.7	000.7	000.7	000.7	000.7	000.7	000.7	000.7	000.7	000.7	000.7	000.7	000.7	000.7	000.7	000.7
20	006.5	005.3	004.6	003.6	002.6	001.6	000.6	000.6	000.4	000.3	000.3	000.3	000.3	000.3	000.3	000.3	000.3	000.3	000.3	000.3	000.3	000.3	000.3	000.3	000.3
21	028.3	028.7	028.7	029.1	029.4	029.8	030.2	030.2	030.6	030.1	029.9	029.8	029.6	029.3	029.1	029.1	029.0	029.0	029.2	029.2	029.4	029.4	029.3	029.2	029.4
22	029.1	028.9	028.6	028.5	028.2	028.3	028.3	028.4	028.9	028.8	028.5	027.7	027.1	026.7	026.2	026.0	025.9	026.0	026.0	026.2	026.2	026.4	026.4	026.2	027.5
23	025.9	025.5	025.5	025.5	025.2	025.3	025.8	025.4	025.9	026.0	025.9	025.5	024.3	023.6	023.7	023.3	023.3	023.7	024.1	024.5	024.9	025.0	025.3	025.4	024.9
24	025.3	025.3	025.3	025.4	025.7	026.2	026.8	026.8	026.9	026.9	026.9	026.5	026.0	025.4	025.2	025.0	025.2	025.3	025.5	025.6	025.7	025.8	025.6	025.6	025.8
25	025.5	025.3	025.0	024.9	024.9	025.2	025.7	026.1	026.2	026.2	025.8	025.4	024.5	024.1	023.6	023.3	023.2	023.2	023.6	024.0	024.1	024.1	024.4	024.6	024.7
26	024.7	024.8	024.8	024.8	025.1	025.4	026.0	026.6	026.9	026.9	026.4	026.2	026.3	026.2	026.0	025.7	025.6	025.9	026.4	027.1	027.5	027.8	027.4	027.6	026.1
27	027.8	027.6	027.4	027.2	027.4	027.5	027.7	027.7	027.5	027.4	027.2	027.2	026.5	025.7	025.1	024.6	024.6	024.6	024.8	024.9	025.1	025.1	024.9	024.7	026.3
28	024.5	024.2	023.9	023.7	023.3	023.1	023.1	023.1	023.0	022.8	022.3	021.9	021.4	020.8	019.9	019.4	019.1	019.0	019.3	019.4	019.4	019.4	018.8	018.6	021.5
29	018.3	017.8	017.2	016.7	016.7	016.8	017.1	016.9	016.4	016.1	015.5	015.0	014.7	014.3	014.0	013.7	013.6	013.7	014.1	014.4	014.4	014.5	014.4	014.4	015.5
30	014.3	014.2	013.9	013.9	014.0	014.2	014.6	014.8	015.1	015.1	015.1	014.8	014.2	014.7	014.7	014.7	014.8	015.1	015.7	016.6	017.1	017.6	018.1	018.2	015.1
31	018.5	018.5	018.8	019.0	019.2	019.6	019.9	020.2	020.5	020.4	019.9	019.8	019.2	019.0	018.8	018.4	018.2	018.0	017.9	017.9	017.7	017.3	017.2	017.2	018.8
Mean (Station Level)	1012 .68	1012 .51	1012 .32	1012 .32	1012 .55	1012 .83	1013 .16	1013 .43	1013 .61	1013 .87	1013 .51	1013 .37	1012 .97	1012 .60	1012 .36	1012 .33	1012 .37	1012 .58	1012 .85	1012 .99	1013 .02	1013 .01	1012 .99	1012 .86	1012 .86
Mean (Sea Level)	1013 .97	1013 .81	1013 .62	1013 .61	1013 .84	1014 .13	1014 .46	1014 .72	1014 .90	1014 .95	1014 .78	1014 .64	1014 .24	1013 .87	1013 .62	1013 .59	1013 .64	1013 .85	1014 .13	1014 .27	1014 .31	1014 .30	1014 .28	1014 .16	1014 .14

444. RICHMOND (Kew Observatory):  $H_b$  = 10.4 metres.

APRIL, 1933.

Station Level	Day	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	
	1	017-0	017-1	017-1	017-4	017-6	018-0	018-9	019-4	019-7	020-0	020-6	020-6	020-6	020-7	021-1	021-4	022-0	022-7	023-2	024-1	025-0	025-2	025-6	026-0	020-7	
	2	026-3	026-1	026-3	026-3	026-5	026-5	027-2	027-6	027-5	027-3	026-4	026-0	025-4	024-6	023-6	022-7	022-4	022-4	022-4	022-6	023-1	022-7	022-5	022-6	024-9	
	3	022-3	022-2	022-3	022-3	022-4	022-4	022-7	022-9	023-1	023-2	022-6	022-6	022-4	022-1	021-9	021-5	021-5	022-0	022-3	022-6	023-2	023-4	023-4	023-6	022-5	
	4	023-5	023-4	023-4	023-4	023-9	024-1	024-4	024-5	024-7	024-4	024-3	024-3	024-3	023-9	023-5	022-9	023-0	023-1	023-2	023-8	023-9	024-1	024-4	024-4	023-9	
	5	024-5	024-5	024-5	024-8	024-9	025-3	025-4	025-6	025-7	025-9	026-1	025-9	025-6	025-2	024-8	024-6	024-7	025-0	025-1	025-3	025-6	025-6	025-5	025-4	025-2	
	6	025-4	025-4	025-3	025-1	025-3	025-3	025-4	025-5	025-5	025-4	025-1	024-9	024-3	024-0	023-6	023-2	023-1	023-2	023-5	023-7	023-8	024-0	024-0	024-1	024-5	
	7	024-1	023-8	023-5	023-4	023-4	023-8	023-9	023-9	023-9	024-0	023-5	023-2	022-7	022-0	021-5	021-2	021-1	021-2	021-4	021-6	021-7	021-7	021-5	021-4	022-7	
	8	021-2	021-2	021-0	021-1	021-2	021-4	021-5	021-6	021-7	021-7	021-8	021-5	021-2	020-9	020-4	019-7	019-8	019-9	020-3	020-7	021-1	021-4	021-2	021-1	021-0	
	9	021-1	021-2	021-1	020-8	020-6	020-8	020-9	020-9	020-9	020-9	020-8	020-6	020-3	020-3	020-0	019-7	019-6	019-6	020-0	020-4	020-6	020-5	020-5	020-7	020-5	
	10	020-8	020-6	020-4	020-4	020-4	020-5	020-9	021-1	021-1	021-1	020-8	020-6	019-9	019-3	018-9	018-6	018-4	018-6	018-7	019-0	018-5	018-7	018-8	018-6	019-8	
	11	018-5	018-1	017-8	017-1	016-6	016-5	016-3	016-1	015-7	015-3	014-9	014-4	014-0	013-8	013-4	013-0	012-8	012-9	013-0	013-4	013-5	013-6	013-5	013-4	015-0	
	12	013-4	013-1	012-8	012-9	012-9	013-0	013-3	013-8	014-4	014-5	014-5	014-7	014-9	014-8	014-7	014-8	014-9	015-5	016-3	017-3	018-3	019-2	019-8	020-4	015-0	
	13	021-1	021-2	021-8	022-2	023-0	024-1	025-0	025-6	025-9	026-4	026-4	026-4	026-5	026-5	026-5	026-7	027-2	027-4	027-8	028-8	029-4	029-9	030-4	031-1	025-9	
	14	031-5	031-7	032-1	032-1	032-2	032-5	033-2	033-4	033-8	033-7	033-5	033-3	033-2	033-1	032-3	031-8	031-4	032-0	032-3	032-4	032-4	032-3	031-9	031-4	032-4	
	15	031-3	030-8	030-5	030-1	029-7	029-4	029-2	028-7	028-5	028-2	027-0	026-3	025-7	025-0	023-8	023-5	023-3	023-2	023-1	023-1	022-8	022-7	022-4	022-1	026-5	
	16	022-0	021-4	021-5	021-3	021-0	021-0	020-8	020-8	020-6	020-4	020-1	019-7	019-7	019-6	019-2	018-9	018-8	019-0	019-0	019-3	019-6	019-9	020-1	020-4	020-2	
	17	020-6	020-6	020-8	021-0	021-0	021-2	021-4	021-7	021-8	021-9	021-3	021-0	020-9	020-4	020-0	019-5	019-0	018-8	018-9	019-1	019-2	019-2	019-1	020-4	020-4	
	18	018-5	018-5	018-4	018-3	018-2	018-3	018-4	018-8	018-8	019-0	019-0	019-0	018-9	018-5	018-7	018-7	018-7	019-0	019-6	020-1	020-6	020-5	020-2	020-2	019-0	
	19	020-3	020-0	020-1	020-0	020-0	020-1	020-1	020-0	019-7	019-4	019-2	018-6	018-1	018-0	018-0	017-6	017-9	017-9	017-9	017-9	017-7	017-7	017-4	017-1	018-8	
	20	016-7	016-1	015-9	015-5	015-1	015-2	014-9	014-8	014-4	014-2	014-1	013-7	013-6	013-5	013-4	013-3	013-4	013-6	014-0	014-6	015-0	015-3	015-5	015-9	014-7	
	21	016-1	016-2	016-4	016-9	017-3	017-8	018-2	018-4	019-0	019-4	019-3	019-3	019-2	019-3	019-6	019-8	020-0	020-2	020-6	021-2	021-9	022-2	022-4	022-6	019-2-5	
	22	022-5	022-4	022-6	022-6	022-4	022-5	022-5	022-9	022-8	022-8	022-8	022-8	022-8	022-8	022-8	022-7	022-3	022-2	022-2	022-1	022-2	022-3	022-1	022-0	022-5	
	23	021-6	021-2	020-5	019-9	019-7	020-0	019-7	019-4	019-1	019-0	018-5	018-3	018-1	018-0	017-2	017-0	016-9	016-4	016-2	016-4	016-5	016-5	016-3	016-1	018-4	
	24	015-9	015-3	015-1	014-8	014-8	014-7	014-7	014-8	015-0	014-9	014-8	014-8	014-6	014-1	013-9	013-9	013-2	013-2	013-2	013-6	013-7	013-8	013-6	013-1	014-4	
	25	013-0	012-9	012-2	012-0	011-9	011-8	011-5	011-2	011-0	011-1	010-9	010-8	010-6	010-3	010-4	010-2	010-4	010-4	010-7	011-0	011-3	011-9	011-8	011-7	011-3	
	26	011-4	011-4	011-4	011-6	011-9	012-0	012-1	012-1	012-2	012-4	012-2	012-1	012-2	011-9	011-6	011-3	011-7	012-0	012-1	012-1	012-0	011-9	011-8	011-0	011-9	
	27	010-6	010-3	009-7	009-4	009-2	009-0	009-0	009-0	008-9	009-2	009-2	009-0	009-0	008-9	008-5	008-4	008-5	008-7	009-1	009-7	010-0	009-9	010-0	009-9	009-3	
	28	009-7	009-6	009-5	009-3	009-4	009-9	009-9	009-9	010-0	009-8	009-5	009-2	008-7	008-3	008-1	008-1	008-0	007-9	008-0	008-2	008-2	008-1	008-0	008-0	008-9	
	29	007-8	007-6	007-2	006-9	006-5	006-4	006-3	006-2	006-0	005-9	005-3	005-7	005-3	005-0	004-9	004-9	004-8	005-0	005-1	005-4	006-0	005-9	006-2	006-2	006-0	
	30	006-1	006-2	006-2	006-3	006-4	006-9	007-1	007-3	007-4	007-7	007-8	007-7	007-5	007-2	007-1	007-0	007-1	007-2	007-4	008-0	008-2	008-5	009-0	009-1	007-3	
	Mean (Station Level)		1019 -16	1019 -00	1018 -91	1018 -84	1018 -85	1019 -01	1019 -14	1019 -27	1019 -29	1019 -30	1019 -08	1018 -90	1018 -87	1018 -40	1018 -11	1017 -89	1017 -38	1017 -98	1018 -21	1018 -58	1018 -84	1018 -96	1018 -98	1018 -96	1018 -76
	Mean (Sea Level)		1020 -45	1020 -30	1020 -21	1020 -14	1020 -15	1020 -31	1020 -44	1020 -56	1020 -58	1020 -58	1020 -35	1020 -17	1019 -94	1019 -66	1019 -37	1019 -15	1019 -13	1019 -25	1019 -49	1019 -86	1020 -12	1020 -25	1020 -27	1020 -25	1020 -04
Hour G. M. T.		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	



445. RICHMOND (Kew Observatory):  $H_b$  (height of barometer cistern above M.S.L.) = 10.4 metres.

MAY, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
1	009.2	009.3	009.3	009.4	009.8	010.1	010.5	010.7	011.2	011.2	011.1	011.1	011.0	010.8	010.2	010.3	010.3	010.5	011.0	011.4	011.7	011.8	012.1	012.0	010.6
2	011.7	011.7	011.5	010.9	010.5	010.5	010.2	010.2	010.1	009.1	008.8	008.4	008.3	007.7	007.4	007.2	006.9	006.7	006.7	007.0	006.7	006.6	006.2	006.3	008.8
3	005.2	004.7	004.8	004.5	004.4	004.7	004.5	004.4	004.3	004.3	004.4	005.1	005.6	006.0	006.4	006.4	006.8	007.5	008.2	009.2	009.9	010.5	010.6	011.3	006.3
4	011.5	011.7	011.9	012.2	012.4	012.5	012.5	012.8	013.1	013.2	013.0	012.6	012.4	012.2	011.7	011.2	010.9	010.7	010.8	010.7	011.5	011.3	011.3	011.3	011.9
5	011.1	011.3	011.1	011.2	011.5	012.2	012.1	012.2	012.2	012.6	012.3	012.2	012.0	011.5	011.3	011.3	011.2	011.2	011.3	011.4	011.6	011.5	011.4	011.2	011.7
6	010.5	010.1	010.0	009.8	009.5	009.2	009.0	008.4	007.9	007.4	006.6	005.7	004.8	003.8	003.0	002.4	003.1	002.5	002.3	002.4	001.6	001.1	000.8	000.1	005.7
7	999.2	998.3	997.8	997.3	997.1	997.2	997.4	997.7	997.6	997.9	998.1	998.1	998.2	998.3	998.2	998.5	998.9	999.1	999.6	000.7	001.1	001.3	001.8	002.3	998.8
8	002.8	003.4	003.7	004.1	004.5	005.3	006.3	006.9	007.3	007.7	008.1	008.4	008.3	008.1	008.2	008.5	008.7	008.9	009.4	009.2	008.9	009.0	009.0	009.0	007.1
9	009.0	008.9	008.7	008.7	008.9	009.3	009.9	010.5	010.7	011.1	011.1	011.2	011.2	011.4	011.7	011.7	011.8	012.0	012.7	012.9	012.9	012.5	012.2	011.8	010.9
10	011.3	010.7	010.1	009.6	009.6	009.7	009.8	009.6	009.8	009.8	009.7	009.5	009.6	009.9	010.0	010.2	010.5	011.2	012.0	012.6	013.1	013.3	013.5	013.2	010.7
11	013.3	013.5	013.7	013.8	014.4	014.7	014.7	014.9	014.9	014.8	014.8	014.8	014.6	014.5	014.4	014.5	014.4	014.3	014.5	015.0	015.1	015.0	015.0	015.0	014.5
12	015.1	014.8	014.8	014.9	015.0	014.9	015.0	015.0	015.0	015.0	014.8	014.8	012.5	011.9	011.4	011.1	010.9	010.7	010.7	010.7	010.7	010.7	010.5	010.4	012.7
13	014.9	014.8	014.6	014.3	014.2	014.1	014.0	014.0	014.0	013.5	013.1	013.1	013.9	013.9	013.9	013.9	014.3	015.4	016.1	016.6	017.4	016.0	012.8	018.6	013.0
14	009.9	009.7	009.3	008.9	008.9	009.1	009.9	010.7	011.3	011.6	012.3	013.3	013.0	012.9	012.9	013.0	014.0	015.4	016.1	016.6	017.4	016.0	012.8	018.6	013.0
15	018.9	019.1	019.1	019.2	019.5	020.0	020.4	020.4	020.4	020.3	020.7	020.7	014.8	014.6	014.4	014.4	014.4	014.6	014.8	014.8	014.8	014.8	014.8	014.8	020.1
16	021.7	021.7	021.4	021.3	021.3	021.4	021.8	021.8	021.3	020.9	019.1	018.8	018.8	018.9	019.1	019.5	019.7	020.2	020.9	021.4	021.9	022.1	022.3	022.3	019.6
17	018.8	018.6	018.4	018.4	018.6	018.8	018.8	018.8	018.9	019.0	019.1	019.0	018.8	018.8	018.9	019.1	019.5	019.7	020.2	020.9	021.4	021.9	022.1	022.1	022.8
18	022.2	022.6	022.7	023.0	023.1	023.3	023.7	023.6	023.6	023.6	023.4	023.4	023.2	023.1	022.7	022.3	022.2	022.1	022.0	022.3	021.7	021.7	021.7	021.6	019.5
19	021.7	021.4	021.4	021.3	021.3	021.4	021.3	020.8	020.5	020.1	019.5	019.5	019.1	018.8	018.5	018.3	018.0	017.7	017.6	017.6	017.4	017.2	017.2	016.9	019.5
20	016.5	016.1	015.8	015.6	015.6	015.7	015.7	015.3	015.3	014.9	014.6	014.6	014.1	013.8	013.3	013.2	013.1	013.1	013.2	013.3	013.5	013.5	013.5	013.5	014.6
21	013.5	013.5	013.5	013.6	014.0	014.2	014.5	014.5	014.6	014.6	014.5	014.4	014.2	014.3	014.4	014.5	014.4	014.5	014.8	015.5	016.0	016.1	016.3	016.4	014.6
22	016.5	016.4	016.4	016.7	017.0	017.3	017.4	017.5	017.5	017.2	017.2	017.2	017.0	016.9	016.4	016.2	016.3	016.8	017.2	017.9	018.2	018.4	018.7	018.6	017.2
23	018.5	018.3	018.4	018.3	018.4	018.7	018.9	018.7	018.6	018.2	018.0	017.8	017.8	017.5	017.0	016.9	016.3	016.7	017.3	018.5	018.6	018.3	018.3	018.3	018.1
24	018.3	018.3	018.2	018.2	018.4	018.5	019.0	019.0	018.8	018.9	018.8	018.2	017.6	017.4	017.0	016.6	016.5	016.0	015.4	015.3	015.4	015.2	015.1	014.9	017.4
25	014.3	014.2	014.0	013.9	014.3	014.3	014.4	014.4	014.3	014.0	014.0	013.8	013.6	013.1	013.0	012.5	012.2	012.3	012.5	012.7	013.0	013.1	013.1	013.1	013.5
26	013.1	013.0	013.1	013.1	013.3	013.6	014.0	014.1	014.3	014.5	014.6	014.5	014.3	014.4	014.3	014.1	014.1	014.0	014.1	014.2	014.6	014.8	014.5	014.5	014.0
27	014.2	014.0	013.7	013.3	013.3	013.0	012.9	012.7	011.7	011.1	011.1	011.1	011.6	012.0	012.0	011.9	011.9	012.2	013.0	013.6	014.3	014.9	015.2	015.3	012.9
28	015.5	015.9	016.0	016.2	016.3	016.9	017.6	018.0	018.1	018.2	018.2	018.2	018.1	018.0	017.9	017.8	017.5	017.8	018.0	018.2	018.4	018.8	018.5	019.0	017.5
29	018.5	018.4	018.2	018.1	018.2	018.3	018.5	018.4	018.3	018.3	018.3	017.9	017.8	017.6	017.5	017.3	017.4	017.8	018.1	018.3	018.6	018.8	018.7	018.7	018.1
30	018.5	018.5	018.3	018.0	018.1	018.1	018.2	018.0	017.9	017.6	016.8	016.8	016.7	016.5	016.2	015.3	015.0	014.9	014.9	014.8	015.0	015.0	014.9	015.0	016.8
31	014.9	014.9	014.3	014.1	014.1	014.1	014.0	013.9	013.7	013.5	013.6	013.4	013.2	013.2	013.0	012.9	012.6	012.7	012.8	012.9	013.1	013.3	013.3	013.4	013.6
Mean (Station Level)	1013 .88	1013 .81	1013 .68	1013 .61	1013 .73	1013 .90	1014 .10	1014 .15	1014 .14	1014 .08	1013 .97	1013 .84	1013 .70	1013 .56	1013 .36	1013 .24	1013 .22	1013 .32	1013 .57	1013 .90	1014 .11	1014 .19	1014 .20	1014 .18	1013 .81
Mean (Sea Level)	1015 .15	1015 .08	1014 .96	1014 .89	1015 .00	1015 .18	1015 .37	1015 .42	1015 .40	1015 .34	1015 .22	1015 .08	1014 .95	1014 .80	1014 .60	1014 .48	1014 .47	1014 .56	1014 .82	1015 .16	1015 .37	1015 .45	1015 .47	1015 .45	1015 .07

446. RICHMOND (Kew Observatory):  $H_b$  = 10.4 metres.

JUNE, 1933.

Station Level ↑ ↓	Day	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	
	1	013.5	013.6	013.8	014.0	014.3	014.8	014.9	015.1	015.3	015.3	015.7	015.6	015.9	015.6	015.4	015.3	015.4	015.8	016.1	016.2	016.5	017.1	017.1	017.0	015.3
	2	017.0	017.1	017.0	016.9	017.0	016.9	017.4	017.7	017.7	017.6	017.1	017.0	016.9	016.9	016.8	016.8	016.6	016.6	016.7	016.8	016.8	016.9	016.9	016.9	017.0
	3	016.7	016.5	016.2	016.0	015.8	016.0	015.9	015.7	015.6	015.3	015.3	015.0	014.9	014.9	014.7	014.5	014.4	014.8	015.0	015.7	016.1	016.0	016.0	016.1	015.6
	4	016.1	016.2	016.2	016.3	016.7	016.8	016.5	016.6	016.3	016.2	016.2	016.0	015.9	015.3	015.1	014.9	014.7	015.0	015.2	015.2	015.8	016.1	015.9	015.6	015.9
	5	015.3	015.2	015.2	015.5	015.7	015.7	016.0	016.0	016.0	016.0	015.7	015.5	015.4	015.2	014.9	014.8	014.5	014.5	015.2	015.3	016.2	016.2	016.2	016.3	015.5
	6	016.3	016.2	016.2	016.3	016.4	016.5	016.6	016.7	016.5	016.4	016.3	016.3	016.2	016.1	016.0	016.0	016.0	015.9	016.0	016.1	016.3	016.4	016.6	016.6	016.3
	7	016.7	016.2	016.2	016.2	016.3	016.5	017.0	016.9	016.8	016.7	016.8	016.8	016.6	016.3	016.1	016.2	016.4	016.6	016.9	017.1	017.8	018.1	018.2	018.3	016.8
	8	018.3	018.3	018.3	018.2	018.2	018.1	018.2	018.3	018.3	018.3	018.1	018.1	017.7	017.1	016.9	016.8	017.1	017.3	017.9	018.4	019.1	019.7	020.0	020.1	018.2
	9	020.2	020.6	020.9	021.1	021.5	021.9	022.1	022.3	022.3	022.2	022.1	022.2	022.2	022.1	022.1	022.0	022.4	023.4	023.8	023.9	024.0	024.0	024.1	022.2	022.2
	10	024.0	023.9	023.8	023.7	023.5	023.5	023.5	023.4	023.4	023.4	023.0	023.0	022.6	022.2	022.0	021.7	021.3	021.0	021.0	020.8	020.7	020.3	020.0	019.4	022.4
	11	019.0	018.6	018.0	017.7	017.3	017.0	017.0	016.7	016.5	016.2	015.9	015.8	015.8	015.3	014.8	014.8	014.8	014.7	014.7	014.8	015.0	015.2	015.2	015.1	016.2
	12	015.0	014.9	014.7	014.7	014.6	014.4	014.2	014.1	014.0	013.9	013.6	013.1	012.5	012.0	011.2	010.6	010.3	010.0	009.8	009.7	009.8	009.9	009.7	009.3	012.5
	13	008.6	008.0	007.7	007.2	007.0	006.9	007.0	007.1	007.3	007.2	007.4	007.7	008.1	008.6	009.0	009.2	010.0	010.7	010.0	010.5	011.2	012.0	012.4	013.8	009.0
	14	014.3	014.7	015.2	015.7	016.2	016.5	016.8	017.3	017.5	017.7	017.4	017.5	017.4	017.4	017.3	017.4	017.5	017.6	017.8	018.0	018.2	018.5	018.6	018.5	017.0
	15	018.4	018.0	017.7	017.5	017.4	017.3	017.2	017.1	016.9	016.7	016.3	015.7	015.2	014.5	013.8	013.1	012.6	012.2	012.6	013.0	013.4	013.6	013.8	013.0	015.4
	16	012.8	012.6	012.1	012.0	012.0	012.1	012.2	012.2	012.1	011.7	010.8	010.0	009.2	008.5	007.6	006.9	006.2	006.0	005.8	005.1	004.9	003.9	002.8	001.7	009.0
	17	000.5	998.9	997.4	996.3	996.6	996.3	996.6	996.8	996.6	996.4	996.1	995.7	995.2	995.0	995.0	994.7	994.1	994.0	994.0	994.4	994.9	994.9	994.9	995.1	996.0
	18	995.0	995.0	994.9	994.9	994.9	994.9	995.0	994.9	994.8	994.7	994.6	994.5	993.6	993.0	992.7	992.2	992.0	992.2	992.2	992.1	992.2	992.2	992.3	992.3	993.7
	19	992.4	992.3	992.3	992.2	992.2	992.1	992.3	992.6	992.2	992.3	992.5	992.6	992.3	992.3	993.0	992.8	993.0	993.2	993.8	994.3	994.9	995.0	995.5	995.8	993.0
	20	995.8	995.8	995.6	995.7	995.7	995.7	995.5	995.5	995.3	994.9	994.5	993.9	993.2	992.9	992.6	992.9	993.2	992.9	993.0	993.1	993.1	993.2	993.3	993.5	994.2
	21	993.6	993.7	993.9	994.2	994.7	995.2	995.8	996.0	996.3	996.8	997.7	997.8	997.9	998.1	998.3	999.0	999.3	999.9	000.9	001.6	002.4	003.0	003.3	003.3	004.8
	22	003.0	003.6	004.0	004.6	004.9	004.9	005.0	005.0	005.0	005.0	005.0	004.7	004.6	004.7	004.6	004.5	004.4	005.1	005.6	006.2	006.5	006.3	006.3	006.3	007.8
	23	006.6	006.9	006.9	006.9	007.0	006.7	006.9	006.8	006.6	006.4	006.4	006.0	005.3	005.0	004.8	004.2	004.1	003.9	003.8	004.0	003.9	003.8	003.6	005.5	005.5
	24	003.0	002.6	002.0	001.6	001.0	001.0	001.0	000.9	000.4	000.3	000.2	000.1	000.0	000.1	000.1	000.0	000.0	000.0	000.2	000.4	000.9	001.0	001.2	001.3	000.5
	25	001.4	001.8	001.6	002.1	002.4	002.9	003.5	003.6	004.1	004.7	005.3	005.8	006.1	006.4	006.5	006.8	006.9	007.3	008.0	008.4	009.2	009.6	010.1	010.4	005.4
	26	010.6	010.9	010.9	011.2	011.7	012.2	012.3	012.7	013.0	013.1	013.5	013.9	013.9	013.7	013.4	012.7	012.3	012.1	012.0	013.0	013.9	013.9	014.0	014.0	012.6
	27	014.0	014.0	014.0	014.0	014.1	014.1	014.2	014.1	014.0	014.0	014.0	013.9	013.5	013.2	012.7	012.1	011.7	011.1	010.6	010.8	010.9	010.9	011.1	011.2	012.9
	28	010.9	010.8	010.7	010.3	010.1	010.0	009.9	009.8	009.5	009.4	009.7	009.4	009.1	009.1	009.0	008.9	009.0	009.2	009.5	010.0	010.6	011.2	011.3	011.5	009.5
	29	011.6	011.6	012.0	012.2	012.7	013.0	013.3	013.5	013.9	013.9	014.0	014.1	014.1	014.0	013.9	013.8	013.8	014.1	014.5	014.6	015.4	015.5	015.7	015.8	013.7
	30	016.0	016.0	016.2	016.4	017.0	017.3	017.6	018.0	018.2	018.4	018.3	018.2	018.2	018.2	018.4	018.4	018.4	018.4	018.8	019.1	019.6	019.8	020.1	020.3	018.0
Mean (Station Level)		1010 .56	1010 .48	1010 .39	1010 .39	1010 .51	1010 .57	1010 .71	1010 .79	1010 .75	1010 .71	1010 .64	1010 .53	1010 .32	1010 .12	1009 .96	1009 .80	1009 .73	1009 .80	1010 .04	1010 .30	1010 .69	1010 .83	1010 .90	1010 .87	1010 .43
Mean (Sea Level)		1011 .81	1011 .74	1011 .65	1011 .65	1011 .77	1011 .83	1011 .96	1012 .03	1011 .99	1011 .95	1011 .87	1011 .76	1011 .54	1011 .35	1011 .18	1011 .02	1010 .96	1011 .02	1011 .27	1011 .54	1011 .93	1012 .08	1012 .15	1012 .13	1011 .66
Hour G. M. T.		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean



447. RICHMOND (Kew Observatory): H<sub>b</sub> (height of barometer cistern above M.S.L.) = 10.4 metres.

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Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
1	020.4	020.5	020.5	020.8	020.8	021.5	021.5	021.5	021.5	021.4	021.4	021.2	021.1	020.9	020.8	020.8	020.7	020.8	021.1	021.3	021.7	021.8	022.0	022.2	021.1
2	022.3	022.5	023.1	023.5	023.1	024.6	025.1	025.7	025.8	026.4	026.4	026.4	026.7	026.9	027.2	027.3	027.5	027.6	027.8	028.3	029.0	029.2	029.5	030.0	026.1
3	030.2	030.3	030.3	030.9	031.2	031.3	031.9	032.2	032.2	032.0	031.8	031.7	031.7	031.6	031.5	031.6	031.7	031.7	032.0	032.2	032.7	032.8	032.7	032.9	031.6
4	033.0	033.0	033.0	033.0	033.1	033.1	033.0	032.9	032.9	032.7	032.2	031.8	031.5	031.1	030.8	030.2	030.2	030.2	030.3	030.5	030.5	030.3	030.1	030.1	031.7
5	029.9	029.4	029.4	029.3	029.2	028.8	028.4	027.9	027.4	027.0	026.6	026.2	025.9	024.8	024.4	023.9	022.9	022.3	022.5	022.3	022.0	021.8	021.2	020.9	025.8
6	020.2	019.5	019.3	018.8	018.2	017.6	017.4	017.4	016.5	016.2	015.3	014.9	015.1	014.2	013.5	012.9	012.8	012.7	012.2	012.3	012.3	012.2	012.1	012.0	015.4
7	011.6	011.0	010.4	010.1	010.0	009.9	009.8	009.5	009.9	010.0	010.3	010.9	011.3	012.0	012.7	013.0	013.2	013.5	014.1	015.0	016.0	016.7	017.0	017.1	012.2
8	017.6	017.8	018.1	018.5	019.2	019.5	020.0	020.5	020.3	020.3	020.3	020.2	020.3	020.5	020.4	020.4	020.2	019.9	019.9	020.0	020.1	019.9	019.8	019.9	019.7
9	019.8	018.8	018.8	019.1	019.1	019.3	019.6	020.0	020.1	019.9	019.8	019.7	019.6	019.3	019.1	018.9	018.5	018.6	018.5	018.5	018.6	017.9	017.5	017.1	019.1
10	016.7	016.2	015.9	015.5	014.9	014.9	014.9	015.0	014.7	014.7	014.2	013.7	013.3	012.9	012.4	011.9	011.7	011.8	012.0	012.2	012.6	012.3	012.2	012.2	013.8
11	012.1	011.7	011.6	011.3	011.2	011.1	011.2	011.1	011.0	010.6	010.3	010.2	009.7	009.0	008.3	008.2	007.8	007.7	007.8	007.8	008.1	008.2	008.3	008.1	009.8
12	008.1	008.0	008.0	008.0	008.2	008.3	008.7	009.0	009.2	009.6	009.6	009.5	009.2	009.3	009.2	009.3	009.5	009.8	010.1	011.0	011.5	011.7	011.8	011.8	009.4
13	011.7	011.3	010.9	010.9	010.2	010.0	009.6	008.5	007.7	007.5	006.3	005.0	003.8	002.7	001.5	000.9	000.8	000.3	000.2	000.1	000.2	000.2	000.0	999.8	005.3
14	999.0	998.9	998.8	998.9	999.3	999.6	000.1	001.1	001.6	002.1	002.8	003.1	003.2	003.4	004.1	004.3	005.0	005.2	006.0	006.2	006.9	007.3	007.4	007.5	002.8
15	007.3	007.1	007.0	006.7	006.6	006.5	006.3	006.1	005.5	005.2	005.0	004.3	003.9	003.5	003.1	003.2	002.9	003.0	003.5	003.7	004.3	004.5	005.0	005.3	005.0
16	005.9	006.3	006.7	007.3	007.9	009.1	009.9	010.5	011.5	011.8	012.3	012.6	014.0	014.0	014.1	014.4	014.9	015.8	016.6	017.4	018.1	018.4	018.9	019.2	012.5
17	019.3	019.4	019.4	019.4	019.6	020.3	020.5	020.5	020.6	020.5	020.6	020.6	020.5	020.5	020.7	020.6	020.5	020.8	021.0	021.0	021.2	021.4	021.5	021.4	020.4
18	021.4	021.4	021.6	021.8	021.9	022.1	022.2	022.3	022.2	022.1	022.1	021.9	021.8	021.5	021.3	021.2	020.8	020.4	020.4	020.4	020.4	020.3	020.2	020.1	021.4
19	019.9	019.5	019.3	019.2	019.4	019.5	019.3	018.6	017.9	017.4	017.4	017.4	016.9	016.4	016.0	015.6	015.3	015.1	015.1	015.0	015.1	015.1	015.0	014.9	017.3
20	014.8	014.5	014.3	014.3	014.3	014.4	014.3	014.5	014.4	014.2	014.1	014.0	013.9	013.5	013.1	013.0	013.0	013.0	013.4	013.7	014.0	014.4	014.8	014.7	014.0
21	014.3	014.4	014.4	014.5	014.9	015.0	015.1	015.1	015.2	015.2	015.0	014.9	014.9	014.9	014.8	014.8	014.8	014.9	015.4	016.0	016.9	017.3	017.4	017.5	015.3
22	017.3	017.3	017.3	017.8	018.0	018.4	018.8	019.0	019.0	019.1	019.0	018.9	018.9	018.9	018.9	018.9	019.0	019.2	019.7	020.0	020.9	021.1	021.1	021.1	018.9
23	021.3	021.4	021.4	021.6	022.0	022.4	022.6	022.6	022.5	022.5	022.5	022.4	022.3	022.2	022.0	021.9	021.6	021.7	021.9	022.1	022.7	022.8	022.9	023.0	022.1
24	022.9	022.9	022.9	022.8	022.8	022.7	022.7	022.7	022.4	022.2	022.1	021.6	020.9	020.5	020.0	019.6	019.4	019.0	019.2	019.3	019.7	019.6	019.6	019.3	021.2
25	019.1	018.7	018.7	018.6	018.2	018.4	018.6	018.5	018.4	018.6	018.6	018.2	017.9	017.4	016.8	016.5	016.2	016.2	016.1	016.2	016.3	016.7	016.8	017.6	017.6
26	016.8	016.8	016.6	016.6	016.5	016.7	016.9	017.0	017.0	017.1	017.0	016.9	016.8	016.4	016.0	015.7	015.5	015.3	015.5	015.6	015.8	015.9	015.8	015.8	016.4
27	015.4	014.9	014.2	013.8	013.5	013.3	013.1	012.6	012.1	011.9	011.5	011.2	011.6	011.9	013.0	012.6	011.0	011.2	011.0	011.2	011.6	012.5	013.2	013.9	012.6
28	014.7	015.3	016.2	016.7	017.5	018.0	018.8	019.1	019.3	019.4	019.1	018.9	018.8	018.5	018.0	017.3	017.1	017.0	016.8	016.4	015.9	015.5	015.0	014.7	017.4
29	014.1	013.2	012.8	012.1	011.7	011.5	011.4	011.1	010.5	009.9	009.3	008.4	008.2	007.9	008.2	008.3	008.6	009.2	009.9	010.7	011.1	012.1	012.6	013.0	010.5
30	012.8	013.3	013.7	014.6	015.6	016.1	017.1	018.1	018.0	018.1	018.4	018.1	017.7	017.1	016.9	016.7	016.1	015.9	015.9	015.8	015.6	014.9	013.9	012.8	015.9
31	011.2	010.1	009.1	007.9	007.6	007.9	008.0	008.2	008.6	009.1	009.8	010.3	010.9	011.2	011.7	012.2	012.8	013.3	014.2	014.7	015.4	016.2	016.7	017.2	011.3
Mean (Station Level)	1016 .81	1016 .63	1016 .57	1016 .59	1016 .64	1016 .83	1016 .99	1017 .06	1016 .99	1016 .94	1016 .83	1016 .62	1016 .53	1016 .29	1016 .15	1016 .02	1015 .86	1015 .88	1016 .10	1016 .32	1016 .67	1016 .79	1016 .84	1016 .85	1016 .57
Mean (Sea Level)	1018 .06	1017 .88	1017 .82	1017 .84	1017 .89	1018 .08	1018 .24	1018 .30	1018 .22	1018 .17	1018 .05	1017 .84	1017 .75	1017 .51	1017 .37	1017 .24	1017 .08	1017 .11	1017 .32	1017 .55	1017 .91	1018 .03	1018 .09	1018 .09	1017 .80

448. RICHMOND (Kew Observatory): H<sub>b</sub> = 10.4 metres.

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Station Level	Day	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	
	1	017.5	017.9	018.7	019.6	020.4	021.5	022.3	023.2	023.7	024.1	024.9	025.3	025.1	025.1	025.5	025.5	025.6	025.8	026.3	026.6	027.0	027.1	027.5	027.7	023.7
	2	028.0	028.0	028.0	028.3	028.3	028.7	028.7	028.6	028.6	028.3	028.1	027.6	027.2	026.9	026.8	026.7	026.3	026.4	026.4	026.9	027.0	027.0	026.9	027.0	027.5
	3	027.1	027.2	027.2	027.3	027.3	027.3	027.4	027.3	027.3	027.2	026.9	026.8	026.7	026.6	026.0	025.9	025.8	025.3	025.2	025.4	025.6	025.5	025.6	025.6	026.5
	4	025.6	025.5	025.0	025.0	025.2	025.4	025.6	025.8	025.3	025.1	024.8	024.7	024.2	023.9	023.6	023.4	023.2	023.5	023.7	023.8	024.0	024.2	024.2	024.1	024.6
	5	024.0	023.9	023.9	023.9	023.8	023.8	023.9	023.9	023.8	023.4	023.2	023.0	022.4	022.1	021.7	021.3	021.0	020.8	021.0	021.1	021.1	021.0	021.0	021.0	022.6
	6	020.8	020.7	020.1	019.8	019.8	019.5	019.3	019.2	018.8	018.6	018.1	017.7	017.0	016.8	016.5	015.9	015.8	015.4	015.8	016.1	016.1	016.2	016.4	016.7	017.9
	7	016.8	016.8	016.6	016.8	016.8	016.8	017.1	017.2	016.8	016.5	016.2	015.8	015.0	014.5	014.1	013.9	013.7	013.6	013.7	013.8	014.0	014.5	014.5	014.6	015.5
	8	014.6	014.5	014.4	014.2	014.3	014.5	014.9	015.1	015.2	015.3	015.3	015.2	015.0	014.9	014.7	014.5	014.3	014.2	014.6	015.3	016.0	016.3	016.8	016.9	015.0
	9	017.0	017.1	016.8	016.6	016.7	017.0	017.1	017.5	017.3	017.4	017.2	017.0	016.7	016.1	015.9	016.0	016.0	016.2	016.2	016.6	017.1	017.7	018.1	018.7	016.9
	10	018.8	019.0	019.2	019.0	019.3	020.1	019.9	020.0	020.3	020.4	020.4	020.3	020.0	019.8	019.4	019.3	019.8	019.8	019.8	020.3	021.1	021.4	021.2	021.1	019.9
	11	020.8	020.9	020.2	020.1	020.1	020.6	020.2	019.9	020.0	019.2	019.3	019.3	019.3	019.7	019.3	019.1	018.5	018.4	018.9	019.5	019.8	019.8	020.3	020.4	019.7
	12	020.2	020.3	020.7	021.2	022.1	022.6	023.1	023.7	024.2	024.9	025.0	025.4	025.6	025.4	025.3	025.3	025.4	025.5	025.8	026.1	026.5	026.9	027.0	026.9	024.2
	13	026.6	026.6	026.0	025.8	025.5	025.2	025.1	024.9	024.6	023.4	022.4	021.9	021.1	020.3	019.9	019.6	019.0	018.8	018.5	018.2	018.0	017.6	017.2	016.7	022.0
	14	016.2	015.1	014.3	013.9	013.9	013.4	012.9	013.5	012.8	012.2	011.7	011.8	011.9	011.8	011.4	010.9	010.4	010.1	009.7	009.5	009.6	009.3	009.1	009.1	012.0
	15	008.8	008.3	008.1	007.9	008.0	008.2	008.1	007.9	007.4	006.9	007.0	006.8	006.1	005.8	005.5	005.4	005.1	004.9	004.7	004.6	004.3	004.0	003.8	003.9	006.4
	16	004.0	003.9	003.8	003.7	004.1	004.7	005.2	005.5	005.7	006.1	006.5	006.7	007.1	007.4	007.6	007.9	008.3	008.7	009.5	010.0	010.6	010.7	010.9	010.9	006.8
	17	010.9	010.9	010.7	010.9	011.1	011.1	011.2	011.3	011.2	011.2	011.0	010.8	010.6	009.9	009.6	009.4	009.1	008.7	008.8	008.8	008.0	008.6	008.6	008.4	010.1
	18	008.0	008.3	009.0	009.8	010.5	011.5	012.2	012.9	012.9	013.0	012.9	012.7	012.8	012.8	012.5	012.5	012.5	012.9	013.7	014.3	014.8	014.9	015.0	015.0	012.3
	19	015.0	015.0	015.0	015.1	015.2	015.4	015.5	015.5	015.5	015.6	015.6	015.2	014.5	014.0	013.5	013.2	013.0	012.6	012.5	012.6	012.5	012.4	012.2	011.9	014.2
	20	011.4	011.2	010.9	010.5	010.5	010.5	010.5	010.6	010.7	010.6	010.4	010.2	010.1	010.3	009.7	009.3	009.2	009.2	009.5	009.9	010.1	010.1	010.0	009.8	010.3
	21	009.6	009.3	008.9	008.6	008.3	008.0	007.7	007.7	007.5	007.3	007.0	007.1	006.1	005.8	005.4	005.8	005.7	005.9	006.1	006.5	006.6	006.7	006.6	006.6	007.2
	22	006.6	006.8	006.8	006.8	006.8	007.0	007.1	007.3	007.3	007.6	007.6	007.6	007.4	007.1	006.4	006.1	005.9	005.3	005.0	004.7	003.7	002.6	001.4	000.0	006.0
	23	999.0	998.6	998.3	998.7	000.5	001.8	002.8	003.8	004.7	005.7	006.2	006.6	006.8	007.0	007.4	007.8	008.5	008.9	009.6	010.5	011.4	011.9	012.5	013.0	005.6
	24	013.3	013.7	013.8	014.2	014.8	015.3	015.8	016.3	016.7	016.9	016.7	016.6	016.6	016.5	016.4	016.5	016.5	016.8	017.3	017.8	018.0	018.4	018.6	018.7	016.2
	25	018.8	018.7	018.7	018.7	019.0	019.5	019.9	020.1	020.3	020.1	020.0	019.9	019.6	019.3	019.0	018.8	018.8	018.7	018.9	019.4	019.7	020.0	020.3	020.3	019.4
	26	020.5	020.6	020.8	020.6	020.6	020.6	020.8	021.0	021.0	021.1	020.8	020.7	020.6	020.5	020.1	019.9	020.0	020.0	020.2	020.7	021.3	021.6	021.7	021.5	020.7
	27	021.4	021.4	021.3	021.1	021.2	021.7	021.9	021.8	021.6	021.6	021.7	021.6	021.4	021.1	020.7	020.7	020.7	020.7	021.0	021.2	021.2	021.2	020.9	020.5	021.2
	28	020.3	020.0	020.0	019.7	019.7	019.7	019.8	019.8	019.7	019.8	019.6	019.3	019.0	018.7	017.9	017.7	017.4	017.0	017.1	017.5	017.8	017.8	017.8	017.3	018.8
	29	016.9	016.7	016.2	015.8	015.4	015.4	015.4	015.9	015.8	015.6	015.2	014.6	013.9	013.4	013.2	013.1	013.1	013.5	014.1	014.7	014.8	015.2	015.3	015.4	015.0
	30	015.6	015.7	016.0	016.3	016.7	017.2	017.8	018.0	018.2	018.2	018.0	018.0	018.0	018.1	018.1	018.2	018.5	019.2	019.9	020.8	021.3	021.9	022.1	022.6	018.4
31	022.7	022.8	023.0	023.0	023.3	023.6	023.3	023.9	023.7	023.9	023.6	023.2	023.0	022.6	021.8	021.4	021.2	020.9	020.9	021.4	021.2	021.1	020.9	020.9	022.4	
Mean (Station Level)	1016 -68	1016 -63	1016 -53	1016 -55	1016 -75	1017 -02	1017 -19	1017 -39	1017 -38	1017 -33	1017 -20	1017 -08	1016 -80	1016 -59	1016 -28	1016 -12	1016 -05	1016 -04	1016 -25	1016 -58	1016 -78	1016 -90	1016 -92	1016 -88	1016 -74	
Mean (Sea Level)	1017 -93	1017 -88	1017 -78	1017 -80	1018 -01	1018 -27	1018 -44	1018 -64	1018 -62	1018 -56	1018 -43	1018 -30	1018 -02	1017 -81	1017 -50	1017 -34	1017 -26	1017 -26	1017 -47	1017 -82	1018 -02	1018 -14	1018 -16	1018 -12	1017 -98	
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	



449. RICHMOND (Kew Observatory):  $H_b$  (height of barometer cistern above M.S.L.) = 10.4 metres.

SEPTEMBER, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
1	020.5	020.3	020.0	020.0	019.9	020.0	020.0	020.1	020.2	020.1	019.8	019.2	018.7	018.7	018.3	018.3	018.5	018.6	018.8	019.2	019.5	019.7	019.9	019.7	019.5
2	019.6	019.7	019.8	020.0	019.8	020.2	020.5	020.8	021.1	021.2	020.8	020.6	020.4	020.2	019.9	019.8	019.9	020.2	020.7	021.3	021.5	021.5	021.7	021.7	020.4
3	021.9	021.9	022.0	022.0	022.0	022.4	022.7	022.9	023.2	023.3	023.1	022.8	022.6	022.4	022.1	021.9	021.8	021.8	022.0	022.3	023.0	023.4	023.4	023.2	022.5
4	023.1	023.1	023.1	023.1	023.3	023.8	024.2	024.5	024.5	024.5	024.1	023.8	023.5	023.2	023.0	022.8	022.6	022.6	022.6	022.8	023.2	023.2	023.2	023.2	022.4
5	023.1	023.0	022.9	022.9	022.9	022.9	022.9	023.0	023.0	023.0	022.8	021.8	021.2	020.6	019.9	019.7	019.7	019.8	019.9	019.9	019.9	019.7	019.5	019.3	021.4
6	019.2	018.9	018.8	019.0	019.2	019.3	019.5	019.9	020.4	020.3	020.3	020.1	020.1	020.1	020.1	020.4	021.0	021.3	021.8	022.5	023.2	023.4	023.6	023.7	020.6
7	023.9	023.8	023.9	023.9	024.1	024.8	025.4	025.5	025.6	025.6	025.5	025.2	025.2	025.1	025.2	025.0	025.0	025.2	025.4	026.0	026.2	026.2	026.2	025.9	025.1
8	025.7	025.6	025.5	025.4	025.3	025.4	025.4	025.5	025.6	025.5	025.2	024.6	024.2	023.8	023.4	023.1	023.2	023.2	023.4	023.7	023.7	023.6	023.5	023.4	024.5
9	023.3	023.2	022.9	022.9	023.0	023.0	023.1	023.2	023.4	023.5	023.3	023.1	022.9	022.7	022.5	022.5	022.6	023.0	023.5	024.1	024.3	024.6	024.6	024.5	023.3
10	024.4	024.2	024.2	024.0	024.0	024.1	024.1	024.4	024.5	024.6	024.5	024.1	023.6	023.6	023.3	023.1	023.2	023.4	023.6	023.7	023.8	023.5	023.3	023.0	023.9
11	022.5	022.3	022.0	022.0	022.0	021.8	021.9	022.0	022.1	022.0	021.6	021.0	020.7	020.0	019.8	019.8	019.5	019.7	019.7	019.8	019.9	019.7	019.6	019.2	020.9
12	018.8	018.4	018.1	017.7	017.4	017.4	017.3	017.3	017.3	017.0	016.9	016.4	016.2	016.0	014.9	014.9	014.7	014.7	014.8	014.8	015.1	015.0	014.8	014.8	016.4
13	014.3	013.9	013.6	013.4	013.4	013.5	013.6	013.8	014.2	014.2	014.4	014.3	014.2	014.0	013.6	013.2	013.0	012.7	013.1	013.7	014.1	014.9	015.3	015.9	013.9
14	015.8	015.8	016.1	016.7	017.1	017.9	018.2	018.8	019.4	019.7	020.2	020.7	021.2	021.6	021.8	022.2	022.4	023.0	023.8	024.7	025.5	025.8	026.0	026.0	020.6
15	028.0	026.2	026.4	026.4	026.4	026.7	027.2	027.2	027.3	027.3	026.8	026.5	026.1	025.9	025.0	024.6	024.4	024.6	024.6	024.6	024.6	024.6	024.6	024.7	025.2
16	024.4	023.9	023.0	022.5	022.2	022.2	022.3	022.2	022.0	021.7	021.0	020.4	019.9	019.4	019.3	018.5	018.1	017.7	017.7	017.8	017.9	018.1	017.9	017.6	020.5
17	017.5	017.3	017.3	016.9	016.5	016.6	016.8	016.8	016.7	016.6	016.3	016.1	015.3	015.0	014.4	014.3	014.1	014.1	013.9	013.7	013.5	013.0	012.4	011.9	015.4
18	011.5	011.0	010.5	010.1	010.2	010.5	010.6	010.9	011.7	012.0	012.2	012.0	012.4	012.3	012.1	012.0	012.2	012.4	012.5	012.5	012.6	012.6	012.1	012.2	011.7
19	012.2	011.4	011.1	010.7	010.7	010.8	010.8	011.0	010.9	010.9	010.4	009.8	009.2	008.9	008.7	008.5	008.5	008.7	008.8	008.9	008.8	008.5	008.2	007.9	009.9
20	007.3	006.8	006.0	005.2	004.8	004.6	004.6	004.7	004.6	004.4	004.2	003.9	003.6	003.4	003.1	002.7	002.7	002.8	002.5	002.8	002.6	003.0	002.7	002.4	004.1
21	002.2	002.2	002.1	002.2	002.3	002.4	003.1	003.3	003.4	003.7	003.8	004.1	004.5	004.3	004.1	004.2	004.4	004.6	005.1	005.3	005.6	006.0	006.2	006.3	003.9
22	006.4	006.4	006.5	006.5	006.8	007.4	007.8	007.9	008.0	008.0	008.1	007.6	007.4	007.4	007.4	007.5	007.4	007.4	007.4	007.1	007.0	006.5	006.3	005.6	007.2
23	005.1	004.1	003.4	002.8	002.1	001.4	000.6	000.2	999.6	999.2	998.6	997.8	997.4	996.6	995.6	994.6	993.7	992.9	993.0	993.1	993.7	994.5	995.1	995.3	998.1
24	995.9	996.1	996.3	996.4	996.5	997.3	997.4	997.8	998.2	998.4	998.5	998.4	998.4	998.5	998.6	998.9	999.2	999.6	000.3	000.6	000.8	001.0	001.1	001.2	998.4
25	001.3	001.2	001.4	001.4	001.7	002.2	003.1	003.7	004.6	005.2	006.0	006.8	007.4	008.2	008.7	009.3	010.2	010.9	011.7	012.5	012.9	013.2	013.5	013.8	006.9
26	014.0	014.0	014.0	014.1	014.6	015.3	015.6	016.3	016.4	016.4	016.2	016.1	015.9	015.9	015.9	015.5	016.1	016.5	017.0	017.2	017.2	017.3	017.3	017.2	015.8
27	017.2	017.0	016.8	016.7	016.4	016.5	016.5	016.6	016.8	017.2	016.7	017.2	016.9	016.4	016.2	016.2	016.6	016.8	017.1	017.3	017.5	018.2	018.4	018.3	017.0
28	018.0	017.8	017.8	017.2	017.1	016.7	017.2	017.0	017.4	017.2	017.0	016.8	016.6	017.0	017.0	017.2	017.3	017.9	018.7	019.0	019.2	019.3	019.3	019.4	017.7
29	019.4	019.5	019.3	019.1	019.3	019.0	018.9	020.4	020.2	019.9	019.8	019.7	019.3	018.8	018.2	018.3	018.4	019.0	019.1	019.2	020.0	020.4	020.2	020.4	019.3
30	020.3	019.9	019.6	019.6	019.9	020.2	020.4	021.2	021.5	021.4	021.1	020.9	020.5	020.1	019.5	019.5	019.7	020.0	020.2	020.4	020.5	020.3	020.1	020.2	020.3
Mean (Station Level)	1016 .49	1016 .30	1016 .15	1016 .03	1016 .03	1016 .21	1016 .39	1016 .63	1016 .79	1016 .79	1016 .63	1016 .39	1016 .19	1016 .00	1015 .72	1015 .61	1015 .67	1015 .80	1016 .08	1016 .34	1016 .56	1016 .69	1016 .67	1016 .60	1016 .28
Mean (Sea Level)	1017 .75	1017 .56	1017 .41	1017 .29	1017 .29	1017 .47	1017 .65	1017 .89	1018 .04	1018 .04	1017 .87	1017 .63	1017 .43	1017 .24	1016 .95	1016 .85	1016 .91	1017 .04	1017 .32	1017 .59	1017 .81	1017 .94	1017 .92	1017 .86	1017 .53

450. RICHMOND (Kew Observatory):  $H_b$  = 10.4 metres.

OCTOBER, 1933.

Station Level	Day	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
	1	020.2	020.1	019.2	019.2	019.3	019.5	019.6	020.0	020.5	020.8	020.7	020.6	020.5	020.5	020.5	020.6	021.1	021.4	022.0	022.3	022.7	023.0	023.1	023.2	020.8
	2	023.4	023.4	023.4	023.4	023.5	024.0	024.6	025.4	025.9	026.1	026.4	026.4	026.1	025.9	025.3	025.9	026.0	026.1	026.6	027.1	027.6	027.7	027.7	027.4	025.6
	3	027.3	026.9	026.8	026.8	026.9	026.6	026.8	026.9	026.9	026.7	026.6	026.2	025.9	025.3	025.2	024.7	024.9	025.2	025.6	025.7	025.7	025.6	025.2	026.1	026.1
	4	025.1	024.8	024.4	024.2	024.1	024.3	024.4	024.6	024.6	024.5	024.4	023.9	023.2	022.7	022.2	021.7	021.6	021.8	022.1	022.2	022.2	022.2	022.2	022.4	023.4
	5	022.5	022.5	022.5	022.7	022.7	022.9	023.2	023.5	023.9	023.9	023.9	023.5	023.3	023.1	022.9	022.9	023.1	023.4	023.7	023.9	024.1	024.3	024.5	024.6	023.3
	6	024.7	024.6	024.6	024.5	024.5	024.6	024.6	024.8	024.9	024.6	024.0	023.4	022.8	022.4	021.9	021.6	021.5	021.3	021.1	020.8	020.5	020.1	019.7	019.1	022.9
	7	018.3	017.5	017.0	016.8	016.3	015.8	015.5	015.4	015.2	015.0	014.2	013.6	012.8	012.0	011.3	010.4	010.1	009.7	009.3	008.7	008.1	007.4	006.5	005.8	012.9
	8	004.7	004.1	003.4	002.6	002.4	002.6	002.6	002.8	002.9	002.7	002.3	002.0	001.9	001.8	001.4	001.5	001.9	002.5	003.2	003.6	004.2	004.6	005.0	005.3	003.0
	9	005.5	005.5	005.2	005.5	005.6	005.7	005.9	006.0	006.0	005.9	005.5	005.0	004.7	004.1	003.6	003.2	002.7	002.8	002.8	002.3	002.3	002.0	001.7	001.7	004.3
	10	001.7	001.5	001.0	000.5	000.0	000.0	000.1	000.4	000.9	001.6	001.7	001.6	001.3	001.2	000.7	000.5	000.1	999.5	998.9	997.7	997.4	996.6	995.4	994.7	999.9
	11	993.4	992.3	990.4	988.8	988.0	987.2	986.6	989.0	993.9	996.4	998.5	999.9	000.8	002.0	003.3	004.5	005.5	006.6	007.8	008.6	009.5	010.2	010.9	011.4	999.1
	12	011.8	012.2	012.5	012.9	013.3	013.8	014.5	014.9	015.3	015.6	015.7	015.7	015.7	015.9	016.2	016.8	017.4	018.4	019.3	019.9	020.8	021.5	021.8	022.2	016.2
	13	022.4	022.5	022.7	023.3	023.3	023.5	024.0	024.2	024.3	024.1	024.0	023.7	023.3	022.7	022.6	022.4	022.4	022.5	022.5	022.4	022.2	022.2	021.8	021.6	018.2
	14	021.3	020.8	020.3	019.7	019.4	019.5	019.3	019.3	019.3	019.0	018.7	018.1	017.3	016.7	016.0	015.9	016.0	016.5	016.9	017.2	017.5	017.6	017.9	018.2	018.3
	15	018.3	018.4	018.4	018.3	018.6	018.9	019.2	019.4	019.2	019.0	018.3	017.8	017.5	016.9	016.1	015.5	014.9	014.2	014.0	013.4	012.7	012.0	011.2	010.4	016.5
	16	010.2	010.0	009.5	009.3	009.3	009.3	009.5	009.5	009.4	009.4	009.0	008.5	008.0	007.5	007.6	007.2	007.4	008.2	008.2	008.2	008.3	009.1	009.7	010.2	008.9
	17	010.6	011.5	012.1	012.6	013.2	013.8	014.4	015.3	016.0	016.4	016.4	016.3	016.5	016.6	016.8	016.7	017.2	017.4	017.6	017.8	018.3	018.2	018.2	018.5	015.6
	18	018.6	018.5	018.2	018.2	018.2	018.1	018.1	018.5	018.3	018.2	017.7	017.1	016.5	016.0	015.6	015.3	014.8	014.8	014.9	014.9	015.0	014.9	014.7	014.5	016.7
	19	014.0	013.7	013.3	013.2	013.0	013.0	012.9	012.8	012.7	012.4	012.2	011.5	010.7	010.1	009.6	009.4	009.3	009.4	009.6	009.6	009.8	009.8	009.8	009.8	011.4
	20	009.9	009.8	009.8	009.8	010.1	010.7	011.0	011.8	012.0	012.4	012.7	012.7	012.6	012.7	012.8	012.9	013.3	013.7	013.8	013.8	014.0	013.9	013.7	013.6	012.1
	21	013.0	012.5	012.0	011.7	011.3	011.2	011.4	011.3	011.2	010.7	010.8	010.0	009.7	009.0	009.0	008.8	008.7	008.7	008.5	008.5	008.8	009.1	009.0	008.9	010.3
	22	009.1	009.2	009.3	009.7	009.8	009.9	010.0	010.2	010.1	009.8	009.6	008.8	008.2	007.8	007.8	007.4	007.5	007.5	007.7	007.8	007.8	008.1	007.9	008.0	008.7
	23	008.1	008.1	008.3	008.8	008.9	009.1	009.6	010.4	010.7	010.8	010.9	010.8	010.5	010.4	010.5	010.5	010.7	011.1	011.1	011.1	011.5	011.3	011.2	010.2	010.2
	24	011.1	010.7	009.8	010.0	009.9	009.9	010.3	010.3	010.6	010.6	010.3	010.0	009.6	009.2	009.1	009.0	009.1	009.8	010.0	010.2	010.3	010.3	010.2	010.2	010.0
	25	010.1	010.0	009.9	010.0	010.1	010.5	010.7	011.2	011.7	011.9	012.4	012.8	013.4	013.8	014.5	015.0	015.7	016.4	016.9	017.1	017.5	017.6	017.8	017.9	013.4
	26	017.8	017.7	017.5	017.6	017.5	017.6	017.6	017.6	017.5	016.8	016.5	016.0	015.7	015.5	015.1	014.6	014.2	013.9	013.7	013.6	013.2	012.9	012.5	011.4	015.7
	27	010.1	008.9	007.9	006.5	005.0	003.3	001.5	999.8	997.8	995.7	994.6	993.6	992.5	991.3	991.5	991.0	991.1	991.1	990.9	990.8	990.4	989.9	989.7	989.5	996.9
	28	989.1	989.0	988.4	988.0	987.9	987.6	987.8	987.9	987.9	987.9	987.6	987.1	986.8	986.6	986.1	986.2	986.2	986.6	986.8	986.8	987.2	987.1	987.0	987.0	987.4
	29	987.1	987.4	987.8	988.1	989.1	990.2	991.5	992.5	994.0	994.9	995.9	996.6	997.0	997.4	998.1	998.7	999.2	999.7	000.2	001.4	001.2	001.2	001.1	001.5	995.2
	30	001.9	002.2	002.6	003.2	003.6	004.2	004.7	005.2	005.8	006.1	007.2	007.7	008.0	008.6	009.0	009.5	009.9	010.6	011.0	011.1	011.1	011.2	011.0	011.0	007.2
	31	010.7	010.5	009.8	009.2	008.6	007.6	007.4	007.2	006.6	006.0	005.8	005.3	004.8	004.2	004.5	004.8	004.9	005.1	005.2	005.3	005.6	006.1	006.3	006.6	
	Mean (Station Level)		1012 -00	1011 +83	1011 +55	1011 +45	1011 +40	1011 +45	1011 +59	1011 +87	1012 +13	1012 +13	1011 +81	1011 +54	1011 +29	1011 +21	1011 +13	1011 +24	1011 +50	1011 +66	1011 +75	1011 +85	1011 +86	1011 +77	1011 +70	1011 +66
Mean (Sea Level)		1013 -27	1013 +10	1012 +82	1012 +73	1012 +67	1012 +72	1012 +86	1013 +15	1013 +40	1013 +39	1013 +34	1012 +07	1012 +39	1012 +46	1012 +39	1012 +50	1012 +76	1012 +92	1013 +01	1013 +12	1013 +13	1013 +04	1012 +97	1012 +93	
Hour G. M. T.		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean



451. RICHMOND (Kew Observatory):  $H_b$  (height of barometer cistern above M.S.L.) = 10.4 metres.

NOVEMBER, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
1	006.6	007.2	007.4	007.9	008.2	008.8	009.9	010.5	011.2	012.0	012.6	013.1	013.4	013.5	013.5	013.4	013.4	013.2	013.1	013.1	013.1	013.1	013.1	013.0	011.3
2	012.8	012.6	012.2	011.8	011.8	011.9	012.2	012.3	012.4	012.3	012.2	011.9	011.9	011.6	011.3	011.2	011.5	011.6	011.3	011.3	011.3	011.6	012.0	012.4	011.9
3	012.9	013.3	013.8	014.2	014.9	015.4	015.9	016.3	016.8	016.8	016.4	016.2	015.8	015.9	015.8	015.9	015.9	016.2	016.8	017.0	017.1	017.4	017.5	017.7	015.8
4	017.9	017.8	017.8	017.8	017.9	018.1	018.5	018.9	019.2	019.2	019.6	019.4	019.2	019.1	018.8	018.8	018.9	019.1	019.4	020.0	020.2	020.7	020.6	020.6	019.0
5	020.5	020.4	020.3	020.2	020.3	020.3	020.6	020.9	021.2	021.0	020.9	020.6	020.3	020.1	019.8	019.3	019.6	019.6	019.7	020.0	020.1	020.5	020.6	020.4	020.5
6	019.9	019.9	019.8	019.7	019.0	019.3	019.5	019.9	020.2	020.2	020.2	019.9	019.7	019.5	019.6	019.6	019.6	019.7	020.0	020.1	020.5	020.6	020.4	020.5	019.9
7	020.4	020.3	020.3	020.2	020.0	020.2	020.3	020.8	021.3	021.5	021.6	021.5	021.3	021.2	021.3	021.6	021.9	022.2	022.7	022.9	023.0	023.0	023.0	022.9	021.4
8	023.0	023.2	022.9	023.2	023.2	023.1	023.7	023.9	024.0	024.0	023.8	023.6	023.1	022.9	022.5	022.3	022.3	022.3	022.4	022.4	022.4	022.2	022.1	021.8	022.9
9	021.6	021.3	020.9	020.2	020.4	020.0	019.9	019.8	019.8	019.5	018.8	018.2	017.7	016.8	015.9	015.3	015.0	014.5	014.1	013.8	013.2	012.5	011.4	010.1	017.4
10	009.2	008.4	007.9	007.2	006.9	006.2	006.2	006.3	006.2	006.0	005.0	004.1	003.7	003.1	002.9	002.8	002.8	002.5	002.1	001.9	001.7	001.4	000.8	000.8	004.6
11	000.5	000.5	000.4	000.5	000.5	000.5	000.4	000.5	000.6	000.7	000.6	000.0	000.6	000.9	000.8	000.8	000.7	000.7	000.7	000.7	000.7	000.7	000.7	000.7	000.7
12	007.9	008.0	008.2	008.3	008.4	008.8	009.2	010.0	011.1	011.2	011.4	011.4	011.5	011.6	011.5	011.6	012.1	012.2	012.3	012.9	012.9	013.0	013.1	013.1	010.8
13	007.9	008.0	008.1	007.9	008.0	008.2	008.5	008.8	009.2	008.9	008.6	008.3	007.8	007.0	006.9	006.8	006.8	006.5	006.4	006.3	006.2	006.1	006.0	005.9	007.0
14	005.4	005.7	005.7	006.1	006.2	006.6	007.1	007.1	007.7	007.5	006.9	006.8	005.9	005.6	005.2	004.9	004.6	003.9	003.5	002.8	002.1	000.9	000.9	000.9	000.9
15	007.3	006.1	005.6	005.5	005.5	005.5	005.5	005.5	005.5	005.5	005.5	005.5	005.5	005.5	005.5	005.5	005.5	005.5	005.5	005.5	005.5	005.5	005.5	005.5	005.5
16	009.4	009.0	008.5	008.3	008.3	008.4	008.8	009.2	010.0	011.1	011.2	011.4	011.5	011.6	011.5	011.6	012.1	012.2	012.3	012.9	012.9	013.0	013.1	013.1	010.8
17	007.9	008.0	008.2	008.3	008.4	008.8	009.2	010.0	011.1	011.2	011.4	011.4	011.5	011.6	011.5	011.6	012.1	012.2	012.3	012.9	012.9	013.0	013.1	013.1	010.8
18	013.0	013.0	012.8	012.8	012.7	012.5	012.3	012.6	012.7	012.9	012.5	012.1	011.9	011.3	011.3	011.2	011.2	011.5	011.5	011.4	011.5	011.4	011.2	011.1	012.1
19	011.0	010.7	010.1	010.1	009.2	009.1	009.0	008.9	009.0	009.1	008.9	008.8	008.4	008.7	008.8	008.8	009.0	009.3	010.1	010.6	011.1	011.1	011.3	011.9	009.6
20	012.1	012.5	012.9	013.0	013.6	013.9	014.5	015.0	015.5	015.8	016.0	016.0	015.9	015.6	015.8	016.1	016.2	016.3	016.3	016.7	016.6	016.6	017.0	017.1	015.2
21	017.2	017.3	017.1	016.9	016.8	017.0	017.1	017.2	017.2	017.3	017.1	016.6	016.3	016.2	016.1	016.0	016.0	016.1	016.1	016.2	016.2	016.2	016.3	016.2	016.6
22	016.2	016.1	016.0	016.0	016.0	016.0	016.1	016.3	016.5	016.9	016.6	016.5	016.2	016.1	016.1	016.2	016.3	016.3	016.3	016.2	016.5	016.3	016.3	016.3	016.3
23	016.3	016.2	016.1	016.2	016.2	016.3	016.4	016.8	017.1	017.2	017.2	017.0	016.9	016.4	016.3	016.2	016.1	016.0	016.1	016.0	016.0	015.9	015.0	016.4	016.4
24	014.6	014.4	014.1	013.7	013.4	013.4	013.7	013.7	013.6	013.5	013.3	012.8	012.3	012.0	011.9	011.8	012.0	012.1	012.2	012.2	012.2	012.1	012.0	011.9	012.9
25	011.9	012.1	011.9	011.8	011.8	011.9	012.2	012.6	012.9	012.9	012.7	012.4	011.7	011.5	011.2	011.0	011.0	011.2	011.3	011.2	011.2	011.3	011.2	011.1	011.8
26	011.0	010.9	010.6	010.4	010.1	010.0	010.0	010.0	010.0	009.9	009.8	009.1	008.5	008.2	008.0	007.9	007.8	007.7	007.7	007.7	007.8	007.6	007.1	007.8	009.1
27	007.0	007.0	007.0	006.4	006.3	006.5	006.7	007.0	007.3	007.5	007.8	007.5	007.5	007.6	007.7	007.9	008.2	008.4	008.8	009.1	009.3	009.4	009.7	009.9	007.8
28	010.4	010.7	010.7	010.9	011.1	011.2	011.6	012.5	013.2	014.0	014.2	014.4	014.5	014.5	015.1	015.5	016.0	016.4	017.4	017.8	018.0	018.2	019.0	014.2	020.3
29	019.2	019.5	019.6	020.0	020.1	020.1	020.2	020.4	021.1	021.2	021.3	021.0	020.4	020.3	020.4	020.3	020.3	020.3	020.2	020.2	020.4	020.4	020.4	020.4	021.3
30	020.4	020.3	020.3	020.3	020.3	020.3	020.7	021.3	021.6	021.6	021.5	021.4	020.4	020.3	020.4	020.3	020.3	020.2	020.2	020.2	020.4	020.4	020.4	020.4	021.3
Mean (Station Level)	1011 .95	1011 .95	1011 .84	1011 .80	1011 .80	1011 .89	1012 .14	1012 .41	1012 .69	1012 .80	1012 .72	1012 .54	1012 .31	1012 .13	1012 .08	1012 .08	1012 .19	1012 .24	1012 .35	1012 .46	1012 .55	1012 .56	1012 .56	1012 .49	1012 .27
Mean (Sea Level)	1013 .24	1013 .24	1013 .13	1013 .09	1013 .09	1013 .19	1013 .43	1013 .70	1013 .99	1014 .09	1014 .01	1013 .82	1013 .59	1013 .41	1013 .36	1013 .36	1013 .48	1013 .53	1013 .64	1013 .75	1013 .84	1013 .85	1013 .85	1013 .78	1013 .56

452. RICHMOND (Kew Observatory):  $H_b$  = 10.4 metres.

DECEMBER, 1933.

Station Level	Day	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
	1	021.3	020.7	019.9	019.8	019.5	019.0	018.8	018.7	018.3	018.2	017.5	017.6	017.5	016.5	016.5	016.5	016.7	016.9	017.1	017.1	017.5	017.6	017.9	017.7	017.7	018.2	
	2	017.7	018.0	018.5	018.7	019.3	019.7	020.9	021.6	022.9	023.7	024.3	024.7	024.9	025.1	025.8	026.8	027.2	027.7	028.5	029.4	030.2	030.7	031.2	031.7	031.7	032.2	024.3
	3	031.8	031.9	032.1	032.4	032.4	032.5	032.4	032.6	032.9	032.9	032.8	032.6	031.9	031.7	031.7	031.7	032.1	032.3	031.9	032.1	032.2	032.0	031.8	031.7	031.7	032.2	024.3
	4	031.4	030.8	030.3	029.7	029.5	029.2	028.7	028.2	027.6	026.7	026.3	025.7	025.4	024.7	024.7	024.7	024.7	024.5	024.3	024.4	024.8	025.0	025.3	025.4	026.9	026.9	025.2
	5	024.9	025.0	024.8	024.8	024.9	025.1	025.1	025.7	026.1	026.5	026.6	026.3	025.8	025.6	025.5	025.5	025.4	025.1	024.8	024.5	024.4	023.9	023.9	023.5	023.5	025.2	025.2
	6	023.3	023.2	022.8	022.6	022.4	021.8	021.1	021.1	021.2	021.1	020.5	019.8	019.1	019.0	018.7	018.5	018.0	017.9	017.9	017.9	017.8	017.8	017.4	017.4	017.4	020.2	020.2
	7	017.1	017.0	016.9	016.4	016.4	016.1	016.5	016.8	016.9	017.4	017.6	017.5	017.5	017.5	018.0	018.9	019.8	020.6	020.9	021.6	021.9	022.7	022.9	022.9	022.9	022.9	018.4
	8	023.0	023.0	023.0	023.1	023.3	023.8	024.1	024.5	024.7	025.1	025.2	024.8	023.9	023.8	023.9	023.9	023.8	023.8	023.8	023.8	023.7	023.8	023.7	023.8	023.7	023.9	023.9
	9	023.5	023.2	023.0	023.0	023.0	022.9	023.2	023.4	023.8	023.9	024.0	023.9	023.9	023.8	023.7	023.7	023.7	023.7	023.9	024.1	024.1	024.2	024.1	024.1	024.1	023.6	023.6
	10	024.1	024.0	024.0	023.9	023.9	024.0	024.0	024.2	024.5	024.9	024.8	024.5	024.0	023.9	023.9	023.9	024.0	024.0	024.1	024.3	024.5	024.4	024.2	024.1	024.1	024.2	024.2
	11	024.0	023.9	023.9	023.9	023.7	023.7	023.7	023.7	023.9	024.0	023.7	023.1	022.3	022.2	022.0	021.4	021.1	020.8	020.6	020.3	019.8	019.0	018.6	017.6	017.6	017.6	022.3
	12	016.6	016.0	015.5	014.6	013.1	012.4	011.9	011.3	010.8	010.4	009.8	009.6	007.6	006.8	006.5	005.9	005.8	005.4	005.2	005.1	005.4	005.2	004.8	004.4	004.4	009.4	009.4
	13	004.0	004.1	004.1	004.3	004.7	005.0	005.6	006.3	006.9	007.7	008.4	008.5	008.5	008.7	009.1	009.8	010.7	011.5	011.9	012.9	013.3	014.0	014.4	014.4	014.7	008.5	008.5
	14	014.8	014.8	014.9	014.9	015.0	015.2	015.7	016.1	016.6	016.9	016.7	016.3	016.0	015.8	015.7	015.3	014.9	014.5	014.1	013.6	012.9	012.0	011.5	010.6	014.9	014.9	014.9
	15	009.8	008.9	008.6	008.2	008.0	008.1	008.7	009.8	011.0	012.1	012.9	013.2	013.4	013.6	014.1	014.9	015.3	016.1	016.8	017.1	017.5	017.6	018.0	017.9	017.9	012.8	012.8
	16	017.7	017.7	018.1	018.4	018.4	018.6	019.0	019.4	020.2	020.7	021.1	020.9	020.5	020.6	020.7	020.6	020.7	020.9	021.1	021.2	021.6	021.7	022.1	022.0	022.0	020.1	020.1
	17	022.0	022.0	022.1	022.1	022.0	022.2	023.0	023.3	023.6	024.1	024.3	024.2	024.1	024.2	024.4	024.6	025.0	025.4	026.0	026.5	026.6	026.6	026.9	027.0	027.0	029.2	029.2
	18	027.1	027.2	027.3	027.3	027.2	027.4	028.1	028.5	029.2	029.3	029.4	029.4	029.4	029.5	029.9	030.0	030.3	030.4	030.6	030.9	031.3	031.3	031.4	031.5	031.5	029.2	029.2
	19	031.4	031.6	031.6	031.6	031.5	031.5	031.4	031.4	031.6	032.0	031.9	031.8	031.5	031.5	031.5	031.5	031.7	032.0	032.2	032.3	032.5	032.6	032.6	032.7	031.8	031.8	031.8
	20	032.6	032.6	033.0	033.1	033.2	033.3	033.4	034.1	035.0	035.3	035.4	035.3	035.3	035.3	035.3	035.5	036.0	036.2	036.7	037.0	037.3	037.4	037.4	037.5	035.0	035.0	035.0
	21	037.4	037.3	037.2	037.3	037.4	037.5	037.4	037.6	037.7	038.1	038.3	038.3	038.1	038.1	038.1	038.0	037.9	038.2	038.3	038.5	038.8	038.5	038.3	038.3	037.9	038.7	038.7
	22	038.2	038.0	037.9	037.9	037.5	037.5	037.6	038.0	038.6	039.0	039.2	039.1	038.9	038.5	038.9	038.9	039.0	039.3	039.6	039.9	039.8	039.9	039.9	039.7	038.7	038.7	038.7
	23	039.8	039.6	039.6	039.6	039.3	039.4	039.4	039.9	040.2	040.3	039.8	039.1	038.7	038.1	038.1	037.8	037.7	037.8	037.7	037.7	037.7	037.0	036.9	036.8	036.5	038.7	038.7
	24	038.0	035.9	035.8	035.2	034.9	034.7	034.7	034.4	034.1	033.8	033.0	032.3	031.6	031.1	030.9	030.4	030.0	029.3	029.0	028.1	027.6	027.1	026.1	025.3	031.9	031.9	031.9
	25	025.0	024.2	023.2	022.3	021.8	021.2	020.8	020.0	019.2	019.0	017.9	016.3	015.3	014.5	014.2	013.5	013.2	012.4	011.6	011.2	010.6	010.2	009.9	009.7	016.9	016.9	016.9
	26	009.3	009.0	008.6	008.1	007.3	007.4	007.4	007.5	007.7	007.5	007.3	007.2	007.2	007.0	007.0	007.3	007.4	007.5	007.6	007.8	007.9	008.0	008.2	008.2	007.8	007.8	007.8
	27	008.0	008.0	008.0	007.6	007.4	006.9	006.8	006.6	006.2	005.9	005.1	004.0	002.6	001.3	000.0	999.1	998.0	996.6	995.1	993.7	992.3	990.9	989.6	988.1	001.6	001.6	001.6
	28	986.7	985.8	984.5	983.9	983.1	982.7	982.1	982.2	982.2	982.2	982.2	982.3	001.0	001.2	001.8	002.2	003.7	004.0	004.8	005.1	005.6	006.0	006.2	006.7	000.3	000.3	000.3
	29	992.8	993.8	994.7	995.1	995.8	996.7	997.5	998.5	999.5	000.4	001.0	001.1	001.0	001.2	001.8	002.2	003.7	004.0	004.8	005.1	005.6	006.0	006.2	006.7	000.3	000.3	000.3
	30	007.0	007.7	008.0	008.0	008.1	008.3	008.7	009.0	009.9	009.6	009.2	008.8	008.6	008.2	007.9	007.2	006.7	007.2	008.2	008.8	009.0	009.2	010.0	010.7	008.4	008.4	008.4
31	011.2	012.1	013.1	014.1	015.5	016.7	018.1	019.7	021.1	021.8	022.7	023.1	023.3	023.9	024.3	025.0	025.8	026.2	026.9	027.1	027.6	028.1	028.1	028.2	021.5	021.5	021.5	
Mean (Station Level)	1020 .31	1020 .23	1020 .16	1020 .05	1019 .98	1020 .02	1020 .19	1020 .45	1020 .76	1020 .99	1020 .95	1020 .71	1020 .37	1020 .16	1020 .22	1020 .25	1020 .38	1020 .45	1020 .58	1020 .65	1020 .78	1020 .77	1020 .80	1020 .89	1020 .45	1020 .45	1020 .45	
Mean (Sea Level)	1021 .63	1021 .55	1021 .48	1021 .37	1021 .31	1021 .34	1021 .51	1021 .77	1022 .09	1022 .31	1022 .27	1022 .03	1021 .68	1021 .47	1021 .53	1021 .57	1021 .70	1021 .77	1021 .90	1021 .96	1022 .10	1022 .09	1022 .13	1022 .01	1021 .77	1021 .77	1021 .77	
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	Mean		



PRESSURE AT STATION LEVEL AND AT SEA LEVEL.  
ANNUAL MEANS FROM HOURLY VALUES

373

From readings in millibars at exact hours, Greenwich Mean Time.

453. RICHMOND (KEW OBSERVATORY):  $H_b = 10.4$  metres.

1933.

Hour G. M. T.	1	2	3	4	5	6	7	8	9	10	11	Noon.	13	14	15	16	17	18	19	20	21	22	23	24	Mean.
Station Level.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
Sea Level.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.

PRESSURE AT STATION LEVEL: MONTHLY MEANS AND DIURNAL INEQUALITIES.  
The departures from the mean of the day are adjusted for non-cyclic change.†

454. RICHMOND (KEW OBSERVATORY):  $H_b = 10.4$  metres.

1933.

Month.	Mean.	Hour 1	G.M.T. 2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24
Jan.	1019.53	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
Feb.	1014.33	+0.19	-0.02	-0.29	-0.47	-0.49	-0.58	-0.37	-0.19	-0.02	+0.18	+0.36	+0.18	-0.14	-0.35	-0.43	-0.31	-0.12	+0.19	+0.42	+0.51	+0.56	+0.45	+0.40	+0.37
Mar.	1012.87	-0.14	-0.31	-0.50	-0.51	-0.29	-0.01	+0.32	+0.58	+0.76	+0.81	+0.64	+0.50	+0.10	-0.27	-0.53	-0.56	-0.52	-0.32	-0.05	+0.08	+0.11	+0.09	+0.07	-0.06
Apr.	1018.76	+0.27	+0.13	+0.05	-0.01	0.00	+0.18	+0.32	+0.46	+0.49	+0.52	+0.30	+0.14	-0.08	-0.34	-0.62	-0.83	-0.85	-0.71	-0.47	-0.09	+0.17	+0.31	+0.34	+0.33
May	1013.81	+0.14	+0.06	-0.07	-0.15	-0.04	+0.13	+0.32	+0.37	+0.35	+0.29	+0.17	+0.03	-0.11	-0.26	-0.46	-0.59	-0.61	-0.53	-0.28	+0.04	+0.25	+0.32	+0.33	+0.31
June	1010.43	+0.24	+0.15	+0.05	+0.04	+0.15	+0.20	+0.33	+0.40	+0.35	+0.30	+0.22	+0.10	-0.12	-0.32	-0.50	-0.67	-0.74	-0.69	-0.45	-0.21	+0.18	+0.31	+0.37	+0.33
July	1016.58	+0.19	+0.01	-0.04	-0.02	+0.03	+0.23	+0.39	+0.47	+0.40	+0.35	+0.25	+0.04	-0.05	-0.28	-0.41	-0.54	-0.69	-0.67	-0.45	-0.22	+0.13	+0.25	+0.31	+0.32
Aug.	1016.74	-0.01	-0.07	-0.17	-0.16	+0.04	+0.31	+0.48	+0.67	+0.65	+0.60	+0.47	+0.33	+0.05	-0.17	-0.48	-0.64	-0.72	-0.74	-0.53	-0.20	-0.01	+0.10	+0.12	+0.07
Sept.	1016.28	+0.20	+0.01	-0.14	-0.26	-0.26	-0.08	+0.11	+0.34	+0.51	+0.51	+0.34	+0.11	-0.09	-0.28	-0.56	-0.67	-0.61	-0.48	-0.20	+0.06	+0.28	+0.41	+0.40	+0.33
Oct.	1011.67	+0.13	-0.02	-0.29	-0.36	-0.40	-0.33	-0.17	+0.13	+0.41	+0.42	+0.39	+0.15	-0.11	-0.34	-0.41	-0.46	-0.33	-0.06	+0.13	+0.23	+0.35	+0.38	+0.31	+0.26
Nov.	1012.26	-0.08	-0.10	-0.23	-0.29	-0.31	-0.24	-0.01	+0.23	+0.50	+0.58	+0.48	+0.28	+0.03	-0.17	-0.24	-0.27	-0.17	-0.15	-0.06	+0.03	+0.09	+0.08	+0.06	-0.03
Dec.	1020.45	-0.06	-0.13	-0.21	-0.33	-0.40	-0.38	-0.22	+0.04	+0.34	+0.56	+0.51	+0.26	-0.09	-0.31	-0.26	-0.23	-0.11	-0.05	+0.07	+0.13	+0.25	+0.23	+0.26	+0.13
Year.	1015.33	+0.06	-0.06	-0.19	-0.26	-0.22	-0.10	+0.09	+0.29	+0.43	+0.48	+0.40	+0.20	-0.05	-0.27	-0.42	-0.48	-0.45	-0.33	-0.13	+0.06	+0.23	+0.26	+0.26	+0.19

ABSOLUTE EXTREMES OF PRESSURE AT STATION LEVEL FOR EACH DAY.  
Maximum and Minimum for the interval 0h. to 24h., Greenwich Mean Time

455. RICHMOND (KEW OBSERVATORY):  $H_b = 10.4$  metres.

1933.

Month.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Day.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
2	013.6	003.9	009.9	998.1	013.8	005.1	026.0	017.0	012.3	009.1	017.2	013.4
3	011.6	002.7	016.9	997.7	005.4	991.0	027.8	022.3	012.0	005.8	017.8	016.5
4	015.2	000.0	019.9	010.3	991.0	987.5	023.6	021.4	011.3	004.1	016.9	014.3
5	016.6	012.3	012.5	008.3	998.1	986.0	024.7	022.9	013.3	010.6	016.9	014.6
6	019.4	008.4	014.5	007.6	005.1	998.1	026.2	024.4	012.9	011.1	016.3	014.3
7	029.6	017.6	017.6	005.4	005.4	998.0	025.6	023.0	011.2	000.1	016.9	015.9
8	032.9	028.4	008.2	997.8	023.5	005.4	024.2	021.1	002.3	997.0	018.3	016.1
9	028.7	026.4	016.3	008.2	031.1	023.5	021.8	019.6	009.5	002.3	020.1	016.7
10	039.2	027.3	018.1	015.3	030.7	025.7	021.2	019.5	013.0	008.6	024.1	020.1
11	038.6	027.1	025.0	016.5	025.7	017.1	021.2	018.4	013.7	009.5	024.1	019.4
12	027.1	018.6	035.5	025.0	017.1	013.7	018.8	012.7	015.3	013.2	019.4	014.6
13	024.5	021.6	035.6	033.3	019.3	015.2	020.4	012.8	015.2	014.3	015.1	009.3
14	025.4	022.4	035.0	031.5	020.7	018.7	031.1	020.4	015.2	010.4	013.8	006.9
15	026.6	013.7	031.6	023.7	021.9	019.4	033.9	031.1	018.6	008.7	018.6	013.8
16	013.7	995.0	023.8	019.1	021.3	007.8	031.4	022.1	022.1	018.6	018.5	012.1
17	997.4	993.7	024.9	020.5	007.8	991.8	022.1	018.8	022.0	018.5	013.0	001.7
18	997.1	994.6	024.1	016.6	991.8	976.9	021.9	018.5	022.4	018.3	001.7	993.9
19	003.7	996.3	016.6	009.8	995.0	994.5	020.7	018.1	023.7	021.5	995.1	992.0
20	016.9	003.4	020.4	008.8	994.5	984.4	020.3	017.1	021.8	016.9	995.8	992.0
21	033.5	016.9	025.0	019.8	027.4	985.6	017.1	013.2	016.9	013.0	995.9	992.6
22	039.6	033.5	019.8	013.1	030.6	027.4	022.6	015.9	016.4	013.4	003.4	993.5
23	039.8	038.6	013.9	012.5	025.9	022.9	022.0	022.0	018.8	016.1	006.6	003.1
24	040.4	036.9	012.5	007.2	026.2	023.2	022.0	016.1	019.1	016.1	007.1	003.6
25	037.7	035.1	007.2	998.1	027.0	024.9	016.1	013.0	019.1	014.9	003.6	999.9
26	035.1	031.9	002.3	998.3	026.2	023.1	013.1	010.0	014.9	012.2	010.4	001.3
27	031.9	026.8	002.1	997.2	027.8	024.6	012.4	011.0	014.8	013.0	014.2	010.4
28	026.8	024.2	007.3	996.2	027.9	024.5	011.0	008.3	015.3	011.0	014.3	010.6
29	024.6	014.7	013.8	007.3	024.7	018.6	010.1	007.9	019.1	015.3	011.5	008.7
30	014.7	001.4	-	-	018.6	013.6	008.0	004.7	019.0	017.2	015.8	011.5
31	007.8	996.4	-	-	018.2	013.7	009.1	006.0	018.7	014.8	020.3	015.8
Mean	1023.28	1015.40	1018.23	1010.83	1016.88	1009.10	1020.91	1016.98	1015.97	1011.88	1012.75	1008.29
Year.	...	...	...	...	...	...	...	...	...	...	...	...

Note.- When pressure 1000 mb. the leading figure 1 is not printed, i.e., 1005.6 is written 005.6. This rule does not, however, apply to monthly means.

† See page 21.



Readings in degrees absolute at exact hours, Greenwich Mean Time.  
456. RICHMOND (Kew Observatory): North Wall Screen:ht (height of thermometer bulb above the ground) = 3.0 metres.

JANUARY, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	82.0	81.7	81.1	80.5	80.0	79.9	79.3	79.2	79.5	81.3	82.2	82.3	82.1	82.3	82.6	82.3	82.3	82.1	82.1	82.2	82.5	82.7	82.1	82.0	81.5
2	81.9	82.1	82.1	82.3	82.2	82.0	82.5	82.6	82.8	82.9	83.1	83.8	83.8	83.5	83.4	83.3	83.3	83.5	83.3	83.0	82.6	82.9	83.0	83.3	82.9
3	83.3	83.2	84.0	84.4	84.5	84.7	84.6	83.6	83.4	83.4	83.9	83.9	83.9	83.7	83.2	82.7	82.4	81.7	81.1	81.2	81.3	80.2	79.6	79.5	82.9
4	79.4	79.1	79.1	79.5	79.7	80.0	80.4	80.5	80.9	81.2	82.0	82.6	82.8	82.8	82.6	81.7	81.1	80.5	80.4	80.7	81.1	81.3	81.3	81.7	80.9
5	82.4	82.9	83.2	83.1	83.0	82.9	81.5	81.4	80.9	80.5	80.4	80.5	80.2	80.2	80.0	79.5	78.5	77.7	77.1	76.5	76.2	76.0	75.6	75.5	79.9
6	76.4	77.3	78.0	78.0	78.0	78.2	77.8	77.2	77.4	78.3	79.3	79.9	80.3	81.0	81.0	79.7	78.5	77.8	77.0	76.7	76.1	76.0	75.3	74.3	77.9
7	74.0	73.9	74.9	73.9	73.8	73.3	73.5	73.0	74.2	75.2	76.0	77.0	78.4	79.2	79.3	79.4	79.0	79.2	79.9	80.4	80.9	81.2	81.3	81.8	77.0
8	82.0	82.1	82.0	81.6	81.5	81.6	81.7	81.8	81.9	82.1	82.3	82.6	83.0	83.2	83.4	83.6	83.5	83.3	83.1	83.0	83.0	83.0	83.0	82.9	82.5
9	83.0	83.1	83.0	83.0	83.1	83.0	82.8	83.3	82.1	81.5	81.3	81.5	81.7	81.7	81.3	80.6	79.6	79.1	76.7	76.7	75.5	75.0	73.8	72.9	80.4
10	72.8	71.8	71.5	71.7	71.3	71.0	71.3	71.2	71.2	71.6	72.0	72.2	72.6	73.5	74.7	74.9	75.4	76.0	75.7	76.1	76.4	76.5	76.9	77.2	73.5
11	77.3	77.3	77.5	77.5	77.6	77.5	77.8	77.7	78.0	78.3	78.6	78.8	78.6	78.7	79.0	79.0	79.3	79.4	79.3	79.1	78.7	78.2	77.3	76.9	78.2
12	76.3	76.0	75.6	75.4	75.0	74.6	74.1	74.1	74.2	74.7	76.0	77.2	78.1	78.2	78.1	77.4	76.5	75.8	75.0	73.3	73.6	72.9	71.5	71.7	75.3
13	71.5	71.6	71.3	71.3	71.7	71.9	72.4	72.9	73.3	73.8	74.7	75.4	75.6	75.7	75.7	75.7	75.9	76.5	76.4	76.6	76.7	77.1	77.0	76.9	74.4
14	76.3	76.2	76.0	76.0	75.8	75.5	75.6	75.6	75.6	75.1	75.1	75.8	76.2	76.8	76.5	75.8	75.9	75.5	74.1	73.1	73.3	72.9	71.9	73.0	75.2
15	73.3	73.3	74.6	74.9	75.4	76.2	76.3	76.8	77.1	77.7	77.8	77.8	77.8	77.1	76.9	76.3	76.1	76.1	75.7	75.3	75.1	75.0	75.0	75.0	75.9
16	75.1	75.2	75.4	75.7	75.7	75.0	74.9	75.0	75.1	75.4	76.0	75.9	76.2	76.5	76.6	76.2	76.1	75.7	75.0	74.9	74.8	74.7	74.9	74.9	75.5
17	74.8	74.6	74.0	73.4	73.3	73.2	73.1	73.1	73.6	74.0	75.6	76.0	75.8	76.0	75.8	75.0	75.0	74.7	74.2	74.0	74.2	74.1	73.9	73.6	74.4
18	73.9	73.8	73.9	73.7	74.0	74.0	74.1	74.1	73.8	73.7	74.0	74.0	74.3	74.8	74.8	74.3	73.5	73.1	72.3	72.2	72.9	73.2	73.6	74.1	73.7
19	74.7	74.7	74.8	74.9	74.9	74.9	74.8	74.7	74.9	75.0	75.5	76.0	76.2	76.6	77.0	77.0	76.8	76.7	76.4	76.3	76.2	76.0	76.0	76.2	75.7
20	75.9	75.3	75.3	75.5	75.7	75.7	75.8	76.0	75.5	75.1	76.6	76.7	76.5	76.5	76.6	76.3	76.3	75.8	74.9	74.5	74.1	74.5	75.3	74.6	75.7
21	74.5	74.8	74.7	74.6	74.3	74.3	74.0	73.7	74.1	74.3	74.9	75.0	75.0	74.9	74.7	74.2	73.7	73.3	73.1	73.1	73.1	73.3	73.0	72.8	74.1
22	72.5	72.2	71.2	71.2	71.5	71.8	72.2	72.5	73.1	73.8	73.9	74.1	74.0	73.7	73.7	73.2	72.2	71.9	71.6	71.5	71.2	70.8	70.2	69.5	72.3
23	69.5	70.0	68.3	68.7	68.8	68.3	68.3	68.2	68.4	69.3	70.4	71.6	72.6	73.7	74.0	74.1	73.6	73.1	72.5	72.2	71.7	71.3	71.6	72.4	70.9
24	72.5	72.7	72.3	72.4	72.0	71.7	71.9	71.8	72.0	72.2	72.3	72.4	72.3	72.1	72.0	72.0	72.0	72.1	72.1	72.1	72.0	72.0	72.1	72.0	72.1
25	72.3	72.3	72.4	72.6	72.7	73.0	73.1	72.9	72.9	72.9	73.2	73.3	73.6	74.0	73.8	73.4	72.8	72.3	71.7	71.4	71.4	71.3	71.1	71.1	72.6
26	71.3	71.0	70.5	70.3	70.3	70.2	70.3	70.4	70.7	71.8	72.9	73.2	73.3	73.9	74.3	74.1	73.6	73.3	72.7	72.3	71.9	71.6	71.3	71.6	71.9
27	71.9	71.5	71.0	70.4	69.9	70.0	70.5	70.9	71.7	72.0	72.8	73.3	73.8	74.0	74.2	73.8	73.6	73.6	73.4	73.3	73.4	73.7	73.0	72.5	72.4
28	72.1	72.0	71.6	71.2	70.7	70.3	70.3	70.5	70.9	72.2	74.1	75.0	75.4	75.8	75.8	75.4	75.0	74.6	74.3	74.6	74.5	75.0	75.2	75.2	73.3
29	75.3	75.4	75.4	75.3	75.1	75.0	75.0	74.9	75.0	75.3	75.7	76.7	77.7	77.7	77.5	76.8	76.0	75.6	75.5	75.4	75.2	75.1	75.2	75.0	75.7
30	75.0	75.0	75.0	75.2	75.2	75.3	75.4	75.7	76.1	76.6	77.3	76.7	76.1	76.0	75.5	75.5	75.6	75.7	75.2	75.3	74.7	74.1	73.7	74.0	75.4
31	74.4	74.5	75.1	74.5	74.5	74.7	75.4	75.3	75.3	76.8	78.5	79.6	80.6	81.4	81.3	81.0	80.5	80.6	80.4	80.7	80.8	80.8	81.0	80.9	78.1
Mean	75.7	75.7	75.6	75.6	75.5	75.5	75.5	75.5	75.7	76.1	76.7	77.1	77.4	77.6	77.6	77.2	76.9	76.7	76.2	76.1	76.0	75.9	75.7	75.6	76.2

457. RICHMOND (Kew Observatory): North Wall Screen:ht = 3.0 metres.

FEBRUARY, 1933.

Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	80.9	81.0	81.5	81.4	81.1	81.5	81.5	81.5	81.7	82.2	82.9	83.6	83.9	84.2	84.7	84.6	84.1	83.7	83.2	83.2	83.2	83.1	82.9	82.7	82.6
2	82.5	82.5	82.7	81.1	80.2	79.9	78.9	78.0	77.7	78.3	79.3	80.1	80.2	80.6	80.5	80.1	79.5	78.9	78.4	77.3	76.6	76.1	75.8	75.0	79.3
3	74.5	74.0	73.0	72.0	72.3	72.1	72.0	72.2	72.1	73.7	75.4	77.3	79.2	79.6	80.0	79.9	79.4	79.4	79.1	79.2	79.6	79.7	80.2	81.1	76.4
4	81.4	82.2	82.9	83.4	83.6	83.7	83.8	83.8	84.0	84.1	84.6	85.0	84.8	84.5	84.5	84.6	84.6	84.4	83.9	83.7	83.5	83.0	82.9	83.0	83.7
5	82.9	82.8	82.7	83.1	83.5	83.7	83.9	84.0	84.2	84.7	84.8	85.6	85.8	86.0	86.1	85.9	84.8	84.9	84.5	83.9	84.0	83.9	84.1	84.2	84.3
6	84.6	84.4	84.3	84.1	83.9	83.2	83.0	82.3	82.4	82.9	83.2	83.5	83.8	83.2	82.9	82.5	82.2	81.9	81.8	81.5	81.4	81.5	81.7	81.7	82.9
7	80.7	81.1	81.3	81.5	81.6	81.6	81.7	81.7	82.1	82.3	83.1	83.5	83.9	83.7	83.9	83.3	83.4	83.1	82.6	82.0	81.1	80.8	80.1	80.0	82.1
8	79.8	79.7	79.5	79.6	79.8	80.1	80.9	81.5	82.1	82.9	83.8	84.5	85.0	85.2	85.2	85.7	85.3	84.9	85.0	84.8	84.8	84.6	84.6	85.2	83.0
9	85.2	85.1	84.9	84.9	84.3	83.6	83.1	83.4	84.1	84.5	84.7	84.6	84.5	85.0	84.8	85.0	84.7	84.5	84.3	84.3	83.7	83.1	82.6	82.3	84.3
10	82.2	82.0	81.6	81.3	81.3	81.0	80.9	80.7	81.3	81.9	82.2	83.0	83.6	83.6	81.7	80.6	79.0	78.8	77.4	77.0	77.2	77.1	76.7	76.0	80.5
11	75.5	74.8	74.5	74.7	74.6	74.5	74.3	74.4	75.1	75.9	76.5	77.5	77.9	78.0	78.2	77.5	77.3	76.6	75.7	75.5	76.2	76.1	75.9	75.9	76.0
12	75.8	75.6	75.2	74.3	73.9	73.4	72.9	72.8	73.4	74.9	76.2	77.4	78.4	78.8	79.1	79.0	78.1	77.0	76.0	76.5	77.0	77.2	77.0	76.8	76.1
13	76.6	76.7	76.7	76.6	76.6	76.6	76.8	77.3	78.1	78.3	78.7	79.4	80.0	80.2	80.1	79.8	79.0	78.0	76.0	75.1	74.9	75.1	74.9	74.2	77.4
14	73.9	72.7	72.2	72.5	72.1	71.7	71.6	72.1	72.9	74.4	77.4	78.9	79.8	80.0	80.0	79.9	79.3	78.8	78.0	77.1	76.2	75.8	75.1	74.5	75.7
15	74.1	73.7	74.0	74.6	74.7	74.8	74.7	74.9	75.1	75.6	76.1	76.5	77.8	77.5	77.3	77.1	76.7	75.9	75.2	75.0	75.4	75.5	74.7	74.3	75.5
16	74.8	74.9	74.9	75.0	74.6	74.6	74.6	74.8	75.3	76.2	77.4	78.4	78.8	79.2	79.6	79.0	78.5	77.7	77.5	77.5	77.3	77.5	77.1	76.9	76.7
17	77.0	77.0	76.9	77.2	76.7	76.7	77.0	76.9	77.0	77.7	78.5	78.7	79.3	79.7	79.8	79.3	78.1	77.3	76.2	75.7	75.3	75.1	74.8	75.0	77.2
18	75.1	75.0	74.6	74.5	74.5	74.3	73.5	72.4	72.8	73.0	73.7	74.5	75.2	75.9	76.5	75.8	75.1	74.3	74.2	74.2	74.0	74.2	74.3	74.4	74.4
19	73.9	73.9	73.9	74.6	74.0	73.3	73.5	73.3	73.6	74.2	74.8	75.1	74.8	75.4	75.8	75.6	75.1	74.9	74.3	72.9	72.8	72.0	71.7	71.2	73.9
20	71.1	70.9	70.5	70.0	69.9	69.8	69.8	69.5	71.0	71.2	72.0	73.3	74.9	75.4	75.7	76.0	75.3	74.9	74.7	74.9	74.7	74.5	74.9	75.0	72.8
21	75.2	75.3	75.5	76.0	76.6	75.7	75.4	76.5	77.6	77.4	78.7	79.0	79.0	79.0	79.0	78.4	77.5	76.8	76.0	72.9	72.8	72.6	72.9	73.0	76.2
22	73.3	73.2	73.0	72.9	72.5	72.3	72.3	72.7	73.3	74.3	75.3	76.0	76.7	76.7	77.0	76.7	76.0	75.1	74.5	73.9	73.5	73.2	72.9	72.5	74.1
23	72.2	72.1	71.8	71.5	71.4	71.2	71.0	71.2	72.2	73.5	74.5	75.2	76.0	76.1	76.2	76.2	75.6	74.9	73.1	72.2	71.8	71.3	70.5	69.9	73.0
24	69.4	69.8	69.3	71.2	71.3	72.5	73.1	73.7	74.4	75.1	75.3	75.4	75.2	73.5	73.2	73.3	73.8	74.1	74.6	74.8	75.0	75.7	76.1	76.5	73.5
25	76.1	75.6	75.0	74.9	75.0	75.5	76.0	75.3	75.6	75.6	75.6	76.0	76.7	77.4	76.6	76.5	76.9	76.5	76.0	76.0	76.2	76.1	76.3	76.4	76.0
26	76.9	77.5	77.6	77.7	76.5	76.3	76.1	76.2	76.6	77.6	78.6	79.5	78.8	78.2	78.5	78.3	78.1	78.1	78.1	78.2	78.6	78.6	78.8	78.6	77.8
27	79.1	79.0	79.0	79.5	79.1	79.2	79.1	79.5	80.1	80.2	81.3	80.9	81.6	81.6	82.0	82.0	81.0	79.6	78.6	78.5	78.5	79.0	78.8	78.3	79.8
28	77.8	77.0	76.0	76.3	76.9	77.4	77.7	78.7	79.8	81.1	81.9	82.0	82.5	83.1	83.0	82.1	81.6	80.0	79.5	78.2	77.5	77.1	76.5	76.3	79.2
Mean	77.2	77.1	77.0	77.0	76.9	76.8	76.7	76.8	77.3	78.0	78.8	79.4	79.9	80.1	80.1	79.8	79.3	78.7	78.2	77.7	77.6	77.5	77.3	77.2	78.0
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean



## TEMPERATURE.

Readings in degrees absolute at exact hours, Greenwich Mean Time.  
458. RICHMOND (Kew Observatory): North Wall Screen:  $h_t$  (height of thermometer bulb above the ground) = 3.0 metres.

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MARCH, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	76.9	76.6	76.8	76.8	76.9	76.5	76.5	77.5	78.5	79.1	80.3	80.8	81.1	82.4	82.2	81.0	80.2	79.7	79.5	79.5	79.5	79.3	79.1	78.9	78.9
2	79.2	79.4	78.7	78.5	78.4	78.3	78.7	79.3	79.9	80.9	81.8	82.7	82.3	81.2	80.8	80.7	80.9	81.2	81.7	81.9	82.0	82.2	82.5	83.1	80.6
3	83.2	83.2	83.2	83.1	83.0	82.7	82.7	83.0	83.5	83.5	83.5	83.6	83.6	84.0	83.9	84.0	83.6	83.7	83.3	83.3	83.0	82.6	82.6	82.6	83.3
4	82.7	82.5	82.3	81.9	81.8	81.6	81.1	81.6	82.0	82.5	82.6	83.3	84.0	84.5	84.7	84.9	84.1	82.8	82.0	81.0	80.6	80.1	80.0	79.9	82.3
5	79.7	79.9	79.1	78.5	78.0	77.7	77.7	78.7	79.9	81.5	82.6	83.8	84.2	84.8	84.3	83.8	83.2	82.3	81.9	81.6	81.3	81.4	81.6	81.7	81.2
6	81.7	81.2	81.1	81.1	81.2	81.3	81.3	81.1	81.0	81.4	81.2	82.5	84.5	84.3	84.6	84.9	83.5	82.1	81.0	80.1	79.9	79.1	78.8	78.3	81.6
7	78.1	78.6	78.4	77.8	76.5	76.0	75.5	77.2	79.7	81.3	82.3	83.0	83.2	83.6	84.9	84.8	84.0	80.0	80.0	79.6	78.9	78.5	77.6	76.9	79.9
8	76.8	76.1	75.2	75.0	75.0	74.7	74.9	76.0	77.7	79.4	81.3	82.9	83.7	84.1	84.6	83.8	83.1	82.2	81.3	80.8	80.3	78.0	79.9	79.9	79.6
9	79.9	80.0	80.0	79.9	80.0	80.1	80.5	81.1	82.1	82.6	82.2	82.9	84.0	84.2	84.1	83.9	83.2	82.1	81.7	81.2	81.1	80.2	79.5	79.0	81.5
10	79.0	78.2	77.1	77.0	76.5	77.6	77.3	78.2	81.5	83.1	84.4	85.1	86.4	87.1	86.5	85.2	84.1	82.7	81.6	80.9	80.4	80.2	80.1	79.7	81.2
11	79.2	79.1	79.1	78.9	78.7	78.2	78.0	78.8	80.0	81.7	83.0	84.1	85.1	86.0	86.0	85.1	84.1	83.0	82.1	81.3	80.4	80.0	79.5	79.1	81.3
12	78.8	77.5	77.0	76.0	75.0	74.2	73.5	74.5	75.4	76.2	79.0	83.0	85.9	86.9	86.9	86.3	84.8	83.1	81.8	80.8	79.5	78.9	77.5	76.6	79.6
13	76.0	74.9	74.7	74.3	74.1	72.7	73.0	73.3	74.6	77.0	80.3	83.3	85.5	86.8	89.0	89.0	88.3	86.6	83.4	81.5	80.1	80.1	79.6	78.9	79.8
14	78.3	78.7	78.2	78.7	78.8	78.9	79.1	79.7	80.2	81.6	84.1	84.3	85.2	85.6	86.7	86.6	86.0	84.7	83.4	82.0	81.0	80.5	80.1	79.6	81.7
15	79.0	79.1	78.8	78.7	79.0	79.0	79.6	80.6	82.0	82.8	83.5	84.2	84.6	84.1	84.2	83.7	83.0	82.3	81.4	81.3	81.3	81.1	81.0	81.0	81.4
16	80.7	81.0	81.5	82.0	82.2	82.3	82.9	82.8	83.0	83.1	83.2	83.7	83.7	83.7	83.9	84.1	83.9	83.6	82.9	82.6	82.1	81.5	81.6	83.0	82.7
17	83.0	83.3	83.3	83.0	82.5	82.0	81.0	81.3	82.2	82.5	82.5	82.1	82.0	82.0	80.9	79.2	79.7	80.8	80.1	80.0	79.9	80.0	79.6	79.4	81.4
18	79.3	79.2	78.7	78.3	78.4	78.1	78.3	78.4	78.8	79.4	80.0	80.3	81.0	82.9	83.6	83.1	83.4	82.4	80.5	80.1	79.6	79.5	79.6	80.0	80.1
19	80.3	80.3	80.5	80.5	80.0	80.0	80.3	80.3	79.7	81.6	83.4	84.4	85.7	84.2	84.0	84.1	83.4	82.1	80.7	81.2	80.9	80.8	80.3	80.0	81.6
20	79.4	79.7	79.3	79.0	79.0	78.2	77.9	78.4	79.5	79.7	80.6	79.3	78.9	80.0	79.3	80.9	79.3	79.1	78.6	77.2	76.4	76.2	75.1	74.3	78.7
21	74.0	73.7	72.9	72.3	72.0	72.2	72.2	74.0	76.2	80.0	81.4	82.5	83.9	84.3	84.9	83.8	83.0	82.1	81.1	80.2	79.1	77.5	76.7	75.5	78.1
22	75.9	76.9	76.6	76.0	75.5	75.1	75.7	77.9	81.2	82.6	84.0	85.3	86.5	86.6	86.6	86.3	85.0	83.8	82.5	82.0	81.8	81.3	80.6	80.0	81.0
23	79.8	79.3	79.2	78.7	78.3	77.5	77.8	78.9	80.1	81.3	82.5	83.5	84.7	83.2	82.9	83.0	82.2	80.9	80.1	79.7	79.3	79.0	78.4	78.1	80.4
24	77.5	77.0	76.1	75.8	75.5	75.0	75.7	76.6	78.0	79.2	80.6	81.9	83.0	83.2	83.1	82.9	82.0	80.6	79.7	79.0	78.6	78.5	77.8	76.7	78.9
25	77.4	77.3	76.6	76.5	76.4	76.0	76.4	78.0	80.3	82.0	84.0	84.6	85.5	85.3	85.2	84.6	83.9	82.0	80.2	79.5	78.6	78.4	77.9	77.5	80.2
26	76.2	75.6	74.8	73.0	72.3	71.5	72.0	73.3	75.0	77.4	79.6	84.5	84.9	85.4	85.6	86.6	86.6	86.0	83.0	82.3	80.5	80.3	79.5	78.5	79.3
27	78.1	77.5	76.2	75.0	74.8	75.1	77.5	80.1	82.2	84.0	85.0	86.4	86.4	87.5	88.5	88.6	88.6	87.7	84.3	81.8	80.1	80.3	78.3	79.7	81.4
28	78.8	77.5	75.7	74.4	73.3	73.5	74.4	76.0	78.7	81.9	83.6	87.7	89.1	89.7	90.0	89.6	89.1	87.2	85.3	83.2	80.7	79.6	78.3	78.1	81.5
29	76.5	75.5	74.4	74.0	74.4	74.2	75.0	77.3	80.4	83.5	85.9	86.9	87.8	88.3	88.2	87.9	87.4	85.4	83.6	82.1	81.2	80.3	79.6	79.3	81.2
30	79.6	80.0	80.0	80.1	80.3	80.0	79.7	80.2	81.0	82.1	82.3	83.6	84.1	81.0	82.0	81.1	80.8	81.5	80.3	78.8	78.1	77.9	77.1	77.0	80.4
31	76.3	76.4	76.0	76.0	76.0	75.3	76.6	78.8	80.3	82.0	83.0	83.9	84.7	85.1	84.0	83.2	82.5	82.1	81.8	81.2	81.0	81.0	80.8	80.6	80.3
Mean	78.8	78.6	78.1	77.8	77.5	77.3	77.4	78.4	79.8	81.1	82.4	83.5	84.4	84.6	84.7	84.4	83.8	82.8	81.6	80.9	80.2	79.9	79.4	79.1	80.7

459. RICHMOND (Kew Observatory): North Wall Screen:  $h_t$  = 3.0 metres.

APRIL, 1933.

Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	80.6	80.9	80.5	79.8	80.0	80.3	80.9	81.6	82.3	83.3	83.4	84.0	84.5	85.1	84.9	84.8	84.5	83.6	82.6	81.4	80.5	79.6	79.1	78.4	82.0
2	77.3	77.4	77.0	76.3	75.8	75.7	76.7	78.3	80.7	82.1	83.2	84.4	85.3	86.0	86.8	87.0	86.6	84.9	84.1	83.0	81.8	81.5	81.3	80.9	81.4
3	80.9	80.7	80.6	80.3	79.7	79.2	81.0	81.8	82.4	83.5	84.3	85.6	86.5	87.5	87.7	88.0	87.6	86.2	84.4	83.1	82.0	81.1	80.2	79.7	83.1
4	79.2	78.6	78.5	77.5	77.0	77.5	78.5	79.9	81.7	83.7	84.3	85.5	85.9	86.6	87.5	88.0	87.5	86.9	85.5	84.3	83.2	82.0	80.8	80.0	82.5
5	79.1	78.6	78.5	78.6	77.9	77.1	77.8	79.3	81.4	82.6	83.4	84.1	85.1	85.5	85.8	85.8	85.6	84.7	83.7	82.6	80.8	80.5	79.9	79.3	81.6
6	78.7	77.8	78.0	78.0	77.6	77.4	77.3	79.2	81.9	84.8	86.4	86.9	88.1	89.4	89.5	89.4	89.6	88.3	86.3	85.4	84.8	84.6	83.8	83.2	83.5
7	83.2	82.9	82.7	82.2	82.1	81.6	81.9	83.2	84.8	86.3	88.0	89.3	90.3	91.0	91.9	92.0	92.0	90.5	88.1	87.0	86.3	85.6	84.6	83.7	86.3
8	83.3	82.7	82.0	81.5	80.3	80.1	81.1	82.3	85.1	87.6	89.3	90.2	91.3	92.1	92.4	92.6	92.6	91.3	89.4	87.4	86.3	85.2	84.2	83.2	86.4
9	82.4	82.0	81.7	80.9	80.2	80.6	81.8	83.0	84.9	85.8	86.9	87.2	87.1	87.4	87.6	88.0	87.2	86.7	86.4	85.6	84.8	84.3	84.0	83.6	84.6
10	83.3	83.2	83.2	83.1	83.0	83.0	83.0	83.6	83.8	84.9	86.1	87.1	88.3	89.7	90.6	91.0	91.7	90.2	88.3	86.7	85.1	84.1	83.1	82.8	85.8
11	82.3	81.4	81.2	81.1	80.3	80.7	82.0	85.0	87.9	89.6	91.8	92.7	93.4	93.2	92.9	92.0	91.3	89.3	88.1	87.1	86.7	86.1	85.9	85.5	86.9
12	85.0	84.2	83.9	83.0	82.2	82.2	82.6	83.0	84.6	84.8	85.8	86.3	86.9	87.3	87.4	87.7	87.5	86.7	85.3	85.5	84.5	83.1	82.1	80.9	84.8
13	80.0	79.9	79.7	79.7	79.2	78.8	79.0	79.7	81.0	82.0	83.2	84.1	84.7	85.3	85.5	85.2	85.3	84.8	83.0	81.2	80.3	80.0	79.3	78.2	81.7
14	77.9	77.1	76.3	75.3	75.0	75.0	76.1	77.9	81.0	82.7	84.1	85.0	85.7	86.2	86.9	86.7	87.1	85.5	83.7	82.0	80.5	79.5	78.7	78.7	81.0
15	76.9	76.2	76.6	75.7	75.8	76.4	78.0	80.0	82.8	84.1	86.0	87.7	87.3	88.2	88.9	88.9	88.7	88.1	86.1	85.0	82.0	82.1	81.2	80.3	82.6
16	79.9	79.5	78.9	78.1	78.1	78.0	79.3	81.3	83.2	86.0	87.7	89.0	89.6	89.4	89.4	89.8	89.8	88.2	87.4	86.3	85.7	84.7	83.9	83.6	84.4
17	82.5	81.3	81.2	81.3	81.2	81.0	80.8	80.9	81.1	81.5	82.2	83.0	82.9	83.2	82.9	82.6	82.6	81.6	80.6	79.7	78.9	78.5	78.2	77.7	81.3
18	77.5	77.0	76.6	76.4	76.5	77.0	78.1	78.9	79.8	80.3	81.2	81.0	81.4	81.3	80.8	81.6	81.2	80.3	79.1	78.2	77.2	76.2	75.6	74.7	78.4
19	74.4	74.2	73.6	73.3	73.3	73.3	74.5	76.3	77.0	78.7	78.9	79.6	80.3	79.1	78.3	79.5	78.7	77.6	77.4	76.5	76.4	76.1	75.1	74.9	76.4
20	74.2	73.6	73.9	73.7	73.6	74.4	76.3	77.3	78.0	78.3	79.1	78.8	79.0	77.6	77.4	78.6	79.7	78.4	78.0	78.3	78.2	78.0	77.7	77.7	77.0
21	77.4	77.2	76.7	76.2	75.7	76.0	77.2	77.9	78.8	79.3	80.1	80.9	81.7	81.5	81.6	81.3	81.2	81.3	80.2	79.3	78.3	77.0	76.5	76.2	78.8
22	76.3	76.4	76.6	76.2	76.2	76.3	77.2	78.3	80.0	80.5	80.3	81.0	81.3	81.7	82.2	82.0	82.2	82.0	80.3	78.6	76.7	76.5	75.0	75.3	78.7
23	74.2	74.1	73.9	73.6	73.9	74.2	76.5	81.1	82.0	84.0	84.0	84.5	83.8	84.0	84.9	83.5	82.5	82.3	82.0	81.9	81.7	81.4	80.8	80.5	80.1
24	80.5	80.6	80.5	80.3	80.4	80.7	81.3	81.6	82.0	82.5	83.2	83.3	84.1	84.9	84.8	85.0	85.1	84.7	84.7	84.4	84.2	84.2	84.1	84.0	82.9
25	84.1	84.2	84.1	84.0	84.1	84.1	84.4	84.8	85.0	85.6	85.3	85.2	85.1	84.9	84.9	84.9	84.6	86.0	85.0	83.1	83.0	82.4	81.8	81.6	84.3
26	81.4	80.9	80.7	80.6	81.1	82.0	84.0	84.4	85.0	86.2	86.0	86.9	86.7	87.4	88.2	88.8	87.0	86.6	85.9	84.2	83.9	83.8	83.9	84.0	84.5
27	84.0	84.1	84.0	84.0	83.9	83.9	84.2	85.0	85.3	86.3	86.7	88.2	88.6	89.3	89.6	89.0	88.6	87.5	86.2	85.0	83.8	82.5	81.0	80.9	85.5
28	80.5	80.2	80.4	80.5	80.0	80.8	82.0	83.0	83.3	85.0	85.4	86.6	88.0	87.5	87.0	87.0	86.4	85.7	85.0	84.1	83.6	83.0	82.5	81.7	83.7
29	81.0	80.4	79.8	80.0	80.3	81.2	82.3	84.0	85.5	87.1	87.7	84.6	86.2	87.6	87.5	88.1	87.6	84.4	84.0	83.0	83.1	82.3	82.1	81.7	83.8
30	81.7	81.7	81.7	81.3	80.7	80.9	81.3	82.0	82.3	84.2	85.7	86.5	88.2	88.7	89.0	89.2	88.6	89.0	86.8	85.3	84.8	83.4	82.0	81.1	84.4
Mean	80.0	79.6	79.4	79.1	78.8	79.0	79.9	81.1	82.5	83.8	84.7	85.3	85.9	86.3	86.5	86.6	86.3	85.4	84.3	83.2	82.3	81.6	80.9	80.5	82.6
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean



Readings in degrees absolute at exact hours, Greenwich Mean Time.

460. RICHMOND (Kew Observatory): North Wall Screen:ht (height of thermometer bulb above the ground) = 3.0 metres.

MAY, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	86.6	80.0	79.0	78.3	77.7	78.9	80.0	80.9	82.4	84.2	85.8	86.6	86.9	87.6	88.2	85.5	85.9	84.8	83.5	82.3	81.6	81.5	81.5	81.7	82.7
2	81.9	82.2	82.3	82.3	81.9	81.7	81.7	82.3	82.9	83.6	84.3	83.9	84.2	83.6	83.1	82.6	82.5	82.2	81.9	81.9	81.9	82.2	82.3	82.3	82.6
3	81.7	81.9	82.0	82.1	82.0	82.3	82.5	82.9	83.2	85.3	87.0	87.9	87.9	88.2	88.3	90.3	91.0	89.6	87.6	86.5	85.6	84.4	83.6	82.9	85.3
4	82.0	81.0	80.2	80.4	80.0	80.8	84.0	86.3	88.7	90.3	90.5	91.8	92.6	92.9	93.1	93.0	92.6	91.3	90.4	89.3	88.5	87.0	86.6	85.5	87.4
5	85.2	85.0	84.9	85.3	85.3	85.0	84.3	84.5	84.5	85.0	87.0	88.1	88.7	89.5	90.9	90.9	91.3	89.6	87.6	85.7	84.9	85.2	84.3	83.4	86.5
6	82.9	82.8	82.4	83.2	83.4	84.2	85.3	86.2	87.1	88.4	90.1	91.1	91.9	92.3	92.3	91.5	88.5	85.6	86.3	85.6	85.3	85.1	84.6	84.2	86.7
7	83.5	83.1	82.7	82.6	82.5	82.1	82.0	82.3	83.0	84.0	84.9	85.3	86.8	86.8	87.1	86.4	86.3	85.8	85.1	84.3	83.9	83.7	83.7	83.5	84.2
8	83.5	83.5	83.3	83.1	83.1	83.2	84.2	84.6	86.2	87.0	87.4	88.3	89.3	90.1	91.1	90.7	89.7	88.8	87.7	86.6	86.4	85.7	85.4	85.1	86.4
9	84.6	83.7	83.0	82.8	82.1	81.2	82.0	83.1	84.0	84.1	84.9	85.8	87.2	87.1	87.1	88.6	87.8	86.3	84.2	83.2	82.8	82.2	82.1	82.1	84.4
10	82.0	82.1	82.3	82.3	82.2	82.7	83.2	84.0	84.2	84.7	86.1	86.7	87.1	86.8	86.8	87.0	86.6	85.6	84.9	83.4	83.4	83.2	82.5	82.5	84.3
11	81.8	81.8	81.7	80.9	81.0	81.3	82.0	83.1	84.4	85.2	85.9	86.2	86.5	87.8	87.9	85.7	85.4	86.0	85.5	84.3	84.3	84.0	83.2	82.0	84.1
12	82.1	81.7	80.5	80.6	80.7	81.3	82.2	83.8	85.6	86.6	87.3	87.6	88.0	89.0	89.9	88.8	87.9	87.8	86.6	85.2	83.6	83.1	82.9	82.4	84.8
13	81.3	81.2	81.7	81.3	81.5	81.8	82.7	83.7	83.4	83.6	84.1	85.9	87.0	87.6	88.6	89.0	88.6	87.8	87.2	86.0	85.3	84.8	84.6	84.4	84.7
14	84.2	84.1	84.1	84.1	84.1	84.5	83.3	83.1	83.0	83.4	83.9	84.7	85.0	86.4	87.2	87.0	85.2	84.9	84.9	83.5	81.6	81.2	80.7	79.7	84.0
15	79.0	79.0	78.6	77.0	77.1	78.0	79.9	82.0	84.2	85.7	86.8	87.3	87.3	88.0	88.3	89.0	89.0	88.2	87.2	86.4	84.1	83.6	82.9	82.1	83.7
16	81.0	81.0	81.0	80.9	81.2	82.1	83.3	84.9	86.5	87.4	89.5	89.7	90.5	91.8	92.2	91.1	91.1	90.0	89.0	87.9	86.8	86.1	86.1	85.7	86.5
17	84.6	84.1	83.7	83.6	83.3	84.4	85.2	86.1	87.0	89.3	91.1	91.9	92.0	91.2	90.3	89.7	89.2	88.2	86.2	85.0	84.7	84.1	83.5	83.0	86.8
18	83.1	83.0	82.9	82.6	82.9	83.1	83.5	84.9	86.3	87.7	87.7	88.4	89.1	89.1	89.7	90.7	89.9	89.4	88.7	87.5	85.5	84.5	83.5	82.5	86.1
19	82.1	81.1	81.0	80.7	81.0	82.9	85.3	87.3	89.2	90.5	91.9	93.1	93.7	94.1	94.2	94.3	93.0	91.9	90.4	89.3	88.3	87.7	86.1	85.8	88.1
20	85.0	84.2	84.1	84.6	85.7	86.7	88.9	89.7	91.4	92.4	92.5	93.7	94.1	94.7	94.8	94.1	93.0	93.8	91.2	88.5	87.2	86.1	85.1	85.1	89.5
21	84.6	84.8	84.1	84.1	84.7	85.3	86.1	87.8	89.9	91.2	92.7	94.1	95.0	94.9	94.2	94.7	94.0	93.5	92.4	91.1	90.1	88.8	87.9	86.8	89.7
22	86.9	85.8	85.6	84.4	84.6	85.8	87.2	90.1	91.8	93.1	95.0	96.0	96.8	97.5	98.2	97.6	97.0	94.9	92.2	90.0	89.0	88.2	87.7	86.8	90.9
23	86.1	85.6	85.3	84.0	84.6	85.8	87.0	89.6	91.2	92.7	95.0	96.3	97.1	97.3	97.0	96.7	95.6	95.0	93.7	92.2	90.0	88.0	88.3	88.1	90.7
24	86.3	85.5	85.0	84.2	84.6	84.9	84.4	85.9	86.5	87.3	88.8	90.0	91.0	91.1	92.2	92.3	91.8	91.4	91.5	89.8	89.1	87.5	87.1	87.0	85.1
25	86.5	86.2	85.3	85.2	84.1	83.7	84.0	84.6	84.7	85.0	85.9	86.8	86.3	86.8	87.1	88.2	87.8	86.7	86.0	84.5	83.2	82.7	83.5	83.1	85.4
26	82.5	82.4	82.2	82.0	81.9	82.5	83.2	84.4	85.2	86.0	86.6	87.2	87.7	87.3	88.0	88.6	88.1	88.1	87.4	86.5	86.7	85.0	85.0	84.3	85.3
27	83.1	82.4	81.5	80.8	81.0	82.5	83.8	86.3	88.0	88.7	87.1	87.8	87.3	86.4	85.7	85.4	84.8	84.5	84.0	83.8	83.0	82.5	82.0	84.5	84.5
28	81.2	80.5	80.3	80.0	80.8	81.7	83.0	84.2	85.3	86.5	87.2	88.0	88.7	89.1	90.6	90.8	92.1	91.1	89.7	88.0	87.1	86.3	85.0	84.8	85.9
29	84.5	84.1	84.2	83.7	83.3	84.2	85.3	86.8	87.9	88.7	88.6	89.7	89.6	89.5	89.2	89.7	89.3	88.8	87.5	86.5	85.7	84.9	84.0	84.0	86.7
30	83.6	83.6	83.3	83.2	82.8	83.2	84.9	85.6	86.5	87.7	88.2	89.7	88.3	88.0	88.1	89.0	88.5	87.2	86.5	85.4	83.7	82.7	83.5	83.4	85.7
31	83.0	83.1	83.0	82.8	83.6	84.2	85.5	86.8	88.2	89.3	90.3	90.7	91.3	91.4	91.3	91.4	91.0	90.2	89.3	88.1	87.4	87.3	87.0	86.6	87.5
Mean	83.2	82.9	82.6	82.4	82.4	83.0	83.9	85.1	86.2	87.2	88.2	89.0	89.5	89.8	90.1	90.0	89.5	88.7	87.6	86.3	85.5	84.9	84.4	83.9	86.1

461. RICHMOND (Kew Observatory): North Wall Screen:ht = 3.0 metres.

JUNE, 1933.

Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	85.8	84.7	84.0	83.3	84.2	85.6	88.0	90.0	91.5	92.1	93.2	93.6	94.5	94.7	94.9	94.8	94.7	93.8	92.5	89.8	88.2	87.0	85.9	85.3	89.7
2	84.5	84.5	84.5	84.7	86.3	88.4	90.3	91.9	92.9	93.5	94.9	95.5	96.0	96.6	96.8	96.2	96.0	95.1	93.1	91.4	91.2	90.2	89.5	89.1	91.3
3	88.4	87.1	85.8	85.5	87.6	88.8	91.1	92.3	95.1	95.6	96.6	97.0	97.7	98.6	99.0	98.7	99.0	98.5	97.0	95.3	94.2	93.0	90.9	89.8	93.4
4	88.5	88.0	88.6	87.6	88.0	90.9	92.3	94.6	97.6	98.9	99.6	00.0	00.9	00.9	01.1	01.2	00.1	00.1	98.6	96.2	94.0	93.0	91.7	90.7	95.1
5	90.9	89.0	88.5	86.9	87.7	90.7	92.3	94.3	96.3	98.4	99.2	00.0	01.5	01.3	01.8	02.5	02.5	01.2	99.6	97.2	94.4	92.3	91.3	90.2	95.4
6	89.6	88.6	88.3	87.0	87.5	90.2	93.3	95.8	97.5	98.2	99.3	00.2	00.9	01.0	00.7	99.5	98.4	98.9	97.4	95.3	92.9	92.5	91.3	89.6	94.8
7	88.3	88.2	88.1	86.5	86.8	90.3	92.0	94.1	96.0	97.3	98.3	99.1	98.6	99.1	99.5	99.0	98.2	97.7	96.7	95.0	93.4	92.3	91.4	90.6	94.1
8	90.2	89.1	88.5	87.6	88.4	89.8	91.4	93.2	94.6	95.6	96.8	97.3	98.1	98.7	98.9	97.9	98.0	96.7	95.5	93.1	92.0	91.0	90.7	89.5	93.5
9	88.2	87.1	86.6	85.7	85.4	86.3	88.2	89.7	91.3	93.0	93.1	92.8	94.0	93.9	93.9	94.4	93.3	91.3	89.0	87.5	86.8	86.1	85.7	85.2	89.6
10	84.8	84.3	83.9	84.0	84.2	84.5	85.3	85.6	86.0	86.8	87.5	87.6	88.1	88.4	87.2	87.6	87.7	88.0	87.0	86.3	84.9	84.6	85.2	85.2	86.0
11	85.3	84.7	84.6	84.5	84.5	84.6	85.0	85.9	84.9	85.6	85.9	85.8	86.1	87.3	89.0	88.6	86.6	87.5	86.5	86.1	85.1	84.2	83.9	83.8	85.7
12	82.8	82.1	81.7	81.2	82.0	83.9	84.3	85.3	86.1	86.5	86.6	87.9	88.9	89.7	90.2	90.9	91.4	91.6	90.5	89.2	88.1	86.9	85.9	85.4	86.6
13	85.3	85.5	85.5	85.4	84.5	84.2	84.3	84.6	85.0	87.3	88.3	89.8	88.3	88.5	88.9	89.3	89.6	89.3	89.8	87.6	86.5	86.5	86.4	85.9	86.9
14	85.3	84.3	83.0	83.0	84.1	85.4	87.3	88.6	90.2	91.6	93.4	94.0	95.6	94.9	94.8	93.3	94.1	94.0	92.5	91.3	89.3	86.9	86.1	86.0	89.5
15	86.4	86.5	86.5	85.5	85.9	88.5	90.5	92.0	93.1	94.2	94.5	95.5	96.1	96.5	96.7	98.0	96.3	94.9	94.7	90.8	90.0	90.2	89.2	89.2	91.7
16	88.8	88.8	88.6	88.4	88.2	88.5	89.3	90.0	91.2	92.5	93.6	94.8	95.1	96.6	96.2	95.2	95.7	95.0	92.6	91.7	90.7	90.2	89.8	89.1	91.7
17	87.4	86.6	86.6	87.0	86.3	85.7	86.4	86.9	87.0	87.0	87.6	88.4	89.0	87.0	87.5	87.3	88.1	87.8	87.0	86.0	84.9	84.3	84.2	83.6	86.8
18	83.2	82.7	82.5	82.3	83.0	83.2	84.0	85.3	85.6	85.8	86.4	84.7	86.0	88.1	86.8	87.9	87.2	86.6	86.3	85.7	85.2	85.1	84.2	84.3	86.1
19	84.6	84.4	84.3	84.1	84.2	84.6	84.6	85.7	86.4	87.4	87.3	87.0	88.6	90.6	88.0	88.1	87.5	90.2	88.8	87.6	87.1	86.1	85.2	84.3	86.4
20	83.7	82.9	82.3	82.4	83.9	84.8	86.0	87.4	88.3	89.3	89.6	91.0	91.0	91.9	92.1	90.2	85.7	87.0	87.0	86.4	86.1	85.9	85.0	84.8	86.9
21	84.9	84.9	84.3	83.6	84.0	86.3	87.0	89.0	88.6	88.1	85.8	87.2	89.1	90.2	92.1	90.6	87.3	87.6	88.2	87.3	85.3	84.3	83.2	82.9	86.8
22	81.2	81.4	81.5	81.4	82.3	82.7	83.7	86.2	87.9	89.4	90.9	91.9	92.1	91.9	92.9	92.2	92.1	92.0	90.6	88.9	88.0	87.4	86.5	86.4	87.5
23	85.5	85.1	85.1	84.3	84.3	84.9	85.6	87.4	88.9	90.9	92.2	92.5	93.5	93.8	93.6	95.3	95.3	94.0	91.8	90.5	89.2	89.2	87.3	86.5	89.4
24	86.2	86.0	85.9	86.0	86.3	86.8	87.3	87.6	88.4	89.4	90.6	91.2	89.5	89.2	90.2	91.3	91.0	90.7	90.1	89.2	88.5	87.7	87.2	87.3	88.5
25	87.0	87.0	86.3	86.4	86.7	87.6	88.0	89.3	90.4	90.4	91.0	91.4	92.0	92.1	92.8	92.9	93.2	92.7	92.5	91.5	90.1	89.1	88.5	88.0	89.9
26	87.3	86.9	87.0	87.1	86.3	86.6	86.9	86.9	88.2	89.1	89.6	90.2	91.3	92.0	92.9	94.1	94.0	92.6	90.5	89.2	88.2	87.9	87.6	87.1	89.2
27	86.9	86.7	86.2	85.6	85.4	85.6	86.8	86.8	87.9	88.6	89.6	90.5	91.7	92.4	93.0	93.4	93.7	94.0	92.8	91.5	90.9	90.0	89.7	88.7	89.4
28	87.3	85.9	85.2	84.7	84.8	85.4	87.0	87.5	88.4	89.3	89.6	90.4	91.0	90.6	90.9	91.6	89.6	89.2	88.2	87.5	87.1	86.5	85.6	84.9	87.9
29	83.7	82.5	83.0	82.7	83.2	84.7	85.5	86.7	87.9	88.9	89.7	90.5	90.7	91.0	91.9	92.4	92.5	91.6	91.2	90.7	90.0	89.4	88.6	88.2	88.2
30	88.2	87.9	87.1	86.3	85.5	86.5	87.5	88.6	89.7	90.5	91.4	92.3	92.5	93.0	93.2	93.2	93.6	93.3	92.3	90.6	89.4	88.3	87.9	87.7	89.9
Mean	86.3	85.8	85.5	85.0	85.5	86.5	87.7	89.0	90.1	91.0	91.7	92.3	92.9	93.3	93.5	93.6	93.1	92.8	91.7	90.2	89.1	88.3	87.5	87.0	89.6
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean



## TEMPERATURE.

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462. RICHMOND (Kew Observatory): North Wall Screen:ht (height of thermometer bulb above the ground) = 3.0 metres.

JULY, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	87.1	86.0	84.4	84.2	84.6	85.6	87.1	88.6	89.6	91.2	92.2	93.7	95.1	96.3	97.1	96.7	96.5	96.1	95.2	94.7	93.7	93.2	93.2	92.2	91.3
2	91.5	90.9	90.0	89.3	89.1	89.9	90.6	91.5	92.2	93.1	94.0	94.0	94.3	94.1	95.0	95.6	96.3	96.3	96.1	94.9	91.7	90.9	90.0	88.8	92.6
3	88.2	87.4	87.3	87.2	88.5	90.2	91.5	93.2	95.4	96.2	97.2	98.5	99.9	00.3	01.0	01.0	01.5	01.4	99.6	98.0	95.4	93.3	91.5	90.3	94.7
4	90.3	89.3	89.0	88.3	88.5	90.5	93.5	95.5	97.0	98.6	99.3	99.8	00.1	01.1	01.5	02.0	01.1	99.9	98.1	96.9	95.0	92.4	91.0	90.5	96.4
5	89.3	89.3	88.7	88.7	89.3	91.2	92.0	93.0	93.2	92.7	93.0	93.1	93.3	94.3	93.3	92.6	93.3	92.2	90.9	89.5	89.4	89.0	89.0	88.9	91.3
6	89.5	89.8	89.9	90.0	90.1	90.7	90.9	91.5	92.0	93.2	95.1	95.5	97.0	97.0	97.7	98.6	98.2	96.5	95.9	95.0	94.0	93.5	92.8	92.0	93.5
7	91.6	91.2	91.0	91.0	91.2	91.6	92.9	95.1	97.2	99.1	99.1	98.0	98.4	97.9	96.5	96.5	96.5	95.3	96.7	92.6	91.6	90.5	89.9	88.6	94.2
8	88.8	89.6	89.9	90.0	90.3	90.7	92.0	92.0	93.9	94.5	95.8	96.0	95.5	95.7	95.8	95.8	95.9	96.4	94.6	92.2	91.0	90.0	90.9	90.5	92.8
9	89.4	88.8	88.7	88.2	88.3	89.3	89.0	90.0	91.1	92.2	93.3	93.5	95.1	94.3	94.9	94.5	95.4	92.6	92.0	90.5	89.9	89.3	89.0	89.0	91.2
10	89.1	88.5	88.1	87.5	87.8	88.2	88.6	88.8	89.9	90.7	92.0	92.6	91.8	91.6	92.7	94.2	94.5	93.2	92.4	91.3	90.2	89.7	89.4	88.7	90.5
11	88.2	88.4	88.3	88.4	88.5	89.0	90.0	90.2	91.1	92.1	90.0	89.8	91.5	91.2	91.9	89.7	90.1	89.5	89.0	88.8	88.1	88.1	87.9	87.7	89.5
12	87.1	86.6	86.5	86.6	87.1	87.7	88.6	89.3	90.2	90.6	91.2	92.5	93.4	93.9	94.2	95.1	94.5	94.5	93.4	91.6	90.2	89.0	88.0	87.5	90.4
13	87.2	86.6	86.5	86.7	87.1	87.5	88.0	88.9	88.7	88.6	88.2	88.0	88.6	88.8	89.8	90.3	90.4	90.5	90.1	89.7	89.5	89.3	88.9	88.7	88.6
14	88.5	88.5	88.3	88.0	88.4	88.2	89.1	90.1	90.9	92.0	91.1	92.5	93.2	94.0	94.1	94.5	93.0	92.9	93.1	90.7	89.4	88.4	87.7	87.1	90.6
15	86.6	85.9	85.1	84.7	85.9	87.0	87.2	88.6	90.0	89.1	91.9	92.5	92.2	92.5	92.3	90.7	92.2	90.6	88.4	87.9	87.2	86.7	86.7	86.4	88.7
16	86.2	85.9	85.6	85.8	86.1	86.6	87.3	88.1	88.7	89.9	91.2	92.1	88.0	91.4	92.5	92.9	90.6	90.6	90.9	89.9	88.8	88.1	87.0	86.7	88.8
17	86.3	85.6	85.8	85.8	86.0	86.3	87.3	88.5	90.4	92.0	92.6	93.0	93.5	92.3	91.8	92.5	92.7	91.8	91.3	90.9	90.5	90.2	90.0	89.8	89.8
18	89.8	89.3	89.0	89.2	89.3	90.0	90.6	91.1	92.0	93.6	94.6	95.9	95.8	97.1	96.5	97.5	98.5	96.5	96.2	95.1	93.3	92.5	91.4	91.0	93.1
19	90.2	89.3	88.7	88.4	88.7	90.0	91.3	92.6	93.7	95.3	96.0	97.4	98.8	98.8	99.4	99.7	00.3	99.3	97.9	95.4	93.5	91.4	90.1	89.1	94.0
20	88.6	88.3	88.2	87.4	88.0	88.7	89.9	90.6	91.9	93.2	94.5	96.0	98.1	98.3	99.7	98.7	98.2	98.0	96.3	95.6	94.9	94.0	92.2	90.8	93.3
21	89.9	89.1	88.3	88.0	88.3	89.1	91.2	92.5	94.0	95.0	95.9	97.0	97.3	98.7	98.3	98.5	97.7	96.9	95.7	94.3	93.1	92.3	91.6	90.0	93.5
22	89.5	88.8	89.0	88.1	87.6	88.7	90.5	92.7	93.9	94.8	96.0	97.0	97.0	97.9	98.3	97.9	98.2	96.8	96.3	95.0	92.4	91.2	90.6	90.6	93.3
23	89.7	89.9	89.2	88.3	89.2	89.8	90.6	92.2	93.5	95.5	96.9	97.9	98.8	99.1	99.6	99.5	99.9	99.5	99.0	96.8	95.5	94.5	93.1	91.0	94.5
24	90.6	89.7	88.6	89.0	89.5	90.5	91.4	93.3	94.7	95.8	97.6	98.0	98.6	99.9	00.3	00.8	01.1	01.2	99.3	97.0	95.0	93.9	92.5	91.8	95.0
25	91.1	89.7	89.7	89.3	89.4	90.0	91.0	92.4	91.7	91.5	92.8	93.6	95.6	97.1	98.7	00.1	01.4	01.8	01.0	97.0	94.7	93.3	92.2	91.1	94.0
26	90.2	89.4	89.0	87.1	88.3	89.5	90.8	92.5	94.0	95.6	96.9	98.3	99.5	01.1	02.3	02.8	03.9	03.3	02.0	97.2	95.2	95.1	95.1	93.2	95.5
27	93.9	92.3	93.0	92.6	92.5	93.4	95.0	97.0	98.9	02.3	03.0	03.1	03.7	02.3	00.1	96.6	97.1	98.5	99.0	96.7	95.3	94.0	92.3	91.9	96.9
28	90.1	88.6	87.3	86.4	86.5	86.8	87.7	89.1	90.8	92.3	93.2	94.1	94.8	95.8	95.2	95.0	94.6	92.8	92.0	91.2	90.6	90.6	90.6	90.4	91.1
29	90.2	90.2	90.0	89.8	89.6	89.6	89.0	89.3	90.1	92.2	92.0	94.0	93.1	93.5	92.9	92.7	93.9	92.7	91.7	90.7	89.9	89.1	87.6	87.5	90.9
30	87.2	86.6	86.9	86.5	86.3	87.0	87.7	89.1	89.5	90.4	92.0	92.5	93.3	95.0	95.3	95.5	95.7	95.9	95.0	92.0	90.7	90.2	89.6	89.6	90.8
31	89.6	89.7	89.3	89.7	90.3	90.2	90.3	90.2	90.6	90.5	90.3	90.7	90.9	91.2	91.2	91.5	90.7	91.1	91.0	90.6	90.4	90.0	89.4	89.2	90.4
Mean	89.2	88.7	88.4	88.1	88.4	89.1	90.1	91.2	92.3	93.3	94.2	94.9	95.4	95.9	96.1	96.1	96.3	95.6	94.8	93.2	91.9	91.1	90.4	89.7	92.3

463. RICHMOND (Kew Observatory): North Wall Screen:ht = 3.0 metres.

AUGUST, 1933.

Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	89.0	88.9	89.0	88.8	88.6	88.5	88.9	88.8	89.8	91.2	92.0	92.4	93.7	94.9	95.1	95.6	95.3	95.6	95.0	92.9	91.5	90.4	89.1	87.3	91.4
2	86.0	86.2	85.6	85.2	85.2	86.5	88.3	90.6	92.4	94.2	95.9	97.1	98.2	98.3	99.1	99.6	00.1	98.6	98.0	97.1	96.3	95.3	94.9	94.3	93.3
3	93.2	93.1	93.0	92.7	92.5	92.5	93.4	94.5	95.4	96.5	96.8	97.0	97.8	98.3	98.3	98.2	98.3	99.0	97.9	96.5	95.9	94.5	93.2	92.3	95.5
4	91.5	91.1	90.7	91.3	91.4	92.2	93.0	94.7	96.1	97.4	98.6	99.4	00.5	01.0	00.7	00.7	00.1	99.0	97.5	96.0	95.2	94.3	93.3	92.8	95.8
5	92.2	91.5	91.3	90.8	90.3	91.3	92.4	93.6	94.6	96.0	97.6	98.7	00.1	00.3	00.4	00.3	00.1	98.6	96.3	95.0	94.0	93.3	92.7	92.0	95.2
6	91.6	91.5	90.7	90.3	89.8	90.0	91.0	93.5	96.1	98.6	01.2	02.5	02.6	04.4	04.2	03.7	04.0	03.9	01.4	99.0	96.7	95.3	96.2	95.1	97.2
7	94.6	93.3	92.0	92.2	91.5	92.2	93.3	94.7	96.2	97.7	99.0	00.4	01.1	01.7	01.8	00.7	01.3	01.0	99.4	97.4	96.1	94.9	94.0	92.9	96.7
8	92.1	91.1	90.5	90.2	89.6	90.5	91.2	92.3	93.7	95.2	95.5	96.4	97.1	98.5	98.7	99.3	99.8	99.6	98.3	96.0	94.6	93.3	92.0	90.8	94.5
9	90.0	89.1	88.2	87.5	87.5	88.3	89.4	91.0	93.0	94.3	95.3	96.4	98.0	98.9	00.1	99.7	99.0	98.9	97.9	96.3	95.3	94.6	93.2	92.2	93.9
10	91.4	90.9	90.2	89.5	89.3	89.6	90.3	90.4	91.4	92.5	94.0	95.0	95.9	96.0	96.8	96.4	95.6	93.9	92.3	91.3	90.8	90.7	90.3	90.0	92.3
11	89.9	89.6	89.6	89.3	89.2	89.1	89.7	90.1	91.3	92.0	92.5	93.2	93.0	91.0	90.7	90.0	90.3	90.7	90.1	89.9	89.1	89.0	88.9	88.9	90.3
12	88.2	88.0	88.0	88.0	87.8	88.1	88.7	90.0	91.2	91.3	92.3	92.3	92.9	94.0	95.0	94.6	94.6	93.5	92.0	90.3	89.1	88.7	88.3	87.7	90.6
13	87.3	86.6	86.6	86.7	85.8	87.2	88.7	90.5	92.0	93.1	93.3	95.4	96.3	96.9	94.7	94.1	94.3	94.0	92.3	91.2	90.7	90.2	89.7	88.8	91.1
14	88.2	88.0	87.3	87.9	88.1	88.8	89.3	90.2	91.3	92.3	94.0	94.8	95.3	94.9	94.7	95.2	95.8	96.1	94.3	93.0	92.0	91.0	90.8	91.1	91.8
15	90.8	90.0	89.3	89.3	88.5	89.3	90.2	91.6	92.5	93.7	91.4	91.6	93.8	94.6	93.3	93.2	91.8	90.9	90.0	89.8	89.8	89.9	90.1	89.3	91.1
16	89.2	89.0	88.1	87.8	87.5	87.6	87.8	89.2	90.2	91.3	92.2	93.1	93.2	94.4	94.9	94.3	95.0	94.2	92.8	90.7	89.7	87.8	86.5	85.6	90.6
17	84.6	84.1	84.1	84.1	84.3	85.1	87.1	88.7	89.5	90.8	91.7	91.2	92.6	92.1	91.9	92.1	92.0	91.2	90.4	90.3	90.6	90.5	90.0	90.0	89.0
18	90.2	90.1	89.7	88.8	88.2	88.9	89.4	90.2	91.2	92.3	93.5	95.0	95.7	95.8	96.8	96.7	97.0	96.0	93.7	92.3	91.6	90.7	89.7	89.0	92.2
19	88.3	88.0	87.5	87.2	86.9	87.6	89.0	90.3	90.9	91.4	92.4	94.0	94.8	95.2	95.2	94.7	94.0	93.2	93.1	91.5	90.9	90.7	90.1	89.7	91.1
20	89.3	89.0	88.7	88.4	88.1	87.8	88.7	89.7	90.1	91.2	92.0	91.9	92.0	89.5	92.3	93.5	93.8	93.0	91.1	89.6	88.5	87.6	86.5	85.8	90.0
21	85.3	84.6	85.2	85.5	85.9	86.4	87.3	88.5	89.2	90.3	91.6	90.6	92.2	91.7	92.1	87.0	88.9	87.1	86.9	86.5	86.1	85.9	85.9	85.8	87.8
22	85.3	84.7	84.0	83.3	83.1	83.8	85.0	86.4	87.9	89.2	89.7	90.8	91.3	91.7	91.9	91.0	90.3	89.7	88.6	87.3	86.5	86.1	86.0	86.1	87.5
23	86.8	87.1	86.9	87.0	84.9	84.9	85.2	84.9	86.6	87.7	89.3	90.0	90.8	91.8	92.1	91.7	92.6	92.0	90.7	89.0	88.0	87.0	85.9	84.7	88.3
24	84.2	83.3	83.2	82.7	82.2	82.7	84.5	86.0	88.5	90.1	91.2	92.3	94.1	94.8	94.4	94.3	93.7	92.7	91.9	91.2	90.7	89.1	88.5	87.0	88.8
25	86.3	85.0	84.7	84.0	84.2	85.0	86.2	87.7	88.4	90.7	91.0	92.7	94.0	95.3	96.9	96.7	97.2	96.3	94.0	91.2	89.6	88.9	87.5	87.3	90.0
26	86.3	85.6	85.4	85.2	85.1	84.7	86.5	88.7	93.1	95.0	96.3	97.9	98.8	99.3	99.3	99.3	99.1	97.9	95.1	91.8	90.7	89.6	89.0	88.7	92.0
27	88.2	86.9	86.5	85.6	85.9	85.8	88.0	91.9	95.1	97.7	98.7	00.0	00.9	01.1	01.8	00.9	00.6	98.9	96.0	93.9	91.2	90.8	89.7	89.5	93.5
28	88.0	87.9	87.1	86.9	86.7	87.1	90.5	95.0	95.8	97.4	99.4	00.7	01.1	02.1	01.9	01.8	01.2	00.0	97.0	95.3	93.7	91.2	90.0	88.9	94.5
29	88.6	88.1	87.8	87.2	86.7	87.1	89.4	91.9	93.4	95.0	96.9	98.5	00.0	00.8	00.5	00.9	00.1	97.9	95.9	95.0	94.4	93.9	93.0	91.7	93.9
30	91.4	90.9	90.1	89.2	88.1	87.4	88.0	89.9	91.6	92.9	94.0	94.2	94.8	95.6	96.5	96.0	95.3	94.6	92.9	91.7	90.9	90.7	90.1	89.7	92.0
31	88.7	87.4	86.7	84.9	84.9	84.9	86.1	88.2	90.2	91.8	92.9	94.1	94.8	95.0	95.1	95.5	94.8	93.7	92.2	91.3	90.2	89.2	89.0	89.0	90.5
Mean	88.9	88.4	88.0	87.7	87.3	87.8	88.9	90.4	91.9	93.3	94.3	95.1	96.0	96.4	96.7	96.4	96.3	95.5	94.0	92.6	91.6	90.8	90.1	89.5	92.0
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean



Readings in degrees absolute at exact hours, Greenwich Mean Time.

464. RICHMOND (Kew Observatory): North Wall Screen:ht (height of thermometer bulb above the ground) = 3.0 metres.

SEPTEMBER, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	88.8	88.7	88.1	87.2	87.1	87.0	87.4	88.0	88.8	90.0	91.8	93.5	94.7	94.2	94.7	94.6	93.8	93.1	92.5	92.2	91.8	91.1	90.7	90.7	90.8
2	90.3	90.0	90.1	90.1	90.0	89.3	89.9	90.9	91.7	92.5	93.1	94.2	95.4	95.9	96.6	96.9	96.8	96.0	94.1	92.8	91.9	90.3	88.9	88.3	92.4
3	87.7	87.1	86.9	86.0	85.6	86.0	87.1	89.3	91.2	93.6	95.3	96.8	98.0	98.0	98.4	98.7	98.2	96.6	94.1	93.1	92.7	92.2	91.1	90.2	92.2
4	89.0	88.0	88.0	87.3	87.0	87.3	88.9	91.0	92.7	94.4	96.0	97.7	97.9	98.1	99.1	98.4	97.8	96.3	94.2	93.1	92.2	91.0	90.3	90.1	92.7
5	89.6	89.0	88.7	88.6	88.0	88.3	89.9	91.2	92.9	94.4	95.7	95.9	96.0	96.2	96.1	96.7	94.6	93.1	91.8	91.0	90.4	90.0	89.6	88.8	91.9
6	88.1	87.8	87.4	86.9	86.5	86.5	87.6	90.0	91.7	93.3	94.9	95.8	96.7	96.9	96.9	96.7	95.4	93.5	92.6	91.9	91.0	90.1	89.9	89.2	91.5
7	89.1	88.8	88.4	88.1	88.1	88.2	88.8	90.0	91.8	93.9	94.9	95.7	96.0	95.7	95.1	94.2	94.3	92.6	91.9	90.9	89.8	89.0	88.7	88.1	91.3
8	87.7	87.6	87.6	87.4	87.3	87.5	88.1	89.7	91.3	92.0	92.8	94.0	94.2	94.7	94.4	94.0	93.0	91.9	90.7	90.0	89.2	88.7	88.1	87.8	90.4
9	88.1	87.9	87.7	87.5	87.6	87.6	88.4	90.1	92.5	93.0	94.1	94.8	95.0	95.1	94.9	94.9	94.1	92.9	91.8	90.9	90.3	89.7	89.2	89.1	91.1
10	89.1	89.0	88.5	88.1	87.9	87.7	88.7	90.2	92.0	93.0	93.3	93.8	94.2	94.8	93.9	93.4	92.7	91.4	90.6	90.0	89.3	88.8	88.0	87.7	90.7
11	87.3	87.1	87.0	86.9	86.8	87.1	87.9	89.7	91.2	92.7	93.9	94.9	95.1	95.6	95.3	94.9	93.9	92.7	91.3	90.8	90.7	90.0	89.8	89.6	90.9
12	89.2	89.0	88.9	88.8	88.9	89.0	89.0	89.1	90.1	90.7	91.5	90.3	90.0	89.6	89.6	89.3	89.1	88.8	88.3	87.9	87.2	86.8	86.4	86.2	89.0
13	86.1	86.1	86.0	85.8	85.8	85.7	85.6	85.6	85.6	85.6	86.2	86.5	87.6	88.9	89.7	90.6	90.1	89.0	87.6	86.0	85.1	84.7	84.6	84.6	87.0
14	83.5	82.6	81.9	81.4	80.9	80.7	81.4	83.1	84.6	85.8	87.3	88.7	89.0	89.5	90.0	89.9	89.9	88.8	87.1	86.0	83.8	82.7	82.5	81.5	85.2
15	81.0	80.2	80.2	79.7	78.8	79.8	80.0	82.0	84.3	87.0	88.8	89.9	91.0	91.6	92.3	92.1	91.7	89.6	87.5	85.7	84.0	82.5	81.5	81.2	85.1
16	80.5	80.5	80.3	80.2	80.0	80.1	81.2	84.1	88.6	90.8	91.8	93.0	94.0	94.2	94.3	94.1	92.7	91.3	89.3	87.0	85.9	85.3	86.0	85.9	87.0
17	85.3	86.0	85.1	85.1	85.0	85.5	85.9	86.7	88.8	90.0	92.2	93.1	94.6	94.6	95.1	94.3	94.2	92.1	90.7	90.7	90.3	90.1	90.1	90.2	89.7
18	90.8	90.7	90.2	90.2	90.2	90.1	90.2	90.7	90.8	91.7	92.5	92.5	92.5	93.7	94.1	93.8	93.1	92.1	90.6	89.1	87.1	86.5	85.9	86.1	90.7
19	86.1	85.0	84.5	84.4	84.3	84.7	84.7	86.0	87.9	89.7	91.1	92.1	93.4	93.9	93.9	93.0	93.1	91.1	89.3	88.5	87.8	86.6	85.7	85.9	88.5
20	86.1	86.9	87.2	87.1	86.9	86.2	86.2	86.1	87.7	89.1	89.5	90.5	91.1	91.9	91.7	91.3	90.0	88.5	87.1	86.8	86.6	86.3	86.6	86.0	88.1
21	85.3	85.0	84.6	83.9	84.1	83.9	84.6	86.3	88.3	88.8	88.8	88.7	85.7	85.1	85.7	86.0	86.1	86.1	86.2	86.0	85.9	85.4	85.1	84.9	85.9
22	84.7	84.2	85.2	85.3	84.9	85.1	85.8	86.7	87.7	89.0	89.3	90.1	90.6	90.7	89.6	89.7	89.4	88.2	87.2	86.4	86.2	85.4	84.7	83.5	87.1
23	83.0	83.0	83.1	83.7	84.0	83.8	84.3	85.9	86.9	87.5	86.9	87.0	86.7	86.5	85.8	85.4	85.4	85.7	86.0	86.0	85.4	85.4	85.4	85.1	85.3
24	85.2	85.1	84.9	84.6	84.4	83.7	84.1	85.0	86.2	86.7	87.3	87.6	88.0	88.1	88.1	88.0	86.6	85.4	84.3	84.5	84.7	84.5	84.0	83.9	85.6
25	84.0	84.4	84.7	84.7	84.7	84.8	85.0	85.2	86.4	87.5	86.5	87.3	88.4	87.3	88.0	88.5	88.4	87.0	85.3	85.4	85.2	85.0	84.3	84.5	85.9
26	84.8	85.0	85.1	85.3	85.7	85.9	86.0	86.6	88.8	89.7	90.9	92.4	92.4	92.5	91.6	91.6	90.5	90.3	89.6	89.5	89.1	88.0	87.9	87.6	88.6
27	87.1	86.8	86.9	87.2	87.3	87.2	87.4	87.8	88.8	88.6	88.9	89.1	89.3	90.0	90.7	90.6	90.7	90.5	90.0	89.5	89.5	89.1	89.3	89.0	88.7
28	89.2	88.6	88.5	88.5	88.3	88.3	88.3	88.5	89.3	90.4	91.6	93.1	93.6	92.8	93.1	92.4	91.8	90.4	88.7	87.2	86.0	85.0	85.0	84.9	89.4
29	86.1	86.5	86.3	85.9	85.7	85.7	85.5	85.6	86.6	87.9	90.1	91.7	92.5	92.3	93.4	92.8	92.6	91.3	90.1	89.3	88.7	88.2	88.4	88.3	88.8
30	88.2	87.1	86.6	86.5	87.0	87.1	87.2	87.4	88.1	89.3	90.3	91.2	91.5	91.5	92.1	91.8	90.7	90.0	89.3	89.3	89.4	89.1	88.7	88.7	89.1
Mean	86.7	86.5	86.3	86.1	86.0	86.0	86.5	87.6	89.1	90.3	91.2	92.1	92.5	92.7	92.8	92.6	92.0	90.9	89.7	89.0	88.3	87.7	87.3	86.9	89.0

465. RICHMOND (Kew Observatory): North Wall Screen:ht = 3.0 metres.

OCTOBER, 1933.

Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	88.8	88.8	88.2	88.2	88.2	88.2	88.2	88.6	89.1	89.4	89.6	89.9	90.1	90.3	90.4	89.3	88.9	89.0	88.9	88.8	88.9	88.6	88.5	88.3	89.0
2	88.0	87.9	87.7	87.6	87.6	87.6	87.3	86.9	87.1	87.4	87.5	87.7	88.0	88.3	88.3	88.4	88.5	87.9	87.1	86.5	86.2	86.0	85.8	87.4	
3	86.4	85.0	84.3	83.5	82.1	81.7	81.7	83.2	85.4	86.1	86.9	87.7	87.8	87.6	87.4	87.3	87.1	86.7	86.4	85.8	85.5	84.7	84.3	83.6	85.3
4	83.2	82.2	81.0	81.1	80.5	80.2	80.3	82.3	84.4	86.0	86.6	87.4	88.1	88.6	89.0	88.9	88.3	86.0	85.2	84.7	82.5	82.3	81.4	81.2	84.3
5	81.0	80.7	80.0	80.3	81.0	81.0	81.5	81.9	82.2	83.5	85.0	86.4	88.2	89.4	88.7	88.7	87.4	87.6	87.3	87.6	86.8	85.9	85.2	84.5	84.6
6	83.4	83.1	83.0	83.9	84.6	84.6	84.6	84.8	85.6	86.9	89.0	91.1	91.9	92.3	92.1	91.7	90.5	88.7	87.1	86.9	86.2	86.0	85.6	85.6	87.0
7	85.7	86.0	86.0	86.0	85.7	86.1	86.3	86.6	86.9	88.7	89.9	91.0	91.5	92.6	92.4	92.1	91.0	89.0	88.5	88.2	88.5	88.2	88.1	88.2	88.4
8	88.2	88.1	88.2	88.2	88.2	88.1	88.1	88.6	89.4	90.2	90.9	91.3	90.6	91.1	90.8	90.6	90.1	89.4	88.8	88.4	87.8	87.0	86.0	85.3	89.0
9	84.8	84.3	83.7	83.5	82.7	82.3	83.1	84.7	86.9	89.2	89.7	90.8	90.8	90.5	90.1	89.3	88.7	88.7	88.8	89.0	89.1	89.2	89.3	89.1	87.3
10	89.3	89.3	89.3	89.3	89.6	89.6	89.9	90.4	90.4	90.1	90.8	91.1	92.0	92.3	92.2	91.6	89.9	90.4	91.1	91.5	91.3	91.0	91.1	91.0	90.6
11	91.0	90.3	90.1	90.0	89.3	89.6	89.9	86.9	84.8	86.0	87.6	88.3	88.6	88.7	87.9	88.2	87.2	86.3	85.6	84.8	84.7	84.1	83.6	83.0	87.5
12	82.3	82.1	82.0	81.5	81.2	80.7	81.0	82.2	84.1	85.8	86.2	86.8	87.3	88.0	87.7	86.7	86.1	85.3	84.0	83.3	82.3	81.6	79.4	80.1	83.7
13	78.4	78.1	77.9	77.8	76.9	77.3	78.1	80.2	81.3	84.7	86.4	87.5	87.8	88.3	88.5	88.0	87.0	85.9	85.3	84.8	84.1	84.2	84.1	84.4	83.1
14	84.1	84.5	84.7	84.6	84.8	84.2	84.4	85.3	86.9	88.0	88.0	87.2	87.7	86.4	86.6	87.6	86.9	86.0	85.3	84.5	84.1	83.4	83.4	82.9	85.5
15	82.5	82.0	81.0	80.2	80.3	79.7	79.2	80.5	82.5	84.2	85.9	86.7	86.9	86.8	86.6	86.7	85.9	85.1	84.7	84.7	84.6	84.7	84.7	85.0	83.7
16	84.6	84.4	84.0	83.4	83.2	82.1	81.7	82.3	83.4	84.3	84.8	85.4	86.2	85.3	83.4	84.3	82.9	81.6	80.7	81.0	80.4	80.0	80.3	79.9	83.0
17	79.6	79.4	79.0	78.8	78.6	78.3	78.6	79.7	81.4	82.7	83.7	83.8	84.0	84.2	84.2	84.4	83.0	82.0	80.0	79.0	78.8	78.2	77.5	77.3	80.7
18	77.2	75.3	75.3	75.2	75.0	74.3	74.0	74.4	76.1	79.7	83.1	84.7	85.7	86.5	86.6	86.3	84.6	83.0	83.5	83.2	82.4	82.0	82.4	82.5	80.4
19	82.5	82.3	82.1	82.2	81.3	81.0	80.7	81.7	83.2	85.1	85.5	86.6	86.5	86.3	85.8	85.1	84.0	83.2	83.0	82.6	82.1	81.9	81.7	81.6	83.3
20	81.3	81.0	81.0	81.0	81.2	81.6	81.6	82.1	83.7	84.7	85.8	86.0	86.5	86.3	85.7	85.3	84.5	84.5	84.1	84.5	84.7	83.7	82.6	83.0	83.6
21	83.0	82.7	82.7	83.0	83.6	83.0	82.9	83.3	84.4	85.0	85.5	85.9	85.9	86.0	86.3	85.7	85.6	85.4	85.1	85.0	84.9	84.7	84.3	84.1	84.5
22	84.0	83.9	84.2	84.0	83.8	83.8	83.9	84.0	84.4	85.1	86.0	86.3	85.9	86.1	86.5	86.3	86.2	86.3	86.3	86.3	86.3	86.0	86.0	85.3	85.6
23	86.0	86.1	86.0	85.7	85.5	85.5	85.5	85.9	86.1	87.0	87.7	88.8	89.0	89.0	88.6	87.7	86.8	86.0	86.4	85.8	85.6	85.5	85.6	85.6	86.3
24	85.7	86.0	86.0	86.0	85.9	85.9	85.9	85.6	85.2	85.2	85.5	85.7	86.0	86.5	86.6	86.3	86.1	85.9	85.8	85.7	85.1	85.0	84.6	84.7	85.7
25	84.6	84.6	84.3	84.0	84.0	84.2	84.3	84.4	84.4	84.9	84.8	83.8	83.0	83.7	82.9	83.0	82.4	81.9	81.0	80.0	79.3	78.7	78.2	77.6	82.8
26	77.0	76.5	76.2	76.2	75.7	75.6	75.7	76.6	77.8	79.0	80.1	80.8	81.1	81.0	81.0	80.6	79.9	79.0	78.5	78.0	77.6	77.3	76.8	76.2	78.1
27	76.0	76.2	76.3	76.8	77.5	77.7	78.3	79.0	79.5	80.0	80.2	79.4	78.6	79.2	78.5	78.6	77.2	77.0	76.0	75.6	74.9	74.4	74.1	73.7	77.3
28	73.7	73.7	73.9	73.9	73.5	73.3	73.1	73.9	75.4	76.5	77.8	79.7	80.0	80.5	79.8	79.5	78.7	78.6	78.6	78.4	78.4	78.3	78.3	78.6	78.8
29	79.2	79.6	79.7	80.0	79.2	78.8	78.5	78.8	79.2	80.4	80.7	81.9	82.3	82.6	82.5	81.7	80.7	80.6	80.1	78.9	78.8	78.3	78.7	78.9	80.0
30	79.2	79.1	79.4	78.5	78.1	78.4	78.4	78.7	78.3	79.0	81.0	82.0	83.0	82.7	82.8	82.3	81.9	80.8	80.6	80.0	79.0	78.3	78.5	78.0	79.9
31	77.7	77.4	77.9	78.3	78.9	79.0	79.4	80.1	80.6	81.3	82.1	83.2	83.4	84.4	82.9	82.0	81.7	81.0	81.0	80.7	80.3	80.2	80.0	80.1	80.5
Mean	82.8	82.6	82.4	82.3	82.2	82.0	82.1	82.7	83.6	84.7	85.6	86.3	86.6	86.8	86.5	86.3	85.5	84.8	84.3	84.0	83.6	83.2	82.9	82.8	84.0
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean



## TEMPERATURE.

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Readings in degrees absolute at exact hours, Greenwich Mean Time.  
 466. RICHMOND (Kew Observatory): North Wall Screen:  $h_t$  (height of thermometer bulb above the ground = 3.0 metres).

NOVEMBER, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean
Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	80.0	80.0	80.0	79.9	79.8	79.2	79.2	79.9	81.1	82.1	82.6	82.9	83.0	83.2	83.5	83.3	83.8	83.7	83.9	83.6	83.8	84.2	84.2	84.0	82.0
2	83.9	83.7	83.3	83.0	82.9	82.9	82.0	82.3	82.4	82.9	83.3	83.7	83.3	83.3	82.5	82.2	81.3	80.5	80.2	80.1	80.1	80.0	79.0	79.2	82.1
3	79.1	79.1	79.1	79.2	79.2	78.6	77.7	77.3	78.1	79.2	80.3	81.1	81.5	81.7	81.9	81.6	81.1	80.9	79.6	79.0	78.6	78.0	78.2	78.7	79.6
4	79.4	79.7	79.1	79.2	78.7	78.3	78.5	78.4	79.1	80.0	80.9	81.8	80.7	82.0	80.9	80.7	79.8	79.7	79.3	78.5	78.2	78.0	77.5	77.2	79.4
5	77.0	76.4	76.2	76.5	76.6	76.6	76.4	76.5	77.0	78.2	81.2	82.3	81.8	81.7	81.5	81.2	80.8	80.2	79.0	77.9	76.9	76.5	75.5	75.1	78.3
6	75.0	75.6	76.0	76.4	76.9	77.4	77.8	78.2	79.2	80.4	81.9	82.6	83.1	82.9	82.7	82.5	82.4	82.5	82.5	82.5	82.5	82.5	82.5	82.6	80.2
7	83.0	83.4	83.3	83.4	83.1	83.0	82.9	82.6	83.4	84.2	84.7	85.0	86.1	85.8	85.3	85.0	84.7	84.3	83.7	83.8	83.6	83.6	83.4	82.9	83.9
8	82.3	82.0	82.0	81.8	81.6	80.6	79.9	79.5	80.1	81.5	82.0	82.4	82.5	82.4	81.6	80.2	78.7	78.1	77.6	76.7	75.3	77.3	77.8	78.3	80.2
9	78.6	78.4	77.7	76.4	74.3	75.1	76.0	77.0	78.2	80.0	81.6	82.4	82.9	82.7	82.4	81.8	80.6	78.6	77.9	77.0	76.9	77.2	77.9	78.3	78.7
10	79.0	79.6	79.4	79.6	79.6	79.7	79.6	79.6	79.1	79.6	81.0	81.9	82.2	82.2	81.9	81.3	80.6	79.9	80.0	79.6	79.5	79.0	78.6	78.6	80.0
11	78.6	78.2	77.3	77.0	76.3	75.8	75.2	75.1	75.4	76.3	76.5	76.9	77.4	77.9	78.0	78.0	77.9	77.7	77.1	76.5	75.5	75.3	75.0	75.0	76.7
12	75.0	75.3	74.7	74.5	74.9	75.3	77.3	77.6	77.6	78.3	79.6	80.2	81.3	81.4	81.5	81.1	80.5	80.1	79.2	78.3	77.3	76.1	75.3	75.1	77.8
13	74.7	74.6	74.3	73.9	73.3	72.9	73.2	73.2	74.2	75.3	77.0	78.3	79.2	80.7	80.4	79.8	79.7	79.6	79.5	79.2	79.2	79.1	78.6	78.3	76.9
14	77.4	77.0	76.4	76.1	75.6	75.2	75.0	75.3	75.8	77.2	78.6	79.9	80.9	80.7	81.1	79.7	77.5	76.5	76.4	77.4	78.1	78.3	78.9	79.3	77.7
15	79.7	80.1	80.5	80.8	80.9	81.1	81.0	80.7	80.8	81.9	81.4	81.5	81.9	82.9	82.9	81.8	81.0	79.2	78.2	77.0	75.3	74.3	73.4	73.1	79.8
16	72.6	73.4	74.1	74.7	74.6	73.7	74.6	75.4	75.8	76.8	78.5	78.5	80.5	80.5	80.5	79.9	79.9	80.0	79.9	79.7	79.6	79.4	79.2	79.1	77.4
17	78.9	78.9	79.1	79.2	79.0	79.0	79.3	79.6	79.6	79.7	80.3	81.1	81.3	81.1	81.1	80.9	80.4	80.0	80.0	80.0	80.2	80.2	80.0	79.6	79.9
18	79.3	79.7	79.7	79.1	78.8	78.5	78.6	78.6	78.8	79.0	79.4	79.7	80.2	80.3	80.3	80.1	80.1	80.3	80.3	80.5	81.2	81.6	81.9	81.9	79.9
19	81.5	81.4	81.3	81.4	81.6	81.9	82.2	82.2	82.4	83.0	84.1	84.4	85.1	84.6	84.5	83.9	84.0	83.3	83.2	83.3	84.6	84.0	83.2	81.5	83.0
20	81.9	81.0	81.6	80.7	79.9	79.9	80.7	81.0	81.4	81.2	81.3	82.0	81.8	81.7	83.0	84.2	84.0	83.7	83.5	83.5	83.3	82.3	81.6	81.2	81.9
21	80.9	80.6	80.5	80.3	80.4	80.4	80.3	80.4	80.3	80.6	80.7	80.7	80.7	80.8	80.8	80.7	80.8	80.8	80.7	80.6	80.4	80.4	80.3	80.3	80.6
22	80.2	80.1	80.0	80.0	80.0	80.0	80.0	80.2	80.4	80.5	80.9	81.0	81.0	80.9	80.8	80.6	80.5	80.3	80.2	80.2	80.3	80.1	80.1	80.0	80.3
23	80.0	80.0	80.0	80.0	80.2	80.1	79.6	79.6	79.7	80.5	81.3	81.5	81.6	81.8	81.6	81.1	80.2	79.6	79.2	79.0	78.6	79.0	78.8	78.7	80.1
24	78.6	78.9	78.7	78.7	78.9	78.4	78.0	78.6	78.6	79.5	80.3	80.9	81.0	80.9	80.8	80.4	80.1	79.5	78.6	78.7	78.7	78.2	78.1	78.1	79.3
25	78.0	78.0	77.3	77.2	76.7	76.6	76.6	76.1	76.3	77.2	78.4	78.5	79.0	77.0	77.6	77.0	76.9	76.1	75.8	75.5	75.2	75.8	76.0	76.3	76.9
26	76.5	76.5	76.3	76.6	76.8	77.0	76.9	76.9	76.9	77.1	77.1	77.3	77.8	77.7	77.3	76.7	76.7	76.6	76.5	76.2	76.2	76.1	76.1	76.2	76.8
27	76.0	75.9	76.0	75.7	75.6	75.5	75.9	75.6	75.8	76.8	76.8	77.4	77.2	77.3	77.4	78.0	78.0	78.1	77.9	77.9	77.6	77.0	76.8	76.6	76.8
28	76.4	77.0	77.0	77.3	77.5	77.6	77.6	77.6	77.7	78.0	78.1	78.2	78.0	77.5	77.4	77.3	77.1	77.0	77.0	77.1	77.0	77.0	77.0	76.5	77.3
29	76.7	76.5	76.2	76.0	75.9	75.5	75.0	76.2	76.0	77.0	77.6	77.8	77.8	77.7	77.8	77.8	78.0	78.0	78.1	78.1	78.2	78.1	78.0	77.7	77.1
30	77.7	77.6	77.4	77.5	77.4	77.2	77.1	77.0	76.9	77.1	77.3	77.4	77.5	77.5	77.4	77.2	77.0	76.9	76.7	75.9	75.9	75.7	75.9	76.0	77.0
Mean	78.6	78.6	78.5	78.4	78.2	78.1	78.1	78.3	78.6	79.4	80.2	80.6	80.9	81.0	80.9	80.5	80.1	79.7	79.4	79.1	78.9	78.8	78.6	78.5	79.3

467. RICHMOND (Kew Observatory): North Wall Screen:  $h_t$  = 3.0 metres.

DECEMBER, 1933.

Day	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	76.3	76.3	76.3	76.0	74.2	74.0	74.4	74.8	75.3	76.0	76.6	77.0	77.1	77.0	76.4	76.1	76.0	75.6	75.0	74.9	75.2	75.0	74.8	74.7	75.7
2	74.4	74.3	74.4	74.3	74.0	74.3	74.4	74.7	75.3	75.8	76.2	76.4	77.5	76.6	76.7	76.6	76.3	76.7	77.0	77.5	77.3	77.4	77.3	77.2	75.8
3	77.0	77.0	76.6	76.3	76.1	76.0	75.8	75.7	75.8	76.1	76.2	76.4	77.4	77.3	77.0	76.5	76.0	75.6	75.0	74.9	74.4	74.1	74.0	73.9	75.9
4	73.7	73.7	73.7	73.8	73.9	73.8	72.8	72.9	73.0	73.7	74.6	74.5	74.0	73.7	73.6	73.5	73.4	73.4	73.4	73.3	72.9	72.4	72.2	72.1	73.5
5	72.4	72.6	72.8	72.9	73.0	73.3	73.4	73.6	73.9	74.2	74.4	74.6	74.7	74.7	74.6	74.5	74.4	74.1	74.0	73.6	73.0	72.8	72.3	72.5	73.6
6	72.3	71.7	71.5	71.1	70.8	70.7	70.6	70.5	70.9	71.1	72.0	72.5	72.5	73.0	73.5	73.0	72.5	72.6	72.3	72.6	73.0	71.7	70.9	70.6	71.9
7	70.7	70.0	69.0	69.9	70.6	71.1	71.5	71.9	72.3	72.8	73.3	74.0	76.8	77.6	77.4	77.1	77.0	77.0	76.9	76.9	76.7	76.6	76.2	74.1	74.1
8	76.0	75.9	75.5	75.0	74.9	75.1	75.1	75.3	75.3	74.4	74.2	74.4	76.0	74.9	74.6	74.7	74.6	74.5	74.0	73.9	74.5	74.6	74.2	73.7	74.8
9	73.3	73.0	72.9	72.6	72.5	72.3	72.4	72.5	72.4	72.4	73.2	73.6	73.8	73.4	73.6	73.4	73.3	72.9	72.8	72.8	72.7	72.7	72.2	72.0	72.9
10	71.7	71.6	71.1	70.9	71.0	71.1	71.1	71.2	71.4	72.4	73.2	74.1	74.5	74.7	74.6	73.9	73.2	73.3	73.4	73.7	73.7	73.9	74.1	73.7	72.8
11	73.7	73.7	74.0	74.3	74.6	74.9	75.0	75.4	75.6	76.0	76.3	76.8	76.6	76.5	76.4	76.2	76.0	75.6	75.3	74.9	74.6	74.4	74.3	73.9	75.2
12	73.7	73.7	73.4	73.2	72.6	72.7	72.5	72.4	72.4	72.9	73.5	74.4	75.4	75.8	75.7	75.7	75.5	75.2	75.2	75.1	75.0	75.4	76.0	76.1	74.2
13	76.3	76.3	76.3	76.4	76.6	76.5	76.5	76.5	76.7	75.4	75.0	75.2	75.2	75.1	74.9	74.1	73.1	72.7	72.6	72.3	72.3	72.2	72.0	71.6	74.5
14	71.4	71.3	71.2	71.0	70.9	70.7	70.7	70.7	70.9	71.3	72.2	72.7	73.1	72.9	72.7	72.3	71.7	71.1	70.9	71.3	71.6	71.0	70.5	73.0	71.5
15	74.4	74.9	75.0	75.7	76.5	77.1	77.2	76.6	76.8	77.5	78.2	78.5	78.6	78.7	78.3	77.4	76.9	76.1	75.6	75.7	75.7	75.1	74.5	75.0	76.5
16	75.1	74.7	74.2	73.8	73.9	73.5	73.0	73.4	73.7	74.7	75.2	75.7	75.9	75.7	75.9	75.2	74.8	74.1	73.3	74.0	73.7	73.2	73.3	73.0	74.3
17	73.5	73.3	73.6	74.2	74.3	74.2	74.3	74.3	74.4	74.6	75.0	75.5	75.8	76.0	76.2	76.2	76.3	76.2	76.0	75.4	75.6	75.6	75.5	75.1	75.0
18	76.1	74.6	74.7	75.0	74.5	74.0	74.1	73.2	74.1	75.3	76.3	77.0	76.9	76.9	76.9	75.1	74.8	73.4	73.9	74.6	74.6	74.4	73.9	74.9	74.9
19	73.8	73.1	72.4	71.4	71.2	71.5	71.6	72.0	72.4	73.0	73.6	74.1	74.5	74.8	75.1	75.2	75.5	75.6	76.2	75.9	75.9	76.0	76.1	76.3	74.0
20	76.5	76.4	76.4	76.5	76.6	76.9	76.7	76.7	76.8	76.9	77.0	77.0	76.7	76.7	76.7	76.3	76.2	75.6	74.7	74.4	74.6	73.8	73.5	73.4	76.0
21	73.6	73.8	73.9	73.9	74.0	74.0	74.1	74.1	74.4	74.5	73.9	74.4	74.8	74.3	74.4	74.6	74.0	74.3	74.6	74.7	74.6	74.8	74.7	74.7	74.3
22	74.9	75.0	75.2	75.2	75.7	75.5	75.8	76.0	77.1	77.3	77.9	79.0	79.4	79.6	79.3	78.7	77.7	77.0	76.7	76.7	76.7	76.1	76.2	75.8	76.8
23	75.7	75.8	75.6	75.4	75.4	75.6	75.6	76.5	76.6	77.3	78.0	78.4	78.6	78.6	78.4	78.1	77.7	77.6	77.5	77.3	77.1	76.7	76.5	76.2	76.9
24	75.9	75.6	75.7	75.7	75.5	75.2	75.2	75.3	75.3	75.6	75.9	76.0	75.7	75.6	75.7	75.5	75.5	75.4	75.2	75.0	74.5	74.4	74.3	74.2	75.4
25	74.2	73.9	73.7	73.6	73.5	73.4	73.6	73.5	73.5	73.7	74.2	75.0	76.0	76.5	76.6	76.5	76.2	76.3	76.4	76.3	76.7	77.0	77.0	76.5	76.1
26	76.6	76.7	76.5	76.6	76.7	76.7	76.6	76.5	76.6	76.7	77.0	77.2	77.4	77.5	77.4	77.4	77.4	77.3	77.1	77.0	76.9	76.8	76.6	76.1	76.9
27	75.5	76.0	76.2	76.0	75.5	75.4	75.4	75.2	75.0	75.1	76.2	76.2	76.2	76.2	76.3	76.2	76.0	75.5	75.0	74.4	74.7	75.0	76.0	76.5	75.6
28	76.2	76.1	76.0	75.8	75.4	75.4	75.4	75.3	75.3	75.8	76.1	76.3	76.8	76.7	76.9	76.9	77.0	77.1	77.1	77.1	77.2	77.2	77.2	77.1	76.4
29	76.9	76.8	76.9	76.9	76.9	76.9	76.8	76.8	77.1	77.4	77.7	78.0	78.6	78.3	78.0	77.3	77.2	77.0	77.0	76.7	76.3	76.1	76.0	75.9	77.1
30	76.0	76.0	75.9	75.7	75.0	75.2	74.9	74.7	74.9	75.6	76.0	76.9	77.5	78.0	77.7	76.9	76.8	74.7	75.3	75.1	75.5	75.3	75.6	76.3	75.9
31	76.2	76.3	76.6	77.0	77.2	77.2	77.0	77.0	77.0	76.7	76.8	77.5	77.9	78.1	78.1	77.9	77.9	77.7	77.5	77.3	76.8	75.8	74.5	74.1	77.0
Mean	74.6	74.5	74.4	74.4	74.3	74.3	74.3	74.3	74.5	74.9	75.4	75.8	76.1	76.2	76.1	75.7	75.5	75.2	75.1	75.0	75.0	74.8	74.6	74.6	75.0
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean



**TEMPERATURE: ANNUAL MEANS OF HOURLY VALUES.**  
From readings in degrees absolute at exact hours, Greenwich Mean Time.

468. RICHMOND (KEW OBSERVATORY): North Wall Screen:  $h_t = 3.0$  metres.

1933

Hour	G.M.T.	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24	Mean
1	2																							
81.87	81.61	81.38	81.17	81.11	81.31	81.80	82.57	83.49	84.46	85.31	86.00	86.50	86.76	86.84	86.64	86.25	85.61	84.78	83.97	83.36	82.89	82.46	82.14	83.76

**TEMPERATURE: MONTHLY MEANS AND DIURNAL INEQUALITIES**  
The departures from the mean of the day are adjusted for non-periodic change.†

469. RICHMOND (KEW OBSERVATORY): North Wall Screen:  $h_t = 3.0$  metres.

1933

Month	Mean	Hour 1	G.M.T. 2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24
Jan.	276.21	-0.49	-0.52	-0.58	-0.65	-0.70	-0.75	-0.71	-0.72	-0.55	-0.11	+0.51	+0.91	+1.16	+1.38	+1.38	+1.03	+0.69	+0.44	0.00	-0.15	-0.23	-0.32	-0.53	-0.55
Feb.	278.02	-0.87	-0.96	-1.12	-1.09	-1.22	-1.18	-1.31	-1.23	-0.70	-0.04	+0.77	+1.42	+1.89	+2.04	+2.07	+1.82	+1.31	+0.77	+0.19	-0.25	-0.36	-0.47	-0.63	-0.77
Mar.	280.68	-1.87	-2.07	-2.52	-2.62	-3.09	-3.39	-3.22	-2.26	-0.90	+0.46	+1.68	+2.83	+3.67	+3.89	+4.01	+3.71	+3.06	+2.06	+0.92	+0.16	-0.50	-0.86	-1.37	-1.62
Apr.	282.62	-2.63	-2.99	-3.19	-3.54	-3.79	-3.65	-2.73	-1.48	-0.14	+1.15	+2.03	+2.68	+3.28	+3.66	+3.86	+3.97	+3.66	+2.81	+1.61	+0.53	-0.34	-1.00	-1.70	-2.17
May	286.10	-2.81	-3.11	-3.41	-3.68	-3.64	-3.08	-2.19	-0.98	+0.16	+1.16	+2.11	+2.94	+3.40	+3.69	+3.97	+3.88	+3.36	+2.53	+1.47	+0.15	-0.69	-1.31	-1.76	-2.24
June	289.56	-3.20	-3.76	-4.08	-4.53	-4.10	-3.02	-1.88	-0.58	+0.54	+1.48	+2.18	+2.78	+3.39	+3.79	+3.96	+4.02	+3.51	+3.19	+2.11	+0.64	-0.51	-1.31	-2.06	-2.59
July	292.26	-3.03	-3.56	-3.88	-4.17	-3.85	-3.10	-2.17	-1.04	+0.03	+1.09	+1.90	+2.60	+3.10	+3.63	+3.86	+3.86	+3.98	+3.36	+2.57	+0.94	-0.34	-1.19	-1.92	-2.58
Aug.	292.00	-3.07	-3.59	-4.01	-4.34	-4.65	-4.23	-3.08	-1.56	-0.11	+1.25	+2.26	+3.15	+4.05	+4.45	+4.68	+4.38	+4.32	+3.54	+2.03	+0.59	-0.37	-1.19	-1.87	-2.52
Sept.	289.02	-2.32	-2.56	-2.73	-2.94	-3.06	-3.03	-2.52	-1.40	+0.07	+1.27	+2.22	+3.04	+3.45	+3.67	+3.79	+3.57	+3.00	+1.86	+0.64	-0.04	-0.68	-1.35	-1.77	-2.10
Oct.	284.04	-1.35	-1.56	-1.73	-1.78	-1.94	-2.07	-1.97	-1.39	-0.53	+0.65	+1.57	+2.25	+2.56	+2.80	+2.54	+2.27	+1.49	+0.82	+0.39	+0.06	-0.34	-0.71	-1.00	-1.13
Nov.	279.26	-0.72	-0.70	-0.83	-0.91	-1.07	-1.19	-1.15	-1.01	-0.68	+0.09	+0.89	+1.38	+1.69	+1.71	+1.64	+1.29	+0.91	+0.50	+0.17	-0.10	-0.32	-0.41	-0.57	-0.68
Dec.	274.98	-0.40	-0.49	-0.57	-0.61	-0.69	-0.66	-0.68	-0.65	-0.44	-0.10	+0.38	+0.80	+1.14	+1.20	+1.12	+0.77	+0.53	+0.22	+0.09	+0.05	-0.01	-0.18	-0.33	-0.39
Year	283.76	-1.90	-2.16	-2.39	-2.59	-2.65	-2.45	-1.97	-1.19	-0.27	+0.70	+1.54	+2.23	+2.73	+2.99	+3.07	+2.88	+2.49	+1.84	+1.02	+0.21	-0.39	-0.86	-1.29	-1.61

**ABSOLUTE EXTREMES OF TEMPERATURE FOR EACH DAY.**  
Maximum and Minimum for the interval 0h. to 24h., Greenwich Mean Time.

470. RICHMOND (KEW OBSERVATORY): North Wall Screen:  $h_t = 3.0$  metres.

1933

Month.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Day.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	82.8	78.9	84.8	80.7	82.5	74.7	85.2	78.4	88.3	77.7	95.1	83.2
2	83.9	81.8	82.8	75.0	83.1	78.3	87.2	75.4	84.4	81.6	97.0	83.6
3	84.7	79.5	81.1	71.3	84.1	82.5	88.1	79.1	91.0	81.7	99.1	86.4
4	82.9	79.0	85.1	81.1	85.1	79.9	88.2	77.0	93.2	79.7	01.3	87.4
5	83.3	75.5	86.3	82.6	85.0	77.5	85.9	77.0	91.4	83.4	02.7	86.5
6	81.1	74.3	84.6	81.4	85.0	78.2	90.3	77.1	92.7	81.2	01.1	86.7
7	81.8	72.0	84.0	80.0	85.0	75.3	92.2	81.6	87.2	81.9	99.6	86.4
8	83.7	81.5	85.7	79.4	84.7	74.4	92.9	79.5	91.1	83.0	99.4	87.6
9	83.3	72.9	85.3	82.3	84.3	78.8	88.1	80.1	88.7	81.1	95.0	85.2
10	77.2	70.5	84.1	76.0	87.5	76.0	92.0	82.6	87.2	81.9	88.8	83.8
11	79.6	76.9	78.6	74.2	86.6	77.9	94.2	80.3	88.6	80.6	89.0	83.8
12	78.4	71.0	79.3	72.7	87.0	73.2	87.8	80.9	90.3	80.1	91.6	81.0
13	77.1	71.1	80.3	74.2	89.1	72.4	85.6	78.2	89.4	80.8	90.1	84.1
14	76.9	71.3	80.1	71.5	86.9	78.2	87.3	74.9	87.4	79.7	98.7	82.9
15	77.9	72.9	77.9	73.5	84.6	78.6	89.1	75.5	89.2	76.7	98.0	85.2
16	76.7	74.6	79.6	74.2	84.1	80.6	90.0	77.9	92.2	80.1	97.1	88.1
17	76.1	73.0	79.8	74.6	83.4	79.0	83.3	77.7	92.3	83.0	90.7	83.6
18	74.9	72.1	76.6	72.4	83.7	78.0	82.0	74.7	91.0	82.2	88.3	82.2
19	77.1	74.1	76.0	71.2	86.0	79.5	80.6	73.0	94.6	80.7	90.6	84.1
20	76.7	74.1	76.1	69.1	81.1	74.3	80.0	73.6	94.8	83.7	92.3	82.2
21	75.2	72.8	79.4	72.5	85.0	71.1	82.0	75.6	95.0	83.9	92.5	82.9
22	74.2	69.5	77.1	72.1	86.9	74.5	82.4	74.6	98.2	83.8	93.0	80.0
23	74.1	67.8	76.5	69.9	85.0	77.5	85.0	73.3	97.3	84.0	95.4	84.1
24	72.8	71.6	76.6	68.2	84.1	75.0	85.2	80.3	92.7	84.1	92.1	85.5
25	74.0	71.0	77.7	74.6	86.0	75.0	86.4	81.6	88.3	82.6	93.4	86.2
26	74.3	70.1	79.5	76.0	86.9	70.8	88.8	80.3	88.7	81.9	94.1	86.2
27	74.2	69.8	82.4	78.3	88.7	74.7	89.7	80.6	88.9	80.3	94.4	85.2
28	76.0	70.1	83.4	75.5	90.1	72.9	88.5	79.7	92.2	79.9	91.7	84.6
29	78.1	74.8	--	--	88.3	74.3	88.5	79.5	90.2	83.2	92.9	82.5
30	77.4	73.6	--	--	84.8	77.0	89.8	80.7	89.7	82.2	94.1	85.3
31	81.6	74.0	--	--	85.2	75.2	--	--	92.0	82.8	--	--
Mean	78.3	73.6	80.7	75.2	85.5	76.3	87.2	78.0	90.9	81.6	94.6	84.5
Year	...	...	...	...	...	...	...	...	...	...	...	...

Note.- The initial 2 or 3 of the readings is omitted, i.e., 275.0 degrees absolute is written 75.0.

† See page 21



Percentages at exact hours, Greenwich Mean Time.

471. RICHMOND (Kew Observatory): North Wall Screen:ht (height of thermometer bulbs above the ground) = 3.0 metres.

JANUARY, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	Vapour* Pressure
Day.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	mb.
1	91	91	94	93	91	91	96	96	94	94	88	87	87	88	86	87	87	86	84	86	84	82	86	84	89.0	9.9
2	84	84	86	86	86	87	86	88	87	87	86	82	81	81	81	82	82	82	85	87	92	94	92	90	85.6	10.4
3	92	94	93	92	93	94	84	81	87	84	76	72	71	72	75	77	79	84	85	88	82	87	87	90	84.1	10.3
4	91	94	96	98	98	94	94	93	90	91	87	83	78	79	83	86	86	89	91	91	91	88	88	87	89.5	9.5
5	86	83	81	80	84	87	93	94	88	82	86	86	84	83	72	80	85	92	90	92	90	91	89	91	86.1	8.6
6	90	89	90	92	92	94	92	96	93	87	79	74	73	68	68	78	85	87	90	93	91	90	96	96	86.7	7.5
7	90	92	91	98	98	98	98	94	98	96	100	98	94	93	93	94	94	97	91	90	92	93	94	89	94.5	7.7
8	88	88	93	99	100	99	99	99	98	98	99	98	95	94	93	92	90	89	88	88	88	87	86	86	93.1	11.1
9	86	87	88	88	89	94	98	83	76	70	67	69	69	68	69	72	78	78	88	92	91	89	92	98	82.2	8.5
10	96	97	97	97	100	100	100	94	94	95	97	100	98	96	93	95	96	94	93	93	93	93	92	90	95.7	6.1
11	89	89	84	84	82	86	89	90	94	94	94	96	96	96	87	90	91	87	84	84	85	86	87	90	88.4	7.8
12	90	90	91	93	93	94	92	92	92	91	85	80	72	66	68	77	83	86	91	96	98	100	100	100	88.1	6.4
13	100	100	100	100	100	100	100	100	96	90	91	93	93	94	94	94	96	95	97	95	97	93	93	92	96.1	6.5
14	95	95	96	98	96	94	93	94	94	98	98	89	85	85	88	89	88	79	83	94	94	96	97	98	92.2	6.6
15	98	98	94	86	87	85	87	83	87	86	78	81	81	87	88	95	93	95	91	94	94	91	93	93	89.5	6.7
16	96	96	96	93	94	96	91	94	96	93	85	85	81	78	75	80	73	74	82	86	88	88	86	88	87.4	6.4
17	88	89	90	92	93	91	90	90	90	87	79	81	80	81	82	89	91	91	94	92	94	90	90	92	88.5	6.0
18	89	89	89	90	94	94	92	89	85	87	85	85	85	84	85	89	92	93	94	95	92	95	92	94	89.9	5.8
19	93	93	93	95	96	95	95	94	95	94	93	88	87	87	85	85	88	90	93	95	95	91	95	93	92.0	6.8
20	85	85	87	87	85	84	80	83	85	81	78	72	67	69	73	75	78	80	84	85	90	91	91	91	82.0	6.1
21	94	78	75	76	76	69	70	73	70	70	65	68	64	63	64	70	73	77	75	77	75	72	69	67	72.7	4.8
22	72	75	84	82	80	85	87	86	81	84	84	79	75	75	75	75	77	77	78	80	86	85	91	92	80.5	4.7
23	95	95	96	94	94	91	89	93	94	95	94	99	98	90	81	79	80	79	84	89	91	94	93	92	90.8	4.7
24	94	92	88	85	80	69	67	67	63	63	63	63	64	64	65	67	67	67	67	68	68	68	68	68	71.1	4.0
25	68	68	68	69	69	66	65	65	65	65	65	65	64	62	62	62	63	64	66	67	67	68	69	70	65.9	3.9
26	71	71	73	76	76	76	76	76	76	75	73	71	70	66	61	60	60	60	63	67	70	71	73	74	70.1	3.9
27	74	75	76	78	80	80	80	79	76	76	75	75	70	68	66	67	69	69	71	72	73	73	73	74	73.7	4.3
28	76	78	79	81	83	85	87	90	90	88	82	79	75	69	62	61	68	73	76	78	80	77	75	75	77.7	4.8
29	75	75	77	79	82	84	85	88	85	82	79	70	57	62	60	64	74	77	80	80	79	80	79	82	76.3	5.7
30	87	91	91	89	91	96	96	96	98	98	100	98	98	91	91	91	91	93	91	84	88	89	92	94	92.4	6.7
31	93	94	93	93	94	91	89	91	93	90	85	84	82	78	82	86	89	89	88	86	88	86	83	85	88.2	7.8
Mean	87.6	87.6	88.0	88.5	88.9	88.5	88.3	88.1	87.3	86.2	83.7	82.3	79.8	78.6	77.6	80.3	82.1	83.0	84.4	85.9	86.6	86.4	86.8	87.3	85.2	†6.8
Vapour * Pressure	mb. 6.5	mb. 6.5	mb. 6.5	mb. 6.5	mb. 6.5	mb. 6.5	mb. 6.5	mb. 6.4	mb. 6.5	mb. 6.6	mb. 6.7	mb. 6.7	mb. 6.7	mb. 6.7	mb. 6.6	mb. 6.6	mb. 6.6	mb. 6.6	mb. 6.5	mb. 6.5	mb. 6.6	mb. 6.5	mb. 6.4	mb. 6.5	mb. †6.5	

472. RICHMOND (Kew Observatory): North Wall Screen:ht = 3.0 metres.

FEBRUARY, 1933.

	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.
1	83	86	83	86	89	88	91	92	92	92	88	89	89	89	85	86	89	92	93	90	90	92	94	94	89.0	10.6
2	96	96	98	88	83	74	79	78	76	68	59	61	54	50	51	56	61	62	68	79	82	83	84	87	74.0	7.1
3	89	87	92	95	90	91	93	95	97	86	84	84	67	65	70	73	76	75	84	86	88	93	98	98	85.5	6.7
4	98	99	98	96	94	94	92	90	89	87	88	89	93	95	95	91	88	88	89	90	87	91	91	88	91.9	11.8
5	89	89	92	94	92	92	89	85	84	83	85	81	76	75	66	69	87	77	74	76	77	81	84	86	82.7	11.1
6	85	86	87	87	89	87	80	84	83	83	81	76	81	84	84	84	84	84	86	87	91	91	88	91	85.0	10.4
7	94	94	96	96	96	95	96	96	96	93	88	82	77	80	76	82	78	80	83	84	89	89	90	90	88.4	10.2
8	90	93	94	94	96	94	94	96	99	99	95	93	91	91	91	87	80	80	83	85	86	89	89	83	90.6	11.1
9	82	82	83	77	84	91	88	89	89	87	87	87	88	85	86	85	87	85	79	72	74	79	80	82	83.7	11.2
10	83	84	87	89	89	93	92	93	92	89	84	75	71	70	81	86	91	82	85	80	77	72	72	76	83.2	8.6
11	77	80	82	80	84	83	83	85	80	76	72	60	55	58	53	56	63	70	72	75	71	74	78	78	72.7	5.5
12	77	74	74	76	81	80	82	84	85	73	70	66	63	63	66	65	72	80	87	80	77	77	80	83	75.5	5.8
13	85	83	83	85	85	88	87	89	88	74	68	61	57	51	51	54	63	69	81	87	84	82	82	83	75.8	6.3
14	87	92	95	90	95	95	97	95	88	74	66	57	53	52	48	51	58	60	69	68	70	69	75	80	74.4	5.5
15	81	84	81	80	80	78	80	77	75	70	68	72	56	60	57	59	64	68	72	69	66	67	69	76	71.3	5.2
16	67	65	65	64	71	73	73	73	72	68	63	60	57	53	50	57	64	70	71	71	74	76	80	80	67.3	5.4
17	78	85	87	84	87	87	85	85	85	81	62	60	49	38	42	46	55	57	63	65	72	77	80	77	70.3	5.8
18	78	84	89	91	83	83	80	80	82	88	82	72	72	66	54	67	78	87	87	85	87	85	83	80	80.1	5.4
19	84	84	84	79	91	89	94	94	89	80	71	71	78	70	70	75	80	80	83	98	88	87	84	88	82.8	5.4
20	88	90	91	95	88	93	86	90	83	92	87	85	69	65	63	57	70	75	75	73	78	85	84	84	81.2	4.9
21	84	87	91	93	80	85	84	75	68	71	60	43	42	43	42	46	59	64	68	88	82	80	75	73	70.3	5.4
22	68	68	67	67	70	70	72	69	70	67	63	59	70	60	56	55	57	62	66	68	70	75	77	78	66.7	4.4
23	77	77	79	78	78	77	79	79	77	72	69	66	57	53	50	50	55	67	71	75	75	80	83	82	71.0	4.3
24	90	88	90	71	76	74	79	84	85	75	63	61	59	90	96	100	94	92	87	90	87	82	81	77	82.3	5.2
25	83	87	91	91	91	85	83	98	87	84	89	87	87	74	82	82	78	83	87	85	81	85	87	86	85.4	6.5
26	88	86	84	81	80	80	79	80	75	73	73	71	81	89	88	87	90	92	90	89	89	91	90	93	84.0	7.2
27	91	91	91	87	93	91	87	88	84	90	82	78	69	65	63	62	68	76	80	77	71	72	76	82	80.0	7.9
28	87	88	96	95	92	92	90	90	87	82	80	80	76	73	69	76	78	85	86	90	92	97	97	95	86.1	8.2
Mean	84.3	85.3	86.8	85.3	86.0	85.8	85.5	86.2	84.2	80.6	76.0	72.4	69.2	68.1	67.3	69.4	73.8	76.5	79.3	80.8	80.5	82.2	83.3	84.0	79.7	77.3
Vapour * Pressure	mb. 7.0	mb. 7.0	mb. 7.0	mb. 6.9	mb. 6.9	mb. 6.9	mb. 6.8	mb. 6.9	mb. 7.0	mb. 7.0	mb. 7.0	mb. 7.0	mb. 6.9	mb. 6.9	mb. 6.8	mb. 6.9	mb. 7.0	mb. 7.0	mb. 7.0	mb. 6.9	mb. 6.8	mb. 6.9	mb. 6.9	mb. 6.9	mb. 6.9	
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	



Percentages at exact hours, Greenwich Mean Time.

473. RICHMOND (Kew Observatory): North Wall Screen:  $h_t$  (height of thermometer bulbs above the ground) = 3.0 metres.

MARCH, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	Vapour* Pressure
Day.	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	Mean	mb.
1	95	95	95	95	92	93	95	92	91	87	77	75	77	71	67	72	77	81	84	88	88	93	96	99	86.4	8.0
2	97	96	97	97	97	97	96	94	93	86	84	74	78	83	86	86	92	93	98	98	99	99	98	99	92.4	9.6
3	99	99	99	99	98	98	98	96	94	93	94	93	94	92	93	92	93	92	93	92	92	94	94	95	94.9	11.0
4	94	95	91	93	91	91	98	92	91	92	83	73	62	58	56	56	61	76	81	86	83	90	91	90	82.4	9.7
5	91	90	91	93	92	94	94	93	87	79	70	65	60	56	60	65	70	76	76	76	76	74	77		78.7	8.6
6	80	88	91	92	92	91	89	88	89	88	96	91	76	68	69	67	71	77	82	94	88	97	93	99	85.2	9.5
7	98	97	97	94	98	100	100	100	94	86	80	72	68	69	46	47	52	82	81	80	88	89	90	88	83.4	8.3
8	88	93	96	94	96	93	93	93	90	83	74	62	54	53	49	57	60	63	82	85	88	88	87	87	79.5	7.7
9	86	85	85	86	82	83	79	75	72	66	71	71	62	61	62	61	64	63	67	73	72	79	78	76	73.5	8.2
10	75	84	92	88	92	87	89	84	70	65	55	55	47	46	54	62	61	68	74	78	83	83	83	86	73.2	8.0
11	87	84	83	79	79	83	83	81	75	70	66	63	63	58	59	63	62	66	71	77	83	84	86	88	74.7	8.2
12	91	96	100	95	96	96	96	96	98	98	96	74	57	48	49	52	50	53	54	64	74	77	89	88	78.6	7.7
13	88	91	91	94	92	96	98	96	98	95	82	67	64	59	45	46	51	60	73	83	88	84	86	90	79.8	7.9
14	89	90	92	94	96	94	94	90	87	81	64	61	57	53	45	41	49	58	57	61	67	72	74	80	73.0	8.2
15	90	88	91	91	93	93	94	91	87	78	72	67	67	69	68	72	73	76	81	79	79	78	82	85	80.9	8.9
16	90	92	91	91	92	96	95	94	95	95	91	92	92	92	90	89	89	87	86	86	87	92	92	87	91.0	11.0
17	88	88	88	87	82	70	73	75	74	74	83	93	89	92	85	86	88	83	88	88	87	85	91	90	84.4	9.3
18	90	91	91	94	92	88	86	85	84	79	75	70	72	52	52	51	50	65	85	88	87	88	87	85	78.7	7.9
19	86	91	86	88	88	87	89	89	93	91	78	72	60	78	79	70	62	71	71	71	67	68	73	75	78.7	9.3
20	81	78	79	79	75	66	64	63	60	54	50	66	77	65	79	64	72	74	75	87	88	88	94	94	73.5	6.7
21	96	98	100	100	100	100	100	98	90	74	67	66	60	60	56	58	56	60	71	77	84	96	82	85	80.8	7.1
22	88	75	78	83	84	89	87	81	60	54	49	39	36	26	27	30	40	46	54	53	49	55	61	62	59.0	6.3
23	60	63	62	64	63	70	64	54	46	46	44	36	31	52	51	47	48	59	65	63	55	50	52	49	54.2	5.6
24	54	52	56	54	58	60	55	52	49	48	44	41	39	43	46	47	51	59	64	67	73	74	79	82	55.4	5.1
25	80	82	85	80	76	74	78	75	57	52	34	44	39	40	36	35	38	45	52	65	73	77	82	84	61.7	6.3
26	88	91	95	90	94	92	91	92	92	89	83	40	41	46	50	42	40	43	58	61	65	62	67	77	70.5	6.7
27	75	73	81	78	82	82	84	73	68	58	46	42	43	43	33	31	33	36	59	71	76	82	87	74	63.0	6.9
28	73	86	91	94	94	98	93	93	82	72	70	37	34	33	32	39	36	41	48	54	69	86	80	86	67.3	7.5
29	93	91	96	92	93	92	93	87	72	70	62	54	51	49	47	50	50	64	74	81	87	91	96	96	76.1	8.3
30	96	94	93	98	98	87	91	86	83	71	63	51	49	67	74	68	72	74	70	81	85	84	87	84	79.7	8.2
31	88	92	91	93	91	94	90	81	72	61	56	54	54	43	52	71	67	75	77	79	86	85	86	88	76.0	7.8
Mean	86.3	87.4	88.8	88.7	88.6	88.2	88.0	85.1	80.4	75.3	69.8	63.2	59.8	58.9	58.0	58.6	60.6	66.6	72.6	77.0	79.6	82.1	83.8	84.7	76.3	†8.1
Vapour * Pressure	mb. 7.9	mb. 7.9	mb. 7.8	mb. 7.6	mb. 7.5	mb. 7.3	mb. 7.4	mb. 7.6	mb. 7.9	mb. 8.1	mb. 8.2	mb. 8.0	mb. 8.0	mb. 8.0	mb. 7.9	mb. 7.8	mb. 8.1	mb. 8.1	mb. 8.2	mb. 8.1	mb. 8.2	mb. 8.0	mb. 8.0	mb. 8.0	†7.9	

474. RICHMOND (Kew Observatory): North Wall Screen:  $h_t$  = 3.0 metres.

APRIL, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Mean	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	Vapour* Pressure
1	89	88	90	91	93	90	88	87	83	72	73	65	63	64	57	59	62	68	54	57	65	70	72	75	74.3	8.5
2	80	79	80	87	84	85	80	75	62	60	54	48	45	44	49	47	46	55	58	64	71	73	74	76	65.6	7.2
3	78	80	82	85	88	88	79	74	70	64	59	59	55	53	52	51	56	60	70	75	77	79	83	84	70.7	8.7
4	86	86	86	92	92	92	91	87	78	65	60	60	56	54	49	49	53	56	61	67	67	73	82	85	71.9	8.5
5	88	91	89	88	90	92	92	86	71	66	65	64	62	60	60	62	63	68	73	80	89	91	93	96	78.1	8.7
6	96	100	100	98	100	96	96	93	86	71	64	59	57	59	53	50	53	61	68	72	72	79	73	75	76.7	9.7
7	81	79	77	84	84	89	84	74	64	58	41	43	43	42	42	37	40	45	51	56	58	60	63	68	61.1	9.3
8	71	76	78	76	82	78	74	66	57	42	39	33	32	31	28	27	31	43	51	58	67	78	81	86	57.3	8.8
9	88	89	89	89	93	91	88	78	72	69	68	66	66	69	67	63	69	72	73	74	74	77	76	78	76.7	10.5
10	81	83	82	80	82	86	83	81	79	76	71	67	62	56	60	60	53	60	66	72	80	86	88	88	74.0	10.9
11	92	96	98	94	94	93	91	82	67	64	55	49	44	44	43	45	50	48	57	67	74	83	83	79	70.7	11.2
12	83	81	81	86	87	88	89	87	80	78	76	75	75	74	73	70	73	82	93	61	58	56	52	57	76.1	10.5
13	59	60	63	63	66	63	63	61	60	58	48	42	40	37	39	40	40	41	60	67	74	74	79	83	57.0	6.4
14	89	92	96	94	94	96	96	87	72	58	51	43	38	42	38	34	39	50	58	61	62	65	70	64	66.5	7.1
15	73	81	75	85	84	80	83	82	68	53	48	42	44	43	40	42	34	37	45	46	62	72	77	80	61.2	7.3
16	77	80	87	88	92	92	91	84	76	69	61	55	50	54	54	49	49	55	59	64	67	76	83	81	70.5	9.5
17	87	89	92	88	85	82	82	76	72	73	66	62	65	64	63	61	61	64	68	69	69	62	65	70	72.5	7.9
18	70	75	78	78	80	77	68	65	59	57	52	54	49	50	59	40	40	44	49	50	60	68	74	77	61.3	5.6
19	80	82	87	87	86	87	82	75	66	55	44	45	41	47	57	46	73	68	63	73	71	71	78	78	68.4	5.3
20	82	87	84	86	84	78	76	74	68	65	65	72	75	82	84	77	66	77	81	78	80	78	81	79	77.4	6.3
21	80	82	83	83	84	78	74	70	69	59	54	41	41	43	36	37	41	39	45	49	54	61	65	63	60.0	5.5
22	68	76	73	78	80	78	76	66	59	51	53	47	49	48	46	45	47	47	64	74	83	85	80	84	64.4	5.9
23	92	90	92	92	92	94	82	74	67	56	54	48	51	56	55	61	62	70	73	78	86	93	98	98	73.3	7.4
24	98	94	94	98	98	94	95	96	92	89	90	92	89	88	89	90	96	95	96	97	97	99	99	99	94.3	11.5



## RELATIVE HUMIDITY

383

Percentages at exact hours, Greenwich Mean Time.

475. RICHMOND (Kew Observatory): North Wall Screen:  $h_t$  (height of thermometer bulbs above the ground) = 3.0 metres.

MAY, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	Vapour* Pressure
Day,	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.
1	91	93	91	96	97	96	98	92	87	77	74	67	62	62	62	79	62	67	79	83	86	84	84	83	81.5	9.8
2	81	83	86	84	81	80	81	82	79	75	73	72	73	80	80	86	86	86	87	87	87	86	87	88	82.0	9.8
3	95	92	91	92	91	89	89	89	89	86	79	77	80	80	82	71	64	69	78	82	85	89	92	91	84.5	12.1
4	95	94	99	98	99	94	85	80	62	60	58	57	50	42	41	41	43	47	50	54	59	71	76	83	68.4	11.2
5	89	88	86	86	89	89	96	97	93	81	73	69	64	59	58	58	65	72	81	84	80	82	88	88	80.0	12.4
6	91	91	82	79	92	89	87	81	77	68	59	56	49	46	43	42	61	85	81	82	77	79	84	92	73.8	11.6
7	94	95	96	95	96	93	93	93	91	90	80	72	65	61	60	65	73	74	75	79	83	85	85	85	82.5	11.0
8	87	84	85	83	82	84	79	79	71	67	64	62	57	55	53	54	51	62	73	82	83	88	88	78	73.0	11.2
9	80	71	78	79	86	83	86	71	62	64	63	68	60	58	54	35	42	56	61	68	72	74	81	84	68.0	9.2
10	86	87	87	84	83	76	73	67	69	72	66	60	59	62	60	64	62	68	72	75	81	81	79	82	73.2	9.8
11	86	84	81	82	83	82	76	72	67	66	65	66	64	60	63	80	87	85	83	96	93	93	94	97	79.1	10.4
12	95	93	96	99	99	100	96	87	87	80	49	53	51	44	45	53	59	65	70	83	91	92	92	95	76.5	10.6
13	96	98	95	96	94	89	87	72	80	80	74	66	67	62	60	59	60	68	74	78	86	87	89	91	79.6	10.9
14	94	95	95	97	97	96	92	89	88	84	76	72	69	61	59	58	65	74	73	81	93	93	93	93	82.7	10.9
15	96	99	96	98	98	98	90	87	67	57	51	48	51	51	46	49	50	52	61	63	78	81	86	88	72.7	9.4
16	89	89	88	89	92	89	85	80	75	67	64	60	56	48	45	52	46	60	62	61	68	75	66	66	70.1	10.9
17	74	81	84	84	89	76	75	68	63	51	53	47	49	57	66	69	70	69	69	76	78	76	82	86	70.1	11.1
18	86	86	86	87	83	84	81	76	73	70	64	65	66	65	62	61	63	66	67	74	78	81	84	92	74.9	11.3
19	91	92	89	90	89	78	73	66	62	56	54	53	50	51	50	46	48	41	45	51	58	61	74	69	64.5	11.1
20	75	83	78	75	71	69	59	55	48	43	37	35	34	36	38	39	41	41	46	54	65	69	82	80	56.2	10.6
21	80	78	86	87	88	86	78	70	56	57	55	44	39	42	46	52	47	46	51	58	63	69	76	80	63.9	12.2
22	82	80	81	86	82	73	66	52	47	44	41	41	43	41	44	49	50	54	77	92	90	92	90	93	66.0	13.5
23	94	96	95	95	94	91	90	75	63	65	52	48	43	45	41	46	55	52	54	85	89	84	84	78	71.7	14.5
24	76	73	75	74	79	75	82	75	73	72	69	63	57	56	50	49	51	54	60	65	71	84	87	86	68.8	11.8
25	85	83	79	79	63	63	60	55	54	55	55	48	47	45	42	38	40	53	56	59	70	71	65	68	60.1	8.7
26	70	71	78	81	83	82	81	76	74	68	62	60	58	60	59	55	59	64	65	73	68	88	76	79	70.1	10.0
27	86	91	89	92	96	91	83	72	63	58	66	67	68	72	69	82	90	88	87	77	79	86	80	83	79.7	10.8
28	85	89	86	87	83	77	74	72	66	61	64	57	53	52	45	45	47	45	52	68	68	73	82	81	67.1	10.0
29	82	87	88	91	90	88	80	69	65	59	62	57	58	62	57	49	54	50	61	61	68	74	77	77	69.4	10.9
30	83	81	83	84	89	90	72	68	60	56	56	54	56	55	61	59	62	72	73	82	87	89	87	87	72.5	10.7
31	86	82	80	78	75	74	65	58	50	49	49	47	47	44	51	53	52	55	59	63	62	65	64	63	61.8	10.2
Mean	86.5	86.7	86.7	87.3	87.5	84.6	81.0	75.0	69.4	65.4	61.8	58.5	56.5	55.5	54.6	56.1	58.0	62.4	66.9	73.2	77.4	80.6	82.1	83.4	72.4	†10.9
Vapour* Pressure	mb. 10.8	mb. 10.6	mb. 10.4	mb. 10.3	mb. 10.3	mb. 10.4	mb. 10.5	mb. 10.6	mb. 10.6	mb. 10.6	mb. 10.7	mb. 10.7	mb. 10.6	mb. 10.6	mb. 10.6	mb. 10.9	mb. 10.9	mb. 11.1	mb. 11.1	mb. 11.2	mb. 11.2	mb. 11.2	mb. 11.1	mb. 10.9	mb. †10.7	

476. RICHMOND (Kew Observatory): North Wall Screen:  $h_t$  = 3.0 metres.

JUNE, 1933.

1	67	73	77	83	81	74	68	59	48	49	45	42	35	34	33	39	36	37	41	53	54	62	64	62	54.9	10.4
2	64	63	72	76	70	59	55	50	50	45	43	41	40	37	37	37	34	34	40	50	50	55	56	59	50.7	10.7
3	63	72	85	87	68	63	58	59	46	41	36	33	30	32	30	32	34	36	41	49	51	55	65	69	51.3	12.3
4	75	78	75	80	80	63	58	52	41	31	32	31	30	30	30	32	33	35	36	44	55	57	60	66	50.2	13.4
5	63	74	78	90	82	72	64	60	54	39	36	37	36	30	29	31	34	38	47	52	62	69	79	81	55.4	15.0
6	85	88	87	91	92	83	64	50	37	36	37	33	34	31	32	33	39	37	35	45	54	56	61	73	54.9	14.3
7	81	79	74	82	75	69	64	57	51	47	38	28	28	32	27	30	30	35	37	45	53	54	54	58	51.5	12.9
8	59	70	68	73	70	63	58	54	45	44	42	40	36	34	31	43	33	40	46	48	51	54	51	61	50.5	12.2
9	65	73	78	83	83	78	72	66	61	55	55	59	54	50	49	50	54	63	65	69	67	71	71	74	64.9	12.3
10	75	77	76	75	73	72	70	64	62	56	54	55	54	55	63	60	58	59	64	73	83	86	82	88	67.7	10.1
11	82	89	91	91	88	86	82	76	69	69	66	60	52	46	45	44	40	42	43	47	55	59	63	64	78.2	11.5
12	88	92	92	93	91	79	76	65	64	63	60	52	46	45	44	40	42	43	47	55	59	63	64	63.6	9.9	
13	69	59	68	72	87	92	94	95	95	87	77	66	77	79	75	73	73	75	75	88	94	93	91	89	80.4	12.8
14	93	93	94	94	94	91	86	78	68	60	49	47	40	46	47	55	45	48	52	56	68	82	83	88	69.1	13.0
15	85	85	88	93	90	78	62	56	54	50	51	45	41	40	42	40	57	66	49	75	78	80	93	85	66.0	14.2
16	93	93	96	96	93	93	87	77	70	62	64	52	48	47	47	50	50	52	72	70	67	71	77	85	71.3	15.4
17	87	95	95	94	88	83	72	49	52	53	50	45	44	51	57	58	58	67	68	66	72	80	74	75	68.3	10.8
18	76	80	78	82	75	74	71	66	60	62	59	81	76	59	77	65	64	75	78	82	90	88	88	88	74.5	10.5
19	88	88	89	93	93	88	89	85	81	63	71	77	60	45	80	69	68	59	57	65	73	78	82	88	76.2	11.7
20	92	94	96	98	92	87	83	80	73	67	63	58	56	54	56	66	92	88	84	88	89	87	89	90	80.0	12.7
21	90	90	92	93	90	80	75	65	64	64	80	82	73	64	58	68	82	82	80	81	91	93	97	100	80.4	12.7
22	100	100	100	100	100	99	89	89	76	60	57	48	53	55	43	54	56	52	69	70	75	84	87	87	75.8	12.5
23	91	94	93	96	94	91	89	82	76	63	53	55	52	47	58	54	58	57	70	75	78	72	85	87	73.7	13.8
24	87	88	90	92	92	92	93	92	89	83	78	74	84	90	85	80	83	83	77	81	83	87	87	88	85.7	15.1
25	91	91	94	94	94	87	89	78	73	70	67	60	58	54	51	54	52	50	52	58	70	81	87	88	72.6	14.0
26	90	85	86	84	80	78	78	82	75	66	66	64	60	59	56	52	57	63	80	78	80	80	82	86	73.7	13.6
27	82	83	86	91	89	70	60	49	51	46	45	39	34	34	33	39	43	42	49	60	67	73	67	62	58.6	10.9
28	63	73	76	83	83	78	70	66	66	66	67	65	61	63	62	53	66	65	67	69	70	74	82	86	69.3	11.7
29	92	94	91	94	91	84	71	63	56	55	52	51	56	53	53	54	47	53	54	55	56	66	76	65	66.4	11.5
30	68	78	79	82	86	79	74	66	63	62	63	59	56	53	50	48	47	48	52	58	69	71	75	78	64.9	12.5
Mean	80.1	83.0	84.8	87.8	85.5	79.5	74.4	67.7	63.0	57.8	55.9	53.6	50.9	48.8	49.7	50.6	52.9	55.0	58.4	64.3	69.4	73.2	76.2	78.2	66.7	†12.5
Vapour* Pressure	mb. 12.3	mb. 12.3	mb. 12.3	mb. 12.3	mb. 12.4	mb. 12.3	mb. 12.4	mb. 12.3	mb. 12.3	mb. 12.0	mb. 12.1	mb. 12.0	mb. 11.9	mb. 11.7	mb. 12.0	mb. 12.3	mb. 12.4	mb. 12.7	mb. 12.6	mb. 12.6	mb. 12.7	mb. 12.7	mb. 12.6	mb. 12.5	mb. †12.3	
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	



Percentages at exact hours, Greenwich Mean Time.

477. RICHMOND (Kew Observatory): North Wall Screen:  $h_t$  (height of thermometer bulbs above the ground) = 3.0 metres.

JULY, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	Vapour* Pressure
Day.	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.
1	80	82	91	89	91	86	73	66	66	61	58	53	51	45	43	49	51	54	64	66	73	76	76	81	67.7	14.2
2	84	87	85	85	84	76	72	67	60	60	56	57	57	60	56	54	53	53	59	60	82	78	81	88	68.8	15.7
3	89	95	93	94	91	83	80	70	59	59	57	53	48	44	44	42	45	48	51	64	71	78	76	76	65.9	17.1
4	77	80	88	91	90	87	57	52	50	44	43	42	39	39	37	37	51	53	56	63	67	81	83	90	62.1	16.8
5	92	96	92	86	83	71	69	66	66	70	66	67	67	63	67	70	67	70	75	78	80	84	85	86	75.7	15.9
6	84	84	85	83	82	81	78	77	75	71	64	59	53	54	54	56	58	62	64	65	73	74	79	82	70.8	17.1
7	84	85	86	86	85	85	79	72	67	63	63	56	56	49	52	55	52	60	52	66	70	76	77	85	69.2	17.4
8	86	85	83	80	79	76	68	67	58	61	55	51	55	56	56	55	55	51	57	67	75	79	76	77	67.2	15.5
9	87	92	89	91	91	85	80	73	63	59	54	52	54	58	55	55	51	61	63	69	74	77	79	79	70.4	14.7
10	78	84	89	93	92	93	93	93	90	86	80	78	87	88	83	71	60	72	71	72	80	82	81	86	82.5	16.5
11	89	88	87	87	86	83	79	73	66	65	78	88	74	64	68	82	85	83	88	88	90	90	89	88	81.5	15.3
12	90	92	90	92	88	86	83	77	72	70	69	62	55	53	51	42	44	44	47	54	62	69	74	80	68.7	13.7
13	87	89	87	88	86	84	83	82	84	86	89	90	93	93	94	88	85	82	83	82	83	80	84	87	86.1	15.3
14	88	88	87	88	83	85	79	74	71	63	72	63	55	52	54	45	52	57	57	61	66	71	78	84	69.7	14.0
15	87	91	95	97	94	90	90	82	74	75	60	58	57	60	59	73	63	70	92	93	93	96	96	96	80.6	14.4
16	94	91	95	95	93	93	90	83	81	74	63	62	92	75	67	64	83	87	76	81	89	90	96	96	83.7	15.0
17	96	93	91	91	90	93	90	79	76	66	57	56	51	57	62	62	60	68	71	77	81	86	89	92	76.5	14.6
18	91	93	93	94	94	90	88	85	82	76	71	67	66	61	65	57	58	69	73	74	82	87	89	88	79.0	18.6
19	91	95	96	96	94	87	81	73	65	65	61	55	52	51	47	47	44	47	54	63	70	79	86	91	70.4	17.5
20	88	93	94	94	93	92	91	87	80	73	66	61	57	52	55	54	58	55	56	58	63	65	68	73	72.3	17.2
21	77	80	80	83	85	84	80	69	65	61	60	57	54	51	52	50	52	56	61	74	75	82	82	91	68.8	16.6
22	94	96	91	93	94	92	86	77	66	55	49	48	55	51	52	54	57	61	65	71	82	85	89	88	73.0	17.4
23	93	91	90	91	91	89	85	77	74	65	55	50	45	43	42	45	42	47	48	56	60	71	75	83	67.1	17.2
24	83	85	90	87	80	87	82	76	68	64	60	55	50	46	46	45	43	42	53	58	69	70	79	81	66.7	17.6
25	83	88	90	92	91	87	82	79	77	78	73	71	63	51	43	44	40	35	41	67	76	82	84	86	70.8	17.6
26	90	92	91	95	93	87	83	80	71	60	51	46	44	43	40	42	41	40	45	66	74	68	62	74	66.0	18.0
27	71	81	75	70	72	72	68	61	56	44	43	40	40	40	53	62	62	57	57	67	68	69	83	82	62.0	18.4
28	65	64	70	73	73	72	70	65	56	49	46	46	44	43	50	55	56	61	67	71	77	81	81	86	63.3	13.1
29	86	86	87	85	85	86	92	89	86	71	64	49	51	42	46	47	44	52	59	64	73	78	93	93	71.0	14.6
30	88	94	90	88	89	90	86	76	75	68	62	56	48	46	44	43	41	50	52	62	68	74	80	81	69.0	14.1
31	76	78	90	91	83	78	76	73	68	68	68	66	64	63	63	62	68	65	67	67	64	63	62	61	70.6	14.0
Mean	85.4	87.7	88.4	88.6	87.3	84.8	80.4	74.6	69.9	65.5	61.7	58.5	57.3	54.6	54.8	55.1	55.4	58.4	62.0	68.1	74.3	77.9	81.1	84.2	71.5	†16.0
Vapour * Pressure	mb. 15.7	mb. 15.6	mb. 15.4	mb. 15.2	mb. 15.3	mb. 15.6	mb. 15.7	mb. 15.7	mb. 15.6	mb. 15.6	mb. 15.5	mb. 15.3	mb. 15.5	mb. 15.2	mb. 15.5	mb. 15.6	mb. 15.8	mb. 16.0	mb. 16.2	mb. 16.2	mb. 16.3	mb. 16.2	mb. 16.1	mb. 16.0	mb. 15.7	

478. RICHMOND (Kew Observatory): North Wall Screen:  $h_t$  = 3.0 metres.

AUGUST, 1933.

	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.
1	63	64	63	64	67	69	67	67	66	60	57	55	51	45	43	41	44	43	46	56	61	68	75	83	58.6	12.4
2	87	89	91	91	95	87	81	66	61	51	42	44	41	38	34	35	43	51	56	62	67	72	73	75	64.0	15.3
3	82	84	84	86	86	86	83	75	72	67	65	63	57	57	55	58	59	54	64	68	69	75	83	87	71.4	19.5
4	88	92	93	90	90	88	86	79	71	65	60	55	52	51	51	50	49	51	57	62	67	71	74	78	69.8	19.4
5	84	88	89	92	90	89	83	79	77	70	63	57	52	54	54	54	56	57	66	76	82	86	88	90	73.7	19.7
6	91	92	95	95	97	96	96	86	76	66	57	50	50	41	40	41	42	43	50	60	72	80	68	72	69.4	21.0
7	69	75	83	79	81	82	74	70	64	56	51	41	36	33	36	40	38	36	47	57	65	67	75	80	59.6	17.5
8	82	84	88	86	86	80	77	74	72	64	61	58	52	50	46	44	43	44	46	59	62	66	74	80	65.7	16.8
9	82	84	86	91	92	88	83	72	66	58	61	58	56	55	52	53	55	54	56	65	70	71	71	69	68.9	17.0
10	63	61	62	64	63	63	56	57	54	48	43	40	36	35	34	37	47	49	55	54	54	56	58	60	52.3	11.7
11	61	65	66	69	70	71	71	72	67	62	59	55	54	71	68	80	68	64	63	71	82	80	80	81	68.3	13.5
12	83	81	82	82	81	81	78	66	55	61	55	57	55	50	47	47	45	51	58	63	71	77	79	82	66.1	13.3
13	84	87	88	87	93	85	76	67	58	53	51	40	32	31	44	50	53	55	63	69	72	77	81	87	65.8	13.7
14	89	90	93	89	90	88	86	86	79	72	65	60	62	62	65	59	55	61	70	73	83	89	80	79	76.2	16.5
15	82	87	89	89	89	85	81	76	73	66	80	77	65	53	61	63	72	80	90	92	94	94	96	94	80.0	16.6
16	93	91	94	94	94	93	92	85	77	68	55	53	54	47	37	37	35	36	40	55	56	70	79	83	67.6	13.6
17	88	90	90	90	93	90	77	72	68	62	57	63	60	62	63	63	64	72	84	86	83	86	93	94	76.9	14.0
18	92	90	84	84	87	82	81	77	68	61	54	49	45	46	43	49	55	56	55	62	65	66	72	78	67.0	14.9
19	82	85	87	88	91	89	84	77	75	70	63	55	51	51	56	61	63	66	67	76	71	58	61	62	70.7	14.7
20	66	71	68	73	77	77	68	64	61	46	40	46	44	72	51	45	42	43	51	56	62	70	74	78	59.9	11.6
21	83	85	83	83	81	83	77	72	64	58	50	57	50	48	46	88	72	80	80	83	87	87	88	87	73.6	12.4
22	86	87	89	92	89	90	88	81	71	61	57	54	48	43	39	50	59	64	75	87	94	95	95	96	74.4	12.3
23	95	94	93	91	89	86	88	90	73	62	59	54	50	46	43	46	42	45	48	58	62	66	75	81	68.5	11.9
24	83	85	89	89	91	92	86	80	69	60	51	46	41	39	50	51	52	65	72	75	76	82	82	88	70.5	12.7
25	90	94	93	92	98	95	95	88	86	72	69	59	58	52	47	47	50	55	59	75	83	88	94	96	76.3	14.8
26	94	98	98	97	99	98	96	82	62	51	49	42	40	41	42	42	44	47	55	69	80	84	90	84	70.4	15.5
27	87	92	97	98	99	98	92	74	61	48	45	38	38	34	31	35	36	41	53	57	69	71	81	76	64.8	15.6
28	88	90	93	95	94	98	85	60	59	55	46	41	40	34	34	35	36	39	53	56	65	78	81	89	64.0	16.4
29	93	90	93	97	97	96	87	70	65	62	59	53	48	43	47	47	50	60	66	68	71	74	78	85	71.0	17.6
30	82	78	77	77	81	85	81	71	62	56	49	52	44	41	39	39	42	38	46	51	54	55	55	55	59.4	13.1
31	61	65	70	77	80	87	77	69	63	55	48	49	44	43	45	43	49	58	69	74	79	83	84	79	64.1	12.8
Mean	82.4	84.1	85.5	86.2	87.4	86.4	81.7	74.3	67.6	60.2	55.5	52.3	48.6	47.4	46.5	49.4	50.3	53.5	60.0	66.9	71.9	75.5	78.6	80.9	68.0	+15.1
Vapour * Pressure	mb. 14.9	mb. 14.7	mb. 14.6	mb. 14.4	mb. 14.3	mb. 14.5	mb. 14.6	mb. 14.8	mb. 14.7	mb. 14.3	mb. 14.0	mb. 14.0	mb. 13.7	mb. 13.7	mb. 13.6	mb. 14.2	mb. 14.4	mb. 14.6	mb. 15.0	mb. 15.3	mb. 15.4	mb. 15.4	mb. 15.4	mb. 15.2	mb. 14.6	
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	



## RELATIVE HUMIDITY

385

Percentages at exact hours, Greenwich Mean Time.  
479. RICHMOND (Kew Observatory): North Wall Screen:  $h_t$  (height of thermometer bulbs above the ground) = 3.0 metres.

SEPTEMBER, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	Vapour* Pressure
Day.	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.
1	74	73	76	88	92	93	93	88	83	79	71	63	56	57	55	59	63	67	72	74	77	80	84	85	75.0	15.3
2	88	90	90	89	89	94	89	80	70	60	52	46	37	36	39	39	40	50	62	67	72	82	87	89	68.1	15.3
3	91	96	94	97	96	99	97	88	80	70	56	48	48	48	50	49	51	61	74	73	71	71	76	79	73.7	16.4
4	88	89	90	95	98	94	88	79	71	62	56	50	48	48	46	45	47	51	62	60	65	79	84	85	69.9	16.0
5	84	88	91	93	92	92	77	65	54	46	40	41	43	43	41	41	42	46	53	62	69	72	74	77	63.7	13.9
6	81	81	84	84	87	86	83	69	58	48	38	35	30	34	34	32	35	42	48	50	55	62	67	74	58.3	12.4
7	78	81	85	86	86	87	85	82	70	55	40	39	42	40	41	46	46	55	60	67	71	75	80	84	64.4	13.5
8	83	84	85	86	87	85	82	72	63	54	47	40	41	38	41	41	45	47	56	61	65	68	74	78	63.5	12.6
9	81	82	84	84	83	83	78	69	50	40	39	39	39	39	37	37	40	51	63	69	76	77	82	84	62.6	13.0
10	85	85	87	89	87	84	75	63	51	40	36	34	32	32	35	39	44	53	60	66	69	77	73	76	61.2	12.4
11	81	81	81	84	85	85	81	77	69	57	50	37	37	39	42	46	51	55	62	66	65	71	73	79	64.7	13.3
12	84	86	88	88	88	87	87	86	80	75	73	84	87	83	85	85	82	83	87	90	91	91	88	88	85.0	15.5
13	89	89	90	91	93	92	93	93	91	91	93	91	84	78	66	65	70	79	83	71	65	70	81	76	82.9	13.2
14	81	80	84	82	78	79	78	66	59	57	54	51	47	45	44	46	50	53	66	74	90	91	92	94	68.0	9.7
15	96	98	98	93	93	90	90	87	83	59	61	55	52	55	55	56	57	67	74	83	94	94	98	100	78.5	11.1
16	99	96	99	100	99	99	96	89	75	57	57	55	48	45	42	43	47	54	65	78	88	94	90	88	75.4	12.0
17	95	88	97	98	98	96	94	93	87	78	64	63	60	61	61	67	68	79	84	86	90	92	92	93	82.5	15.7
18	89	91	97	98	98	95	91	88	80	73	72	74	72	60	57	56	61	64	74	81	90	91	93	95	80.8	16.4
19	91	96	95	97	97	95	94	89	86	79	70	63	57	54	51	56	53	61	73	83	88	94	96	98	79.8	14.1
20	99	97	97	95	92	98	99	98	91	80	68	67	52	49	51	53	59	63	72	76	74	75	73	76	77.7	13.3
21	83	82	80	89	92	89	87	77	73	62	63	64	82	91	94	93	90	89	88	87	86	87	88	89	83.3	12.4
22	91	97	94	90	91	90	90	85	78	69	68	60	55	55	57	53	65	72	83	87	85	87	91	94	78.5	12.6
23	94	95	95	92	90	92	91	86	82	82	87	86	81	83	89	93	94	94	95	95	95	95	94	95	90.6	13.0
24	94	94	94	95	96	95	95	91	85	81	77	72	71	74	77	75	90	95	97	96	96	96	95	95	88.6	12.9
25	97	97	96	98	98	98	96	96	89	86	89	86	81	90	82	82	75	78	89	88	88	89	93	89	89.7	13.3
26	91	89	89	89	88	89	90	90	84	81	72	59	58	59	60	66	73	68	72	73	77	87	90	88	78.5	13.9
27	90	91	91	90	90	91	91	91	92	90	90	94	93	91	89	89	89	91	88	91	92	95	93	92	90.9	16.2
28	89	90	90	89	89	88	89	91	89	86	81	75	76	80	77	80	84	91	96	98	99	98	100	99	88.4	16.5
29	100	100	100	99	100	99	98	98	97	85	69	68	60	61	61	63	67	76	79	81	84	87	85	84	83.7	15.0
30	81	88	89	90	86	88	86	83	82	76	76	72	70	69	67	70	73	73	75	77	78	81	85	87	79.2	14.5
Mean	88.2	89.1	90.3	91.3	91.3	91.1	88.8	83.6	76.7	68.6	63.6	60.4	58.0	57.9	57.5	58.8	61.7	66.8	73.6	76.8	80.0	83.2	85.5	86.9	76.2	†13.8
Vapour * Pressure	mb. 13.8	mb. 13.8	mb. 13.8	mb. 13.7	mb. 13.6	mb. 13.6	mb. 13.7	mb. 13.9	mb. 14.0	mb. 13.5	mb. 13.3	mb. 13.3	mb. 13.1	mb. 13.3	mb. 13.3	mb. 13.4	mb. 13.6	mb. 13.7	mb. 14.0	mb. 13.9	mb. 13.9	mb. 13.9	mb. 13.9	mb. 13.8	mb. 13.7	

480. RICHMOND (Kew Observatory): North Wall Screen:  $h_t$  = 3.0 metres.

OCTOBER, 1933.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	mb.	
1	87	88	92	90	90	91	92	90	87	85	85	82	78	79	78	88	92	87	87	87	87	90	89	89	87.0	15.8
2	86	86	87	84	88	88	86	85	79	76	73	70	68	66	66	67	64	70	75	79	72	77	72	72	76.9	12.6
3	69	66	67	72	79	77	77	72	65	63	59	53	56	57	61	61	62	66	67	74	71	75	79	84	67.7	9.7
4	84	91	90	94	93	93	96	86	77	65	60	56	56	54	50	55	59	73	76	79	91	92	93	93	77.1	10.3
5	93	91	93	96	96	99	98	98	100	98	94	89	82	76	81	82	91	84	83	81	82	90	93	96	90.2	12.3
6	98	99	98	98	99	98	98	97	96	91	82	63	60	58	59	58	60	68	79	79	89	95	95	96	83.9	13.4
7	96	96	97	96	99	98	98	98	98	89	78	74	76	73	75	79	82	92	94	94	96	98	97	98	90.4	15.8
8	100	99	99	99	99	100	99	97	92	84	77	74	75	75	77	78	80	85	90	90	89	92	93	94	89.1	16.2
9	95	93	95	94	95	99	95	96	92	80	76	70	70	74	74	83	91	92	89	86	85	84	84	85	86.6	14.1
10	83	84	85	85	83	83	81	78	79	84	77	75	70	65	68	74	92	85	79	74	77	78	76	78	79.0	15.9
11	78	89	89	90	94	95	94	90	90	73	67	59	58	57	55	49	57	63	70	75	76	80	84	83	75.5	12.5
12	88	89	87	89	92	90	92	89	81	67	64	58	50	42	46	52	56	62	70	70	74	78	87	87	73.3	9.4
13	92	92	92	90	93	96	94	87	87	78	73	71	68	66	64	69	76	82	85	87	89	89	90	89	83.3	10.3
14	90	91	93	94	91	89	88	86	81	74	77	85	83	93	93	89	92	94	94	95	94	95	95	96	89.5	13.0
15	95	95	96	98	99	100	97	98	92	84	66	55	55	63	65	66	74	78	79	79	81	83	86	84	82.3	10.6
16	86	87	87	91	79	77	77	76	68	59	57	50	47	52	66	60	59	65	75	68	70	70	72	73	69.8	8.6
17	77	79	82	81	80	83	80	76	73	64	61	60	60	61	60	55	66	73	82	90	91	89	92	96	75.0	7.9
18	96	89	96	93	93	92	92	94	95	86	68	57	57	60	59	62	71	78	76	76	80	77	78	79	79.7	8.2
19	79	79	77	78	82	81	80	78	75	66	63	54	51	52	50	53	60	67	64	67	72	73	73	73	68.7	8.6
20	74	79	79	79	79	81	81	79	70	69	57	56	58	58	61	63	70	71	75	72	72	79	86	82	71.9	9.2
21	82	84	86	86	83	87	84	85	79	76	73	69	69	69	67	73	74	72	75	79	81	88	94	98	79.4	10.8
22	97	97	97	97	98	98	97	97	95	91	87	89	97	98	95	93	94	93	94	96	96	97	97	98	95.3	13.6
23	99	99	99	99	98	98	97	96	96	92	86	80	79	76	82	87	92	94	87	91	93	93	93	93	91.7	14.3
24	95	94	94	93	93	93	93	91	91	95	94	91	89	83	80	81	82	82	81	82	89	86	87	86	88.7	13.0
25	85	85	88	90	90	85	85	86	87	81	81	85	87	72	73	68	69	65	87	71	75	79	77	74	79.6	9.6
26	70	72	78	78	79	77	75	72	65	63	62	57	55	56	52	55	53	57	55	55	56	55	57	61	63.4	5.6
27	64	65	66	73	76	87	86	90	91	90	93	90	91	79	74	70	74	83	83	77	80	82	85	87	80.1	6.7
28	87	89	85	89	92	94	94	89	82	78	71	66	61	58	71	78	91	94	94	94	92	91	92	93	84.3	6.8
29	90	84	83	78	86	87	86	84	84	77	77	68	65	64	65	70	76	77	30	86	88	87	86	87	79.9	8.0
30	86	87	83	82	85	86	86	83	89	88	81	74	72	69	70	75	74	81	79	79	87	89	86	89	81.6	8.1
31	90	92	89	91	87	87	84	83	82	82	86	82	82	72	71	76	74	75	73	76	80	82	85	84	82.0	8.5
Mean	86.8	87.4	88.0	88.6	89.4	90.0	89.1	87.3	84.5	79.0	74.4	69.7	68.5	66.9	68.0	70.0	74.4	77.7	79.3	80.3	82.4	84.3	85.6	86.4	80.7	†10.9
Vapour * Pressure	mb. 10.5	mb. 10.5	mb. 10.4	mb. 10.4	mb. 10.4	mb. 10.4	mb. 10.3	mb. 10.5	mb. 10.8	mb. 10.9	mb. 10.6	mb. 10.7	mb. 10.6	mb. 10.6	mb. 10.7	mb. 10.8	mb. 10.7	mb. 10.7	mb. 10.5	mb. 10.5	mb. 10.5	mb. 10.4	mb. 10.4	mb. †10.6		
Hour G. M. T. .	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	



RELATIVE HUMIDITY  
Percentages at exact hours, Greenwich Mean Time.

481. RICHMOND (Kew Observatory): North Wall Screen:  $h_t$  (height of thermometer bulbs above the ground) = 3.0 metres.

NOVEMBER, 1933.

Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	Vapour- Pressure
Day.	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	mb.
1	82	81	79	81	78	82	82	79	72	68	65	64	63	62	65	69	67	70	71	79	81	75	74	74	73.7	8.5
2	75	76	83	89	92	83	77	69	70	64	63	58	57	58	57	51	59	60	65	68	69	69	81	79	69.6	8.0
3	78	79	81	79	78	77	78	74	71	67	62	62	61	64	63	65	70	72	78	84	85	87	86	85	74.3	7.2
4	84	81	84	86	90	87	88	85	81	77	73	69	80	71	75	79	83	84	86	85	86	89	92	92	82.7	8.0
5	92	93	97	95	93	93	95	93	92	86	75	65	66	67	69	71	75	82	88	90	93	94	94	98	85.5	7.6
6	98	96	96	95	97	98	97	98	97	98	89	86	84	88	91	96	98	96	96	96	96	98	98	98	95.0	9.7
7	98	95	96	95	94	95	95	96	93	86	84	83	78	81	80	82	84	85	92	90	91	90	81	82	88.9	11.6
8	87	87	83	86	78	82	87	88	86	70	67	62	62	63	73	80	90	90	96	95	100	98	96	91	83.0	8.4
9	89	91	94	97	100	98	100	95	95	88	77	75	65	68	72	76	80	88	90	90	95	93	89	89	87.3	8.0
10	85	83	93	94	96	94	94	90	90	87	81	71	67	66	70	73	74	83	81	87	87	88	89	88	83.8	8.4
11	85	86	90	90	95	91	96	93	93	92	93	92	90	87	89	87	90	94	97	95	98	98	100	100	92.3	7.4
12	96	94	96	94	93	96	92	90	87	86	80	77	71	65	64	62	69	73	76	80	85	88	93	93	83.5	7.2
13	93	93	94	94	98	100	100	100	96	96	88	86	84	67	70	73	74	77	80	90	94	93	91	87	88.4	7.1
14	93	90	93	93	93	94	93	94	96	90	89	86	79	79	75	80	90	95	95	89	86	85	86	86	88.7	7.6
15	90	91	88	90	94	93	94	93	93	91	94	88	83	71	68	78	83	87	90	97	98	98	98	100	89.3	8.8
16	96	98	98	100	98	98	100	98	100	98	97	94	82	82	82	86	84	82	83	83	81	83	82	84	90.6	7.6
17	86	86	87	86	87	87	86	84	86	94	89	79	78	77	77	78	80	84	84	82	82	82	79	84	83.5	8.3
18	90	83	77	84	88	93	91	93	93	94	93	94	90	90	86	87	86	89	93	98	94	93	95	95	90.2	9.0
19	96	98	98	94	93	91	92	92	89	84	79	79	76	85	87	87	87	90	89	89	85	89	93	93	89.0	10.9
20	95	98	99	100	98	98	99	99	99	98	99	99	98	99	99	94	95	95	95	94	95	96	96	98	97.2	11.1
21	96	96	93	94	93	94	94	93	93	88	88	88	86	85	83	85	83	82	85	86	89	88	88	83	89.2	9.3
22	87	88	91	93	93	93	94	91	86	83	79	76	76	78	81	83	83	88	89	89	88	90	91	94	86.6	8.9
23	94	96	96	96	93	93	91	87	90	83	75	78	76	74	73	78	83	83	81	79	80	79	82	88	84.6	8.5
24	86	83	83	82	81	85	84	85	85	86	77	72	71	72	73	73	71	77	82	80	80	79	86	83	80.0	7.6
25	84	83	85	85	87	82	82	85	82	76	68	68	63	77	74	77	75	81	79	80	84	79	79	76	78.9	6.4
26	73	73	75	69	69	67	67	67	67	69	69	73	70	73	77	82	82	87	87	81	81	79	79	78	74.7	6.0
27	83	85	81	82	82	84	82	84	84	78	83	79	85	84	82	74	71	71	71	70	74	78	82	83	79.5	6.4
28	85	88	90	87	84	86	84	86	87	84	78	74	74	76	73	73	71	71	72	72	72	70	77	78.7	6.5	
29	72	75	78	74	74	79	82	80	88	77	70	68	71	67	67	70	69	69	68	71	69	72	74	76	73.4	6.0
30	73	74	77	84	79	82	82	84	80	80	73	70	68	68	66	68	69	72	75	78	74	77	78	76	75.3	6.1
Mean	87.4	87.3	88.5	88.9	88.9	89.2	89.3	88.2	87.4	83.9	79.9	77.2	75.1	74.8	75.4	77.2	79.2	81.9	83.8	84.9	85.7	86.0	86.7	87.0	83.9	78.1
Vapour * Pressure	mb. 8.0	mb. 8.0	mb. 8.0	mb. 8.0	mb. 7.9	mb. 7.8	mb. 7.9	mb. 7.8	mb. 8.0	mb. 8.0	mb. 8.1	mb. 8.1	mb. 8.0	mb. 8.0	mb. 8.0	mb. 8.0	mb. 8.0	mb. 8.1	mb. 8.1	mb. 8.0	mb. 8.0	mb. 7.9	mb. 7.9	mb. 7.9	mb. 8.0	

482. RICHMOND (Kew Observatory): North Wall Screen:  $h_t$  = 3.0 metres.

DECEMBER, 1933.

1	78	82	82	76	78	81	82	84	80	79	73	72	71	72	73	73	73	74	73	71	66	71	73	69	75.4	5.6
2	74	76	74	76	81	76	76	77	72	69	73	71	70	72	67	72	75	72	73	68	73	74	74	76	73.2	5.5
3	77	70	73	70	69	66	64	66	66	64	66	66	56	54	58	62	62	63	68	65	72	70	68	68	66.1	5.0
4	69	69	67	68	68	68	69	67	69	66	62	66	68	69	69	69	70	72	72	72	75	74	75	73	69.3	4.4
5	72	74	75	75	75	76	76	78	79	80	80	82	80	80	78	78	79	81	84	83	82	85	86	78.7	5.0	
6	85	88	86	88	94	90	90	91	88	92	85	90	88	94	84	88	92	94	91	92	88	91	90	91	89.5	5.0
7	90	93	92	95	90	92	90	91	94	92	91	90	88	89	89	84	78	73	72	72	69	70	62	63	84.3	5.6
8	64	61	63	63	60	57	57	57	57	64	78	78	69	60	54	56	57	57	63	64	60	57	61	62	61.7	4.3
9	63	64	65	68	70	72	74	74	74	76	74	73	71	70	73	74	72	73	72	73	75	75	79	79	71.8	4.3
10	80	82	84	85	83	84	81	82	82	82	79	75	74	71	73	73	74	76	76	75	75	75	74	77	78.0	4.7
11	77	75	75	72	72	67	68	66	65	62	59	54	58	60	65	66	68	72	75	77	80	82	80	84	69.8	5.0
12	86	86	87	87	88	88	84	88	88	84	82	76	70	70	74	74	77	80	80	77	78	79	71	78	80.6	5.4
13	70	68	65	63	62	67	67	70	66	68	59	57	54	43	35	39	45	46	45	47	47	46	46	46	55.7	3.8
14	46	45	45	46	48	49	49	52	54	57	48	46	35	36	37	41	46	55	58	61	66	69	76	85	51.3	2.8
15	83	84	93	87	92	87	85	83	75	70	60	59	60	58	60	63	61	64	69	63	63	69	74	75	72.6	5.7
16	77	75	78	80	79	80	81	80	78	66	62	55	51	55	54	63	68	70	77	75	82	83	81	86	72.1	4.8
17	84	83	84	83	85	87	89	89	93	94	93	91	89	87	80	80	80	80	79	84	80	80	77	78	84.7	6.0
18	78	82	84	80	83	89	85	93	85	82	73	70	69	70	67	78	75	85	85	82	87	84	87	89	80.7	5.7
19	89	89	88	86	88	88	91	91	90	86	85	85	85	85	87	91	91	93	97	96	96	96	96	97	90.1	5.9
20	97	98	98	97	95	97	98	97	98	97	95	93	92	90	88	92	90	89	91	93	93	92	96	98	94.3	7.1
21	98	96	96	96	96	96	96	96	94	94	94	93	91	94	94	94	94	94	94	96	96	96	98	98	95.2	6.4
22	96	96	96	94	91	93	89	87	77	79	79	74	72	70	71	70	73	77	80	78	77	81	81	82	82.1	6.6
23	80	80	82	85	84	82	82	75	77	71	69	65	65	68	68	68	73	71	74	76	72	73	75	78	74.8	6.0
24	78	79	80	77	75	79	80	80	80	79	76	76	77	75	79	74	77	77	79	78	78	80	82	82	78.1	5.7
25	78	79	82	82	80	81	82	84	82	82	78	82	81	80	82	80	83	87	88	92	92	90	90	93	83.5	5.9
26	92	88	93	93	93	93	93	95	95	95	95	97	97	97	97	97	96	96	97	97	93	95	97	98	94.8	7.7
27	96	95	92	95	94	94	94	94	94	93	87	88	92	93	93	92	87	84	87	89	88	85	88	87	91.1	6.7
28	87	87	88	89	93	91	91	89	93	89	91	95	90	88	87	87	87	85	85	85	84	80	76	82	87.6	6.8
29	84	85	85	85	88	88	88	90	88	87	89	84	83	83	86	87	85	92	90	90	90	90	91	90	87.3	7.1
30	88	90	91	93	94	96	96	98	96	94	95	92	92	89	90	90	92	91	94	96	91	89	87	82	92.1	6.9
31	85	85	87	84	80	80	84	84	85	88	87	86	84	83	82	82	82	82	82	82	85	86	93	92	84.4	6.9
Mean	80.7	80.8	81.6	81.2	81.5	81.7	81.6	82.2	81.1	80.0	78.0	76.8	74.9	74.4	74.0	75.4	76.2	77.5	78.9	79.0	79.2	79.5	80.1	81.4	79.1	75.6
Vapour * Pressure	mb. 5.5	mb. 5.5	mb. 5.5	mb. 5.5	mb. 5.5	mb. 5.5	mb. 5.5	mb. 5.5	mb. 5.5	mb. 5.6	mb. 5.6	mb. 5.7	mb. 5.7	mb. 5.6	mb. 5.6	mb. 5.6	mb. 5.6	mb. 5.6	mb. 5.6	mb. 5.6	mb. 5.6	mb. 5.5	mb. 5.6	mb. 5.6	mb. 5.6	
Hour G. M. T.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	Mean	



RELATIVE HUMIDITY AND VAPOUR PRESSURE: ANNUAL MEANS FROM HOURLY VALUES.  
For exact hours, Greenwich Mean Time.

387

483. RICHMOND (Kew Observatory): North Wall Screen:  $h_t = 3.0$  metres.

1933.

Hour G. M. T.	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24	Mean
Relative Humidity.	% 85.0	% 86.0	% 87.0	% 87.5	% 87.6	% 86.5	% 84.4	% 81.0	% 77.0	% 72.4	% 68.4	% 65.2	% 62.9	% 61.8	% 61.5	% 62.8	% 65.0	% 66.2	% 72.0	% 75.4	% 78.3	% 80.6	% 82.5	% 83.8	% 76.0
Vapour Pressure in Millibars.*	mb 9.7	mb 9.6	mb 9.6	mb 9.5	mb 9.5	mb 9.5	mb 9.6	mb 9.7	mb 9.8	mb 9.8	mb 9.8	mb 9.8	mb 9.7	mb 9.6	mb 9.7	mb 9.8	mb 9.9	mb 10.0	mb 10.0	mb 9.9	mb 9.9	mb 9.8	mb 9.8	mb 9.7	mb 9.8

\* Computed from the mean temperature and mean relative humidity.

RELATIVE HUMIDITY: MONTHLY MEANS AND DIURNAL INEQUALITIES.  
The departures from the mean of the day are adjusted for non-cyclic change †

484. RICHMOND (Kew Observatory): North Wall Screen:  $h_t = 3.0$  metres.

1933.

MONTH.	Mean.	Hour 1	G.M.T. 2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24
January	% 85.2	% +2.4	% +2.4	% +2.8	% +3.3	% +3.7	% +3.4	% +3.1	% +2.9	% +2.1	% +1.0	% -1.4	% -2.9	% -5.3	% -6.5	% -7.5	% -4.9	% -3.0	% -2.1	% -0.7	% +0.8	% +1.5	% +1.3	% +1.7	% +2.2
February	% 79.7	% +4.7	% +5.8	% +7.2	% +5.8	% +6.4	% +6.2	% +5.9	% +6.6	% +4.5	% +1.0	% -3.7	% -7.3	% -10.5	% -11.6	% -12.4	% -10.3	% -5.9	% -3.3	% -0.5	% +1.0	% +0.7	% +2.3	% +3.4	% +4.1
March	% 76.3	% +9.8	% +10.9	% +12.4	% +12.3	% +12.3	% +11.8	% +11.6	% +8.7	% +4.1	% -1.0	% -6.6	% -13.1	% -16.6	% -17.5	% -18.3	% -17.7	% -15.7	% -9.6	% -3.7	% +0.7	% +3.3	% +5.9	% +7.5	% +8.5
April	% 71.9	% +12.3	% +14.1	% +14.7	% +15.9	% +16.9	% +15.8	% +13.0	% +7.8	% +1.1	% -5.5	% -11.3	% -14.1	% -15.7	% -15.9	% -16.9	% -18.3	% -15.8	% -11.7	% -6.6	% -3.5	% +0.9	% +4.9	% +8.1	% +9.8
May	% 72.4	% +13.6	% +13.9	% +14.0	% +14.6	% +14.9	% +12.0	% +8.4	% +2.4	% -3.1	% -7.1	% -10.7	% -13.9	% -15.9	% -16.9	% -17.7	% -16.2	% -14.2	% -9.8	% -5.3	% +1.1	% +5.3	% +8.6	% +10.1	% +11.5
June	% 66.7	% +13.7	% +16.5	% +18.3	% +21.3	% +18.9	% +12.9	% +7.8	% +1.1	% -3.6	% -8.9	% -10.8	% -13.1	% -15.8	% -17.9	% -17.1	% -16.2	% -13.9	% -11.8	% -8.4	% -2.6	% +2.5	% +6.3	% +9.3	% +11.3
July	% 71.5	% +13.7	% +15.9	% +16.7	% +16.9	% +15.6	% +13.2	% +8.8	% +3.2	% -1.7	% -6.1	% -9.8	% -13.0	% -14.2	% -16.9	% -16.6	% -16.4	% -16.0	% -13.0	% -9.4	% -3.2	% +3.0	% +6.6	% +9.8	% +13.0
August	% 68.0	% +14.6	% +16.3	% +17.7	% +18.3	% +19.6	% +18.6	% +13.8	% +6.4	% -0.4	% -7.8	% -12.5	% -15.7	% -19.5	% -20.7	% -21.5	% -18.8	% -17.8	% -14.7	% -8.2	% -1.3	% +3.6	% +7.3	% +10.3	% +12.6
September	% 76.2	% +12.1	% +13.0	% +14.2	% +15.1	% +14.9	% +12.6	% +7.5	% +0.5	% -7.6	% -12.6	% -15.9	% -18.3	% -18.3	% -18.7	% -17.5	% -14.6	% -9.5	% -2.7	% +0.5	% +3.7	% +6.9	% +9.2	% +10.5	
October	% 80.7	% +6.0	% +6.6	% +7.3	% +7.8	% +8.6	% +9.2	% +8.3	% +6.6	% +3.7	% -1.8	% -6.4	% -11.0	% -12.2	% -13.9	% -12.7	% -10.7	% -6.3	% -3.0	% -1.5	% -0.5	% +1.7	% +3.6	% +4.9	% +5.7
November	% 83.9	% +3.3	% +3.3	% +4.5	% +4.9	% +4.9	% +5.2	% +5.3	% +4.2	% +3.4	% 0.0	% -4.0	% -6.7	% -8.8	% -9.1	% -8.5	% -6.6	% -4.7	% -1.9	% 0.0	% +1.1	% +1.9	% +2.2	% +2.9	% +3.3
December	% 79.1	% +1.9	% +1.9	% +2.7	% +2.3	% +2.6	% +2.8	% +2.7	% +3.2	% +2.1	% +1.0	% -1.1	% -2.3	% -4.2	% -4.7	% -5.1	% -3.8	% -3.0	% -1.7	% -0.3	% -0.2	% -0.1	% +0.2	% +0.8	% +2.1
Year	% 76.0	% +9.0	% +10.1	% +11.0	% +11.5	% +11.6	% +10.5	% +8.4	% +5.0	% +1.1	% -3.6	% -7.6	% -10.7	% -13.1	% -14.2	% -14.4	% -13.1	% -10.9	% -7.7	% -3.9	% -0.5	% +2.3	% +4.7	% +6.5	% +7.9

† See page 21

RAINFALL: ANNUAL TOTALS OF HOURLY VALUES.

Amounts, in millimetres; durations, in hours for periods of sixty minutes between the exact hours, Greenwich Mean Time.  
485. RICHMOND (Kew Observatory):  $H_r$  (height of receiving surface above M.S.L.) =  $H$  (height of station above M.S.L.) +  $h_r$  (height of receiving surface above ground) = 5.5 metres + 0.53 metres.

1933.

Hour G. M. T.	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to Noon	Noon to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	21 to 22	22 to 23	23 to 24	0 to 24
Amount.	mm 16.4	mm 14.3	mm 17.7	mm 16.7	mm 25.6	mm 22.2	mm 23.2	mm 15.2	mm 20.4	mm 10.4	mm 13.1	mm 15.2	mm 30.1	mm 26.8	mm 21.2	mm 18.3	mm 38.2	mm 22.7	mm 22.6	mm 21.6	mm 14.0	mm 10.4	mm 16.1	mm 11.0	mm 463.4
Duration	hr 15.0	hr 16.8	hr 19.3	hr 15.5	hr 21.4	hr 19.2	hr 16.7	hr 14.3	hr 15.0	hr 11.9	hr 11.8	hr 16.2	hr 15.6	hr 19.6	hr 20.1	hr 16.9	hr 15.4	hr 13.4	hr 12.9	hr 14.4	hr 10.4	hr 9.3	hr 10.1	hr 10.3	hr 361.5

NOTES ON RAINFALL.

486. RICHMOND (Kew Observatory).

1933.

Dry Periods.

The following definitions are adopted by "The British Rainfall Organisation".

An "absolute drought" is a period of at least 15 consecutive days to none of which is credited 0.2 mm. of rain or more.  
A "partial drought" is a period of at least 29 consecutive days, the mean daily rainfall of which does not exceed 0.2 mm.  
A "dry spell" is a period of at least 15 consecutive days to none of which is credited 1.0 mm. or more.

In 1933 no "absolute droughts" occurred.

"Partial droughts" March 20th. - April 23rd. and Nov. 18th. - Dec. 29th.

"Dry Spells" March 21st. - April 11th. and Nov. 18th. - Dec. 25th.

Wet Periods.

The following definitions are adopted by "The British Rainfall Organisation".

A "Rain Spell" is a period of at least 15 consecutive days to each of which is credited 0.2 mm. of rain or more.  
A "Wet Spell" is a period of at least 15 consecutive days to each of which is credited 1.0 mm. or more.  
No "Rain Spells" or "Wet Spells" occurred in 1933.

Rainfall Duration.

Hours	0.1-1.0	1.1-2.0	2.1-6.0	6.1-12	>12
Number of Days	50	35	45	12	1

Continuous Falls.

The fall of the longest duration was 8mm. in 8h. 30m. on March 16th.

Heavy Falls in Short Periods.

The only noteworthy fall of the year occurred on July 16th., when 5mm. fell in 3 minutes.



## RAINFALL

Amounts, in millimetres, for periods of sixty minutes between the exact hours, Greenwich Mean Time.  
 487. RICHMOND (Kew Observatory):  $H_r$  (height of receiving surface above M.S.L.) =  $H$  (height of station above M.S.L.) +  $h_r$  (height of receiving surface above ground) = 5.5 metres + 0.53 metres.

JANUARY, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	0-24	Duration 0-24
Day	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	hr.
1	2	...	...	...	...	...	...	...	...	...	...	...	6	...	...	...	...	...	...	...	...	...	...	...	0.8	0.8
2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	3	2	1	1	0.9	2.5
3	...	2	2	...	3	9	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.8	4.1
4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...	...	...	...	...	...	...	...	...	0.5	0.3
5	...	...	...	...	2	1	3.9	5	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5.5	3.9
6	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	(D)	(D)	(.1)	(D)	(D)	...	0.3	0.3
7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
8	...	...	4	1.6	1.2	5	3	1	1	2	2	2	...	...	...	...	...	...	...	...	...	...	...	...	4.8	9.0
9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
11	...	...	...	...	...	...	...	...	...	1	1	1.0	1.1	1.0	3	2	2	2	...	...	...	...	...	...	4.2	6.6
12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13	...	...	...	...	...	...	...	...	...	1	2	3	1	8	1	...	2	...	(.1)	(...)	...	...	...	...	1.9	4.1
14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15	...	...	...	...	...	...	...	...	...	...	...	...	...	2	5	5	2	4	1.7	7	...	...	...	...	4.2	5.7
16	...	3	3	1.1	8	3	...	...	...	...	...	2	1	...	...	...	...	(...)	(.1)	...	...	...	...	...	3.1	5.5
17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	(...)	(.1)	...	...	...	...	...	...	0.3	0.6
18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	0.3	0.2
19	1.5	...	...	...	...	1	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.8	1.5
20	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
21	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
28	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
29	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.1
30	3	1	...	...	...	4	5	1	2	1	...	4	3	8	3	1	...	...	...	...	(L)	(L)	(L)	(L)	3.6	7.0
31	(.1)	(L)	(L)	(L)	(L)	(L)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.1	...
Sum.	2.1	0.6	1.1	2.7	2.5	2.3	5.0	0.7	1.1	0.6	0.5	2.1	2.2	2.8	1.7	0.9	0.7	0.8	1.9	0.7	0.4	0.2	0.1	0.4	34.1	52.2
Total Duration.	hr. 2.0	hr. 1.7	hr. 2.6	hr. 2.0	hr. 3.1	hr. 4.4	hr. 3.5	hr. 2.1	hr. 2.5	hr. 2.1	hr. 2.2	hr. 3.7	hr. 2.7	hr. 3.6	hr. 3.7	hr. 2.5	hr. 2.0	hr. 1.9	hr. 1.0	hr. 0.8	hr. 0.5	hr. 1.0	hr. 0.2	hr. 0.4	hr. 52.2	

488. RICHMOND (Kew Observatory):  $H_r$  = 5.5 metres + 0.53 metres.

FEBRUARY, 1933.

Day	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	hr.
1	...	...	...	...	*2	...	*3	1.0	*7	*3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2	*7	1.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4	*5	...	...	...	...	...	...	...	...	...	...	...	...	...	*1	*2	...	...	...	...	...	...	...	...	...	...
5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	*1	...	...	...	...	...	...	...	...
6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	*3	*1	...	...	...	...	...
7	*7	...	*2	...	...	...	*1	...	...	*5	*1	...	...	...	...	*1	...	...	...	...	...	...	...	...	...	...
8	...	...	...	...	...	...	...	...	*2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	*2	1.2	10.1	7.4	2.3	*8	...	...	...	...	...
11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17	...	*1	*1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
19	...	...	...	...	(.2)	(.1)	(.4)	(.5)	(.3)	...	...	...	...	...	...	...	...	(.1)	(.1)	(.4)	(.1)	...	...	...	...	...
20	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	(*)	(.1)	...	...	...
21	...	...	*1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
25	...	1.3	1.2	1.4	*7	*1	...	...	*8	*3	*7	*8	*9	*3	1.0	1.1	*7	*9	*5	*9	*7	*7	1.1	1.0	17.1	17.8
26	*4	*4	...	...	...	...	...	...	...	...	...	*2	*6	1.2	*4	*1	*7	*6	*4	*4	*2	*1	...	...	5.7	9.6
27	*1	*1	*1	*1	*7	*6	*1	*1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.9	2.4
28	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sum.	2.4	3.0	1.7	1.5	1.8	0.8	0.9	1.6	2.0	1.1	0.8	1.0	1.5	2.0	3.0	3.6	12.8	10.4	4.5	2.6	1.3	2.1	2.3	2.4	37.3	51.1
Total Duration.	hr. 3.5	hr. 2.8	hr. 1.8	hr. 1.2	hr. 3.0	hr. 0.9	hr. 1.2	hr. 2.2	hr. 2.4	hr. 1.8	hr. 1.3	hr. 1.5	hr. 1.6	hr. 2.5	hr. 3.3	hr. 3.3	hr. 3.9	hr. 4.4	hr. 4.5	hr. 3.9	hr. 2.4	hr. 2.4	hr. 2.3	hr. 3.0	hr. 51.1	
Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	0-24	



## RAINFALL

Amounts, in millimetres, for periods of sixty minutes between the exact hours, Greenwich Mean Time.

489. RICHMOND (Kew Observatory);  $H_r$  (height of receiving surface above M.S.L.) =  $H$  (height of station above M.S.L.) +  $h_r$  (height of receiving surface above ground) = 5.5 metres + 0.53 metres.

MARCH, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	0-24	Duration 0-24	
Day	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	hr.	
1	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4.1	2.1
2	*1	...	...	...	...	...	...	...	...	...	...	...	...	*3	*7	*1	*7	...	...	...	*1	*2	...	...	*1	2.3	3.3
3	1.5	1.3	*3	*7	*8	*1	*3	*2	...	*1	...	*1	*1	*3	*8	*3	*4	*3	*1	*2	*1	*1	...	*4	8.5	8.2	
4	...	*2	...	*2	...	*1	*2	*1	...	*3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.1	1.7	
5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
6	...	*1	*7	*1	*2	*5	*9	1.2	1.3	*2	*1	...	...	...	...	...	...	...	...	...	...	...	...	...	5.3	6.2	
7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.9	...	*4	...	...	...	...	2.3	0.8	
8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
9	...	...	...	*1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.1	0.4	
10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
16	...	...	...	...	...	...	*6	*5	1.2	*9	1.6	1.1	*6	1.4	*4	...	...	...	...	...	*2	*8	*7	*4	10.4	11.0	
17	1.9	1.3	1.4	*5	...	...	...	...	...	...	*5	4.1	*4	...	*6	...	*1	*2	(...)	(.1)	...	(...)	*1	11.2	7.4		
18	*2	...	*9	*9	*2	...	...	...	...	...	...	...	...	...	...	...	...	...	*5	...	...	...	...	...	2.7	2.0	
19	...	*3	*5	...	...	...	...	*6	2.6	...	...	...	...	*3	*4	...	...	...	...	...	...	...	...	*3	5.0	2.6	
20	*3	...	*3	*1	...	...	...	...	...	...	...	...	*3	*1	*6	...	...	...	...	...	...	...	...	...	1.7	2.3	
21	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
28	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
29	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
31	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Sum.	4.0	3.2	4.1	2.6	1.2	0.7	2.0	2.6	5.1	1.5	1.7	1.7	5.1	2.8	3.2	1.0	1.1	2.3	0.8	1.0	0.6	2.2	3.0	1.5	55.0	48.5	
Total Duration.	hr. 3.0	hr. 2.6	hr. 3.7	hr. 2.8	hr. 1.6	hr. 1.3	hr. 2.8	hr. 2.9	hr. 3.0	hr. 1.8	hr. 1.3	hr. 1.9	hr. 2.6	hr. 2.8	hr. 3.3	hr. 1.4	hr. 1.0	hr. 0.8	hr. 0.7	hr. 1.1	hr. 0.9	hr. 1.5	hr. 2.0	hr. 1.7	hr. 48.5		

490. RICHMOND (Kew Observatory):  $H_r = 5.5$  metres +  $0.53$  metres.

APRIL, 1933.

[illegible]



**MAY, 1933.**

**JUNE, 1933.**

Day	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	hr.	
1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
11	...	*4	*1	...	...	...	...	...	...	*9	...	1.0	...	...	...	...	...	...	...	...	...	...	...	2.4	1.6	
12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
13	...	...	...	...	1.1	1.1	*1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2.3	1.4	
14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.7	3.3	*7	4.8	2.2	<u>12.7</u>	4.0		
16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
17	1.1	1.5	2.5	1.0	*3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7.0	<u>4.3</u>	
18	...	...	...	...	...	...	...	...	...	...	...	*4	*3	...	1.6	*1	...	*2	...	...	*4	...	...	3.0	1.9	
19	...	...	...	*1	*3	*1	...	*2	*8	...	*3	...	...	...	*3	*2	...	...	...	...	...	...	...	2.3	1.9	
20	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3.6	...	...	...	...	...	...	3.6	0.6	
21	...	...	...	...	...	...	...	...	...	...	2.0	1.4	*1	...	...	*2	7.3	1.0	*1	...	...	...	...	12.1	3.5	
22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.9	*6	...	...	...	...	...	...	...	2.6	1.2	
25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.0	...	...	...	...	...	1.0	0.5	
27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
28	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
29	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
Sum.	1.1	1.9	2.6	1.1	1.7	1.2	0.2	0.2	0.8	0.9	2.0	3.1	0.4	1.9	2.5	0.5	<u>10.9</u>	1.8	1.1	1.7	3.7	0.7	4.8	2.2	49.0	20.9
Total Duration.	hr. 0.8	hr. <u>1.9</u>	hr. 1.2	hr. 0.8	hr. 1.3	hr. 0.7	hr. 0.6	hr. 0.2	hr. 0.2	hr. 0.3	hr. 0.8	hr. 1.7	hr. 0.8	hr. 0.7	hr. 0.9	hr. 0.6	hr. 1.6	hr. 1.1	hr. 0.5	hr. 0.7	hr. 1.3	hr. 0.5	hr. 0.9	hr. 0.9	hr. 20.9	
Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	0-24	



**JULY, 1933.**

**AUGUST, 1933.**

[illegible]



## RAINFALL

Amounts, in millimetres, for periods of sixty minutes between the exact hours, Greenwich Mean Time.  
 495. RICHMOND (Kew Observatory):  $H_r$  (height of receiving surface above M.S.L.) =  $H$  (height of station above M.S.L.) +  $h_r$  (height of receiving surface above ground) = 5.5 metres + 0.53 metres.

SEPTEMBER, 1933.

Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	0-24	Duration 0-24
Day	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	hr.
1	...	...	...	1.1	1.5	.6	.2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3.4	3.5
2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12	...	...	...	...	...	...	...	...	...	...	...	.3	1.0	1.0	.9	.5	...	.1	.4	.7	.9	.7	.4	.1	7.0	9.3
13	.1	.9	.2	.4	1.9	3.0	2.2	1.2	.6	.3	.5	.2	...	...	...	...	...	...	...	...	...	...	...	...	11.5	10.0
14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17	...	...	.6	...	...	...	.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.7	0.6
18	...	.1	1.2	.1	.2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.6	1.4
19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
20	...	...	...	...	2.7	2.3	3.6	2.2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10.8	1.7
21	...	...	...	...	...	...	...	...	...	...	...	...	.7	2.7	1.8	.8	...	...	...	...	...	...	...	...	6.0	3.5
22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
23	...	...	...	...	...	...	...	...	...	...	.5	.3	.4	.3	2.4	1.5	3.6	...	...	.1	...	...	...	...	9.1	5.9
24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.2	.1	1.7	.1	...	...	...	...	...	...	2.1	1.1
25	...	...	.9	1.6	1.4	2.1	.1	...	...	...	2.0	.3	...	4.0	.5	1.2	...	...	...	...	...	...	...	...	14.1	5.6
26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.7	.3	2.0	1.4
27	.1	.2	.3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.6	1.1
28	(...)	(...)	(...)	(.1)	(...)	(...)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	(...)	(...)	(.1)	0.1	...
29	(...)	(...)	(...)	(.1)	(...)	(...)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.1	...
30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sum.	0.2	1.2	3.2	3.3	7.7	8.0	6.2	3.4	0.6	0.3	3.0	1.1	2.1	8.0	5.8	4.1	5.3	0.2	0.4	0.8	0.9	2.4	0.7	0.2	69.1	45.1
Total Duration	hr. 0.4	hr. 1.7	hr. 3.6	hr. 2.5	hr. 3.8	hr. 3.6	hr. 1.8	hr. 1.6	hr. 1.0	hr. 1.0	hr. 1.7	hr. 2.0	hr. 2.0	hr. 3.3	hr. 3.4	hr. 3.1	hr. 1.6	hr. 0.5	hr. 0.6	hr. 1.1	hr. 1.0	hr. 1.5	hr. 1.8	hr. 0.5	hr. 45.1	

496. RICHMOND (Kew Observatory):  $H_r$  = 5.5 metres + 0.53 metres.

OCTOBER, 1933.

Day	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	hr.
1	...	...	1.0	...	...	...	...	...	...	...	...	...	...	...	...	.1	...	...	...	...	...	...	...	...	1.1	1.1
2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7	...	...	...	.1	1.5	.4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2.4	2.6
8	1.5	.9	...	...	...	...	...	...	...	...	...	...	...	.1	...	...	...	...	...	...	...	...	...	...	2.5	1.7
9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.2	.6	...	...	...	...	...	...	...	0.8	0.5
10	...	...	...	...	(...)	(.1)	...	...	...	...	...	...	...	...	...	.7	.1	...	...	...	...	...	...	...	0.9	0.9
11	...	.1	...	...	.9	.2	.5	.9	...	.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2.7	2.6
12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4.2	2.1
15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.2	...	...	...	...	...	...	...	...	...	0.2	0.1
17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
20	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
21	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
22	...	...	...	...	...	...	...	...	...	...	...	...	5.2	.1	...	.1	...	...	...	...	...	...	...	...	5.4	1.1
23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
24	...	...	.3	.4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.7	0.5
25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
27	...	...	...	...	...	...	...	.3	.8	1.7	1.3	1.4	.8	...	.2	.1	...	...	...	...	...	...	...	...	6.6	6.0
28	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.1	.1	1.7	2.1	...	...	...	...	...	...	5.9	3.0
29	...	.1	...	...	.2	.1	...	...	...	.1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.1	1.8
30	...	...	...	...	...	...	...	...	1.6	.2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.8	1.4
31	...	...	...	...	...	...	...	...	...	...	...	(...)	(.1)	(...)	(.1)	.1	...	...	...	...	...	...	...	...	0.3	0.9
Sum.	1.5	1.1	1.3	0.5	2.6	0.8	0.5	1.2	2.5	2.0	1.3	2.1	8.1	2.6	1.7	0.4	2.7	2.8	...	0.6	...	0.6	0.6	1.1	36.6	26.3
Total Duration	hr. 1.0	hr. 1.2	hr. 1.2	hr. 0.4	hr. 2.2	hr. 1.9	hr. 0.5	hr. 1.3	hr. 2.1	hr. 1.6	hr. 1.0	hr. 1.8	hr. 1.6	hr. 1.4	hr. 1.2	hr. 0.7	hr. 1.9	hr. 1.1	hr. ...	hr. 0.5	hr. ...	hr. 0.3	hr. 0.7	hr. 0.7	hr. 26.3	
Hour G. M. T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	0-24	



NOVEMBER, 1933.

DECEMBER, 1933.

[illegible]

Note.-For Annual Totals, see table 485.



For periods of sixty minutes, between the exact hours of Local Apparent Time.

499. RICHMOND (Kew Observatory):  $h_s$  (height of recorder above ground) = 13.3 metres, For periods of sixty minutes, between the exact hours of

JANUARY, 1933.

Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day.	Per cent. of Possible.	Radiation at Noon. Ångström Pyrheliometer.		
																					Sky	Total	Vertical
Day	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%	mm/cm <sup>2</sup>	mw/cm <sup>2</sup>	
1	--	--	--	--	--	...	•6	•3	...	...	...	...	...	...	--	--	--	--	--	0•8	10	...	...
2	--	--	--	--	--	...	...	...	•2	...	...	...	...	--	--	--	--	--	--	0•2	3	...	...
3	--	--	--	--	--	...	...	...	...	...	...	...	...	--	--	--	--	--	--	...	...	...	...
4	--	--	--	--	--	...	•1	•3	•3	...	...	•2	...	--	--	--	--	--	--	0•9	11	...	...
5	--	--	--	--	--	...	...	...	...	...	...	...	...	--	--	--	--	--	--	...	...	...	...
6	--	--	--	--	--	•3	1•0	1•0	•7	•5	1•0	1•0	...	--	--	--	--	--	--	5•5	69	...	...
7	--	--	--	--	--	...	...	•1	•2	•2	•3	•7	...	--	--	--	--	--	--	1•5	19	...	...
8	--	--	--	--	--	...	...	...	...	...	...	...	...	--	--	--	--	--	--	...	...	...	...
9	--	--	--	--	--	•1	•6	1•0	1•0	1•0	1•0	1•0	•2	--	--	--	--	--	--	6•1	76	Clear	36
10	--	--	--	--	--	...	...	...	...	...	...	...	...	--	--	--	--	--	--	...	...	...	...
11	--	--	--	--	...	...	...	...	...	...	...	...	...	...	--	--	--	--	--	...	...	...	...
12	--	--	--	--	...	...	•1	•8	1•0	1•0	•9	•5	...	...	--	--	--	--	--	4•3	53	...	...
13	--	--	--	--	...	...	...	...	...	...	...	...	...	...	--	--	--	--	--	...	...	...	...
14	--	--	--	--	...	...	...	...	...	1•0	1•0	•1	...	...	--	--	--	--	--	2•1	26	...	...
15	--	--	--	--	...	...	...	...	...	...	...	...	...	...	--	--	--	--	--	...	...	...	...
16	--	--	--	--	...	...	...	...	...	...	...	...	...	...	--	--	--	--	--	...	...	...	...
17	--	--	--	--	...	...	•8	•7	•1	...	...	...	...	...	--	--	--	--	--	1•6	19	...	...
18	--	--	--	--	...	...	...	•5	1•0	1•0	1•0	•5	...	...	--	--	--	--	--	4•0	48	...	...
19	--	--	--	--	...	...	...	...	...	...	...	...	...	...	--	--	--	--	--	...	...	...	...
20	--	--	--	--	...	...	...	...	...	...	...	...	...	...	--	--	--	--	--	...	...	...	...
21	--	--	--	--	...	...	...	•5	•9	•6	•6	•7	...	...	--	--	--	--	--	3•3	39	...	...
22	--	--	--	--	...	...	...	...	•1	...	...	...	...	...	--	--	--	--	--	0•1	1	...	...
23	--	--	--	--	...	...	...	...	...	...	...	...	...	...	--	--	--	--	--	...	...	...	...
24	--	--	--	--	...	...	...	...	...	...	...	...	...	...	--	--	--	--	--	...	...	...	...
25	--	--	--	--	...	...	...	•6	•9	1•0	1•0	•6	...	...	--	--	--	--	--	4•1	47	...	...
26	--	--	--	--	...	...	...	•3	...	•1	•2	•2	...	...	--	--	--	--	--	0•8	9	...	...
27	--	--	--	--	...	...	...	...	...	•1	...	...	...	...	--	--	--	--	--	0•1	1	...	...
28	--	--	--	--	...	...	...	...	•3	•5	...	...	...	...	--	--	--	--	--	0•8	9	Hazy	16
29	--	--	--	--	...	...	...	•1	•2	•5	•1	...	...	...	--	--	--	--	--	0•9	10	...	...
30	--	--	--	--	...	...	...	...	...	...	...	...	...	...	--	--	--	--	--	...	...	...	...
31	--	--	--	--	...	...	•7	•4	...	•1	•4	...	...	...	--	--	--	--	--	1•6	18	...	...
Sum.	--	--	--	--	...	0•4	4•0	6•6	6•9	7•6	7•5	5•5	0•2	...	--	--	--	--	--	38•7	--	--	--
Mean	--	--	--	--	...	•01	•13	•21	•22	•25	•24	•18	•01	...	--	--	--	--	--	1•25	15	--	--

500. RICHMOND (Kew Observatory):  $h_g = 13.5$  metres.

FEBRUARY, 1933.

Day	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%	mw/cm <sup>2</sup>	mw/cm <sup>2</sup>			
1	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
2	--	--	--	--	...	.7	1.0	1.0	.7	1.0	1.0	1.0	.7	...	--	--	--	--	7.1	77	...	...			
3	--	--	--	--	...	...	...	...	...	.6	.3	...	...	...	...	...	...	...	0.9	10	...	...			
4	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
5	--	--	--	--	...	.1	.1	...	.5	.4	.2	.1	...	...	--	--	--	--	1.4	15	...	...			
6	--	--	--	--	...	...	...	...	...	.1	...	...	...	...	--	--	--	--	0.1	1	...	...			
7	--	--	--	--	...	...	...	...	...	.1	.2	.2	...	...	--	--	--	--	0.5	5	...	...			
8	--	--	--	--	...	...	...	...	...	...	...	...	...	...	--	--	--	--	...	...	...	...			
9	--	--	--	--	...	...	...	...	...	...	.1	...	...	...	...	...	...	...	0.1	1	...	...			
10	--	--	--	--	...	...	.2	.5	.6	.8	.2	...	...	...	--	--	--	--	2.3	24	...	...			
11	--	--	--	--	...	1.0	.9	1.0	.9	.8	.9	.5	.5	...	--	--	--	--	6.5	67	...	...			
12	--	--	--	--	...	.6	1.0	1.0	1.0	1.0	1.0	.3	.5	.3	...	--	--	--	5.7	59	...	...			
13	--	--	--	--	...	...	...	.5	1.0	1.0	1.0	1.0	1.0	1.0	...	--	--	--	5.6	56	Hazy	53			
14	--	--	--	--	...	...	.6	1.0	1.0	1.0	1.0	.2	.5	...	--	--	--	--	4.9	50	Hazy	56			
15	--	--	--	--	...	...	...	.1	.7	.8	.6	.5	.1	...	--	--	--	--	2.8	28	...	...			
16	--	--	--	--	...	...	.1	.7	.9	.5	.3	.5	...	...	--	--	--	--	3.0	30	...	...			
17	--	--	--	--	...	...	...	...	.1	.9	.9	.8	.9	...	--	--	--	--	3.6	36	...	...			
18	--	--	--	--	...	...	...	...	.1	.2	.6	.6	.4	...	...	--	--	--	1.9	19	...	...			
19	--	--	--	--	...	...	...	.6	.2	...	...	...	...	...	...	--	--	--	0.8	8	...	...			
20	--	--	--	--	...	...	...	...	1.0	1.0	1.0	.4	...	...	--	--	--	--	3.4	33	...	...			
21	--	--	--	...	...	.4	.4	.8	.9	1.0	1.0	.9	.7	...	...	--	--	--	6.1	59	...	...			
22	--	--	--	...	...	.4	1.0	1.0	1.0	.3	.4	...	.1	.8	.1	...	--	--	4.9	47	...	...			
23	--	--	--	...	...	.3	1.0	1.0	1.0	1.0	.6	.4	.9	...	...	--	--	--	7.2	69	...	...			
24	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	--	--	--	...	...	...	...			
25	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	--	--	--	...	...	...	...			
26	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	--	--	--	...	...	...	...			
27	--	--	--	--	...	...	...	...	.1	.7	1.0	.8	.8	.9	.8	...	--	--	5.1	48	...	...			
28	--	--	--	--	...	...	...	...	.1	...	.3	.5	.6	.4	.4	...	--	--	2.3	21	...	...			
Sum	--	--	--	...	0.7	4.8	6.3	9.4	11.7	14.0	11.1	8.9	7.9	1.3	...	--	--	--	76.1	--	--	--			
Mean	--	--	--	...	.03	.17	.23	.34	.42	.50	.40	.32	.28	.05	...	--	--	--	2.72	28	--	--			
Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day.	Per cent of Possible	Sky	Total	Vertical		
																					Radiation at Noon. Angstrom Pyrheliometer.				



## DURATION OF BRIGHT SUNSHINE.

395

For periods of sixty minutes, between the exact hours of Local Apparent Time.  
 501. RICHMOND (Kew Observatory):  $h_g$  (Height of recorder above ground) = 13.3 metres.

MARCH, 1933.

Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day	Per cent of Possible	Radiation at Noon. Angström Pyrheliometer.		
																					Sky	Total	Vertical
Day	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%	mm/cm <sup>2</sup>	mm/cm <sup>2</sup>	
1	--	--	--	...	...	...	...	...	...	...	.5	.1	...	...	...	--	--	--	0.6	6	...	...	...
2	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	--	--	--	...	...	...	...	...
3	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	--	--	--	...	...	...	...	...
4	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	--	--	--	...	...	...	...	...
5	--	--	--	...	.8	1.0	1.0	1.0	.9	.9	1.0	.2	...	...	...	--	--	--	5.0	45	...	...	...
6	--	--	--	...	...	...	...	...	.1	1.0	.6	.9	.8	.1	...	--	--	--	6.8	61	...	...	...
7	--	--	--	...	.4	1.0	.4	.4	.4	.3	.8	1.0	1.0	.7	...	--	--	--	3.5	31	Clear	73	39
8	--	--	--	...	.8	1.0	1.0	1.0	1.0	.9	.9	.9	.4	...	...	--	--	--	6.4	57	...	...	...
9	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	--	--	--	7.9	70	Clear	69	38
10	--	--	--	...	.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.8	...	...	--	--	--	8.1	71	Hazy	56	31
11	--	--	--	...	.4	1.0	1.0	1.0	1.0	1.0	.9	.9	1.0	.3	...	--	--	--	...	...	...	...	...
12	--	--	--	...	...	...	...	.5	.8	1.0	1.0	1.0	1.0	.2	...	--	--	--	8.5	74	Hazy	40	22
13	--	--	--	...	...	...	.7	1.0	1.0	1.0	1.0	1.0	1.0	.5	...	--	--	--	5.5	48	...	...	...
14	--	--	--	...	...	.1	.9	1.0	1.0	1.0	1.0	1.0	1.0	.4	...	--	--	--	7.2	62	...	...	...
15	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	--	--	--	7.4	63	...	...	...
16	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	--	--	--	...	...	...	...	...
17	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	--	--	--	...	...	...	...	...
18	--	--	--	...	...	...	.1	.8	.4	.4	.8	.9	.7	.8	...	--	--	--	4.9	41	...	...	...
19	--	--	--	...	...	...	.8	.5	.7	.4	.1	.8	.1	...	...	--	--	--	3.5	29	...	...	...
20	--	--	--	.1	.7	.5	.3	.7	.1	.4	.5	.8	.8	...	...	--	--	--	4.9	41	...	...	...
21	--	--	...	...	...	.8	1.0	1.0	.8	.5	1.0	.6	.1	...	...	...	--	--	5.8	48	...	...	...
22	--	--	...	.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.6	...	...	...	--	--	10.2	83	...	...	...
23	--	--	...	.4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.8	...	...	--	--	10.2	83	...	...	...
24	--	--	...	.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.9	...	...	--	--	10.5	85	Clear	75	48
25	--	--	...	.4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	...	...	--	--	10.4	84	...	...	...
26	--	--	...	...	...	.2	1.0	1.0	1.0	1.0	1.0	.9	1.0	1.0	.3	...	--	--	8.4	67	...	...	...
27	--	--	...	.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.2	...	--	--	10.7	85	Clear	65	42
28	--	--	...	...	.7	1.0	1.0	.7	1.0	1.0	1.0	1.0	1.0	1.0	.4	...	--	--	9.8	78	...	...	...
29	--	--	...	...	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.2	...	--	--	10.2	80	Clear	66	44
30	--	--	...	.6	.5	.5	.8	.6	.8	.6	.3	.4	...	.4	.2	...	--	--	5.7	45	...	...	...
31	--	--	...	.4	1.0	1.0	1.0	1.0	.9	.5	.4	...	...	...	...	...	--	--	6.2	48	...	...	...
Sum	--	--	...	3.6	11.6	15.1	18.0	19.2	19.2	19.9	20.8	19.7	18.4	11.5	1.3	...	--	--	178.3	--	--	--	--
Mean	--	--	...	.12	.37	.49	.58	.62	.62	.64	.67	.64	.59	.37	.04	...	--	--	5.75	49	--	--	--

502. RICHMOND (Kew Observatory):  $h_g$  = 13.3 metres.

APRIL, 1933.

Day	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%		mw/cm <sup>2</sup>	mw/cm <sup>2</sup>
1	--	--	hr.	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	0.3	2	...	...	...
2	--	--	...	2	9	1.0	1.0	1.0	2	9	8	9	8	2	...	...	--	--	--	7.7	60	...	...	...
3	--	--	...	3	4	6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	6	...	...	...	9.9	76	...	...	...	
4	--	--	...	...	1	2	3	4	1.0	1.0	1.0	1.0	1.0	8	5	...	--	--	7.3	56	Clear	83	57	
5	--	--	...	1	1.0	1.0	9	3	4	8	1.0	1.0	1.0	1.0	5	...	--	--	9.0	69	...	...	...	
6	--	--	...	...	7	1.0	1.0	1.0	1.0	1.0	9	5	3	3	...	...	--	--	7.7	58	Hazy	54	38	
7	--	--	...	...	7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	7	...	--	--	10.4	78	Clear	64	45		
8	--	--	1	9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8	...	--	--	11.8	82	...	...	...		
9	--	--	...	1	9	3	6	5	2	...	...	...	...	...	...	--	--	2.6	19	...	...	...		
10	--	--	...	...	...	...	...	5	1.0	1.0	1.0	1.0	1.0	2	...	--	--	6.7	50	...	...	...		
11	--	--	...	2	5	3	5	7	3	4	1	...	...	...	...	--	--	3.0	22	...	...	...		
12	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	--	--	...	...	...	...	...		
13	--	--	...	2	9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	9	1.0	1.0	--	--	11.0	81	...	...	...	
14	--	--	...	1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	---	---	---	11.1	81	...	...	...	
15	--	--	...	7	1.0	1.0	1.0	1.0	4	8	7	3	1	7	7	...	--	--	8.4	61	...	...	...	
16	--	--	...	6	1.0	1.0	9	7	9	9	6	7	7	1.0	7	...	--	--	9.7	70	...	...	...	
17	--	--	...	...	...	...	...	...	6	6	6	3	2	6	2	---	--	--	3.0	22	...	...	...	
18	--	--	...	...	...	1	1	8	3	1	1	1	4	2	2	2	---	--	2.6	19	...	...	...	
19	--	--	3	1.0	1.0	1.0	1.0	8	8	9	5	...	9	4	6	...	--	--	9.2	66	...	...	...	
20	--	--	...	4	5	6	2	1	3	2	6	4	2	3	...	...	--	--	3.8	27	...	...	...	
21	--	...	5	1.0	9	8	3	4	4	3	2	5	7	3	8	6	...	--	7.7	54	...	...	...	
22	--	...	...	...	...	...	2	...	...	...	...	...	2	1	1.0	1	...	--	1.6	11	...	...	...	
23	--	...	...	...	5	3	8	...	1	...	...	...	...	...	...	...	---	--	1.7	12	...	...	...	
24	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	---	--	...	...	...	...	...	
25	--	...	...	...	...	...	...	...	...	...	...	...	...	...	5	7	...	--	1.2	8	...	...	...	
26	--	...	2	9	6	4	3	1	...	...	1	3	8	1	...	...	---	--	3.8	26	...	...	...	
27	--	...	...	...	...	...	...	3	7	9	7	9	8	4	2	...	---	--	4.9	34	...	...	...	
28	--	...	...	4	7	9	9	9	8	9	8	...	...	...	...	...	---	--	6.3	43	...	...	...	
29	--	...	...	...	2	4	4	2	...	2	8	...	1	5	...	1	---	--	2.9	20	...	...	...	
30	--	...	...	...	5	9	1.0	1.0	9	1.0	1.0	1.0	7	3	9	1	...	--	9.3	63	...	...	...	
Sum	--	...	1.1	7.1	15.0	15.8	16.7	15.7	15.2	16.9	16.3	13.9	14.8	13.2	11.1	1.8	...	--	174.6	--	--	--	--	
Mean	--	...	.04	.24	.50	.53	.56	.52	.51	.56	.54	.46	.49	.44	.37	.06	...	--	5.82	42	--	--	--	
Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day	Per cent. of Possible	Sky	Total	Vertical	
																					Radiation at Noon. Angstrom Pyrheliometer.			







505. RICHMOND (Kew Observatory):  $H_s$  (Height of recorder above ground) = 13.3 metres.

JULY, 1933.

506. RICHMOND (Kew Observatory):  $h_s = 13.3$  metres.

AUGUST, 1933.

[illegible]



## DURATION OF BRIGHT SUNSHINE

For periods of sixty minutes, between the exact hours of Local Apparent Time.

507. RICHMOND (Kew Observatory):  $h_s$  (Height of recorder above ground) = 13.3 metres,

SEPTEMBER, 1933.

Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day.	Per cent of Possible.	Radiation at Noon. Ångström Pyrheliometer.		
																					Sky	Total	Vertical
Day	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%	mw/cm <sup>2</sup>	mw/cm <sup>2</sup>	
1	--	--	...	...	...	...	.5	.6	.1	.5	...	.1	.1	...	...	...	--	--	1.9	14	...	...	...
2	--	--	...	...	.2	.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.8	...	--	--	9.5	70	Clear	84	61
3	--	--	...	...	1.0	1.0	1.0	1.0	1.0	.9	.1	.5	.6	.8	.1	...	--	--	8.0	60	...	...	...
4	--	--	...	.4	1.0	1.0	1.0	1.0	1.0	.9	.7	.9	.8	1.0	.8	...	--	--	10.5	79	Hazy	55	40
5	--	--	...	.4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	...	--	--	11.4	86	Hazy	61	44
6	--	--	...	.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.9	1.0	1.0	.5	...	--	--	11.1	84	Clear	66	47
7	--	--	...	...	...	.7	1.0	1.0	1.0	.8	1.0	1.0	.8	.5	.2	...	--	--	8.0	61	...	...	...
8	--	--	...	.5	.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.8	...	--	--	11.2	85	Clear	75	52
9	--	--	...	.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.8	...	--	--	11.3	87	Clear	75	52
10	--	--	...	.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.8	...	--	--	11.6	89	...	...	...
11	--	--	...	.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.9	.2	...	--	--	10.6	82	Clear	73	50
12	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	--	--	...	...	...	...	...
13	--	--	...	...	...	...	...	...	...	...	...	.2	.5	.8	...	...	--	--	1.5	12	...	...	...
14	--	--	...	.8	1.0	1.0	1.0	1.0	1.0	1.0	.9	.9	.8	.9	.3	...	--	--	10.6	83	Clear	76	51
15	--	--	...	...	.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.9	1.0	.6	...	--	--	10.4	82	Hazy	62	41
16	--	--	...	.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.7	.2	...	--	--	10.0	79	Clear	76	50
17	--	--	...	...	...	.7	.9	1.0	1.0	1.0	.3	.6	.9	1.0	.6	...	--	--	8.0	64	...	...	...
18	--	--	...	...	...	...	...	...	...	...	.5	.3	...	...	...	...	--	--	0.8	6	...	...	...
19	--	--	...	...	...	.5	.9	.9	.6	1.0	.9	.8	.9	.9	.7	...	--	--	8.1	65	Clear	74	48
20	--	--	...	...	...	.8	1.0	.9	.9	1.0	1.0	.9	.9	.7	...	...	--	--	8.1	66	Clear	79	51
21	--	--	...	...	...	.5	.4	...	...	...	...	...	...	...	...	...	--	--	0.9	7	...	...	...
22	--	--	...	.1	.8	1.0	.9	.9	.4	.6	1.0	.4	.3	...	...	...	--	--	6.4	53	...	...	...
23	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	--	--	...	...	...	...	...
24	--	--	...	...	.1	.7	.2	.5	.3	.1	...	.1	...	.1	...	...	--	--	2.1	17	...	...	...
25	--	--	...	...	...	...	.1	...	...	.1	.3	.2	.3	.5	.4	...	--	--	1.9	16	...	...	...
26	--	--	...	...	...	...	...	.2	.8	1.0	.5	.4	.6	.1	...	--	--	--	3.6	30	...	...	...
27	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	--	--	--	...	...	...	...	...
28	--	--	...	...	...	...	...	...	.6	.4	.3	.4	.9	...	...	--	--	--	2.6	22	...	...	...
29	--	--	...	...	...	...	...	.6	1.0	.8	1.0	1.0	.5	.3	...	--	--	--	5.2	44	...	...	...
30	--	--	...	...	...	...	...	.4	.9	.5	.9	.9	.9	...	...	--	--	--	4.5	39	...	...	...
Sum.	--	--	...	4.8	11.9	16.4	17.9	19.0	19.6	19.6	18.4	18.5	18.7	16.2	8.8	...	--	--	189.8	--	--	--	--
Mean	--	--	...	.16	.40	.55	.60	.63	.65	.65	.61	.62	.62	.54	.29	...	--	--	6.33	50	--	--	--

508. RICHMOND (Kew Observatory):  $h_s$  = 13.3 metres.

OCTOBER, 1933.

Day	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%		nw/cm <sup>2</sup>	nw/cm <sup>2</sup>	
1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	...	...	...	...	
2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	...	...	...	...	
3	---	---	---	---	---	9	1.0	9	1	8	2	---	---	---	---	---	---	---	3.9	34	...	...	...	
4	---	---	---	---	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	9	---	---	---	---	9.9	87	Clear	66	37	
5	---	---	---	---	---	---	---	1	1.0	1.0	1.0	6	2	---	---	---	---	---	3.9	34	...	...	...	
6	---	---	---	---	---	---	3	1.0	1.0	8	1.0	6	6	9	---	---	---	---	6.2	55	...	...	...	
7	---	---	---	---	---	---	---	---	1	3	3	1	7	---	---	---	---	---	1.5	13	...	...	...	
8	---	---	---	---	1	4	2	6	1	5	---	4	---	---	---	---	---	---	2.3	21	...	...	...	
9	---	---	---	---	2	9	1.0	8	3	7	1	---	---	---	---	---	---	---	4.0	36	...	...	...	
10	---	---	---	---	---	---	---	---	---	---	5	7	2	---	---	---	---	---	1.4	13	...	...	...	
11	---	---	---	---	---	1	5	1.0	9	9	7	7	8	1.0	---	---	---	---	6.6	60	...	...	...	
12	---	---	---	---	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2	7	---	---	---	---	---	8.9	82	Clear	79	41	
13	---	---	---	---	1	3	9	6	8	8	9	2	---	---	---	---	---	---	4.6	42	...	...	...	
14	---	---	---	---	---	---	1	---	---	---	---	---	1	1	---	---	---	---	0.3	3	...	...	...	
15	---	---	---	---	6	1.0	1.0	1.0	5	---	---	---	---	---	---	---	---	---	4.1	38	...	...	...	
16	---	---	---	---	8	1.0	1.0	1.0	1.0	1.0	8	6	9	2	---	---	---	---	8.3	78	...	...	...	
17	---	---	---	---	9	1.0	8	9	8	2	---	---	3	3	---	---	---	---	5.2	49	...	...	...	
18	---	---	---	---	---	---	1.0	1.0	1.0	1.0	1.0	9	1.0	1	---	---	---	---	7.0	67	Clear	71	34	
19	---	---	---	---	4	1.0	4	---	2	9	1.0	8	1.0	2	---	---	---	---	5.9	56	...	...	...	
20	---	---	---	---	---	1	9	9	1.0	8	1.0	2	---	---	---	---	---	---	5.9	57	...	...	...	
21	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	...	...	...	...	
22	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	...	...	...	...	
23	---	---	---	---	---	---	2	---	7	5	1	---	---	---	---	---	---	---	1.5	15	...	...	...	
24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	...	...	...	...	
25	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	...	...	...	...	
26	---	---	---	---	5	1.0	1.0	1.0	1.0	1.0	1.0	7	6	1	---	---	---	---	7.9	79	...	...	...	
27	---	---	---	---	---	---	---	---	---	---	---	---	2	1	---	---	---	---	0.3	3	...	...	...	
28	---	---	---	---	1	1.0	3	2	1.0	6	1	---	---	---	---	---	---	---	3.3	33	...	...	...	
29	---	---	---	---	---	---	1	2	5	7	7	9	4	---	---	---	---	---	3.5	36	...	...	...	
30	---	---	---	---	---	---	---	---	---	---	---	---	2	---	---	---	---	---	0.2	2	...	...	...	
31	---	---	---	---	---	---	---	---	---	---	3	4	4	---	---	---	---	---	1.1	11	...	...	...	
Sum.	---	---	---	---	5.7	10.7	12.7	13.2	14.0	14.5	12.7	10.2	9.4	4.6	---	---	---	---	107.7	---	---	---	---	
Mean	---	---	---	---	.18	.35	.41	.43	.45	.47	.41	.33	.30	.15	---	---	---	---	3.47	32	---	---	---	
Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day.	Per cent of Possible	Sky	Total	Vertical	
																						Radiation at Noon. Ångström Pyrheliometer.		



## DURATION OF BRIGHT SUNSHINE.

399

For periods of sixty minutes, between the exact hours of Local Apparent Time.  
 509. RICHMOND (Kew Observatory) :  $h_s$  (Height of recorder above ground) = 13.3 metres.

NOVEMBER, 1933.

Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day.	Per cent of Possible.	Radiation at Noon. Ångström Pyrheliometer.		
																					Sky	Total	Vertical
Day	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%		mw/cm <sup>2</sup>	mw/cm <sup>2</sup>
1	--	--	--	--	1	1.0	.5	.3	...	...	...	...	...	...	...	...	...	...	1.9	20	...	...	...
2	--	--	--	--	...	1	.8	.8	...	...	...	...	...	...	...	...	...	...	3.9	41	...	...	...
3	--	--	--	--	...	1.0	1.0	1.0	1.0	1.0	.6	.1	.1	...	...	...	...	...	5.8	61	Hazy	61	25
4	--	--	--	--	...	.8	1.0	1.0	.9	.2	.7	.4	...	...	...	...	...	...	5.0	53	...	...	...
5	--	--	--	--	...	...	.2	1.0	.9	.4	...	...	...	...	...	...	...	...	2.5	27	...	...	...
6	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.6	6	...	...	...
8	--	--	--	--	...	.4	1.0	.9	1.0	1.0	.4	...	...	...	...	...	...	...	4.7	51	...	...	...
9	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10	--	--	--	--	...	...	.3	.9	1.0	.7	.3	.3	.2	...	...	...	...	...	3.7	41	...	...	...
11	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12	--	--	--	--	...	...	...	...	...	.3	.2	.6	...	...	...	...	...	...	1.1	12	...	...	...
13	--	--	--	--	...	...	.2	.5	.1	...	.5	.6	.1	...	...	...	...	...	2.0	22	...	...	...
14	--	--	--	--	...	.1	1.0	1.0	1.0	1.0	.9	.8	.4	...	...	...	...	...	6.2	70	Hazy	29	10
15	--	--	--	--	...	...	...	...	...	.4	.3	.5	.3	...	...	...	...	...	1.5	17	...	...	...
16	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17	--	--	--	--	...	...	...	...	.1	.7	.4	.1	...	...	...	...	...	...	1.3	15	...	...	...
18	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
19	--	--	--	--	...	...	...	.5	...	...	...	...	...	...	...	...	...	...	0.5	6	...	...	...
20	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
21	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
22	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
23	--	--	--	--	...	...	...	...	...	...	...	.1	...	...	...	...	...	...	0.1	1	...	...	...
24	--	--	--	--	...	...	.2	.1	.3	.1	.4	.2	...	...	...	...	...	...	1.3	15	...	...	...
25	--	--	--	--	...	.4	1.0	1.0	.9	.9	.3	.1	.1	...	...	...	...	...	4.7	56	...	...	...
26	--	--	--	--	...	...	...	...	...	.1	...	...	...	...	...	...	...	...	0.1	1	...	...	...
27	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
28	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
29	--	--	--	--	...	...	...	.3	.8	...	...	...	...	...	...	...	...	...	1.1	13	...	...	...
30	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sum	--	--	--	--	0.1	3.8	6.4	9.3	8.9	7.8	5.8	4.0	1.9	...	--	--	--	--	48.0	--	--	--	--
Mean	--	--	--	--	.00	.13	.21	.31	.30	.26	.19	.13	.06	...	--	--	--	--	1.60	18	--	--	--

510. RICHMOND (Kew Observatory) :  $h_s$  = 13.3 metres.

DECEMBER, 1933.

Day	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	%		mw/cm <sup>2</sup>	mw/cm <sup>2</sup>
1	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3	--	--	--	--	...	...	...	.1	.7	.9	1.0	.6	...	...	...	...	...	...	3.2	40	...	...	...
4	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5	--	--	--	--	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6	--	--	--	--	...	...	...	...	...	...	...	...	...	--	--	--	--	--	...	...	...	...	...
7	--	--	--	--	...	...	...	...	...	...	...	...	...	--	--	--	--	--	...	...	...	...	...
8	--	--	--	--	...	...	...	...	...	.2	.1	...	...	--	--	--	--	--	0.3	4	...	...	...
9	--	--	--	--	...	...	...	...	...	.1	.1	...	...	--	--	--	--	--	0.2	3	...	...	...
10	--	--	--	--	...	...	...	.4	1.0	.2	...	...	...	--	--	--	--	--	1.6	20	...	...	...
11	--	--	--	--	...	...	...	...	...	...	...	...	...	--	--	--	--	--	...	...	...	...	...
12	--	--	--	--	...	...	...	...	...	...	...	...	...	--	--	--	--	--	...	...	...	...	...
13	--	--	--	--	...	...	...	...	...	...	...	...	...	--	--	--	--	--	...	...	...	...	...
14	--	--	--	--	...	...	...	.6	1.0	1.0	1.0	.9	.4	...	...	...	...	...	4.9	63	Hazy	27	10
15	--	--	--	--	...	...	...	.8	1.0	1.0	.9	.8	.8	...	--	--	--	--	5.3	68	Clear	42	16
16	--	--	--	--	...	...	...	...	.1	.3	...	.3	...	--	--	--	--	--	0.7	9	...	...	...
17	--	--	--	--	...	...	...	...	...	...	...	...	...	--	--	--	--	--	...	...	...	...	...
18	--	--	--	--	...	...	...	...	.2	.7	.1	...	...	--	--	--	--	--	1.0	13	Fog	11	4
19	--	--	--	--	...	...	...	...	...	...	...	...	...	--	--	--	--	--	...	...	...	...	...
20	--	--	--	--	...	...	...	...	...	...	...	...	...	--	--	--	--	--	...	...	...	...	...
21	--	--	--	--	...	...	...	...	...	...	...	...	...	--	--	--	--	--	...	...	...	...	...
22	--	--	--	--	...	...	...	...	...	...	...	...	...	--	--	--	--	--	...	...	...	...	...
23	--	--	--	--	...	...	...	...	...	...	...	...	...	--	--	--	--	--	...	...	...	...	...
24	--	--	--	--	...	...	...	...	...	...	...	...	...	--	--	--	--	--	...	...	...	...	...
25	--	--	--	--	...	...	...	...	...	...	...	...	...	--	--	--	--	--	...	...	...	...	...
26	--	--	--	--	...	...	...	...	...	...	...	...	...	--	--	--	--	--	...	...	...	...	...
27	--	--	--	--	...	...	...	...	...	...	...	...	...	--	--	--	--	--	...	...	...	...	...
28	--	--	--	--	...	...	...	...	...	...	...	...	...	--	--	--	--	--	...	...	...	...	...
29	--	--	--	--	...	...	...	...	...	.1	...	...	...	--	--	--	--	--	0.1	1	...	...	...
30	--	--	--	--	...	...	...	...	...	...	...	.4	...	--	--	--	--	--	0.4	5	...	...	...
31	--	--	--	--	...	...	...	...	.2	.2	.6	...	...	--	--	--	--	--	1.0	13	...	...	...
Sum	--	--	--	--	...	...	1.4	2.5	4.2	4.3	3.7	2.6	...	...	--	--	--	--	18.7	--	--	--	--
Mean	--	--	--	--	...	...	.05	.08	.14	.14	.12	.08	...	...	--	--	--	--	0.60	8	--	--	--
Annual Total	...	4.3	34.6	73.8	116.5	142.5	159.5	169.3	174.7	178.0	173.6	156.0	140.3	111.1	78.9	38.0	7.0	...	1758.1	--	--	--	--
Annual Mean	...	.01	.09	.20	.32	.39	.44	.46	.48	.49	.48	.43	.38	.30	.22	.10	.02	...	4.82	39	--	--	--
Hour L. A. T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total for Day	Per cent. of Possible	Sky	Total	Vertical
Radiation at Noon. Angstrom Pyrheliometer.																							



WIND: DIRECTION AND SPEED.  
Direction expressed in degrees from North (E = 90°, S = 180°, W = 270°, N = 360°). Speed in metres per second

511. RICHMOND (Kew Observatory):  
Dines Anemograph from Jan., 1926.

H<sub>a</sub> (height of vane of anemograph above M.S.L.) = Height of ground above

Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	
Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	185	5.5	215	4.9	205	4.4	200	4.0	200	4.3	200	3.7	185	3.1	190	3.2	185	2.2	175	3.2	180	6.4	160	5.5
2	150	5.0	180	5.4	170	5.8	170	5.7	180	6.6	180	5.7	190	6.2	195	7.2	190	6.6	190	6.8	190	7.3	195	8.1
3	200	12.6	200	11.3	200	10.9	205	12.9	200	11.6	210	11.5	220	10.5	235	8.0	245	4.1	220	7.1	230	7.1	235	6.9
4	210	4.4	200	3.7	200	3.0	195	2.3	190	3.8	190	4.0	185	4.0	195	4.2	180	4.1	190	4.1	200	5.2	195	6.5
5	195	7.8	200	9.5	200	10.1	200	11.0	200	10.9	205	11.6	225	6.3	230	3.9	275	4.5	300	3.8	275	1.6	255	1.6
6	190	3.8	195	4.5	200	6.7	210	5.0	205	5.0	225	4.2	235	4.0	235	3.9	230	4.0	230	4.2	260	4.5	255	3.4
7	195	1.5	205	1.9	220	1.2	240	1.3	210	1.9	230	0.8	195	1.6	210	1.5	210	1.6	240	1.4	245	1.6	235	2.7
8	235	6.7	235	6.2	235	6.2	235	5.2	235	5.0	235	4.5	235	4.0	240	4.0	240	3.7	240	3.7	235	4.3	240	5.0
9	260	4.3	265	4.6	255	3.4	250	3.2	265	3.1	265	3.8	260	3.0	295	3.9	350	6.1	360	5.9	15	6.5	15	5.5
10	240	1.2	215	0.8	235	0.4	260	0.6	220	0.3	230	0.6	200	1.7	245	0.7	305	0.5	275	0.5	230	0.6	205	0.6
11	235	3.1	225	2.9	225	3.5	230	3.5	230	3.8	240	3.4	210	4.9	240	3.2	230	3.7	235	3.5	240	2.5	265	1.9
12	10	4.8	5	4.7	10	4.9	15	3.6	10	3.0	360	2.2	350	2.5	5	2.5	5	2.9	350	2.6	360	3.2	20	3.2
13	245	1.3	245	0.8	240	1.0	230	1.0	225	0.8	220	0.8	225	1.5	235	1.4	235	1.6	235	1.9	225	1.6	230	1.3
14	20	2.8	10	3.1	15	2.7	15	1.5	10	1.8	10	1.2	30	0.9	20	1.0	360	0.6	335	1.2	340	0.2	200	1.5
15	205	1.2	170	1.2	170	2.7	175	3.5	170	2.8	180	3.7	175	4.5	175	4.5	180	5.2	190	5.7	200	7.1	190	7.5
16	150	4.0	135	3.3	120	2.4	115	2.2	170	1.9	250	1.5	300	3.5	295	2.3	290	2.5	295	2.5	295	2.5	290	3.9
17	240	3.3	230	2.4	220	3.3	220	2.5	210	3.4	210	4.3	225	3.1	230	2.2	230	0.8	205	2.1	220	2.8	235	2.9
18	230	2.0	220	2.0	225	1.7	220	1.9	240	1.1	250	1.1	230	2.2	240	2.2	250	1.8	240	2.0	225	(3.9)	235	(4.5)
19	170	4.1	170	4.0	170	2.0	135	0.3	20	0.5	320	1.7	310	2.2	325	3.3	330	2.4	325	2.2	330	1.7	310	1.5
20	115	4.0	100	4.2	90	3.0	80	2.3	60	2.5	85	3.8	90	4.2	85	4.7	85	5.5	90	5.9	80	5.0	75	5.7
21	65	1.7	65	3.8	65	4.5	70	4.0	90	4.5	100	3.6	110	4.7	115	4.6	115	3.1	110	3.1	105	4.9	105	5.2
22	100	3.8	110	2.5	120	1.3	150	0.2	360	0.8	350	1.0	15	1.0	15	0.7	10	1.5	35	2.7	85	4.0	120	3.7
23	10	0.8	360	0.7	350	0.1	90	0.1	220	0.3	220	0.6	215	0.7	235	0.2	250	0.2	235	0.2	235	0.9	250	0.8
24	50	4.3	60	4.1	85	4.1	65	4.5	70	6.2	80	8.3	65	7.4	50	7.0	50	6.8	55	7.8	50	8.3	65	9.9
25	40	6.7	45	7.4	45	7.4	45	7.3	45	6.8	45	6.4	50	7.6	45	8.6	45	8.7	50	9.3	55	9.2	50	8.8
26	35	5.5	30	5.2	20	5.2	20	5.2	20	5.2	15	5.2	15	5.2	20	5.4	20	5.4	30	5.2	45	5.4	50	6.5
27	40	5.3	40	4.9	40	5.2	35	4.6	35	3.9	35	2.8	40	4.4	35	5.8	45	5.5	45	6.0	55	6.8	70	6.1
28	80	5.9	70	5.4	70	4.6	45	1.9	35	2.6	35	3.1	35	3.5	45	4.3	60	3.5	50	2.8	70	4.1	75	6.0
29	80	7.5	80	7.4	80	8.7	80	8.2	80	8.4	75	6.8	75	7.5	80	7.2	80	7.3	75	8.0	75	8.1	75	5.6
30	70	3.0	70	3.1	80	3.2	80	3.6	80	(2.7)	80	3.1	75	(2.7)	70	(2.4)	70	(2.0)	75	(2.4)	40	0.4	330	0.6
31	230	3.3	235	2.7	250	3.2	240	3.0	240	3.2	235	3.8	255	4.9	255	5.0	235	4.0	240	4.0	240	4.8	230	4.8
Mean	---	4.2	---	4.1	---	4.1	---	3.7	---	3.8	---	3.8	---	4.0	---	3.8	---	3.6	---	3.9	---	4.3	---	4.4

512. RICHMOND (Kew Observatory): H<sub>a</sub> = 5 metres + 23 metres.

Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	220	9.4	220	9.9	215	10.0	220	9.9	215	9.9	210	10.0	220	11.3	220	11.4	215	11.6	215	11.8	225	12.8	225	12.3
2	230	6.9	235	5.3	250	4.2	305	4.8	300	5.1	305	4.5	305	4.1	295	3.3	280	3.4	275	3.7	275	4.8	275	5.3
3	235	2.2	230	2.1	195	0.7	190	0.6	200	1.2	185	0.5	190	0.1	100	0.1	210	0.1	235	0.1	245	0.1	215	0.1
4	225	5.2	230	5.8	240	6.2	245	5.7	245	7.3	245	6.8	245	7.7	250	7.0	245	7.0	240	6.3	245	7.5	245	8.0
5	235	6.0	230	7.5	230	7.2	230	7.9	230	10.0	235	7.5	230	7.4	230	8.8	230	9.0	235	9.0	240	9.0	240	9.5
6	260	4.5	260	5.6	255	5.0	255	5.5	255	5.0	260	4.4	255	6.3	255	4.5	250	3.6	240	3.2	245	3.4	230	5.0
7	175	3.3	180	5.1	170	4.9	180	6.0	185	6.5	185	7.0	200	7.0	205	5.9	220	5.8	230	6.3	245	7.5	250	7.6
8	250	3.5	245	3.7	230	3.0	230	2.5	220	2.5	205	2.4	220	2.9	220	3.4	225	3.6	225	3.6	230	4.4	225	4.6
9	260	6.1	260	5.1	260	5.9	255	6.1	260	6.9	245	6.0	230	6.1	230	6.2	230	5.0	225	6.6	235	7.6	230	8.5
10	260	3.9	260	4.0	255	3.1	245	2.9	245	3.3	220	3.0	235	2.8	225	3.0	235	2.4	250	2.7	245	3.0	255	2.7
11	25	6.7	25	5.9	20	5.7	10	6.0	10	6.9	10	6.4	10	6.7	10	7.0	10	7.0	15	7.0	25	7.0	30	9.4
12	5	2.2	355	3.3	5	2.4	350	2.4	345	2.9	360	3.2	360	1.8	325	1.3	260	1.1	290	1.8	320	2.4	345	2.8
13	230	1.3	265	1.0	260	0.9	260	1.1	260	0.6	260	0.7	260	0.7	270	0.8	335	2.1	10	5.8	15	5.7	20	4.3
14	340	0.8	270	0.3	225	1.2	255	1.4	265	1.0	245	0.8	235	1.3	255	1.1	265	1.0	290	0.6	200	1.2	10	4.6
15	330	1.8	335	1.8	335	1.8	350	2.6	360	2.6	35	2.8	350	3.5	360	2.9	360	3.6	360	4.6	360	6.0	355	5.5
16	350	2.7	350	3.7	345	3.2	350	3.8	350	3.9	335	2.8	330	2.0	330	1.7	335	2.4	330	2.3	350	3.0	360	3.5
17	250	1.8	260	2.7	265	2.8	265	2.7	260	2.7	265	2.6	300	2.5	310	2.7	310	2.2	325	2.5	10	5.0	5	5.1
18	275	2.3	290	3.1	290	1.9	260	1.9	290	1.9	335	3.5	355	4.9	355	4.9	360	5.4	355	5.1	355	5.0	10	6.4
19	350	5.7	350	5.1	345	4.4	345	4.5	345	4.7	345	4.2	350	4.5	360	6.0	355	5.0	360	6.3	360	7.7	360	9.1
20	5	3.0	350	2.9	335	2.3	320	0.5	290	0.9	310	1.0	340	1.6	295	1.4	60	1.6	30	2.9	340	1.9	35	0.5
21	230	2.9	225	3.5	235	2.4	265	3.0	290	3.1	290	3.0	265	1.4	300	4.2	300	4.5	310	6.1	310	6.5	325	6.3
22	325	5.0	325	5.7	335	6.6	335	7.0	335	6.0	335	5.9	330	5.5	335	5.5	335	7.2	340	7.9	345	8.0	345	7.8
23	335	5.7	330	5.5	330	5.6	330	5.5	330	5.8	330	5.2	330	5.0	330	5.0	335	5.2	335	6.3	320	6.5	320	5.8
24	140	0.5	100	0.8	170	1.4	125	1.2	130	2.4	120	4.9	120	5.1	115	5.4	125	7.2	130	7.5	140	9.4	145	10.1
25	145	9.1	150	9.1	145	8.6	145	7.7	140	8.5	140	9.5	140	10.0	140	10.9	135	10.2	130	10.0	130	9.5	135	9.3
26	135	5.7	140	6.8	135	7.6	135	6.0	120	4.2	105	4.4	110	6.0	115	4.9	115	5.2	125	5.7	130	7.0	135	7.8
27	120	3.7	115	5.6	120	5.9	125	6.1	125	5.7	125	6.1	125	7.6	130	7.4	140	7.2	150	7.0	180	7.0	200	9.0
28	125	3.0	115	2.4	115	2.6	95	1.5	105	1.6	130	2.6	130	2.6	140	2.5	155	3.2	160	4.6	180	4.9	185	4.4
Mean	---	4.1	---	4.4	---	4.2	---	4.2	---	4.4	---	4.3	---	4.6	---	4.6	---	4.7	---	5.3	---	5.9	---	6.3
Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	



## WIND: DIRECTION AND SPEED.

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Averages for periods of sixty minutes, ending at the exact hours, Greenwich Mean Time.

M.S.L. +  $h_a$  (height of anemograph above ground) = 5 metres + 23 metres.

JANUARY, 1933.

12 - 13		13 - 14		14 - 15		15 - 16		16 - 17		17 - 18		18 - 19		19 - 20		20 - 21		21 - 22		22 - 23		23 - 24		Mean	Day
°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	m/s	
175	7.7	180	8.0	180	6.6	175	6.4	180	6.7	170	5.6	170	6.2	165	7.4	165	6.5	160	7.0	160	7.3	160	5.7	5.5	1
195	8.2	200	10.0	200	9.9	200	9.8	195	9.9	195	10.5	195	11.0	195	10.2	195	10.8	200	10.8	200	11.5	200	11.7	8.4	2
230	8.1	225	7.7	220	6.5	220	6.9	200	5.7	205	6.3	210	4.5	205	5.1	200	4.7	200	4.3	195	3.7	200	4.5	7.6	3
200	7.1	210	7.5	205	6.3	215	5.5	210	5.2	190	4.2	195	4.2	195	4.9	200	6.3	195	6.8	195	8.2	190	6.5	5.1	4
270	2.2	285	2.5	290	3.1	270	2.3	260	2.3	235	2.0	235	3.4	230	2.6	225	3.2	205	3.0	195	2.9	195	3.1	4.8	5
265	3.6	270	5.3	270	5.0	255	3.4	235	2.6	230	2.9	225	3.0	230	2.7	240	2.5	215	2.6	245	3.4	225	1.7	3.8	6
235	2.4	220	3.4	215	3.6	230	3.7	225	3.7	215	4.3	210	4.9	215	5.5	225	7.3	225	6.5	230	6.0	235	6.7	3.2	7
245	4.5	245	4.0	255	5.0	260	5.2	260	5.2	260	4.9	260	5.0	260	4.5	265	5.3	260	5.7	275	5.7	270	5.3	4.0	8
15	4.9	15	5.0	20	4.9	15	3.8	20	2.9	5	2.0	5	1.3	355	0.5	310	0.8	310	0.3	250	0.5	220	1.2	3.4	9
280	0.1	270	0.1	255	0.4	235	1.6	220	2.7	220	3.5	240	2.7	230	2.6	230	2.9	235	2.0	240	2.4	240	2.7	1.3	10
285	2.6	285	1.4	330	3.4	360	2.8	350	2.6	10	5.7	15	6.4	15	6.5	15	5.9	10	5.6	10	5.4	10	4.0	3.8	11
15	3.9	35	3.5	20	3.7	10	2.2	350	1.5	335	2.0	335	2.1	355	0.3	320	0.7	270	0.3	225	1.0	220	1.6	2.6	12
240	1.1	250	1.0	265	0.4	315	0.2	330	0.2	10	1.1	340	1.6	340	1.0	350	0.8	10	2.3	5	3.5	10	2.8	1.3	13
225	0.7	260	0.8	260	0.5	---	0.0	220	0.4	160	3.0	180	1.1	135	0.5	120	1.5	175	0.4	200	0.1	170	1.3	1.2	14
185	7.2	185	7.2	180	6.5	180	6.5	175	6.0	170	5.6	175	6.1	170	4.8	170	5.0	170	5.4	160	4.5	160	4.9	5.0	15
285	2.9	290	2.6	300	4.5	305	4.0	300	3.7	300	4.0	315	3.3	280	1.9	260	1.6	245	2.3	260	2.8	255	3.0	2.9	16
240	3.0	260	3.5	255	3.8	270	2.6	260	1.7	235	1.9	240	2.0	225	2.5	230	2.4	245	2.2	240	1.5	210	2.1	2.6	17
245	(3.5)	240	(2.9)	235	(2.9)	210	(1.8)	185	(1.2)	200	(1.6)	180	(1.2)	165	(0.2)	115	(0.6)	110	1.5	155	0.9	190	0.8	1.9	18
310	2.2	330	1.7	335	0.6	350	0.5	45	1.4	20	1.0	5	0.6	235	0.3	200	0.6	180	0.1	100	1.3	120	1.7	1.6	19
75	6.7	80	6.2	80	5.6	45	3.3	35	3.5	30	3.1	20	2.2	25	2.2	20	1.8	15	2.0	50	3.8	85	3.0	3.9	20
85	5.9	90	5.6	95	6.3	90	6.2	95	5.2	90	4.2	90	2.2	90	3.2	90	3.2	100	3.4	105	4.0	100	4.7	4.2	21
115	4.0	105	4.8	90	5.2	90	5.6	90	5.5	95	4.9	70	3.5	65	1.4	40	0.8	10	0.7	5	0.1	345	0.5	2.5	22
255	0.3	310	0.6	350	0.8	5	1.1	5	1.6	10	1.8	5	2.0	10	2.1	15	2.3	15	2.7	20	2.7	15	2.8	1.1	23
55	8.7	55	9.6	45	10.1	50	9.6	50	8.9	55	8.4	60	8.3	55	8.9	60	10.0	70	9.6	55	7.0	45	7.3	7.7	24
40	8.1	55	9.5	45	8.2	45	7.3	45	7.2	40	7.3	35	7.0	30	7.0	30	6.4	25	7.1	25	5.0	35	5.1	7.5	25
55	7.0	50	5.6	55	6.5	50	5.5	45	5.4	45	5.3	40	5.0	40	5.0	35	5.1	40	4.8	35	4.6	30	4.1	5.4	26
60	6.7	55	6.6	55	6.1	50	6.0	60	5.9	55	6.7	50	6.5	50	6.4	55	5.9	65	5.9	90	7.6	90	7.0	5.8	27
75	7.0	70	6.0	75	6.8	75	7.4	75	6.6	60	6.4	55	6.2	70	6.4	80	6.7	85	7.7	80	7.2	80	8.2	5.4	28
70	7.1	75	7.1	75	7.7	80	9.3	75	9.5	75	9.1	75	7.0	85	5.0	90	3.2	75	3.5	75	3.0	80	3.0	6.9	29
290	2.8	280	3.5	300	3.7	280	3.1	270	3.0	265	3.0	260	2.8	260	4.0	255	3.9	240	2.9	245	3.4	220	3.4	2.9	30
225	5.1	225	6.0	220	6.8	215	6.1	205	5.7	215	7.2	220	8.3	215	8.3	215	8.4	215	7.9	215	8.0	220	8.3	5.5	31
---	4.7	---	4.8	---	4.9	---	4.5	---	4.3	---	4.5	---	4.2	---	4.0	---	4.1	---	4.1	---	4.2	---	4.2	4.2	

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Directions expressed in degrees from North (E = 90°, S = 180°, W = 270°, N = 360°). Speed in metres per second

513. RICHMOND (Kew Observatory):  
Dines Anemograph from Jan., 1926. $H_a$  (height of vane of anemograph above M.S.L.) = Height of ground above

Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	
Day.	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	95	1.8	85	2.7	85	1.9	105	1.8	95	1.8	105	2.2	100	2.5	105	2.6	120	3.6	115	3.6	105	5.0	110	5.4
2	130	1.6	175	2.2	200	3.2	215	4.3	210	3.5	205	4.0	205	2.5	170	2.5	185	4.0	175	3.9	170	4.0	160	5.4
3	165	5.0	175	4.9	190	5.0	190	5.0	190	5.6	205	6.6	200	6.3	200	7.3	205	8.3	205	8.7	205	8.8	210	9.9
4	200	5.6	200	4.9	200	5.6	205	6.1	200	4.9	190	5.6	170	5.4	185	6.0	195	5.6	220	5.9	245	5.7	255	6.7
5	225	5.2	225	4.4	225	4.3	230	4.4	230	5.0	235	3.2	230	3.0	230	3.5	230	4.0	230	4.8	235	6.2	220	7.0
6	195	8.6	190	8.3	185	9.0	190	8.0	195	8.5	195	8.5	195	9.3	195	10.7	195	9.3	195	8.6	195	8.3	205	8.0
7	215	2.0	245	1.5	240	1.7	230	1.0	205	1.0	205	1.0	200	0.6	225	1.6	220	3.3	225	5.6	235	5.8	235	5.8
8	225	1.0	230	1.1	210	1.5	200	1.8	210	2.0	220	2.2	220	1.4	230	1.8	230	1.5	240	1.0	215	0.9	220	2.8
9	190	3.5	190	3.0	195	3.0	190	3.1	195	2.3	180	2.5	180	3.2	185	2.8	190	3.7	195	5.3	195	5.4	195	5.5
10	105	1.3	110	1.3	110	1.0	95	1.4	80	1.5	80	2.3	90	2.3	85	2.0	90	3.1	120	3.9	110	5.8	115	6.8
11	80	2.6	70	2.9	70	2.3	60	2.2	65	3.1	55	2.2	60	2.3	75	4.0	80	4.5	90	4.2	80	5.5	75	5.4
12	55	1.5	75	0.5	50	1.0	50	1.1	65	0.2	---	0.0	250	0.1	235	0.5	230	0.2	260	0.4	255	0.2	330	0.3
13	360	0.4	335	0.5	230	0.4	195	0.5	210	0.3	220	0.2	230	0.2	230	0.1	205	0.2	210	0.2	220	0.8	220	1.2
14	215	1.5	215	2.4	255	3.0	255	2.5	260	2.6	270	3.1	270	2.9	270	2.8	270	3.6	275	3.5	280	4.4	280	5.7
15	210	2.8	220	1.8	225	2.5	205	3.5	205	3.5	205	4.3	215	5.0	210	3.0	210	3.5	210	6.6	215	6.0	210	6.8
16	180	6.6	185	6.8	195	7.0	210	7.1	205	7.5	200	6.8	205	6.8	200	6.8	200	6.1	205	6.5	215	5.8	205	9.4
17	190	8.2	190	10.2	190	11.6	190	12.7	205	12.0	225	11.2	235	9.5	225	6.1	205	4.6	185	3.3	120	3.0	110	3.3
18	245	4.3	240	3.9	250	3.8	255	3.3	270	3.7	265	4.9	270	4.3	295	3.9	285	3.9	285	4.6	270	4.4	265	5.2
19	200	5.6	190	6.6	220	6.8	225	5.7	210	5.7	205	5.7	205	5.6	210	3.9	220	2.1	240	3.0	230	5.7	220	7.2
20	240	7.0	250	7.1	275	8.1	290	9.4	295	8.9	295	8.9	295	7.2	295	7.6	295	8.1	295	8.0	295	8.5	285	7.6
21	195	1.4	195	1.3	195	0.7	210	0.1	245	0.3	210	0.2	190	0.1	195	0.1	215	0.1	215	2.0	215	6.2	215	4.4
22	170	1.3	170	2.2	165	2.4	140	1.8	110	1.5	115	1.8	105	1.8	95	2.0	130	3.0	165	5.6	170	6.6	165	5.2
23	115	4.6	110	3.5	110	3.7	120	4.9	110	4.4	100	4.3	100	4.4	100	5.1	110	6.4	115	7.5	110	7.0	110	8.0
24	110	4.2	105	4.5	105	4.8	95	3.8	95	3.9	90	4.5	90	5.4	95	5.5	100	5.5	110	5.8	110	5.4	110	4.8
25	20	1.0	60	1.0	70	1.8	85	2.6	80	2.5	70	1.5	70	1.0	30	0.2	90	2.1	95	2.4	95	3.4	90	4.3
26	45	1.5	15	1.4	20	1.1	5	1.2	15	0.4	295	0.1	230	0.5	215	0.4	225	0.3	210	0.9	200	0.8	160	1.7
27	15	2.4	20	3.4	15	2.9	15	3.1	10	2.5	10	2.3	15	3.3	20	2.4	20	3.5	30	5.0	30	5.6	30	4.6
28	55	3.0	20	0.6	360	0.4	90	0.2	360	0.3	340	0.2	220	0.5	---	0.0	---	0.0	---	0.0	---	0.0	85	2.4
29	200	0.2	210	0.1	---	0.0	---	0.0	240	0.1	240	0.4	220	0.1	230	0.1	215	0.5	225	1.6	240	2.9	235	4.3
30	235	1.7	230	2.8	220	1.8	225	2.0	225	3.0	245	3.3	245	3.0	260	3.2	275	3.5	270	3.8	260	5.2	250	5.6
31	230	1.7	230	1.7	235	2.1	235	2.1	245	2.2	220	2.2	225	1.7	245	2.8	250	4.0	245	4.7	270	5.0	250	4.9
Mean	---	3.2	---	3.2	---	3.4	---	3.4	---	3.4	---	3.4	---	3.3	---	3.3	---	3.6	---	4.2	---	4.8	---	5.3

514. RICHMOND (Kew Observatory):  $H_a$  = 5 metres + 23 metres.

Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	225	4.4	225	4.3	225	3.5	240	2.8	230	1.9	240	1.8	245	1.9	245	2.5	245	3.4	255	4.4	280	4.9	275	3.8
2	230	1.3	250	1.5	265	1.1	270	1.0	225	1.5	235	1.4	250	1.0	270	1.7	290	2.3	275	2.8	255	3.7	265	5.0
3	255	4.5	250	3.2	250	3.0	250	2.7	245	3.1	215	1.3	235	2.4	255	4.5	260	5.8	270	6.1	270	7.1	275	6.7
4	245	2.6	250	2.8	240	2.4	240	2.5	220	2.6	235	2.5	225	2.0	235	2.4	265	2.2	290	3.2	295	3.6	280	3.5
5	245	1.0	245	0.5	265	0.8	275	0.8	295	1.1	265	0.2	220	0.2	235	0.4	280	1.4	315	3.4	340	4.1	335	3.8
6	245	0.1	275	0.1	---	0.0	230	0.1	225	0.1	230	0.2	235	0.2	---	0.0	---	0.0	200	0.2	235	0.6	240	1.7
7	235	0.2	210	0.5	205	0.3	230	0.2	200	0.2	250	0.2	260	0.1	220	0.1	175	0.1	170	0.1	195	0.8	190	1.5
8	225	1.6	230	1.8	220	1.0	230	1.0	225	0.9	220	0.9	220	0.5	240	0.8	230	0.4	240	1.5	255	3.2	250	2.8
9	245	0.8	250	0.9	250	0.6	235	0.8	225	1.5	225	2.3	220	1.9	240	2.7	255	3.7	265	5.7	265	5.0	255	4.6
10	280	3.0	265	2.2	265	1.9	275	2.6	280	2.0	255	1.0	255	2.1	240	2.2	240	2.6	230	3.5	225	3.8	230	4.8
11	215	0.3	180	0.1	190	0.1	205	0.1	115	0.1	---	0.0	185	0.1	200	0.1	195	3.0	185	2.4	190	3.5	220	4.3
12	255	2.4	260	2.2	235	1.8	250	1.9	270	1.9	265	1.7	270	1.4	250	1.3	260	1.3	265	0.8	320	1.1	335	1.6
13	350	3.9	360	4.4	20	4.1	15	5.0	10	8.1	15	4.7	20	5.0	20	5.6	20	4.0	20	3.6	10	4.3	20	4.0
14	180	0.1	290	0.2	330	0.6	---	0.0	---	0.0	205	0.2	205	0.1	---	0.0	10	0.3	110	1.3	90	2.6	105	3.2
15	245	1.0	225	0.3	245	0.4	220	0.3	225	0.5	215	1.2	220	1.1	230	1.7	230	3.0	245	4.2	225	4.7	225	4.8
16	220	1.4	230	1.9	220	2.0	220	1.1	220	1.7	225	1.0	225	1.8	240	1.2	255	0.9	235	1.0	285	1.4	320	3.0
17	75	5.7	75	6.9	75	7.1	70	5.8	70	6.2	70	6.6	80	6.6	80	7.2	75	6.7	80	6.2	75	7.0	80	7.3
18	50	3.5	40	4.1	40	3.1	40	3.3	40	4.2	40	5.2	45	6.5	45	7.4	50	7.9	55	8.6	50	7.3	40	6.6
19	5	4.6	5	4.1	5	4.5	360	3.0	10	3.6	15	3.0	15	4.1	20	4.6	20	6.2	10	5.3	20	4.7	15	4.5
20	10	3.1	5	1.4	10	2.5	10	2.0	10	2.4	10	3.4	10	5.6	15	5.8	25	6.5	30	6.4	20	5.6	20	5.6
21	15	3.0	15	3.3	15	3.2	20	2.0	15	3.3	15	3.4	15	4.4	35	5.9	40	6.1	35	5.9	30	4.9	20	4.8
22	350	0.5	275	0.2	250	0.3	255	0.8	255	0.5	250	1.1	255	0.5	295	0.4	340	1.8	335	3.5	355	4.2	355	2.9
23	195	0.8	50	0.2	55	0.1	50	0.1	---	0.0	275	0.2	80	0.3	155	1.6	195	5.8	190	6.0	190	5.8	195	6.8
24	190	2.9	185	3.8	180	2.8	175	2.1	175	1.5	165	1.8	155	2.9	165	3.2	160	3.0	165	3.0	160	2.9	170	3.7
25	170	3.2	185	3.5	175	2.9	170	2.7	180	2.7	180	2.9	175	3.7	190	3.7	190	3.7	195	3.9	200	4.3	205	3.3
26	205	4.1	200	2.4	185	2.6	180	2.6	185	2.8	195	2.3	200	3.3	210	5.5	210	5.1	205	4.9	205	5.3	205	5.0
27	205	4.2	205	4.4	195	3.9	195	4.4	195	4.1	195	3.8	195	3.6	205	3.9	220	3.5	255	2.9	260	3.5	275	4.5
28	255	0.4	225	1.3	215	0.8	225	1.0	230	0.7	255	0.3	255	1.0	245	1.4	270	1.4	225	2.5	260	2.6	250	3.7
29	185	0.4	160	0.3	185	0.9	125	0.2	60	0.5	50	0.5	---	0.0	155	0.7	165	3.0	180	3.5	185	4.6	215	6.8
30	230	3.5	225	3.2	235	2.2	255	1.1	255	0.6	260	0.4	255	1.5	270	2.0	305	1.9	300	1.0	305	1.8	295	1.2
Mean	---	2.3	---	2.2	---	2.0	---	1.8	---	1.9	---	1.9	---	2.2	---	2.7	---	3.2	---	3.6	---	4.0	---	4.2
Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	



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12 - 13		13 - 14		14 - 15		16 - 16		16 - 17		17 - 18		18 - 19		19 - 20		20 - 21		21 - 22		22 - 23		23 - 24		Mean	Day
°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	m/s	
115	5.9	115	6.6	120	6.5	120	5.8	115	6.5	105	5.0	115	5.0	115	3.9	110	3.7	115	1.6	115	1.7	90	2.0	3.7	1
155	5.6	140	5.6	120	5.7	115	4.8	110	5.0	115	4.1	135	4.3	160	4.0	175	2.8	180	2.4	175	3.5	165	3.7	3.9	2
210	8.5	210	9.0	215	8.6	215	8.2	210	7.6	205	7.6	205	6.9	205	5.7	195	5.6	200	6.2	205	5.6	200	6.3	7.0	3
255	8.5	260	8.8	260	6.4	250	6.4	255	5.6	240	3.7	220	6.0	225	5.8	225	6.2	220	5.7	220	5.8	225	4.7	5.9	4
230	6.5	220	8.6	220	8.2	215	7.7	205	6.2	200	5.9	195	5.5	185	5.9	190	7.6	190	6.8	190	7.7	190	7.4	5.8	5
210	7.0	215	8.3	215	8.0	220	6.6	215	7.5	215	5.7	205	4.1	190	3.2	195	2.9	190	2.5	195	1.7	210	1.7	6.8	6
245	5.1	240	4.8	265	5.7	265	5.6	270	4.8	275	6.1	280	2.6	300	2.6	255	1.0	245	2.5	260	1.8	240	1.0	3.1	7
225	3.6	235	3.4	225	4.4	230	4.6	215	4.1	205	4.4	195	3.5	195	3.2	190	2.6	190	3.2	190	3.4	190	3.6	2.6	8
205	5.5	205	6.4	205	5.9	210	5.5	210	4.3	190	3.9	180	2.3	165	1.5	130	1.2	105	1.3	110	1.6	125	1.5	3.5	9
115	7.5	110	6.3	105	7.2	90	7.3	95	7.7	90	6.3	85	5.5	90	5.0	90	4.4	85	4.0	85	4.0	80	3.7	4.2	10
75	4.8	85	5.9	75	5.9	85	6.6	80	5.6	80	6.8	80	4.8	70	3.8	75	2.8	70	1.7	60	1.8	55	2.0	3.9	11
65	3.5	70	4.0	70	4.4	75	5.1	85	5.0	90	3.5	85	2.2	85	1.8	85	1.8	90	0.3	---	0.0	---	0.0	1.6	12
215	1.2	230	1.2	295	2.4	315	2.5	320	2.3	315	1.4	255	0.5	195	0.2	205	0.4	210	1.3	215	1.2	215	1.1	0.9	13
280	5.0	275	5.2	275	3.7	275	4.8	275	4.2	260	2.8	245	3.8	240	3.1	230	2.8	225	3.1	215	3.1	225	3.2	3.5	14
215	7.2	200	6.8	200	8.6	195	5.6	200	6.7	200	5.4	190	4.5	190	4.6	190	5.6	175	6.3	180	6.5	180	6.2	5.0	15
210	9.5	205	7.6	205	10.0	210	10.2	215	11.6	220	9.7	215	8.0	215	8.0	210	7.5	190	3.9	175	4.5	185	6.6	7.5	16
160	5.0	180	4.1	210	6.9	235	7.1	205	4.5	200	6.5	200	6.8	205	6.2	205	4.9	215	4.5	230	3.5	235	4.2	6.7	17
260	4.8	245	5.7	250	5.5	245	5.5	245	5.0	235	3.3	215	5.5	210	4.5	215	4.6	205	5.0	205	4.8	210	6.0	4.6	18
220	7.4	210	8.7	205	10.0	210	12.3	215	11.7	215	9.6	210	9.4	205	10.0	215	11.2	215	11.4	225	10.8	235	8.6	7.7	19
280	6.0	280	4.7	330	3.0	330	4.9	325	5.1	320	4.5	295	2.6	260	1.6	265	1.0	275	0.9	240	0.5	190	1.2	5.5	20
205	4.0	205	4.4	215	4.2	215	4.7	190	3.9	175	4.0	175	3.3	180	3.4	185	2.1	135	0.4	145	1.3	150	0.5	2.2	21
160	5.8	150	6.5	145	7.2	140	7.5	140	7.4	130	5.7	120	4.5	115	5.7	125	5.4	115	5.9	105	4.2	115	3.5	4.4	22
110	7.7	105	9.1	85	9.2	85	9.4	85	9.0	85	8.9	85	9.1	85	6.2	90	6.5	90	6.5	95	5.8	100	4.4	6.5	23
90	5.3	90	6.1	75	7.4	80	8.0	80	7.6	90	6.8	85	5.7	90	3.5	80	2.9	80	2.6	70	1.5	60	1.5	4.9	24
60	3.0	75	5.2	70	6.1	70	5.5	75	6.0	80	5.3	90	4.6	90	5.8	85	3.9	80	3.4	75	2.1	75	2.5	3.2	25
85	3.5	70	1.6	45	0.7	10	2.4	25	3.4	30	2.7	80	0.8	40	1.4	80	1.8	60	1.7	10	1.8	5	2.4	1.4	26
35	4.7	30	4.7	50	4.7	55	5.1	50	4.4	40	3.5	65	2.0	105	1.4	100	1.8	50	1.0	15	0.5	20	1.3	3.2	27
90	3.4	105	3.0	105	2.4	95	3.0	105	3.4	95	3.5	100	3.0	110	1.8	100	1.2	160	0.3	260	0.1	320	0.2	1.4	28
235	4.7	245	5.1	240	5.5	230	5.6	225	5.3	235	4.4	245	3.0	230	3.3	230	3.2	225	2.4	225	2.2	220	1.0	2.3	29
245	5.1	265	7.8	240	6.0	240	5.9	255	5.0	240	3.9	260	3.5	265	2.0	225	2.7	240	2.7	235	3.2	245	2.0	3.7	30
240	4.4	230	6.2	245	5.4	225	5.3	235	4.4	230	4.6	220	5.4	220	5.0	215	4.2	210	4.3	220	4.7	220	4.0	3.9	31
---	5.5	---	5.9	---	5.9	---	6.1	---	5.8	---	5.1	---	4.5	---	4.0	---	3.8	---	3.4	---	3.3	---	3.2	4.2	

APRIL, 1933.

	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m
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Direction expressed in degrees from North (E = 90°, S = 180°, W = 270°, N = 360°). Speed in metres per second.

515. RICHMOND (Kew Observatory):  
Dines Anemograph from Jan., 1926. $H_a$  (height of vane of anemograph above M.S.L.) = Height of ground above

Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	
Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	210	0.6	220	0.8	235	0.9	235	0.2	260	0.2	290	0.2	5	1.4	25	2.4	10	2.0	5	3.1	10	3.5	20	4.3
2	60	7.0	55	6.8	60	7.3	60	7.9	60	8.0	60	9.0	60	9.2	65	8.1	70	9.9	65	9.9	75	10.7	70	11.8
3	50	6.0	50	5.7	50	5.5	45	4.8	40	5.0	50	3.8	45	4.0	45	4.5	45	3.6	55	3.1	75	4.8	90	3.5
4	230	1.5	210	1.0	220	0.3	215	0.3	230	0.7	245	0.1	60	0.2	290	0.1	180	2.7	180	3.5	160	4.8	175	5.0
5	125	0.2	140	0.1	245	0.4	65	0.4	265	1.7	250	1.9	260	2.0	235	0.8	175	0.7	135	1.2	160	1.5	220	2.0
6	165	2.3	170	2.5	170	2.2	170	1.7	175	2.9	175	2.9	175	3.5	185	3.0	180	3.0	175	3.7	170	4.3	150	4.1
7	260	1.2	315	0.9	325	1.8	335	1.2	320	1.8	325	2.0	285	2.0	270	1.2	260	1.4	250	2.2	255	3.1	260	4.7
8	280	2.4	275	1.6	255	2.8	265	2.6	260	3.3	265	3.3	270	3.5	280	3.6	280	4.0	275	5.0	280	4.7	285	4.8
9	255	5.2	255	4.7	255	4.8	245	5.0	240	4.3	265	4.1	265	3.8	275	4.8	275	5.9	275	6.1	280	5.4	285	6.1
10	240	2.9	235	2.8	240	3.0	260	3.3	260	3.0	260	3.3	270	3.9	280	5.0	295	5.2	285	4.1	295	5.2	295	6.3
11	295	1.3	295	1.6	310	1.9	330	2.7	320	1.5	320	0.5	350	1.3	345	3.1	340	2.1	330	2.3	330	(1.6)	335	(2.0)
12	265	0.6	280	1.4	265	0.3	250	0.5	245	0.8	230	1.4	235	1.6	275	2.2	335	3.0	320	3.3	295	2.8	280	3.7
13	245	0.3	225	0.6	240	0.6	250	0.3	280	0.1	310	0.4	5	0.2	310	0.1	315	0.4	305	1.0	340	1.3	360	0.7
14	240	1.6	220	2.1	220	2.0	220	2.2	240	1.4	250	1.4	305	3.7	355	4.1	10	4.6	25	4.5	20	4.5	10	4.0
15	220	0.2	230	1.3	255	0.3	255	0.1	235	0.4	230	1.4	235	1.0	240	0.2	285	1.0	315	2.9	320	3.4	330	4.0
16	115	1.2	130	0.7	110	1.3	105	0.7	80	0.2	---	0.0	295	0.1	195	0.7	185	1.4	230	0.8	230	1.0	260	1.1
17	215	0.5	200	0.5	200	0.1	245	0.1	---	0.0	---	0.0	220	0.2	250	0.1	337	0.1	270	0.1	270	0.1	240	0.6
18	90	3.0	90	3.6	90	3.4	95	2.4	85	2.0	90	3.1	100	3.2	115	3.2	130	3.6	170	1.7	235	2.3	225	2.3
19	---	0.0	75	0.2	100	0.3	85	0.2	85	0.2	80	0.4	90	1.4	160	0.3	160	2.0	170	3.2	165	3.9	160	4.2
20	85	1.0	50	0.2	75	1.2	100	1.6	125	1.6	170	3.2	170	3.8	175	5.8	170	7.1	170	8.1	175	7.5	165	8.0
21	295	0.3	55	0.1	255	0.1	220	0.1	230	0.1	---	0.0	270	0.3	330	0.2	355	1.0	360	1.2	330	1.5	130	1.5
22	360	0.9	5	1.1	10	1.2	350	0.4	325	0.6	350	0.7	360	0.4	35	1.6	40	3.2	55	3.9	40	3.5	50	3.5
23	35	0.1	60	0.1	300	0.1	235	0.1	---	0.0	---	0.0	245	0.3	315	0.5	350	0.9	345	1.4	320	1.5	340	1.3
24	335	4.4	340	4.0	330	1.4	325	1.0	285	0.1	300	0.9	330	4.8	315	4.0	330	4.5	310	4.0	350	4.3	350	4.6
25	270	1.4	305	1.6	320	3.9	315	3.6	320	6.3	320	5.0	320	5.7	320	7.5	320	6.8	325	6.9	325	6.2	320	6.5
26	295	3.0	300	3.5	310	3.8	310	3.7	305	3.0	320	3.6	320	3.2	330	4.0	335	4.1	335	5.0	345	4.6	5	3.6
27	255	0.5	260	0.4	235	0.5	225	1.1	235	0.5	190	0.3	80	0.2	90	0.8	130	2.5	150	3.8	165	3.6	185	3.4
28	15	2.8	15	2.7	10	2.4	355	3.2	15	3.5	5	3.5	10	3.6	20	4.7	25	4.6	30	4.8	30	4.1	25	3.5
29	130	1.4	80	0.4	345	0.1	325	0.2	230	0.1	245	0.4	280	0.2	330	0.4	5	2.2	355	2.5	350	4.1	340	3.8
30	20	1.5	15	1.5	15	1.5	35	1.4	40	0.3	---	0.0	195	0.6	80	1.5	85	2.7	70	2.6	20	1.2	125	2.3
31	150	0.2	90	0.5	80	0.3	95	0.1	80	0.1	110	0.8	110	1.9	110	2.5	145	2.8	130	3.9	130	4.2	150	4.2
Mean	---	1.8	---	1.8	---	1.8	---	1.7	---	1.7	---	1.9	---	2.3	---	2.6	---	3.2	---	3.5	---	3.7	---	3.9

516. RICHMOND (Kew Observatory):  $H_a$  = 5 metres + 23 metres.

Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	90	3.7	85	4.0	80	3.5	80	2.8	75	1.8	90	2.0	100	2.0	120	3.0	145	4.9	145	5.8	155	4.4	145	5.2
2	100	0.4	65	0.2	60	0.7	80	1.8	65	0.4	105	1.4	170	3.4	160	4.4	180	5.0	165	5.8	175	6.2	165	5.8
3	95	3.4	80	1.4	60	0.2	35	0.4	80	3.3	95	3.6	100	3.1	100	3.3	135	5.0	140	5.6	140	7.1	110	6.7
4	80	2.0	50	0.7	60	1.0	65	1.0	55	1.6	70	2.0	75	3.5	85	3.3	100	2.9	125	5.5	120	5.5	130	5.6
5	80	2.3	80	1.7	80	1.0	85	0.1	85	1.2	90	1.4	95	1.8	85	1.4	90	0.9	105	1.0	70	2.0	130	1.9
6	115	0.2	---	0.0	345	0.1	10	0.4	55	0.1	---	0.0	85	0.1	80	1.1	75	4.0	70	4.9	90	4.6	100	5.0
7	85	0.3	40	0.5	10	1.3	10	1.0	25	0.8	55	1.3	70	2.8	80	3.1	75	3.0	85	5.0	100	6.2	80	7.2
8	65	2.0	45	1.3	15	1.8	10	2.1	10	1.1	10	1.1	5	0.6	355	1.8	10	3.6	15	5.5	30	5.5	40	6.6
9	20	2.6	10	4.0	20	4.0	15	3.8	10	4.4	10	3.7	20	4.0	30	4.5	25	3.9	40	5.0	35	5.8	10	6.2
10	10	5.6	10	5.0	360	4.9	350	3.9	350	3.5	360	5.0	360	5.0	360	4.9	360	6.2	355	6.1	360	5.7	360	6.0
11	255	0.3	295	0.8	310	0.6	310	0.6	305	1.0	310	1.3	320	1.8	330	2.5	320	2.3	320	1.3	335	2.5	20	3.7
12	360	1.4	360	1.4	360	1.8	345	0.8	320	0.5	310	0.5	355	4.1	340	4.0	345	4.6	345	4.5	330	4.7	335	4.4
13	275	1.3	310	3.0	310	2.9	315	3.6	310	3.7	295	2.7	295	2.4	300	2.5	300	2.0	310	1.2	360	1.5	15	2.8
14	115	1.2	100	1.4	95	1.1	95	1.5	90	1.2	80	0.7	80	2.0	60	2.1	75	3.0	90	3.2	100	3.1	90	3.9
15	335	(0.6)	340	(0.6)	305	(0.4)	300	(0.3)	290	(0.2)	310	(0.1)	360	0.2	5	0.8	10	2.4	15	2.8	25	2.5	25	2.9
16	285	1.2	280	0.9	240	0.5	240	1.1	260	1.3	255	0.6	225	1.0	250	1.4	250	0.8	260	1.0	240	2.8	245	3.5
17	240	6.0	220	6.2	225	6.5	225	6.2	265	4.5	320	3.6	295	4.7	295	6.0	300	6.1	285	6.9	280	7.6	295	7.0
18	265	4.1	255	4.1	260	4.9	255	4.0	260	4.4	260	4.5	260	5.0	265	4.9	260	6.0	265	5.4	260	5.2	260	4.5
19	245	4.0	245	4.3	235	3.3	235	3.5	230	3.2	230	3.1	235	3.0	255	2.6	265	2.3	275	4.4	260	3.7	300	3.1
20	235	2.5	235	2.1	230	2.6	225	3.0	225	2.5	235	2.4	215	2.0	240	2.6	225	4.0	235	3.0	215	4.1	200	3.9
21	225	3.5	225	3.5	225	3.4	215	3.2	210	2.6	205	2.7	215	3.3	230	3.4	225	3.5	250	3.0	215	2.3	230	2.8
22	270	0.3	80	0.4	150	0.4	70	0.5	215	0.5	210	0.5	235	0.4	260	0.5	270	1.0	260	0.8	270	0.7	290	0.9
23	265	2.0	265	1.2	230	1.5	230	1.5	230	2.1	240	2.0	260	2.2	270	2.3	270	2.5	275	2.8	285	2.8	290	2.9
24	220	2.0	210	1.7	190	1.7	200	1.3	165	0.7	110	1.1	115	1.5	110	1.4	90	1.0	70	0.3	115	0.9	120	1.2
25	180	2.3	185	1.8	170	2.2	150	1.4	125	0.8	150	1.5	155	2.7	95	1.9	120	3.5	140	5.0	160	4.3	140	3.1
26	5	3.8	15	4.6	15	3.5	355	2.1	10	5.0	10	4.2	330	2.5	335	3.4	345	3.2	360	4.0	20	4.3	350	3.2
27	35	3.3	20	2.2	25	1.9	345	1.2	335	1.1	15	3.0	20	4.3	10	4.1	5	3.5	5	3.6	360	2.3	340	2.8
28	325	2.0	285	2.0	265	0.8	265	1.0	235	1.2	260	1.0	300	2.2	305	3.2	315	3.5	290	3.5	320	3.6	330	2.8
29	335	0.6	325	0.4	330	0.4	315	0.3	315	1.2	335	1.0	340	1.6	340	2.5	360	3.0	330	3.1	335	3.8	335	4.1
30	320	1.5	315	1.5	335	2.0	345	2.5	335	2.4	350	1.5	300	0.4	290	0.8	295	2.1	295	2.4	310	2.0	315	2.1
Mean	---	2.2	---	2.1	---	2.0	---	1.9	---	1.9	---	2.0	---	2.5	---	2.8	---	3.3	---	3.7	---	3.9	---	4.1
Hour G. M. T.	0 - 1	1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12		



## WIND: DIRECTION AND SPEED.

Averages for periods of sixty minutes, ending at the exact hours, Greenwich Mean Time.

M.S.L. +  $h_a$  (height of anemograph above ground) = 5 metres + 23 metres.

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12 - 13		13 - 14		14 - 15		15 - 16		16 - 17		17 - 18		18 - 19		19 - 20		20 - 21		21 - 22		22 - 23		23 - 24		Mean	Day
°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	m/s	
45	3.0	50	4.5	30	4.6	95	3.8	70	4.1	80	6.4	85	6.0	85	7.3	80	7.3	75	6.2	70	5.3	60	7.0	3.5	1
80	10.7	70	10.0	65	10.1	65	9.8	65	9.9	60	7.1	60	9.4	55	7.4	60	8.7	65	8.1	65	7.4	80	4.2	8.7	2
95	2.6	125	1.4	145	0.8	250	2.5	230	5.0	215	6.6	230	4.1	230	4.0	235	3.5	225	2.8	220	2.8	230	1.6	3.8	3
170	5.1	175	6.4	175	6.2	160	5.6	145	5.2	145	4.5	130	4.1	115	4.4	150	3.8	185	1.1	140	0.9	115	0.3	2.8	4
245	1.8	230	2.4	210	4.2	205	4.9	205	5.2	190	4.1	175	3.9	170	3.2	175	2.2	180	2.8	175	2.9	165	2.2	2.2	5
150	4.9	155	5.8	165	6.5	150	7.0	185	7.2	185	5.0	185	3.5	175	2.9	155	3.5	160	3.1	185	3.8	210	2.4	3.6	6
255	4.6	270	4.7	275	5.1	290	5.0	300	3.6	265	2.6	265	3.2	265	2.4	250	2.0	255	2.6	265	2.5	280	2.3	2.7	7
285	4.2	275	4.5	275	4.5	270	3.4	270	5.6	260	4.4	255	4.5	245	4.3	235	4.0	240	4.2	245	4.6	255	4.4	3.9	8
290	5.1	285	6.1	305	6.4	285	8.1	285	6.4	265	6.8	265	5.8	255	5.2	260	3.4	260	4.3	245	3.8	240	3.3	5.2	9
295	6.1	315	5.5	315	4.5	325	4.2	335	3.3	360	5.4	10	4.0	355	4.0	345	2.8	335	2.7	310	2.1	330	1.7	3.9	10
315	(1.8)	290	1.6	320	0.5	295	2.3	340	1.5	335	0.1	320	0.8	270	1.3	285	0.7	290	0.7	300	1.3	270	0.4	1.5	11
275	3.2	300	3.3	310	2.5	315	2.4	285	3.3	275	3.8	270	2.7	270	1.2	290	0.2	265	0.1	245	0.2	270	0.3	1.9	12
160	1.0	235	1.5	220	1.6	225	2.2	245	2.1	225	3.0	220	2.9	215	2.2	220	2.7	230	3.1	225	2.3	230	1.4	1.3	13
360	3.4	340	2.3	310	1.6	320	2.0	15	3.0	360	2.7	20	2.0	5	0.5	360	0.4	10	0.9	315	0.2	315	0.4	2.3	14
320	4.1	335	4.4	330	4.5	320	3.7	315	3.0	320	2.9	5	1.9	45	1.7	95	3.4	90	2.4	110	0.5	90	0.5	2.1	15
265	1.1	240	2.8	245	3.6	250	2.5	220	1.7	230	2.7	330	1.0	265	1.6	195	0.9	185	.4	205	1.2	220	1.5	1.3	16
350	1.6	30	1.2	65	2.2	90	2.9	95	3.1	95	4.4	85	5.2	90	5.2	95	4.0	80	4.0	85	5.3	95	4.4	1.9	17
210	1.8	220	2.1	195	2.1	190	2.2	185	2.5	190	2.4	190	2.4	210	1.7	190	1.7	140	0.9	70	0.1	160	0.1	2.2	18
170	5.0	180	4.4	185	4.5	160	4.9	160	4.6	150	4.8	140	3.1	130	2.1	120	2.6	100	3.2	80	1.9	60	1.2	2.4	19
165	7.0	160	6.4	160	5.6	160	5.6	155	5.0	165	4.7	180	3.2	155	2.4	130	1.0	140	0.1	110	0.3	55	0.3	3.8	20
55	2.0	70	2.0	65	1.6	15	2.6	360	3.0	10	4.2	355	2.7	20	2.6	20	2.1	15	2.5	10	1.2	355	1.2	1.4	21
60	2.7	40	2.1	110	1.6	115	2.3	90	3.8	110	4.3	105	1.2	130	0.2	65	1.2	95	0.1	125	0.2	---	0.0	1.7	22
330	2.3	335	1.3	340	1.5	340	1.7	205	2.7	295	4.5	350	5.4	230	3.5	180	0.5	310	1.8	330	4.0	330	4.8	1.7	23
350	4.5	350	4.5	345	3.1	335	4.0	320	4.5	325	2.2	335	0.5	300	0.4	290	2.8	320	1.1	295	1.0	265	0.7	2.8	24
320	6.4	315	6.3	320	6.8	320	6.5	320	6.0	305	5.8	280	5.2	275	4.3	275	3.3	290	3.0	295	3.4	300	3.6	5.1	25
335	3.0	330	3.0	325	1.8	330	1.5	335	1.0	10	0.4	---	0.0	290	0.1	290	1.5	300	1.8	260	1.7	260	1.0	2.6	26
195	4.5	190	3.6	260	1.7	360	3.1	30	4.9	70	6.0	70	5.8	60	4.7	50	4.5	45	4.0	40	3.7	40	4.0	2.8	27
25	3.3	25	3.1	360	2.6	355	2.4	245	1.3	340	1.5	350	1.2	110	1.3	110	2.1	55	3.2	70	3.7	130	1.7	2.9	28
345	4.5	335	3.7	360	3.9	15	4.4	25	4.8	25	4.6	30	5.0	40	4.5	40	3.5	40	3.4	30	1.9	30	2.5	2.6	29
110	2.1	100	2.1	110	2.6	145	3.0	155	4.0	190	4.9	195	2.9	195	2.1	175	0.8	150	0.9	120	1.1	115	1.0	1.9	30
155	4.3	150	5.0	150	5.1	160	4.5	145	4.5	125	4.1	115	3.4	115	3.2	120	3.3	115	2.4	100	2.6	85	3.4	2.8	31
---	3.8	---	3.8	---	3.7	---	3.9	---	4.1	---	4.1	---	3.5	---	3.0	---	2.7	---	2.5	---	2.4	---	2.1	2.9	

JUNE, 1933.

°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s</
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## WIND: DIRECTION AND SPEED.

Direction expressed in degrees from North (E = 90°, S = 180°, W = 270°, N = 360°). Speed in metres per second

517. RICHMOND (Kew Observatory):  
Dines Anemograph from Jan., 1926.H<sub>a</sub> (height of vane of anemograph above M.S.L.) = Height of ground above

Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	
Day.	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	265	0.2	265	0.2	265	0.3	250	0.4	250	0.2	275	0.3	260	0.5	290	0.8	305	1.4	315	2.2	305	2.8	315	1.9
2	360	0.9	20	0.9	355	1.2	15	3.1	30	3.4	45	3.0	50	2.7	60	4.4	40	4.9	45	4.4	50	5.1	65	5.0
3	115	0.5	230	0.2	305	0.2	315	0.5	315	0.1	240	0.1	210	0.2	185	0.1	55	1.4	65	4.4	70	4.0	55	4.0
4	---	0.0	---	0.0	120	0.1	---	0.0	---	0.0	---	0.0	120	0.2	125	0.6	105	0.8	200	0.9	90	2.0	60	1.6
5	---	0.0	140	0.1	115	0.3	100	0.7	100	0.9	95	1.3	95	2.8	85	3.9	80	6.0	75	6.7	80	6.8	85	6.3
6	90	4.3	90	4.0	90	3.8	100	3.2	95	3.9	95	4.5	90	5.2	100	4.0	95	5.9	85	5.7	90	6.1	80	6.6
7	65	3.0	65	2.7	60	1.5	65	1.8	65	1.6	65	2.5	75	2.5	85	3.0	90	2.1	165	3.3	210	5.0	225	6.8
8	195	3.5	200	3.2	190	3.5	195	4.1	195	3.2	195	3.1	210	4.4	225	4.9	190	5.0	200	5.2	190	5.8	185	6.1
9	205	2.7	155	2.5	185	2.8	205	2.1	210	2.6	220	2.5	240	3.0	240	3.5	240	3.3	225	5.2	225	5.7	230	5.5
10	210	5.8	205	6.5	200	5.9	195	6.8	190	5.0	190	5.0	190	5.4	190	5.2	190	4.5	200	5.2	205	5.9	205	6.6
11	220	3.3	210	4.7	215	4.5	215	4.6	210	5.0	215	5.1	215	4.6	225	6.6	230	6.2	220	6.1	215	6.9	210	7.2
12	230	2.9	220	3.8	225	3.5	220	4.0	220	4.4	225	3.8	225	3.9	230	4.8	235	5.5	255	5.0	235	5.8	220	5.8
13	220	2.9	215	3.3	220	3.2	215	3.9	210	4.3	205	4.8	210	4.5	200	4.4	200	6.0	200	6.3	190	6.3	185	5.7
14	210	6.0	215	5.5	215	6.0	215	6.3	225	5.5	220	6.0	225	6.0	240	6.2	245	6.5	255	6.5	260	7.0	250	7.1
15	215	3.1	225	1.8	215	1.6	175	1.0	200	1.0	200	1.7	180	2.2	180	2.5	180	3.5	170	4.2	175	5.5	180	4.8
16	295	1.1	310	1.6	265	1.3	275	0.9	265	1.2	295	2.0	275	1.8	310	3.2	310	3.4	305	3.1	305	3.0	300	3.0
17	275	1.1	275	0.7	235	2.0	230	1.8	240	0.9	230	1.0	225	1.5	235	2.5	235	2.3	230	2.9	250	3.5	255	4.3
18	245	2.2	250	2.8	260	2.6	260	1.4	225	1.4	260	1.0	265	1.8	260	2.2	270	1.8	255	1.9	270	1.2	260	1.4
19	220	0.9	205	0.2	200	0.8	220	0.7	220	1.5	220	1.2	220	0.8	220	1.3	220	2.0	210	2.5	200	3.9	200	4.0
20	210	0.2	230	0.1	210	0.2	210	0.4	270	0.2	245	1.0	150	0.4	210	0.4	195	0.5	165	0.3	300	0.2	225	0.5
21	280	1.0	255	0.7	265	1.0	240	0.8	295	0.6	315	0.2	295	0.3	15	2.3	20	2.0	15	1.8	340	1.9	355	2.0
22	250	0.2	290	0.2	300	0.4	300	0.4	325	0.2	230	0.2	---	0.0	60	0.1	40	0.5	80	0.4	55	1.0	120	0.9
23	215	0.1	210	0.2	210	0.3	---	0.0	240	0.1	250	0.1	240	0.5	335	0.1	290	0.1	210	0.5	345	1.5	295	2.1
24	250	0.2	265	0.3	235	0.2	235	0.6	240	0.4	230	0.5	245	0.3	235	0.5	240	0.8	230	1.8	225	3.3	270	2.5
25	225	1.2	225	1.4	240	1.3	255	1.0	235	2.3	235	2.2	245	1.8	245	3.3	255	3.9	260	4.0	255	2.8	275	2.5
26	230	1.0	225	1.5	235	1.4	215	0.7	235	0.6	235	0.9	235	2.0	225	2.2	230	2.5	220	2.4	245	2.5	245	2.7
27	80	1.4	55	1.0	45	1.9	40	2.3	65	2.5	60	2.0	70	2.9	70	3.0	85	2.5	85	2.6	165	4.8	205	6.8
28	320	5.5	305	5.0	300	2.6	290	2.2	280	1.7	265	2.1	280	3.0	285	4.2	280	3.2	280	4.1	270	4.1	250	5.5
29	230	3.8	230	3.8	230	4.2	225	4.3	225	3.0	220	3.4	225	4.0	220	3.5	230	3.0	220	3.2	255	3.4	280	4.6
30	275	1.4	280	2.5	275	2.1	270	2.4	275	2.4	285	1.1	265	1.8	310	2.0	305	3.4	300	2.5	255	1.5	250	2.4
31	210	6.1	210	6.9	210	8.4	210	8.0	220	10.0	240	8.8	235	8.5	245	7.5	250	7.5	250	8.7	260	7.9	255	6.7
Mean	---	2.1	---	2.2	---	2.2	---	2.3	---	2.3	---	2.3	---	2.6	---	3.0	---	3.3	---	3.7	---	4.1	---	4.3

518. RICHMOND (Kew Observatory): H<sub>a</sub> = 5 metres + 23 metres.

Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	290	5.2	295	4.5	310	5.3	315	6.2	305	5.2	305	5.1	305	5.2	285	4.8	295	5.0	315	6.0	320	5.0	315	5.0
2	260	0.9	250	1.1	260	1.2	240	1.7	230	1.4	235	1.5	235	1.4	225	1.1	270	3.0	265	3.4	265	4.2	285	3.9
3	360	1.2	325	0.5	345	0.2	280	0.1	285	0.2	275	0.5	290	0.5	345	1.2	20	2.8	20	3.1	15	2.5	20	2.0
4	335	0.2	---	0.0	25	0.1	305	0.2	310	0.1	310	0.1	---	0.0	---	0.0	40	2.2	60	3.4	90	4.3	85	4.4
5	100	1.8	90	1.9	65	2.0	50	0.8	75	0.2	90	0.3	85	3.0	85	3.2	85	2.9	70	3.0	80	3.5	95	4.5
6	70	1.4	65	1.3	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	250	0.2	160	1.1	180	2.2
7	345	0.3	345	0.2	325	0.1	280	0.3	285	0.5	280	0.4	320	0.3	340	0.2	200	0.1	260	0.9	270	2.9	265	4.0
8	255	1.8	240	2.1	225	2.5	225	2.2	235	2.3	235	2.2	245	2.6	265	2.9	270	3.3	285	3.7	275	3.5	285	4.8
9	250	1.3	260	1.4	265	0.3	245	0.7	230	1.6	230	1.4	245	1.4	260	1.5	240	3.0	240	4.7	230	4.9	235	4.1
10	5	3.4	15	3.5	10	2.7	15	3.3	20	2.6	15	2.8	35	4.2	30	5.9	35	4.9	40	4.1	60	3.5	40	3.9
11	80	5.0	75	4.8	80	6.3	80	6.4	75	5.1	50	3.3	60	3.6	70	5.0	75	4.5	80	7.5	70	8.2	75	6.8
12	35	3.8	30	4.3	30	5.2	35	5.1	35	5.0	50	5.4	55	4.9	45	5.7	50	5.4	50	5.6	50	4.8	45	5.0
13	90	2.3	95	1.9	85	1.7	90	2.0	90	1.0	90	2.0	100	2.5	110	3.1	125	4.9	110	6.0	115	5.2	120	5.2
14	15	0.7	5	1.2	50	1.3	85	1.1	160	1.9	30	2.1	45	3.8	105	3.9	60	1.2	25	1.2	85	0.7	70	1.7
15	230	2.3	225	2.2	220	1.9	220	2.9	215	3.0	225	2.6	225	3.8	220	4.9	220	5.8	210	4.9	220	5.2	225	6.6
16	235	1.7	230	1.7	235	1.6	225	2.1	255	1.3	265	1.1	250	0.9	270	1.6	315	1.8	320	2.0	340	2.0	310	2.0
17	215	1.1	210	1.4	215	1.9	230	2.0	225	1.4	225	2.0	230	3.0	235	3.6	230	4.7	230	5.0	230	6.5	225	7.3
18	220	5.5	245	4.9	250	4.9	240	4.1	235	4.2	235	3.2	240	3.5	240	3.8	250	4.8	255	4.8	255	4.6	245	5.6
19	235	3.0	230	3.4	225	3.3	230	2.8	230	2.4	235	2.2	230	3.0	245	3.8	250	3.6	245	3.7	250	4.2	245	5.0
20	270	1.7	250	1.5	260	2.4	265	2.1	235	2.5	245	2.5	255	3.6	265	4.1	265	5.3	280	4.3	260	6.0	260	6.0
21	225	3.2	225	3.3	220	3.0	225	3.5	225	3.0	230	2.7	235	3.5	250	3.4	255	4.3	260	4.3	270	5.0	260	5.3
22	275	2.2	265	1.9	250	1.5	250	1.8	250	1.9	235	1.6	235	1.7	240	2.5	270	3.5	275	3.6	270	3.7	270	3.5
23	175	3.0	240	2.1	265	2.9	275	3.4	335	5.2	340	3.5	320	2.8	320	3.5	315	4.5	325	4.6	310	4.7	300	5.0
24	245	1.5	245	1.1	230	1.1	240	1.3	225	1.3	220	0.2	220	0.6	240	1.0	290	0.8	280	0.7	270	2.3	295	2.1
25	210	0.7	205	0.5	200	0.6	220	0.3	210	0.4	230	1.1	220	1.8	225	1.9	245	2.2	265	1.8	245	2.0	255	1.0
26	240	0.2	205	0.3	---	0.0	---	0.0	---	0.0	300	0.1	---	0.0	---	0.0	120	0.2	135	1.7	215	2.6	155	3.4
27	160	0.1	80	1.0	60	0.1	75	0.5	75	0.2	10	0.4	60	0.1	115	0.7	120	1.4	150	3.6	170	4.8	185	4.9
28	80	0.1	90	0.2	20	0.1	55	0.2	60	0.5	130	0.2	130	0.1	180	3.2	190	4.2	195	3.0	180	4.6	190	5.0
29	---	0.0	145	0.1	100	0.1	40	0.1	---	0.0	---	0.0	---	0.0	225	1.6	250	1.6	250	1.6	215	1.6	210	2.2
30	310	1.8	325	2.1	325	3.1	335	3.4	330	3.4	330	2.0	330	2.2	345	2.8	355	4.3	355	3.1	340	3.4	345	4.2
31	5	2.2	360	2.1	360	2.1	340	0.9	355	1.7	5	1.1	350	1.1	10	0.5	200	0.5	100	0.8	360	0.5	245	1.2
Mean	---	1.9	---	1.9	---	1.9	---	2.0	---	1.9	---	1.7	---	2.1	---	2.6	---	3.1	---	3.4	---	3.8	---	4.1
Hour G. M. T.	0 - 1	1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12		



## WIND: DIRECTION AND SPEED.

407

Averages for periods of sixty minutes, ending at the exact hours, Greenwich Mean Time.

M.S.L. +  $h_a$  (height of anemograph above ground) = 5 metres + 23 metres.

JULY, 1933.

12 - 13		13 - 14		14 - 15		15 - 16		16 - 17		17 - 18		18 - 19		19 - 20		20 - 21		21 - 22		22 - 23		23 - 24		Mean	Day
°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	m/s	
310	2.0	320	2.5	340	2.6	345	2.5	5	2.2	360	2.2	340	2.6	355	3.0	360	2.3	15	0.6	360	0.3	360	1.6	1.5	1
80	4.7	50	4.5	45	4.0	65	4.5	60	4.2	70	4.4	80	3.0	135	1.6	135	0.4	100	1.4	120	1.5	110	0.4	3.1	2
80	4.5	60	3.6	50	3.4	65	3.6	50	3.7	60	3.7	85	3.7	90	1.7	105	0.8	115	0.7	145	0.1	---	0.0	1.9	3
80	3.3	85	3.3	240	1.8	65	1.8	145	3.3	215	4.7	225	3.4	240	1.2	235	1.4	235	0.8	---	0.0	205	0.1	1.3	4
85	6.2	90	6.5	85	5.8	90	6.3	95	5.7	70	7.2	85	6.5	80	7.0	85	6.7	90	7.1	85	6.4	95	5.0	4.7	5
90	6.8	85	6.5	65	5.9	85	4.6	90	4.3	80	5.0	80	6.5	80	5.1	70	4.0	65	3.2	70	3.9	70	2.8	4.8	6
220	6.6	210	7.4	205	9.0	215	8.0	220	7.7	220	6.2	210	5.6	215	7.2	215	5.0	210	5.0	200	4.8	190	3.1	4.6	7
205	6.6	190	5.7	185	5.8	200	6.9	200	5.7	185	4.9	180	3.9	160	2.7	160	1.6	125	1.0	155	1.1	215	4.8	4.3	8
220	6.6	215	7.2	215	7.5	215	8.5	210	8.8	215	7.9	210	7.5	205	6.1	205	6.2	205	8.8	205	5.6	205	6.6	5.2	9
200	6.5	200	5.9	210	6.5	205	7.1	210	8.0	210	7.0	220	5.5	230	4.8	220	5.1	220	3.8	220	4.3	220	3.6	5.7	10
210	6.9	215	8.4	210	7.7	220	6.1	205	5.0	200	4.5	205	4.2	210	4.5	210	4.4	210	4.3	215	4.3	225	3.9	5.4	11
230	6.2	220	6.6	235	7.1	240	7.3	250	6.0	250	5.4	250	5.1	245	4.0	230	3.1	230	3.1	230	2.8	225	3.0	4.7	12
185	6.1	180	7.0	185	6.6	205	7.8	210	8.1	210	7.7	210	7.5	215	7.5	210	7.6	215	6.8	215	6.5	215	5.6	5.9	13
255	7.1	245	7.8	250	7.0	255	7.4	235	7.2	240	7.0	230	5.5	250	4.0	250	3.0	240	2.4	230	2.1	220	2.8	5.7	14
180	5.3	180	4.8	175	5.0	150	5.4	150	1.9	195	4.3	240	2.3	210	1.1	245	2.0	270	2.2	285	1.7	330	1.4	2.9	15
310	3.5	260	1.7	290	3.0	280	4.6	280	2.5	340	0.4	330	0.6	285	0.6	280	1.0	280	1.3	260	0.5	235	1.2	1.9	16
250	4.7	260	4.6	280	3.8	275	2.1	255	4.4	260	4.1	250	4.0	250	2.6	230	2.6	235	3.1	240	2.9	230	2.4	2.7	17
250	0.7	270	1.5	200	2.0	225	2.0	225	1.6	210	3.5	210	3.0	215	2.4	210	2.4	200	1.6	210	1.3	210	1.8	1.9	18
200	3.9	195	4.5	205	4.8	200	4.1	215	4.6	205	4.4	205	4.0	205	2.5	195	2.0	200	0.8	230	0.4	190	0.2	2.3	19
195	1.3	230	1.2	240	2.6	275	2.3	330	3.5	330	3.3	320	2.6	335	1.2	325	1.3	315	1.4	305	1.8	285	1.5	1.2	20
20	1.8	360	1.1	5	2.2	340	2.4	360	3.3	360	3.8	10	4.7	15	3.9	75	3.4	85	3.4	85	0.8	210	0.2	1.9	21
195	2.5	200	1.0	215	0.6	225	0.8	230	3.6	235	3.8	230	3.0	230	2.2	185	0.7	185	0.5	195	0.5	190	1.0	1.0	22
305	2.8	260	1.7	325	2.4	300	1.9	330	2.3	330	2.9	330	2.5	320	1.4	335	3.0	360	2.0	330	0.3	255	0.1	1.2	23
255	2.4	235	3.5	245	3.7	245	3.0	240	3.5	225	3.1	245	2.7	265	1.6	275	1.2	255	1.0	235	1.0	230	1.5	1.7	24
275	2.5	265	3.0	265	3.1	215	3.2	220	2.9	225	3.0	240	2.2	220	2.8	205	2.3	220	2.3	235	2.6	225	2.4	2.5	25
230	3.8	225	2.9	220	2.9	225	2.3	210	2.1	220	2.3	195	2.3	180	0.4	---	0.0	20	0.6	35	1.5	50	1.3	1.8	26
205	7.7	215	5.1	205	4.2	230	7.3	210	1.0	180	2.8	215	2.0	215	3.8	205	3.2	240	4.5	240	4.0	270	2.8	3.4	27
255	5.5	240	6.7	230	6.0	225	5.9	225	7.6	225	7.4	225	6.2	230	7.9	225	7.5	220	6.5	230	5.0	230	4.5	5.0	28
275	5.6	280	5.4	275	5.5	275	5.5	280	6.0	275	5.9	280	5.0	270	4.8	265	3.5	250	3.2	295	2.2	280	1.3	4.1	29
255	3.5	250	3.4	240	3.8	240	4.9	230	5.1	235	4.7	225	7.2	215	6.4	215	5.4	215	5.0	220	5.8	210	5.9	3.6	30
260	7.5	270	6.6	270	7.4	275	7.1	265	6.8	265	6.5	270	6.5	270	5.5	270	5.3	275	6.3	280	5.6	280	5.4	7.1	31
---	4.7	---	4.6	---	4.6	---	4.7	---	4.6	---	4.6	---	4.2	---	3.6	---	3.2	---	3.0	---	2.6	---	2.5	3.4	

AUGUST, 1933.

°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	m/s	m/s
310	5.3	325	4.7	325	5.1	335	4.5	320	3.2	330	2.7	330	3.6	330	2.5	325	1.4	330	1.7	320	1.4	250	1.0	4.1	1
285	3.5	275	3.7	285	4.3	295	3.7	280	3.5	300	3.6	320	3.2	320	2.3	315	1.9	320	2.1	340	2.2	350	3.6	2.6	2
15	2.0	10	2.1	325	1.9	335	2.7	340	2.2	360	1.2	20	0.7	350	0.6	355	1.0	355	0.6	15	0.3	20	0.3	1.3	3
105	4.0	110	4.0	100	3.6	95	4.7	95	5.4	90	6.2	90	5.7	90	4.0	85	3.0	85	2.9	90	0.9	90	2.4	2.6	4
90	(4.6)	95	3.5	95	3.4	95	3.3	95	4.2	85	5.3	85	5.8	90	5.3	85	4.7	85	3.3	75	2.2	75	2.0	3.1	5
210	2.2	205	3.8	205	3.5	235	3.5	235	4.3	225	5.0	225	3.6	240	1.5	255	0.1	260	0.1	310	0.4	335	0.2	1.4	6
270	4.9	265	5.0	275	4.8	270	4.8	280	4.7	285	4.6	280	3.8	280	1.6	245	1.6	255	1.6	260	1.4	260	1.9	2.1	7
280	4.1	260	4.7	260	3.2	265	3.2	265	3.5	260	4.0	260	3.5	250	2.9	260	1.8	275	2.3	265	2.9	245	0.9	3.0	8
260	3.5	270	3.5	270	3.6	265	4.1	265	5.0	280	4.7	270	3.5	270	2.0	260	1.0	280	2.4	360	3.5	10	3.7	2.8	9
30	3.1	35	3.8	35	3.5	30	3.5	65	4.5	85	6.7	85	7.2	85	7.2	85	7.5	85	5.7	85	6.1	80	5.1	4.5	10
75	6.5	95	5.5	85	4.5	65	5.0	75	7.2	60	5.7	60	6.6	50	5.8	40	5.9	40	5.0	40	4.6	40	4.0	5.5	11
60	3.7	80	4.7	95	5.5	105	6.2	100	5.8	95	5.2	95	4.6	95	3.5	100	2.5	80	2.7	75	2.0	75	2.2	4.5	12
115	5.0	120	5.0	95	5.2	90	5.3	85	5.5	90	5.8	90	5.3	90	5.0	90	5.0	70	3.5	75	2.8	50	1.2	3.9	13
60	1.0	70	3.0	75	3.0	70	3.3	80	2.9	130	1.1	130	0.8	115	0.2	---	0.0	200	0.7	210	1.6	220	2.0	1.7	14
220	7.1	220	8.8	230	8.3	215	8.1	220	7.9	215	7.0	200	5.4	195	5.0	190	4.8	190	3.8	200	3.5	245	2.8	4.9	15
40	2.2	295	3.1	295	3.4	290	3.5	280	4.6	280	4.3	275	3.0	275	1.5	260	1.9	250	1.6	235	1.5	220	1.0	2.1	16
225	7.0	225	8.6	225	9.2	225	8.3	225	7.8	225	8.6	225	8.7	225	6.5	220	6.9	230	5.7	225	4.9	220	4.7	5.3	17
260	5.7	255	6.3	255	5.4	260	6.0	255	5.4	245	5.9	280	4.5	280	3.4	260	3.9	250	3.3	255	1.7	240	2.4	4.5	18
240	5.0	225	5.7	225	5.7	220	5.6	225	6.0	225	4.9	235	3.3	235	2.1	240	1.8	260	2.4	275	1.9	270	2.3	3.6	19
270	5.5	280	5.0	255	5.8	270	6.5	265	5.8	260	5.3	255	5.0	260	4.3	260	3.3	255	3.0	240	2.8	225	2.6	4.0	20
235	5.4	245	6.0	260	5.5	310	4.4	275	2.8	310	3.3	280	1.3	260	1.0	250	1.5	230	2.2	245	1.8	255	1.8	3.4	21
265	3.5	255	4.5	260	5.1	250	5.4	240	4.8	225	5.0	220	4.5	195	2.2	175	1.5	165	3.0	150	2.7	130	2.1	3.1	22
285	5.6	295	5.7	280	5.6	290	5.6	290	6.4	295	5.0	285	4.0	285	3.0	275		280	2.6	270	1.5	255	1.1	3.9	23
265	3.2	285	2.1	245	3.3	230	2.6	230	2.0	220	5.0	225	3.6	220	2.6	215	2.4	215	2.5	235	1.9	215	1.2	1.9	24
220	1.5	200	1.7	200	2.7	225	2.2	210	1.6	190	3.4	200	2.5	200	1.4	200	1.0	210	0.2	---	0.0	---	0.0	1.4	25
155	3.5	140	3.6	165	3.5	165	3.4	175	2.3	165	2.5	150	1.9	115	1.9	330	0.1	---	0.0	90	0.7	90	1.3	1.4	26
185	4.5	195	5.0	190	5.2	190	5.3	200	4.9	200	4.5	195	2.1	160	2.4	155	2.3	145	1.5	140	0.5	100	0.3	2.3	27
200	5.5	190	5.5	195	6.0	190	6.1	200	5.4	180	4.4	170	2.7	185	2.8	190	2.1	205	0.3	260	0.2	---	0.0	2.6	28
230	3.0	230	4.3	255	5.0	245	4.2	260	3.6	285	4.6	285	4.1	285	2.1	275	1.2	275	2.8	285	2.8	275	1.9	2.0	29
345	4.5	345	3.7	340	3.2	300	4.4	335	4.3	350	4.4	355	4.4	360	2.5	5	2.2	30	2.6	25	2.8	10	3.4	3.3	30
265	1.5	255	1.6	240	2.4	230	3.5	245	3.2	210	4.4	215	4.5	225	3.9	240	3.0	235	2.7	240	1.9	245	2.4	2.1	31
---	4.1	---	4.5	---	4.5	---	4.6	---	4.5	---	4.7	---	4.0	---	3.0	---	2.6	---	2.4	---	2.1	---	2.0	3.1	
12 - 13		13 - 14		14 - 15		15 - 16		16 - 17		17 - 18		18 - 19		19 - 20		20 - 21		21 - 22		22 - 23		23 - 24		Mean	Day



519. RICHMOND (Kew Observatory):  
Dines Anemograph from Jan., 1926. $H_a$  (height of vane of anemograph above M.S.L.) = Height of ground above

Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	
Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	250	2.1	245	1.5	265	1.9	255	0.9	250	0.9	230	1.7	230	1.7	235	2.4	250	2.4	260	3.5	260	3.9	280	3.5
2	270	1.0	280	0.5	285	0.2	330	0.3	330	0.4	310	0.1	330	0.5	350	0.5	350	2.1	320	3.2	315	3.2	345	3.5
3	240	0.4	220	0.9	240	0.2	250	0.1	---	0.0	---	0.0	---	0.0	---	0.0	360	0.1	340	0.6	10	1.0	290	1.4
4	240	0.2	65	0.1	140	0.3	250	0.1	---	0.0	---	0.0	245	0.1	200	0.1	180	0.1	130	0.1	345	1.3	150	2.0
5	100	2.4	95	3.0	75	2.0	55	1.6	40	1.9	45	2.5	60	3.3	80	5.0	105	4.3	100	4.8	100	5.0	100	5.7
6	45	3.9	50	4.0	50	3.8	55	3.6	55	1.8	45	2.6	45	2.2	70	3.1	90	4.4	80	4.6	65	6.0	80	4.9
7	45	4.1	40	4.7	40	3.8	40	4.6	45	4.5	50	4.2	50	4.3	50	4.5	65	5.2	65	7.6	70	9.9	80	9.1
8	40	5.8	40	5.1	45	4.8	45	4.9	50	5.0	50	4.9	50	5.9	55	7.0	60	7.6	70	8.2	60	9.0	70	8.5
9	50	4.7	50	4.2	45	4.6	40	4.9	45	4.7	60	5.0	40	5.4	60	6.3	70	8.0	85	12.5	85	12.4	90	11.3
10	45	5.0	50	4.8	35	4.5	45	4.5	50	5.2	50	4.6	50	4.8	70	5.6	75	8.1	90	10.3	90	9.6	90	10.0
11	50	4.1	50	3.4	50	3.4	50	3.2	55	4.0	55	4.5	60	4.5	60	3.0	75	6.0	75	5.7	85	7.0	100	7.1
12	50	5.0	45	5.0	45	4.7	45	4.8	45	4.8	45	4.5	50	5.1	50	5.6	50	5.5	50	6.6	55	5.8	60	6.0
13	15	5.1	15	4.5	10	4.6	5	4.6	5	3.9	360	4.4	360	4.5	355	4.9	360	5.0	5	4.6	350	2.6	345	3.0
14	335	2.3	325	2.3	325	3.0	320	3.2	320	2.2	300	2.7	290	2.9	310	2.9	340	4.5	335	6.0	345	5.9	350	6.2
15	270	0.1	300	0.2	240	0.6	245	0.5	230	0.2	235	1.2	260	0.2	---	0.0	220	0.2	210	1.4	220	3.3	230	2.8
16	90	0.8	155	0.3	35	0.7	90	0.8	85	0.6	80	1.0	70	0.2	---	0.0	125	0.8	170	3.5	170	5.0	145	5.1
17	5	0.1	210	1.1	140	1.7	160	0.2	195	0.3	245	0.4	230	0.6	230	1.0	205	0.8	195	1.2	195	3.2	215	4.8
18	185	3.5	190	3.7	195	4.0	195	3.7	195	2.6	225	3.6	220	2.9	235	2.0	260	3.9	260	3.4	270	3.8	280	3.9
19	235	2.0	230	1.5	225	1.0	200	0.9	245	1.1	235	1.6	240	1.5	245	1.3	220	1.0	250	1.6	230	3.3	250	2.3
20	190	2.6	190	2.9	185	2.9	160	3.1	160	3.5	230	1.0	245	0.6	300	1.5	190	2.3	210	3.0	235	4.1	250	2.8
21	220	1.1	65	1.5	100	2.5	75	1.1	30	1.4	5	1.5	20	2.4	35	2.3	30	2.5	40	4.0	25	4.2	20	4.4
22	355	4.0	340	2.7	350	3.8	360	5.0	350	4.3	345	4.5	350	4.5	360	4.5	360	4.0	5	4.8	10	4.9	10	4.8
23	70	0.8	90	1.2	95	1.8	110	1.5	90	1.9	95	1.7	80	1.3	95	2.6	110	2.5	120	3.2	135	3.8	115	3.5
24	240	3.0	235	3.2	225	2.5	215	3.0	215	3.1	220	2.9	200	2.5	205	2.8	210	2.4	245	2.3	240	2.3	255	2.1
25	5	1.9	10	1.7	350	0.9	320	0.5	270	0.3	250	1.2	230	2.2	220	2.2	210	2.6	195	2.2	170	2.0	200	1.1
26	50	2.8	50	3.0	50	2.3	45	2.8	60	3.4	65	2.6	60	2.7	55	1.4	40	2.0	80	3.7	80	5.2	95	5.2
27	20	4.0	20	3.4	20	3.6	25	4.8	25	5.5	25	4.6	20	4.0	20	3.5	20	2.8	10	3.1	10	3.1	20	3.4
28	30	4.8	20	5.6	25	4.6	20	4.6	20	5.0	30	4.8	45	5.6	45	6.1	45	5.8	45	5.4	45	5.5	45	5.7
29	345	0.2	25	0.2	45	0.3	360	0.2	335	0.2	40	0.7	55	0.7	10	0.7	75	0.5	30	2.3	30	2.5	70	3.7
30	50	3.7	30	3.5	35	3.1	35	2.8	40	3.0	35	3.4	40	4.0	40	4.5	40	4.5	35	3.5	45	3.5	55	5.2
Mean	---	2.7	---	2.7	---	2.6	---	2.6	---	2.5	---	2.6	---	2.7	---	2.9	---	3.4	---	4.2	---	4.7	---	4.8

520. RICHMOND (Kew Observatory):  $H_a$  = 5 metres + 23 metres.

Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	55	3.6	60	3.5	45	4.0	50	5.0	55	4.6	55	3.5	50	3.3	60	3.8	55	3.2	55	3.2	50	3.6	65	3.5
2	20	3.4	25	3.0	25	2.9	15	3.4	20	2.8	20	3.7	20	4.9	30	6.3	40	6.2	40	6.3	40	6.4	45	6.8
3	30	4.3	35	4.6	30	4.3	10	3.5	5	2.8	15	4.0	25	3.8	20	2.8	35	5.1	55	5.7	45	5.2	35	4.5
4	20	2.3	15	1.3	15	0.2	15	0.4	355	1.0	350	0.1	345	0.3	5	0.6	15	0.6	20	1.9	20	1.7	5	2.2
5	230	0.9	235	0.9	255	0.3	270	0.5	265	0.2	265	0.2	---	0.0	---	0.0	350	0.2	230	0.2	235	1.2	225	2.1
6	50	1.3	70	0.3	80	0.5	115	0.6	95	2.2	95	1.1	115	1.3	100	1.0	85	0.6	115	0.3	95	1.5	120	3.3
7	65	1.0	65	1.3	75	1.3	95	0.6	95	0.7	65	1.3	50	0.7	40	1.1	45	0.9	45	0.5	100	2.2	105	2.6
8	---	0.0	---	0.0	245	0.1	240	0.5	220	1.5	220	2.0	235	2.1	235	1.8	235	4.1	225	4.8	230	5.4	220	5.1
9	225	(2.3)	215	(1.6)	215	(1.4)	215	(0.5)	220	(0.2)	215	(0.1)	215	(0.3)	205	0.6	190	1.6	205	4.2	210	5.9	205	6.0
10	210	7.3	205	7.1	210	7.2	210	8.1	210	8.3	210	8.9	210	9.1	205	10.1	210	10.5	210	10.0	220	11.3	220	11.6
11	195	7.7	190	7.7	190	6.6	190	6.1	185	7.5	195	6.6	210	7.3	245	10.5	280	8.4	275	9.0	255	9.0	255	9.2
12	230	2.8	225	3.5	235	2.9	230	2.6	215	2.6	220	1.8	210	2.1	220	2.5	230	2.9	265	3.6	270	5.1	265	5.3
13	185	0.9	205	1.1	205	1.2	215	0.7	200	0.3	215	0.4	235	0.8	220	1.6	220	1.4	220	3.0	225	4.7	220	4.8
14	190	2.0	190	2.0	215	1.7	200	2.0	200	3.1	195	3.1	190	2.8	190	3.6	195	3.7	205	6.2	210	6.3	195	4.2
15	255	1.7	250	1.5	235	1.3	215	0.6	225	1.0	230	0.6	230	0.3	215	0.8	225	1.6	230	1.6	245	2.4	230	3.5
16	230	4.5	245	3.2	250	3.0	245	2.0	245	3.0	250	3.4	240	3.2	230	3.3	240	4.5	260	5.5	265	6.1	255	6.2
17	270	3.1	275	2.2	275	2.8	265	2.3	265	3.4	260	3.2	260	3.4	260	3.0	270	3.1	295	4.5	295	4.9	290	5.0
18	220	0.5	245	0.5	220	0.5	235	0.2	235	0.3	250	0.1	265	0.2	310	0.1	350	0.1	360	0.1	215	0.5	185	1.6
19	95	2.3	95	2.8	100	2.8	110	3.7	100	3.2	90	3.5	90	3.9	85	4.5	90	4.5	115	5.1	130	5.9	130	6.4
20	80	5.6	80	5.6	75	4.8	75	6.6	80	6.9	75	6.3	70	4.5	75	3.8	80	5.6	85	8.9	75	10.6	80	12.0
21	35	4.3	30	4.4	30	4.5	30	5.0	35	5.4	30	5.6	35	4.8	45	5.0	45	4.8	45	5.5	40	5.4	50	6.5
22	85	2.0	85	1.1	85	1.7	90	1.7	85	1.5	80	2.4	75	2.0	50	2.4	40	2.4	35	2.4	30	3.0	30	4.0
23	150	0.6	200	0.6	180	1.1	180	1.1	135	0.8	50	0.3	125	0.7	170	2.3	215	1.3	155	0.3	140	0.4	220	0.8
24	5	2.2	15	3.1	25	4.8	40	3.9	45	5.1	45	4.4	45	3.5	40	4.7	50	5.5	45	5.0	35	5.1	35	5.2
25	15	4.8	15	4.6	10	4.1	5	4.8	360	4.6	360	5.1	355	4.6	355	5.0	360	4.9	360	5.7	360	7.0	5	7.4
26	330	5.4	330	4.9	320	5.1	335	5.1	320	4.7	320	4.5	320	4.5	305	5.0	305	6.5	315	8.0	320	7.5	325	9.3
27	275	3.2	270	3.3	260	3.5	245	3.5	240	3.6	230	3.2	235	3.6	235	4.0	235	4.6	240	4.8	250	5.0	285	4.8
28	245	2.8	245	2.5	250	3.3	250	2.7	230	3.0	225	3.4	225	4.4	225	4.0	235	3.3	235	3.4	225	5.4	225	7.0
29	295	2.7	320	4.3	335	4.7	340	5.8	345	6.7	355	7.1	355	6.0	355	5.2	360	6.8	360	6.6	10	6.0	10	5.7
30	325	4.3	330	3.2	325	3.5	330	3.5	325	3.3	320	3.0	310	2.7	310	3.5	285	3.5	300	3.6	335	4.9	330	4.6
31	240	2.7	230	2.9	230	2.8	230	3.0	235	3.1	225	3.8	230	4.0	235	4.0	235	4.9	235	4.8	260	6.1	260	5.7
Mean	---	3.0	---	<u>2.9</u>	---	2.9	---	2.9	---	3.1	---	3.1	---	3.1	---	3.4	---	3.8	---	4.3	---	5.0	---	5.4
Hour G. M. T.	0 - 1	1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12		







521. RICHMOND (Kew Observatory):  
Dines Anemograph from Jan., 1926.H<sub>a</sub> (height of vane of anemograph above M.S.L.) = Height of ground above

Hour G. M. T.	0 - 1		1 - 2		2 - 3		3 - 4		4 - 5		5 - 6		6 - 7		7 - 8		8 - 9		9 - 10		10 - 11		11 - 12	
Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	270	4.2	280	4.0	280	3.6	280	3.8	285	4.3	270	3.8	255	3.1	260	3.5	275	4.5	290	5.2	290	6.3	290	5.3
2	260	5.0	260	5.2	260	4.9	270	4.2	300	3.3	295	5.0	290	4.3	270	3.5	280	4.4	300	5.8	305	7.6	310	7.2
3	335	6.2	335	6.0	335	5.2	340	4.6	335	4.5	330	5.9	330	5.5	330	5.0	335	5.1	335	6.1	335	5.4	335	6.8
4	350	2.9	355	5.4	360	4.5	360	4.1	355	3.5	350	3.6	350	4.4	355	3.5	355	3.5	350	3.6	350	5.9	360	6.0
5	5	2.0	355	1.5	355	1.2	360	2.6	10	2.5	360	2.3	335	1.6	340	1.4	355	1.4	310	0.4	330	1.3	10	3.3
6	240	1.2	225	1.5	230	1.0	205	1.3	210	1.4	230	1.3	230	1.4	230	1.5	230	1.6	240	1.7	245	2.2	270	2.4
7	270	0.9	305	1.6	315	2.0	300	1.0	310	1.0	290	0.9	270	0.5	240	0.3	305	0.4	340	1.5	360	3.0	10	2.9
8	40	4.4	45	2.8	35	1.9	35	2.0	45	2.6	50	2.7	30	1.8	10	1.4	35	1.0	25	0.7	45	1.4	45	2.0
9	235	0.2	270	0.1	---	0.0	---	0.0	---	0.0	185	0.2	205	0.1	---	0.0	---	0.0	215	0.1	180	1.5	205	1.8
10	205	1.5	195	2.5	215	2.7	225	2.0	300	1.8	320	1.5	290	1.5	305	2.1	305	1.8	305	2.2	295	3.3	320	4.5
11	345	2.0	345	1.9	335	1.5	330	1.2	315	1.2	290	1.0	290	0.6	290	0.5	310	1.1	325	1.6	315	2.4	310	2.1
12	240	0.6	240	0.5	230	0.6	235	1.5	245	0.8	255	0.7	310	1.2	340	2.2	335	2.3	340	2.2	335	2.2	345	3.0
13	240	1.0	235	1.2	270	1.3	250	1.0	220	1.5	205	1.5	225	1.7	230	1.5	230	1.2	190	0.6	215	1.3	240	0.8
14	290	2.8	275	1.8	270	2.6	280	2.1	265	1.5	255	1.1	250	1.2	270	1.4	250	1.4	230	1.4	185	0.7	215	1.8
15	145	3.2	140	5.0	140	5.0	125	4.9	130	5.0	125	4.5	125	4.3	105	4.4	100	5.2	120	5.0	175	4.7	255	5.3
16	40	0.4	360	0.6	290	0.5	345	0.6	355	1.4	10	2.5	40	1.6	330	0.4	305	0.5	250	0.5	40	1.8	110	1.5
17	25	4.5	25	4.4	25	3.9	35	4.9	30	4.8	30	4.5	30	5.5	30	5.3	40	5.8	30	4.0	40	6.3	30	6.5
18	20	4.8	30	5.0	35	5.6	35	5.3	35	5.0	30	4.3	20	3.6	35	3.4	45	3.0	50	3.3	40	1.8	40	1.5
19	70	2.0	30	1.8	45	2.8	60	3.5	50	3.2	65	5.0	65	5.9	70	6.1	80	5.0	85	4.8	80	4.8	70	4.1
20	95	0.8	125	1.0	155	1.6	160	1.1	120	0.8	85	1.8	80	2.5	70	2.0	60	1.6	40	0.3	335	0.1	345	0.5
21	20	4.5	25	4.7	20	5.0	15	5.0	20	5.5	25	5.2	20	4.5	30	5.0	25	5.0	30	5.1	35	5.0	35	4.0
22	345	1.1	285	0.6	295	0.8	300	0.9	285	0.8	280	1.0	270	1.0	300	1.5	310	1.5	315	1.9	320	2.0	305	2.4
23	325	2.2	325	1.8	340	1.3	325	0.7	355	2.8	350	2.5	350	2.2	360	2.9	340	1.9	350	3.4	355	3.6	355	3.0
24	270	1.9	310	2.4	315	2.2	310	2.6	320	2.8	320	3.4	325	3.0	320	3.7	330	4.2	335	4.5	350	6.2	355	5.9
25	355	4.9	350	5.0	355	5.1	350	4.6	360	4.6	5	5.6	5	5.6	15	6.1	10	6.2	15	6.2	15	7.0	15	7.8
26	25	4.4	30	4.5	20	3.3	15	3.4	25	4.4	35	4.7	30	4.2	20	3.7	10	4.2	15	4.3	20	4.5	15	4.7
27	20	1.6	10	1.7	35	2.0	15	2.0	10	2.0	25	1.5	30	1.3	25	1.4	40	2.1	40	1.5	35	0.1	15	0.6
28	325	1.1	15	1.6	35	1.4	40	1.5	55	1.1	65	1.7	95	2.2	85	2.5	85	3.3	95	2.6	95	3.0	120	3.6
29	115	4.1	90	4.2	90	4.1	105	4.9	105	3.1	90	5.1	100	2.9	100	3.1	90	4.5	105	5.0	100	5.2	100	6.2
30	100	1.3	75	0.6	90	0.4	25	0.5	65	0.5	105	0.4	160	1.2	165	1.5	175	1.0	170	1.3	165	2.1	160	3.6
Mean	---	2.6	---	2.7	---	2.6	---	2.6	---	2.6	---	2.8	---	2.7	---	2.7	---	2.8	---	2.9	---	3.4	---	3.7

522. RICHMOND (Kew Observatory): H<sub>a</sub> = 5 metres + 23 metres.

Day	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s
1	100	2.6	105	3.8	115	3.5	125	3.9	130	4.0	110	3.0	90	4.4	95	3.5	95	3.4	95	4.1	110	4.9	115	5.1
2	85	5.7	90	5.0	90	6.0	85	6.2	85	5.0	80	6.5	90	4.9	90	5.2	90	7.2	95	7.5	100	6.4	90	6.5
3	50	7.0	40	7.8	40	7.8	40	9.0	45	10.1	40	8.6	40	10.0	40	9.8	40	9.8	40	10.0	45	9.9	40	9.9
4	35	7.2	40	7.6	45	8.5	45	8.6	40	9.2	40	9.0	35	8.0	30	8.3	30	8.0	30	8.4	45	8.0	55	10.2
5	90	2.9	60	4.8	60	6.5	50	5.0	50	5.0	60	4.8	45	4.5	45	4.5	40	4.0	45	4.5	65	4.6	70	4.0
6	350	2.2	360	2.0	350	1.0	355	1.5	350	1.4	10	2.4	5	2.0	15	1.1	10	0.8	320	0.3	215	1.1	230	0.7
7	300	0.7	255	1.0	230	1.4	220	1.5	230	2.2	235	1.4	215	1.4	220	0.7	225	1.0	225	1.1	240	0.5	280	0.2
8	60	7.9	40	5.8	45	7.2	45	8.0	60	7.8	65	8.9	70	8.5	70	8.0	70	7.9	60	6.5	50	6.8	55	5.6
9	60	7.5	50	8.0	50	7.2	50	7.3	50	6.4	45	5.5	45	5.0	55	4.7	50	4.8	50	4.9	40	4.5	70	6.0
10	40	5.0	35	4.4	30	3.6	30	3.0	35	2.5	35	3.5	40	3.6	40	4.2	45	4.6	40	5.0	35	5.0	45	5.7
11	30	4.5	40	4.9	40	5.0	40	4.9	40	4.6	35	4.6	40	3.5	40	3.4	25	3.2	25	2.9	20	2.5	30	2.8
12	230	1.1	235	1.2	230	0.7	215	0.9	175	0.9	200	0.8	165	1.2	180	1.0	215	0.3	130	0.3	30	0.6	85	0.8
13	50	5.5	50	7.5	60	8.8	55	9.0	55	9.3	50	8.0	50	9.0	50	10.0	45	10.0	50	10.6	50	11.1	50	13.0
14	40	9.1	35	10.0	35	10.1	35	9.0	35	8.8	35	8.5	35	8.5	35	8.4	35	7.5	35	8.4	40	9.0	40	9.0
15	335	3.5	340	4.2	340	4.6	330	3.4	345	5.2	360	5.6	10	6.6	15	7.5	15	7.5	15	7.5	30	7.3	30	7.7
16	360	4.0	10	3.3	10	2.6	360	2.6	5	2.1	15	1.8	20	1.1	5	2.0	30	1.5	45	1.6	35	2.4	45	3.0
17	335	0.3	70	0.5	265	0.5	330	1.0	330	2.0	340	2.7	350	2.5	350	1.2	10	1.9	15	2.8	20	2.1	40	1.7
18	55	3.0	50	2.9	25	2.1	25	2.0	5	1.5	350	0.6	360	1.0	10	0.6	360	0.6	25	1.2	50	2.0	90	2.8
19	240	0.5	265	0.7	260	0.5	240	0.8	230	0.8	250	1.3	235	0.7	255	0.6	235	0.6	260	0.7	260	1.0	235	1.4
20	275	0.4	270	0.4	270	0.3	270	0.3	275	0.2	290	0.7	300	0.5	270	0.6	300	0.9	300	1.2	295	0.7	305	1.2
21	290	1.3	230	0.6	185	1.5	190	1.8	210	1.3	190	1.5	210	1.5	195	1.2	220	1.6	225	2.6	240	2.5	235	2.0
22	185	0.4	235	0.5	230	0.7	200	0.9	290	0.6	270	0.2	260	0.5	215	0.9	255	1.1	260	0.5	240	1.2	230	2.5
23	220	0.6	240	1.0	225	0.8	230	0.6	220	0.4	230	0.4	230	0.6	235	1.2	215	1.1	00	1.4	215	2.0	240	2.0
24	190	2.0	190	1.0	200	0.9	195	1.6	185	1.8	180	1.5	180	1.0	195	1.6	195	1.6	00	1.9	210	1.9	200	1.8
25	245	2.5	270	2.0	265	2.0	265	2.1	260	2.4	255	2.4	230	2.5	195	2.5	180	3.2	180	2.0	160	1.5	175	0.9
26	185	1.2	170	1.9	155	2.0	110	1.6	130	2.1	135	1.8	110	1.6	95	1.8	90	1.8	85	1.4	70	1.2	30	0.5
27	315	1.0	335	2.1	310	0.5	290	1.0	290	2.4	295	1.6	295	2.0	295	2.3	290	2.0	270	1.9	220	1.1	235	1.7
28	125	5.0	110	5.1	100	5.6	100	5.7	95	6.7	95	5.9	90	5.6	85	6.0	80	6.3	85	6.0	85	6.3	80	6.0
29	60	4.5	55	3.7	45	3.7	55	3.3	60	2.3	80	2.5	85	2.8	85	2.0	80	2.5	90	1.3	135	1.0	160	1.2
30	230	1.3	210	0.9	195	0.9	220	0.9	225	0.8	230	2.0	225	1.4	205	1.8	215	1.5	220	1.3	195	2.2	225	2.7
31	300	4.6	310	3.1	325	2.5	345	2.9	350	4.3	360	4.9	360	5.0	355	5.0	355	5.1	10	5.0	5	2.6	15	1.8
Mean	---	3.4	---	3.5	---	3.5	---	3.6	---	3.7	---	3.6	---	3.6	---	3.6	---	3.7	---	3.7	---	3.7	---	3.9
Annual Mean.	---	2.8	---	2.8	---	2.7	---	2.7	---	2.8	---	2.8	---	3.0	---	3.2	---	3.5	---	3.9	---	4.3	---	4.5



NOVEMBER, 1933.

DECEMBER and Year, 1933.

°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s	°	m/s</
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523. RICHMOND (Kew Observatory):  $H_a = 5$  metres + 23 metres.

1933.

Day.	Jan.		Feb.		Mar.		Apr.		May.		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.	Max. in a Gust.	Time of Gust.
1	m/s 17	h. m. 13 30	m/s 22	h. m. 9 35	m/s 12	h. m. 16 45	m/s 12	h. m. 18 5	m/s 13	h. m. 23 45	m/s 11	h. m. 16 5	m/s 9	h. m. 19 35	m/s 15	h. m. 2 55	m/s 10	h. m. 17 5	m/s 10	h. m. 4 35	m/s 15	h. m. 11 10	m/s 12	h. m. 21 35
2	23	23 10	14	13 55	12	12 15	15	17 40	20	12 30	11	11 0	10	8 35	11	14 25	9	12 30	13	7 25	17	11 50	19	19 55
3	24	0 40	13	20 20	18	12 15	13	11 30	13	17 5	16	10 10	9	10 35	7	14 50	7	20 25	11	10 10	15	13 5	21	12 35
4	16	22 40	16	6 45	19	13 25	9	16 25	12	13 30	13	11 10	9	17 5	10	17 35	10	15 40	7	12 0	16	14 0	19	12 45
5	23	4 0	22	14 55	19	23 55	9	10 25	13	16 15	9	18 10	13	21 30	10	19 55	12	17 20	5	20 45	7	2 55	11	2 50
6	12	2 15	13	6 55	19	7 15	7	17 30	18	16 45	11	14 10	12	11 50	10	17 10	11	15 30	10	11 50	7	12 35	4	0 50
7	14	23 20	17	15 0	17	17 30	10	15 15	14	15 10	15	12 5	16	16 5	14	12 45	16	10 45	6	12 20	10	17 45	15	23 30
8	13	21 20	16	16 55	9	15 0	11	14 25	12	16 15	15	13 30	14	9 45	12	11 35	18	15 40	13	12 20	9	0 45	21	21 55
9	15	9 55	17	4 5	12	9 30	12	13 20	18	13 45	15	19 40	16	15 5	13	11 20	20	9 30	16	22 30	6	12 25	17	1 30
10	7	20 15	16	19 5	13	16 15	9	15 0	14	10 50	15	8 35	15	12 35	13	19 50	18	16 20	23	12 55	12	12 30	14	20 35
11	14	19 25	18	13 5	11	15 50	13	13 40	9	15 50	14	16 40	16	14 35	15	10 20	13	10 15	25	7 35	7	13 15	10	2 25
12	11	2 10	8	13 10	7	16 5	14	19 50	9	18 0	13	16 30	17	14 20	13	5 35	12	14 50	14	14 5	12	14 5	11	22 0
13	7	22 35	18	9 40	7	14 45	11	7 20	7	20 30	11	3 20	17	19 30	11	12 5	12	22 40	11	14 10	7	17 5	26	13 15
14	6	17 20	15	15 40	12	11 15	8	11 30	11	6 50	12	15 15	17	15 40	7	7 30	17	11 55	14	11 5	7	0 10	19	1 5
15	15	12 15	13	12 40	14	20 20	11	12 20	11	13 50	12	19 15	14	11 0	16	16 30	8	13 10	12	23 0	11	12 25	17	15 10
16	11	17 50	9	1 25	21	16 5	9	13 20	9	13 30	11	23 45	21	12 20	10	17 30	10	13 25	17	14 30	13	22 0	8	0 50
17	7	13 25	11	14 35	24	1 55	13	3 5	9	18 40	22	13 50	15	14 5	19	14 20	13	14 50	10	9 30	14	12 35	9	15 55
18	7	12 10	15	15 35	14	18 25	16	19 10	7	6 20	15	16 10	8	1 20	15	15 40	11	2 55	7	15 0	12	2 30	8	0 10
19	9	0 40	19	13 55	25	22 5	16	16 20	10	12 0	14	14 50	11	13 15	12	16 0	12	15 40	13	9 40	12	7 25	3	11 20
20	11	8 20	8	20 5	20	3 55	17	13 40	15	10 10	13	15 30	8	16 20	13	14 35	13	13 35	21	12 20	8	23 50	4	18 35
21	11	11 10	19	19 25	11	10 15	17	17 15	8	17 10	9	15 50	10	18 50	14	13 10	12	19 20	14	11 30	11	3 55	6	9 15
22	10	14 45	20	14 0	14	15 35	8	10 30	9	17 20	11	19 20	8	17 5	12	15 0	12	9 45	7	11 55	6	12 15	9	13 50
23	6	23 45	14	6 5	17	16 50	15	14 15	15	17 50	13	17 20	7	17 30	14	15 20	11	16 55	5	21 50	9	10 10	7	13 25
24	19	19 40	22	12 30	14	16 50	10	14 30	11	8 5	9	18 45	10	17 40	10	17 55	8	0 25	15	18 0	15	13 30	6	21 25
25	17	9 25	19	9 30	10	13 55	10	9 5	18	7 35	11	23 30	8	13 10	7	15 5	8	16 35	19	14 5	16	13 40	7	21 25
26	13	12 20	16	14 45	6	12 15	13	15 20	13	9 5	11	4 10	8	12 35	8	12 35	12	15 30	22	13 35	11	11 15	6	1 55
27	14	14 0	17	12 0	10	10 30	12	14 25	11	13 10	10	13 30	21	15 10	12	15 40	12	5 5	13	16 55	6	19 30	9	23 40
28	12	21 5	10	10 40	7	13 40	11	16 25	10	8 30	12	16 30	16	19 35	13	15 30	13	8 20	14	12 35	11	20 10	12	3 5
29	14	15 55	-	-	12	16 5	15	11 20	11	12 25	10	10 5	14	16 15	11	17 55	11	19 10	16	5 10	13	14 15	9	0 20
30	10	13 55	-	-	18	13 40	8	15 25	10	17 15	10	16 35	13	22 35	11	18 0	11	20 30	14	13 25	7	11 15	15	17 35
31	16	18 45	-	-	14	16 55	-	-	10	13 11	-	-	21	9 10	10	18 10	-	-	16	14 15	-	-	12	5 35

## DISTRIBUTION OF WIND SPEED: EXTREME VELOCITIES AS RECORDED BY THE DINES TUBE ANEMOGRAPH.

524. RICHMOND (Kew Observatory):  $H_a = 5$  metres + 23 metres.

1933.

Month.	DISTRIBUTION OF WIND SPEED.								EXTREME VELOCITIES.				
	More than 17.1 m/s.		10.8 to 17.1 m/s.		5.5 to 10.7 m/s	1.6 to 5.4 m/s	Less than 1.6 m/s.	No Record.	Highest Hourly Wind.		Highest Gust.		
	Dates of Occurrence	Duration	No. of Days.	Duration	Duration	Duration	Duration	Duration	Veer from N.	Speed.	Mid. Time.	Speed.	Date.
Jan. ...	---	hr. 0	3	hr. 14	hr. 207	hr. 399	hr. 124	hr. 0	° 205	m/s. 13	day. h. m. 3 3 30	m/s. 24	day. h. m. 3 0 40
Feb. ...	---	0	3	10	275	319	68	0	215	13	1 10 30	22	24 12 30
Mar. ...	---	0	3	10	228	379	127	0	190	13	17 3 30	25	19 22 5
Apr. ...	---	0	0	0	84	448	188	0	55	9	18 9 30	17	21 17 15
May. ...	---	0	1	1	76	429	238	0	70	12	2 11 30	20	2 12 30
June. ...	---	0	0	0	92	459	169	0	{ 80 20	8	{ 7 12 30 9 18 30	22	17 13 50
July. ...	---	0	0	0	165	389	190	0	220	10	31 4 30	21	27 15 10
Aug. ...	---	0	0	0	79	484	181	0	225	9	17 14 30	19	17 14 20
Sept. ...	---	0	1	6	121	441	152	0	85	13	9 9 30	20	9 9 30
Oct. ...	---	0	2	8	157	434	145	0	80	12	20 11 30	25	11 7 35
Nov. ...	---	0	0	0	69	449	202	0	15	8	25 11 30	17	2 11 50
Dec. ...	---	0	2	13	186	311	234	0	45	14	13 14 30	26	13 13 15
Year ...	---	0	15	62	1739	4941	2018	0	45	14	Dec. 13 14 30	26	Dec. 13 13 15



525. RICHMOND (Kew Observatory) Readings in degrees absolute at 9h., Greenwich Mean Time.

1933.

Month.	Jan.		Feb.		Mar.		Apr.		May.		June		July		Aug.		Sept.		Oct.		Nov.		Dec.	
Day.	30cm	122cm	30cm	122cm	30cm	122cm	30cm	122cm	30cm	122cm	30cm	122cm	30cm	122cm	30cm	122cm	30cm	122cm	30cm	122cm	30cm	122cm	30cm	122cm
1	78.9	80.8	74.3	78.3	76.8	78.2	80.4	80.3	84.8	82.4	87.8	85.4	91.0	87.8	91.2	89.8	91.6	89.8	88.9	88.2	80.3	85.1	77.7	82.2
2	79.2	80.6	76.8	78.2	77.5	78.2	80.0	80.3	84.5	82.7	88.5	85.6	92.3	87.9	91.3	89.7	91.9	89.9	88.7	88.2	81.1	84.9	76.9	82.1
3	80.4	80.8	75.9	77.9	78.9	78.3	81.0	80.4	83.7	82.8	89.1	85.6	92.2	88.1	93.3	89.7	91.9	89.9	87.7	88.2	80.9	84.8	76.8	81.9
4	79.9	80.9	77.0	78.1	79.7	78.5	81.2	80.5	84.2	82.8	90.0	85.7	93.0	88.1	93.3	89.7	92.1	89.9	86.7	88.1	80.4	84.7	76.1	81.9
5	79.9	80.9	78.8	78.1	79.4	78.7	81.7	80.7	85.3	82.9	90.7	85.9	93.3	88.2	93.8	89.7	92.1	90.0	86.1	88.1	79.9	84.5	75.4	81.7
6	78.9	81.0	79.8	78.3	79.9	78.9	81.8	80.8	85.6	83.1	91.5	86.1	92.9	88.3	94.1	90.0	91.6	90.0	86.3	88.0	79.8	84.4	75.1	81.5
7	77.7	80.9	79.9	78.6	79.3	79.1	83.0	80.9	86.0	83.3	91.3	86.2	93.7	88.5	94.9	89.9	91.6	90.0	86.8	87.9	81.1	84.1	74.9	81.2
8	78.3	80.8	79.7	78.8	78.9	79.3	83.6	81.1	85.6	83.3	91.7	86.4	93.3	88.7	94.7	90.1	91.3	89.9	87.6	87.8	81.8	84.1	74.9	81.1
9	79.7	80.8	80.6	78.9	79.5	79.4	83.9	81.4	86.1	83.6	91.7	86.8	92.9	88.9	94.6	90.3	91.1	90.0	87.2	87.8	80.6	84.1	74.8	80.8
10	78.1	80.7	80.5	79.3	79.1	79.4	84.0	81.6	85.6	83.7	90.7	87.0	92.0	88.9	94.7	90.2	91.2	89.9	87.5	87.9	80.3	84.1	74.6	80.9
11	77.7	80.7	79.1	79.5	79.1	79.5	84.1	81.8	85.3	83.7	89.5	87.1	91.3	88.9	93.9	90.3	90.8	89.9	88.2	87.9	80.0	84.0	74.7	80.5
12	77.7	80.6	77.8	79.4	78.9	79.6	84.6	81.9	85.4	83.8	89.0	87.1	90.5	89.0	92.7	90.5	91.0	89.8	86.8	87.8	79.2	83.9	74.3	80.3
13	76.4	80.5	77.7	79.5	78.4	79.6	83.9	82.1	85.9	83.9	88.4	87.1	90.5	89.0	92.2	90.5	89.7	89.8	85.3	87.8	78.6	83.9	74.5	80.1
14	76.7	80.4	77.0	79.4	79.0	79.6	83.2	82.3	86.2	83.9	88.5	87.1	90.1	89.0	92.0	90.4	88.3	89.8	85.7	87.7	78.2	83.7	74.2	80.1
15	76.3	80.2	76.2	79.4	79.6	79.7	83.0	82.3	85.1	84.1	89.6	87.1	90.1	88.9	91.9	90.2	87.3	89.4	85.0	87.4	78.6	83.4	74.2	80.1
16	76.4	80.2	76.1	79.2	80.1	79.7	83.0	82.3	85.9	84.1	90.5	87.1	90.0	88.8	91.5	90.2	87.2	89.3	85.0	87.3	78.4	83.2	74.0	79.9
17	76.1	80.1	76.6	79.1	80.8	79.8	84.0	82.4	86.7	84.2	90.8	87.1	90.1	88.8	91.0	90.1	88.2	89.2	83.9	87.2	78.9	83.1	74.0	79.9
18	76.0	80.1	76.2	79.1	80.2	79.9	82.7	82.5	86.8	84.3	89.5	87.1	91.0	88.8	91.0	90.1	89.6	89.1	82.6	87.1	79.2	83.1	74.0	79.8
19	75.6	80.0	76.0	78.9	80.2	80.1	81.4	82.5	86.6	84.4	88.8	87.2	91.9	88.8	91.3	90.1	89.0	89.1	83.1	86.9	79.8	83.0	74.0	79.7
20	76.0	79.7	75.5	78.8	80.2	80.2	80.9	82.3	87.2	84.4	88.9	87.3	92.1	88.8	91.7	90.0	88.9	89.0	83.0	86.8	80.0	83.0	74.0	79.5
21	75.6	79.5	75.7	78.8	79.0	80.2	80.7	82.2	87.7	84.6	88.9	87.3	92.9	88.9	90.9	90.0	88.4	89.0	83.2	86.4	80.3	83.0	74.0	79.3
22	75.1	79.6	75.7	78.7	79.0	80.2	80.6	82.1	87.9	84.8	88.7	87.3	92.9	89.1	90.1	90.0	87.5	88.9	83.9	86.2	80.3	82.9	74.1	79.2
23	74.9	79.3	75.2	78.5	79.3	80.2	80.2	81.9	88.6	84.9	90.0	87.2	93.0	89.1	90.0	89.9	87.6	88.8	84.7	86.2	80.3	82.9	74.6	79.2
24	74.8	79.2	74.9	78.4	79.1	80.2	81.1	81.9	88.9	85.2	90.2	87.1	93.5	89.2	89.5	89.7	87.2	88.7	85.1	86.1	79.9	82.9	75.0	79.1
25	74.5	79.2	74.8	78.3	79.0	80.2	82.3	81.8	88.9	85.4	90.3	87.3	93.8	89.2	90.0	89.8	87.2	88.5	85.0	86.1	79.5	82.9	75.0	79.1
26	74.2	79.0	75.2	78.3	78.7	80.2	82.3	81.8	87.7	85.6	90.2	87.4	93.8	89.4	90.7	89.7	87.0	88.4	83.0	86.1	78.7	82.8	75.3	79.1
27	74.0	79.2	76.3	78.0	78.6	80.2	83.0	81.9	87.1	85.3	90.2	87.5	94.6	89.7	91.1	89.6	87.9	88.3	81.7	86.1	78.2	82.7	75.9	79.1
28	74.0	78.9	76.7	78.0	78.8	80.1	83.7	82.0	86.6	85.3	91.0	87.7	93.7	89.7	91.8	89.6	88.2	88.3	80.0	85.8	78.0	82.5	75.8	79.1
29	74.0	78.7	-	-	79.0	80.1	83.9	82.1	87.9	85.3	90.2	87.6	93.0	89.8	92.2	89.6	88.4	88.2	80.5	85.6	77.9	82.4	76.3	79.1
30	74.0	78.4	-	-	80.3	80.1	84.0	82.3	87.8	85.4	90.7	87.7	92.1	89.9	93.0	89.6	88.7	88.2	80.5	85.3	78.0	82.2	76.2	79.1
31	74.0	78.5	-	-	79.7	80.2	-	-	87.2	85.4	-	-	92.2	89.7	92.1	89.7	-	-	80.2	85.0	-	-	76.0	79.2
Mean	76.6	80.0	77.0	78.7	79.2	79.6	82.4	81.7	86.4	84.1	89.9	86.9	92.2	88.9	92.1	90.0	89.5	89.3	84.8	87.1	79.6	83.5	75.1	80.2

The initial 2 or 3 of the readings is omitted, i.e., 275.0 degrees absolute is written 75.0.

Year ... 83.8 84.2

MINIMUM TEMPERATURE "ON THE GRASS" DURING  
THE INTERVAL 18h. to 7h. G.M.T.HEIGHT IN CM. ABOVE M.S.L. OF SURFACE OF  
UNDERGROUND WATER

526. RICHMOND (Kew Observatory). 1933.

To August daily Means; In Nov. & Dec. 9h. readings.  
527. RICHMOND (Kew Observatory). 1933.

Month.	Jan.	Feb.	Mar.	Apr.	May.	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Day.	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A	°A
1	75.2	76.6	68.8	76.2	72.6	79.0	79.0	87.0	85.6	87.1	76.4	70.9
2	79.1	73.6	75.6	69.4	80.8	77.2	84.0	78.7	85.7	86.4	79.4	71.6
3	81.7	66.9	80.7	74.9	81.0	79.3	82.6	89.7	80.7	78.6	75.3	74.8
4	74.3	78.1	80.0	72.7	74.5	78.9	83.3	86.3	81.8	73.0	73.9	70.9
5	78.1	82.0	74.0	70.5	82.0	79.4	83.3	85.7	80.8	73.9	70.7	71.4
6	71.4	81.1	79.0	70.9	75.6	80.9	88.3	85.8	78.2	76.9	70.3	65.4
7	67.0	78.0	69.8	76.8	81.5	78.9	88.4	85.7	85.6	79.2	81.5	64.4
8	78.0	77.2	67.5	71.1	81.0	80.2	85.8	86.9	85.8	85.8	73.6	72.4
9	82.1	80.9	77.9	74.6	79.8	83.1	85.4	85.0	76.1	70.8	70.5	70.5
10	67.2	78.0	70.0	82.3	79.5	82.1	86.0	88.1	85.7	87.4	70.8	67.4
11	73.0	71.9	70.7	76.6	76.5	78.9	86.0	87.5	82.4	88.6	69.7	72.1
12	69.8	66.2	69.8	79.5	74.2	74.9	84.6	87.3	87.8	75.7	70.3	70.0
13	66.2	69.5	67.4	76.3	77.2	80.0	83.7	79.6	85.0	69.7	68.5	72.4
14	74.1	65.3	71.7	68.3	82.8	77.8	86.6	82.5	76.9	81.6	69.9	68.2
15	66.5	67.6	74.2	69.3	73.5	80.3	81.0	85.8	73.9	74.8	70.8	65.8
16	74.1	69.9	79.4	72.0	76.0	87.1	83.9	85.6	74.6	78.6	70.4	66.7
17	70.9	74.0	79.3	76.8	80.8	84.9	81.2	78.6	79.3	74.7	77.4	64.8
18	71.5	69.5	77.0	73.3	81.4	79.9	87.3	85.8	88.2	70.8	77.5	69.1
19	66.1	71.2	77.0	69.0	75.4	81.7	85.9	84.0	79.7	77.4	79.5	65.9
20	74.0	62.2	75.4	67.6	77.0	80.0	83.7	85.1	79.6	78.4	74.2	74.5
21	68.6	71.6	65.5	72.0	79.3	81.1	85.1	81.4	78.1	79.8	79.7	73.0
22	65.0	67.7	67.4	67.3	77.0	76.9	82.7	79.7	81.4	81.6	78.9	73.4
23	63.3	68.2	74.2	66.7	79.3	80.8	84.1	83.8	78.7	82.0	76.8	73.1
24	64.7	63.1	71.0	79.8	78.3	83.8	83.4	78.4	81.8	80.4	73.0	72.1
25	71.5	73.4	67.6	83.6	82.1	84.4	84.4	78.2	80.3	83.0	73.6	72.4
26	67.3	74.8	66.9	75.0	80.2	85.4	81.7	79.6	78.7	72.4	72.6	74.7
27	66.2	77.0	67.5	81.3	75.0	80.9	86.5	79.2	85.7	73.6	73.1	73.1
28	65.4	70.6	66.6	74.9	76.7	81.2	82.8	80.7	87.2	70.3	73.0	71.3
29	71.3	-	68.0	74.5	80.9	76.8	87.8	81.5	82.4	75.8	72.3	75.8
30	73.3	-	73.0	76.6	78.0	83.5	84.1	83.6	83.5	75.2	75.8	71.3
31	70.5	-	70.4	-	78.0	-	87.2	78.5	-	74.7	-	72.5
Mean	71.2	72.4	72.4	74.0	78.3	80.6	84.5	83.2	82.0	78.2	74.0	70.7

Year 76.8

The initial 2 or 3 of the readings is omitted, i.e., 2



Day.	Cloud Forms.			Cloud Amount (All Forms).						Visibility.						Precipitation.						Remarks on the Weather of the Day.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
1	Ci.	Steu. Cumb.	St: Freu. Ast.	4	7	9	-	10	8	K	i	i	-	i	J	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

## 529. RICHMOND (KEW OBSERVATORY).

FEBRUARY, 1933.

1	Cunb: Ast.	Steu: Ast.	St: Steu: Ast.	10	10	10	10	10	10	K	i	K	J	J	K	J	°	°	...	...	...	...	...	° a and late n.
2	Steu: Acu: Cist.	Ci: Cieu.	Ast.	7	2	2	2	10	3	J	H	J	J	J	H	...	...	...	...	...	...	...	° early a.	
3	Cu: Steu: Acu	Ci.	Ast: Acu.	8	2	8	10	9	10	G	D	i	i	i	J	...	...	...	...	...	...	...	∪ f a: ° ° ° n.	
4	Nb: Ast.	St: Steu.	Steu.	10	10	10	10	10	10	J	H	G	G	H	K	°	°	°	°	°	°	°	° early a: ° ° p.	
5	Frout: Steu.	Steu: Cunb.	Steu: Cunb.	9	8	9	-	7	5	K	K	K	-	J	K	...	°	...	...	...	...	...	p ° ° p.	
6	Steu: Ast.	Steu.	Steu.	9	10	9	10	10	10	J	H	J	i	i	G	...	...	...	...	...	...	...	° ° n.	
7	Steu: Cunb: Ast.	Cu: Steu.	Cu: Steu.	10	10	9	9	10	2	i	H	J	J	J	i	...	°	...	...	...	...	...	° ° a: p ° ° p.	
8	St: Ast.	Steu.	Steu.	10	10	10	10	10	10	i	G	H	H	i	J	...	°	...	...	...	...	...	° a and n.	
9	Steu: Acu: Ci.	Steu: Ast.	Steu: Acu.	4	10	10	10	9	7	i	J	J	J	J	J	...	...	...	...	...	...	...	∪ n.	
10	Cu: Steu: Ast.	Cu: Steu.	Nb: Cunb.	7	9	6	10	10	10	G	H	J	G	G	J	...	...	°	°	...	...	...	p ° ° a: ° ° ° K p: ° ° ° n.	
11	Frout: Steu.	Cu: Cunb.	Cu.	2	0	4	8	5	9	J	J	J	J	H	i	...	...	...	...	...	...	...	∪ early a: m a and p.	
12	St: Steu.	Cu: Steu.	Steu.	2	0	4	-	7	9	i	F	H	-	F	H	...	...	...	...	...	...	...	m ∪ n.	
13	Steu: Ast.	---	---	10	9	0	0	0	0	G	G	i	J	F	F	...	...	...	...	...	...	...	∪ f a.	
14	---	Frout.	Steu.	0	0	1	8	9	1	E	E	H	H	H	J	...	...	...	...	...	...	...	∪ early a: p * ° p.	
15	Steu.	Cu: Steu.	Steu.	9	9	7	8	4	5	G	G	i	i	G	J	...	...	...	...	...	...	...	f n.	
16	St: Steu: Ast.	St: Steu.	Steu.	10	9	9	6	9	10	G	G	H	i	E	G	...	...	...	...	...	...	...	° early a: f n.	
17	St: Steu: Ast.	Cu: Steu.	---	10	10	8	3	0	5	G	H	i	J	E	G	...	...	...	...	...	...	...	p * ° a: * * ° n.	
18	Steu: Acu: Ci.	Steu.	St.	6	10	9	6	10	3	J	H	i	i	H	J	...	...	...	...	...	...	...	∪ * * ° * * a, p and n.	
19	Nb: Ast.	Steu.	Cunb: Nb: Acu.	10	9	10	-	8	3	i	H	H	-	G	J	...	...	...	...	...	...	...	m * ° n.	
20	Steu.	---	St: Ast.	1	10	0	3	4	10	H	G	G	H	F	G	...	...	...	...	...	...	...	p ° ° * ° early a: q * ° n.	
21	Acu: Ast: Ci.	Cu: Steu.	Cunb: Steu: Acu.	9	9	6	4	7	3	i	H	J	J	F	J	...	...	...	...	...	...	...	p * ° a.	
22	Steu.	Cu: Steu.	Cu: Steu.	1	0	8	9	2	0	i	H	i	i	G	J	...	...	...	...	...	...	...	∪ a and n: m n.	
23	Steu.	Cu: Steu.	---	2	0	8	3	0	0	G	H	H	J	G	F	...	...	...	...	...	...	...	∪ * ° a: * m p: * * ° n.	
24	Cu: Ast.	Steu: Ast.	Nb: Ast.	10	10	10	10	10	10	G	H	i	F	G	J	...	...	...	...	...	...	...	* * ° ° a: ° ° ° p and n.	
25	Steu: Ast.	Nb: Ast.	Nb: Ast.	10	10	10	10	10	10	K	H	G	G	G	i	...	...	...	...	...	...	...	° ° a, p and n.	
26	Steu: Ast.	Nb: Ast.	Nb: Ast.	10	10	10	-	10	10	J	i	H	-	G	i	...	...	...	...	...	...	...	° early a.	
27	Nb: Ast.	Cu: Steu: Cieu.	Steu: Ast: Ci.	10	10	5	7	7	4	i	i	J	K	G	i	...	...	...	...	...	...	...	∪ m n.	
28	Steu: Ast: Cist.	Steu.	Steu.	9	10	8	9	2	0	i	J	i	J	G	G	...	...	...	...	...	...	...		
Mean Cloud Am't.				7.3	7.4	7.1	7.3	7.1	6.0															
Day	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	Remarks on the Weather of the Day.		
	Cloud Forms.			Cloud Amount (All Forms).					Visibility.					Precipitation.										



530. RICHMOND (KEW OBSERVATORY).

MARCH, 1933.

Day.	Cloud Forms.			Cloud Amount (All Forms).						Visibility.						Precipitation.						Remarks on the Weather of the Day.
	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	
1	St: Cist.	Ast.	Ast: Cist.	10	10	10	10	8	10	G	G	H	1	G	G	...	...	...	...	...	...	early: p ● ● ● n.
2	Steu.	Steu.	Nb: Ast.	9	10	10	10	10	10	G	1	1	H	F	G	...	...	...	...	...	...	● ● a, p and n: m n.
3	Nb: Ast.	St: Nb.	Nb: Ast.	10	10	10	10	10	9	G	H	1	1	J	J	...	...	...	...	...	...	● ● a, p and n.
4	Nb: Ast.	Cus Ci.	Cus Steu.	10	10	4	6	3	0	1	1	J	H	J	J	...	...	...	...	...	...	● ● a.
5	---	Cus Steu: Cist.	Ast: Cist.	0	1	7	-	10	3	L	1	K	-	G	J	...	...	...	...	...	...	early: ⊕ late a: ⊕ n.
6	Nb: Ast.	St: Steu.	Cus Ci.	10	10	8	8	4	4	J	J	J	J	G	1	...	...	...	...	...	...	● ● a: ⊕ n.
7	Ci.	Nb: Steu.	Cunb.	2	2	9	7	9	8	1	H	J	K	H	G	...	...	...	...	...	...	early: ● ● late a: K ★ late p: p ● n.
8	Cieu.	Cus Steu: Ci.	Cus Ast: Cist.	1	3	4	6	10	10	G	H	K	J	G	H	...	...	...	...	...	...	early.
9	Ast: Acut Cist.	Stout Ast: Acu.	Stout Ast: Acu.	10	10	10	10	10	9	J	1	J	J	G	F	...	...	...	...	...	...	● ● early: m ⊕ n.
10	Cis Cist: Cieu.	Ci: Cist.	Ci: Cist.	4	7	6	3	6	0	G	F	1	H	F	F	...	...	...	...	...	...	late m a: m late p and n.
11	---	Ci.	---	0	0	7	6	0	0	G	F	G	G	G	F	...	...	...	...	...	...	late m a: m n.
12	St.	---	---	10	10	0	-	0	0	A	X	F	-	E	F	...	...	...	...	...	...	late f m a: m i p: m n.
13	St.	---	---	10	0	0	0	0	0	A	B	F	J	G	D	...	...	...	...	...	...	late f z a: f n.
14	St.	Cus Steu.	Ci: Cist.	10	9	4	1	8	2	G	G	J	K	H	1	...	...	...	...	...	...	early.
15	St: Ast.	Stout Ast.	Stout Ast.	10	10	10	10	10	9	1	1	J	J	G	J	...	...	...	...	...	...	early.
16	Nb: Ast.	Nb: Ast.	Nb: Ast.	10	10	10	10	10	10	1	H	1	1	1	J	...	...	...	...	...	...	● ● a, p and n.
17	Cus Steu: Ast.	St: Nb.	St: Steu: Ci.	9	9	10	10	9	7	L	J	1	1	J	K	...	...	...	...	...	...	● ● a, p and n.
18	Nb: Ast.	Cus Steu.	Cunb: Steu.	10	9	10	5	7	2	J	H	J	J	J	J	...	...	...	...	...	...	early a: p ● n.
19	Nb: Ast.	Stout Cunb: Ci.	Stout Cunb: Acu.	9	9	7	-	4	8	K	H	J	-	J	K	...	...	...	...	...	...	● ● a: p ● ● p: ● n.
20	Stout Acut Ci.	Stout Ci.	Cus Steu.	3	9	9	1	2	0	K	K	1	J	G	G	...	...	...	...	...	...	● ● a: K p ● ▲ p.
21	Cist.	Cus Acu.	Acu.	7	0	9	8	4	4	G	E	J	J	1	1	...	...	...	...	...	...	late f a.
22	Ci.	Ci.	Ast: Ci.	2	0	1	5	6	0	G	1	K	K	G	J	...	...	...	...	...	...	early.
23	Ci.	---	---	2	1	0	0	0	0	G	1	J	H	G	1	...	...	...	...	...	...	early.
24	---	---	Ci.	0	0	0	0	2	0	J	J	1	1	H	H	...	...	...	...	...	...	early.
25	---	---	---	0	0	0	0	0	0	G	G	G	G	G	G	...	...	...	...	...	...	early.
26	St.	---	---	10	10	0	-	0	0	B	B	H	-	F	F	...	...	...	...	...	...	late f a: z p and n.
27	---	---	---	0	0	0	0	0	0	H	H	1	J	G	0	...	...	...	...	...	...	early.
28	---	---	---	0	0	0	0	0	0	E	H	1	J	1	G	...	...	...	...	...	...	late f a.
29	Cist.	Cus Ci.	Ci.	2	3	3	0	1	0	E	H	J	J	G	G	...	...	...	...	...	...	early a.
30	Cus Acut Ci.	Cus Steu.	Cus Cunb.	4	6	7	7	6	0	1	1	J	K	J	J	...	...	...	...	...	...	early a: p ● early p.
31	Ast: Acut Ci.	Cus Steu.	Stout Acut Ast.	4	2	8	9	9	4	G	J	J	J	J	1	...	...	...	...	...	...	early.
Mean Cloud Am't.				5.75	5.5	5.65	5.35	5.25	5													

531. RICHMOND (KEW OBSERVATORY).

APRIL, 1933.

1	Steu.	Cus Steu.	Steu.	9	9	10	10	10	0	K	J	K	J	1	J	...	...	...	...	...	...	⊕ early.
2	Cis Cist.	Ci.	St: Acut Ci.	6	6	6	-	8	10	K	J	K	-	J	J	...	...	...	...	...	...	⊕ early.
3	Stout Acut Ci.	Cis Cieu.	Ci.	8	9	8	8	2	0	K	J	J	1	J	J	...	...	...	...	...	...	early a: ⊕ n.
4	Acut Ast: Ci.	Cus Steu: Ci.	Ci.	9	9	4	1	5	0	1	1	K	J	J	1	...	...	...	...	...	...	early a: ⊕ n.
5	Cist: Cieu.	Steu.	Cis Cieu.	3	1	3	3	3	0	G	1	J	J	1	G	...	...	...	...	...	...	early a: ⊕ n.
6	---	Frou.	Cus Steu: Ci.	0	0	1	9	8	9	D	E	1	J	G	G	...	...	...	...	...	...	early a.
7	St: Acu.	---	Frou: Cist.	1	0	0	2	2	6	G	H	J	K	H	1	...	...	...	...	...	...	early a: ⊕ n.
8	Cis Cieu.	---	---	2	0	0	0	0	0	H	1	K	L	K	1	...	...	...	...	...	...	early a.
9	Acut Cis Cist.	Cus Steu.	Stout Ci.	6	9	9	-	9	9	G	K	K	-	K	K	...	...	...	...	...	...	⊕ p ● a.
10	Steu.	Ci.	St: Ci.	10	10	7	2	5	6	J	J	J	J	J	J	...	...	...	...	...	...	⊕ n.
11	Acut Cist: Cist.	Ast: Acut Cist.	Ast: Acu.	9	10	9	10	10	10	G	1	K	K	J	1	...	...	...	...	...	...	⊕ early.
12	Acut Ast.	Ast.	Cunb: Ast.	10	10	10	10	10	9	G	H	H	H	G	J	...	...	...	...	...	...	late a, p and early n.
13	Cus Steu: Acu.	Cus Ci.	Cu.	7	0	3	7	2	0	1	1	J	J	J	1	...	...	...	...	...	...	early.
14	---	---	---	0	0	0	-	0	0	F	G	K	-	G	1	...	...	...	...	...	...	early.
15	Ci.	Ci.	Ci.	6	7	9	8	6	0	1	H	K	K	J	1	...	...	...	...	...	...	early.
16	Cis Cist.	Stout Ci.	Cus Ci: Cist.	2	3	8	-	7	0	G	1	K	-	1	1	...	...	...	...	...	...	early.
17	St: Steu.	Steu.	Cis Cist.	10	10	9	9	4	0	J	1	1	1	H	J	...	...	...	...	...	...	early.
18	Acu.	Cus Steu.	Cus Steu: Ci.	8	9	9	9	8	5	1	1	J	H	J	J	...	...	...	...	...	...	early.
19	---	Cus Cunb: Ci.	Acut Ci.	0	4	6	6	3	0	G	1	J	H	E	1	...	...	...	...	...	...	early: p ★ p ★ f p: f p ● n.
20	Cus Steu: Acu.	Cus Cunb.	Stout Nb: Acu.	6	8	8	9	9	7	1	J	H	H	1	1	...	...	...	...	...	...	late p ● a: p q ★ p Δ p ● p: p ● n.
21	Steu.	Cus Steu.	Cus Steu.	2	9	8	8	4	0	G	1	J	J	1	1	...	...	...	...	...	...	early.
22	Cis Cieu.	Stout Ast.	Stout Ast.	10	9	9	9	4	0	G	1	J	J	1	G	...	...	...	...	...	...	early a: ● late n.
23	Nb: Ast.	St: Nb.	St: Nb.	5	5	10	-	9	10	G	1	K	-	J	J	...	...	...	...	...	...	early a: ● late a and p.
24	St: Steu: Ast.	St: Nb: Ast.	Cus Cis Cieu.	10	10	10	10	10	10	H	H	G	1	F	G	...	...	...	...	...	...	early: p ● late a.
25	Cus Acut Ci.	Stout Acu.	St: Steu: Acu.	6	9	10	6	9	8	1	1	J	K	J	J	...	...	...	...	...	...	early a.
26	Nb: Ast.	Cus Steu.	Cus Steu.	10	10	8	5	9	2	G	1	J	K	K	J	...	...	...	...	...	...	early a.
27	Cis Cist: Cieu.	Cus Acu.	Cus Steu: Ast.	8	6	7	10	9	9	G	K	K	K	J	1	...	...	...	...	...	...	⊕ early a: ● p and n.
28	St: Acut Cieu.	Stout Acut Ci.	Cunb.	1	9	9	10	9	8	G	1	J	K	K	1	...	...	...	...	...	...	late p ● a: p ● late p and n.
29	St.	Cus Cunb.	Cus Steu: Ci.	9	4	5	-	5	6	J	1	K	-	K	K	...	...	...	...	...	...	early.
30																...	...	...	...	...	...	early.
Mean Cloud Am't.				6.16	6.65	6.7	6.24	6.2														
Day	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	Remarks on the Weather of the Day.
	Cloud Forms.			Cloud Amount (All Forms).						Visibility.						Precipitation.						

\* Mean of 27 days.

† Mean of 24 days.



Day.	Cloud Forms.			Cloud Amount (All Forms).						Visibility.						Precipitation.						Remarks on the Weather of the Day.
	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	
1	St.	Cus Steu.	Steus Ast: Ci.	10	5	9	9	10	10	E	F	G	G	G	G	...	...	...	...	...	...	f m a: R. p.
2	St: Steu.	St: Steu.	Nb.	10	10	10	10	10	10	1	H	H	H	H	1	...	...	...	...	...	...	•° a: •° p: •° n.
3	St.	St.	Steus Cus Ciou.	10	10	10	10	5	1	G	G	H	H	K	K	...	...	...	...	...	...	R. •° a.
4	Steus Ci: Ciou.	Cus Ci: Ciou.	Acus Ci: Ciou.	7	8	7	9	10	6	G	J	L	L	K	J	...	...	...	...	...	...	p early: ⊕ a and p.
5	Nb: Steu: Ast.	Steus Nb.	Cus Ci.	10	10	9	7	8	5	G	H	K	L	L	J	•	•	...	...	...	...	•° a.
6	Acus Ci: Cist.	Cus Ci: Cist.	St: Acus Ci.	7	9	7	8	9	9	J	J	L	L	K	K	...	...	...	...	...	...	p ⊕ a: ⊕ p •° p: p •° n.
7	Nb: Ast.	Steus Ast: Cist.	Steus Acu.	10	10	9	9	9	1	1	K	-	J	1	•	...	...	...	...	...	...	•° a: p •° p.
8	Steu.	Cus Steu: Acu.	St: Steu: Ast.	9	9	9	9	9	1	J	J	J	K	J	...	...	...	...	...	...	...	•° n.
9	Cunb: Steu: Acu.	Cus Cunb.	Cus Cunb.	6	9	9	8	5	6	K	J	L	K	L	K	•°	•	...	...	...	...	p •° p •° a: T p •° p •° p: p •° n
10	Cus Steu: Acu.	Steus Cunb.	Steus St.	7	10	10	10	9	9	K	J	J	J	1	J	...	...	...	...	...	...	p •° a, p and n.
11	Cus Steu.	Cunb: Steu.	Cunb: Acus Ast.	4	8	10	10	10	10	G	J	J	J	1	H	...	...	...	...	...	...	•° p and n.
12	Steu.	Cus Freu: Acu.	Acu.	9	4	9	7	9	6	G	J	J	K	1	H	...	...	...	...	...	...	p early.
13	St: Ast.	Cus Acu.	Cus Ci.	10	10	5	9	2	10	H	G	1	1	1	1	•	•	...	...	...	...	•° a.
14	Cunb: Steu: Ast.	Cus Steu.	Cunb: Steu.	9	10	9	9	9	0	J	H	1	-	1	G	•	•	...	...	...	...	•° a: •° p and n.
15	---	Cu	Cus Steu: Acu.	0	0	5	7	8	2	G	J	K	J	J	1	...	...	...	...	...	...	p early.
16	Steus Acus Ast.	Cus Ci: Cist.	Cus Steu: Ast.	9	10	9	9	10	8	1	1	J	K	K	J	...	...	...	...	...	...	p early: p •° p.
17	Steu.	Steu.	Steus St.	10	9	9	10	8	9	G	H	1	1	G	G	...	...	...	...	...	...	⊕ a, p and n.
18	Steus St.	Steus Ast.	Ast: Acu.	9	10	10	10	9	1	G	1	J	J	1	1	...	...	...	...	...	...	⊕ a, p and n.
19	Cist: Ci.	Cus Acus Cist.	Cus Acus Ci.	10	9	10	9	9	3	G	1	J	J	K	J	...	...	...	...	...	...	⊕ a, p and n.
20	Acus Ci: Ciou.	Acus Ci: Ciou.	Acus Ci.	4	3	6	7	8	5	J	J	K	K	K	J	...	...	...	...	...	...	⊕ a, p and n.
21	Steu.	Acu.	Acus Ast: Ci.	9	8	9	-	7	6	G	H	1	-	J	J	...	...	...	...	...	...	T p •° n.
22	Acu	---	Cus Steu: Acu.	4	0	0	6	8	4	H	H	J	J	K	G	...	...	...	...	...	...	R. •° n.
23	Ci: Cist.	Cu.	Cunb.	4	1	3	6	8	10	G	H	J	J	G	H	...	...	...	...	...	...	⊕ p: •° n.
24	Cus Steu.	Cu.	Steus Ast: Ci.	5	4	6	8	9	10	1	1	J	J	J	J	...	...	...	...	...	...	⊕ p: •° n.
25	Cus Steu: Ci.	Cus Steu.	Cus Ci.	3	8	9	7	3	3	K	K	K	K	K	J	...	...	...	...	...	...	p •° late a.
26	Steus Ast.	Cus Steu.	Steus Cus Cist.	10	9	9	10	8	9	J	J	J	J	1	H	...	...	...	...	...	...	p •° n.
27	Acu.	Steus Cus Ast.	Nb.	1	9	10	10	10	10	H	1	J	J	H	G	...	...	...	...	...	...	p •° a: •° p and n.
28	Cus Ci.	Cu.	Cu.	1	5	6	-	6	8	J	J	J	-	J	1	...	...	...	...	...	...	T p •° p.
29	---	Cunb: Acu.	Steus Cunb: Acu.	0	1	9	7	9	3	H	1	J	J	J	1	...	...	...	...	...	...	p •° p.
30	---	Cunb: Nb: Ast.	Cus Steu.	0	8	9	9	6	5	H	1	J	J	J	H	...	...	...	...	...	...	p •° p.
31	Steus St: Acu.	Cus Acus Ast.	Acus Ciou.	9	10	9	9	6	7	J	J	K	K	J	J	...	...	...	...	...	...	
Mean Cloud Am't.				6.6	7.3	8.1	8.5	7.9	6.5													

## 533. RICHMOND (KEW OBSERVATORY).

JUNE, 1933.

1	---	Cu.	Ci.	0	0	3	1	1	2	G	J	J	J	J	1	...	...	...	...	...	...	⊕ early a.
2	Steus Acus Ci.	Cus Ci: Cist.	Ci.	3	7	8	8	8	4	J	J	J	K	K	1	...	...	...	...	...	...	⊕ early a.
3	Acus Ci.	Cus Acus Ci.	Acus Ci.	7	6	5	3	3	2	J	J	K	L	K	K	...	...	...	...	...	...	⊕ early a.
4	---	---	Ci: Cist.	0	0	0	-	2	2	J	L	L	-	L	J	...	...	...	...	...	...	⊕ early a.
5	---	Cu.	Cus Steu.	0	0	1	1	3	1	H	H	K	K	K	J	...	...	...	...	...	...	⊕ early a.
6	---	Ci.	Ci.	0	0	3	6	4	4	G	H	J	K	K	1	...	...	...	...	...	...	⊕ early a.
7	---	---	---	0	0	0	0	0	0	G	H	K	K	K	K	...	...	...	...	...	...	⊕ early a.
8	---	Freu.	---	0	0	2	3	0	2	G	J	J	J	K	J	...	...	...	...	...	...	⊕ early a.
9	Ci.	Cus Steu.	Cus Steu.	1	4	8	6	7	4	J	J	J	J	J	J	...	...	...	...	...	...	⊕ early a.
10	Cus Steu: Ast.	Steus Cu.	Steus Cus Ast.	9	9	9	9	8	5	K	K	K	J	J	1	...	...	...	...	...	...	⊕ early a.
11	Cus Cunb: Acu.	Steus Cunb.	Steus Acus Ci.	8	10	9	-	7	3	K	J	1	-	J	J	•°	•	...	...	...	...	•° early a: p •° late a: p •° p.
12	Cu.	Cus Steu.	Acu.	3	8	8	7	6	6	J	J	J	J	J	1	...	...	...	...	...	...	p early.
13	St.	Cus Steu.	Steus Ast.	10	10	10	10	9	1	1	1	1	1	1	H	•°	•°	...	...	...	...	•° a: p •° p.
14	---	Cu.	Acus Ci.	0	0	5	9	4	2	G	H	J	K	K	J	...	...	...	...	...	...	p early: p •° p.
15	---	Cus Steu.	Cus Cunb.	0	0	8	8	8	10	1	1	J	J	1	H	•	•	...	...	...	...	•° R. •° n.
16	Acu.	Cus Ci.	Cus Steu: Ci.	3	0	4	7	7	10	1	1	K	K	K	K	...	...	...	...	...	...	•° early a.
17	Freu: Cunb: Ci.	Freu: Cunb.	Cunb.	5	9	8	8	5	6	L	L	K	K	J	J	...	...	...	...	...	...	•° early a: T p •° p.
18	Cus Acus Ci.	Cus Cunb: Acu.	Steus Cunb: Ci.	9	10	9	-	9	9	L	K	K	-	K	J	...	...	...	...	...	...	p •° p •° a, p and n.
19	Cunb: Steu: Ci.	Cus Cunb: Ci.	Cus Cunb: Ci.	9	9	9	9	6	8	J	J	J	J	K	K	•°	•°	...	...	...	...	p •° R. a and p: p •° n.
20	Cus Ci: Ciou.	Cus Steu.	Cus Nb: Ast.	6	10	9	9	9	9	K	J	L	1	K	...	...	...	...	...	...	...	p •° a, p and n: p •° late p.
21	Cus Acus Ci.	Cus Cunb: Ci.	Cus Cunb: Ci.	4	9	8	9	6	3	L	L	L	L	L	J	...	...	...	...	...	...	p •° a: •° •° T Δ p: p •° n
22	Steu.	Cus Cunb: Ci.	Cus Acus Ast.	4	3	9	9	8	5	E	1	1	K	G	J	...	...	...	...	...	...	f p early: T a and p.
23	---	Cu.	Cus Cunb.	0	0	7	6	5	9	G	1	J	J	K	K	...	...	...	...	...	...	p early.
24	St.	Steus Ast.	Cus Steu.	10	10	10	10	9	7	F	1	1	H	K	J	•°	•°	...	...	...	...	•° a and p: T late a, p and n.
25	Steus Ci: Ciou.	Steus Ci.	Cus Acus Ci.	8	8	9	-	7	4	K	K	L	-	K	K	...	...	...	...	...	...	•° R. n.
26	St: Steu.	Cus Steu.	St: Steus Ast.	10	10	9	7	9	8	J	J	J	J	J	J	...	...	...	...	...	...	•° n.
27	Ci.	Freu: Ci.	Acus Ci: Ciou.	1	0	2	1	2	10	J	K	L	L	K	1	...	...	...	...	...	...	•° early a.
28	Cus Ci.	Cus Acu.	Steus Cu.	6	4	9	9	9	9	J	K	J	J	J	J	...	...	...	...	...	...	p early.
29	Steu.	Cus Steu.	Steus Cu.	8	9	9	8	9	9	J	J	J	J	1	1	...	...	...	...	...	...	p early.
30	Cus Steu.	Cus Steu.	Cus Ci.	6	4	7	3	5	2	1	1	1	J	K	J	...	...	...	...	...	...	
Mean Cloud Am't.				4.3	5.0	6.6	6.5	5.8	5.5													
Day	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	Remarks on the Weather of the Day.
	Cloud Forms.			Cloud Amount (All Forms).						Visibility.						Precipitation.						

\* Mean of 27 days.

† Mean of 26 days.



534. RICHMOND (KEW OBSERVATORY).

JULY, 1933.

Day.	Cloud Forms.			Cloud Amount (All Forms).						Visibility.						Precipitation.						Remarks on the Weather of the Day.
	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	
1	Ci: Cist.	Cut Cist.	Steu.	1	2	6	7	9	6	1	1	K	K	J	1	...	...	...	...	...	...	<p>0 late a.            ● early a: p ●<sup>o</sup> p.            ● ●<sup>o</sup> a: p ●<sup>o</sup> late p: p ● n.            ● a and p: i ●<sup>o</sup> n.            0 late p.            ● ●<sup>o</sup> a: ●<sup>o</sup> p.            p ●<sup>o</sup> early a.            0 late p: K ●<sup>o</sup> ● p ● n.            p ●<sup>o</sup> KQ K ●<sup>o</sup> a: K ● p: n.            n early: p ●<sup>o</sup> p.            n early.            p ● a.            n early.            p ●<sup>o</sup> p.            0 late a: p ●<sup>o</sup> late p.            ● ●<sup>o</sup> p ●<sup>o</sup> a: p ●<sup>o</sup> early n: ●<sup>o</sup> ●<sup>o</sup> late n.            ●<sup>o</sup> early a: p ● n.            p ●<sup>o</sup> early a.</p>
2	Cut Acut Ci.	Steu.	---	1	7	7	-	0	0	J	J	J	-	K	J	...	...	...	...	...	...	
3	---	Freu.	Cut Ci.	0	1	2	1	1	2	H	1	J	K	J	J	...	...	...	...	...	...	
4	Ci.	Freu.	Freu.	2	4	1	1	3	1	H	H	H	H	K	K	...	...	...	...	...	...	
5	---	Steu.	Cut Steu.	0	1	9	9	6	9	J	1	1	J	J	J	...	...	...	...	...	...	
6	St: Steu.	Ci.	Cis Cist.	10	9	3	7	5	3	G	H	J	1	H	H	...	...	...	...	...	...	
7	Acut Ci: Cist.	Cut Steu: Acu.	Steu.	6	3	8	8	9	4	G	1	K	L	K	K	...	...	...	...	...	...	
8	Cut Steu.	Cut Steu.	Cut Steu: Ci.	5	9	9	7	3	6	K	K	M	L	L	K	...	...	...	...	...	...	
9	Cut Steu.	Cut Steu: Ci.	Cut Ast: Cist.	6	7	5	-	8	10	K	K	L	-	L	K	...	...	...	...	...	...	
10	Nbs Ast.	St: Steu.	Cumbs Steu.	10	10	10	9	6	9	J	1	1	K	K	K	...	...	...	...	...	...	
11	Steu: Cumbs Cist.	St: Steu: Acu.	Cut Steu.	9	9	9	9	9	9	K	J	J	J	K	J	...	...	...	...	...	...	
12	Steu.	Cut Acut Ciou.	Cut Steu.	9	9	9	6	3	2	K	K	K	K	M	L	...	...	...	...	...	...	
13	St: Nbs Ast.	Nbs St.	St: Steu.	10	10	10	10	10	10	K	1	J	H	J	J	...	...	...	...	...	...	
14	Steu: Cumbs Acu.	Cut Steu.	Cut Steu: Acu.	9	8	7	7	6	2	K	K	L	L	L	K	...	...	...	...	...	...	
15	Steu: St: Ast.	Steu: Cumbs Cist.	Steu: Nbs Cumbs.	10	10	9	9	9	10	J	J	J	K	M	J	...	...	...	...	...	...	
16	St: Steu.	Steu: Cumbs.	Cumbs Nbs Acu.	10	10	9	-	6	3	1	J	J	-	J	1	...	...	...	...	...	...	
17	Acut Ci: Cist.	Cumbs Acu: Cist.	Cut Steu: Ast.	8	9	9	10	10	9	1	J	K	K	K	J	...	...	...	...	...	...	
18	St: Steu.	Steu: Cumbs Ast.	Cumbs: Acu: Ci.	10	10	10	9	8	4	1	J	J	K	K	J	...	...	...	...	...	...	
19	Steu: Acu.	Cut Ci.	Cut Acut Ci.	2	2	7	5	6	5	1	K	L	L	K	K	...	...	...	...	...	...	
20	Steu: Acut Ast.	Cut Acu.	Cumbs.	9	9	3	4	1	6	G	H	K	J	J	J	...	...	...	...	...	...	
21	Cist: Ci.	Cut Steu.	Steu: Cumbs.	7	4	9	7	8	7	G	1	J	J	1	H	...	...	...	...	...	...	
22	---	Cut Steu.	Cut Steu.	0	2	8	9	4	4	G	G	1	1	J	J	...	...	...	...	...	...	
23	Steu.	Cu.	Cut Steu.	3	2	4	-	2	2	1	J	-	J	J	J	...	...	...	...	...	...	
24	---	Cut Steu.	Cut Acut Ci.	0	1	5	5	3	4	H	H	J	K	K	K	...	...	...	...	...	...	
25	Cut Cist: Ciou.	Ci.	---	7	9	7	1	0	0	J	J	K	K	K	1	...	...	...	...	...	...	
26	---	---	Cu.	0	0	0	0	2	1	G	J	K	K	K	1	...	...	...	...	...	...	
27	---	Steu: Acut Ciou.	Cumbs: Acut Ci.	0	0	8	10	6	3	G	H	L	K	K	J	...	...	...	...	...	...	
28	Acut Ci: Ciou.	Cut Steu: Ci.	Cut Acut Ci.	2	3	8	9	9	9	K	L	M	L	L	J	...	...	...	...	...	...	
29	Nbs St: Ast.	Cut Cumbs.	Steu.	9	10	9	9	9	3	1	K	K	L	L	K	...	...	...	...	...	...	
30	Steu.	Cut Steu: Acu.	Cut Acut Ciou.	8	9	8	-	3	4	J	J	K	-	L	L	...	...	...	...	...	...	
31	Steu: Cumbs.	Steu.	Steu: Cumbs.	9	9	10	10	9	6	K	K	J	K	K	K	...	...	...	...	...	...	
Mean Cloud Am't.				5.5	5.1	7.0	6.8	6.6	4.9													

535. RICHMOND (KEW OBSERVATORY).

AUGUST, 1933.

Day.	Cloud Forms.			Cloud Amount (All Forms).						Visibility.						Precipitation.						Remarks on the Weather of the Day.
	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	
1	Steu: Acu.	Cut Steu.	Cut Ci.	9	9	6	5	5	0	K	J	J	J	K	1	...	...	...	...	...	...	<p>n early a.            f n early a.            n early a.            ●<sup>o</sup> a: ●<sup>o</sup> p.            m a and p: ●<sup>o</sup> a: T p ●<sup>o</sup> p: p ●<sup>o</sup> n            ●<sup>o</sup> ●<sup>o</sup> a, p and n.            ●<sup>o</sup> early a.            ●<sup>o</sup> n.            p ●<sup>o</sup> p.            p ●<sup>o</sup> a: p ●<sup>o</sup> p.            ●<sup>o</sup> n.            ●<sup>o</sup> early a.            p early a.            f n early a.            p early a.            f p early a.            p early a.            p early a.            n early a.</p>
2	Steu: Acu.	Acut Ci.	Steu: Acu.	2	3	5	6	9	6	1	J	J	K	K	K	...	...	...	...	...	...	
3	Steu.	Steu.	Acu.	9	9	9	10	3	5	G	J	J	J	J	1	...	...	...	...	...	...	
4	Steu.	Steu.	---	9	3	4	3	0	0	G	H	J	J	K	J	...	...	...	...	...	...	
5	Steu.	Cu.	---	8	0	6	5	0	0	H	G	J	J	J	1	...	...	...	...	...	...	
6	---	Cu.	Acut Ci: Cist.	0	0	4	-	7	5	D	G	K	-	J	J	...	...	...	...	...	...	
7	Acu.	Cut Ci.	Cut Ci.	2	0	4	7	1	1	1	J	J	K	K	K	...	...	...	...	...	...	
8	Steu: Acu.	Cut Steu.	Cu.	9	9	7	4	2	0	K	K	K	K	K	K	...	...	...	...	...	...	
9	Acu.	Acut Cist.	Cut Acut Ci.	1	1	1	7	4	1	1	K	L	L	K	K	...	...	...	...	...	...	
10	Steu: Acu	Acut Ciou.	Ast.	7	4	3	7	10	9	J	J	J	K	K	K	...	...	...	...	...	...	
11	Steu: Ast: Cist.	St: Ast: Acu.	Steu.	10	9	10	10	9	8	1	1	J	J	J	K	...	...	...	...	...	...	
12	Cut Steu: Acu.	Steu.	Cut Acu.	3	3	9	7	1	0	J	K	K	K	L	L	...	...	...	...	...	...	
13	Cut Ci.	Acut Cist.	Steu: Cist: Cist.	2	2	7	-	6	0	K	L	L	-	J	J	...	...	...	...	...	...	
14	St: Ast: Cist.	Steu: Ast: Acu.	Steu: Ast: Ci.	10	10	10	9	6	7	F	F	F	F	G	1	...	...	...	...	...	...	
15	Cut Steu: Acu.	Cut Steu: Ci.	Nbs St.	7	9	8	9	10	10	K	K	L	L	L	J	...	...	...	...	...	...	
16	St: Steu: Acu.	Cut Cumbs.	Cut Steu.	6	7	8	6	1	0	G	J	K	K	K	K	...	...	...	...	...	...	
17	Steu: Acu.	St: Steu: Acu.	Steu.	7	9	10	10	10	10	K	K	K	K	K	K	...	...	...	...	...	...	
18	Steu: Acu.	Cut Steu.	Cut Acut Ci.	8	9	7	7	5	4	K	K	L	K	K	J	...	...	...	...	...	...	
19	Acut Ci: Cist.	Cut Acut Ciou.	Steu: Acut Ci.	5	9	9	9	8	8	J	J	K	K	K	K	...	...	...	...	...	...	
20	Steu: Acu.	Cut Steu.	Cu.	6	6	9	-	4	0	K	K	L	-	L	L	...	...	...	...	...	...	
21	Steu: Acu.	Cut Steu: Acu.	Cumbs: Acut Ci.	8	9	8	9	8	5	K	K	L	L	K	K	...	...	...	...	...	...	
22	Steu: Acu.	Cut Steu: Ci.	St: Steu: Ast.	7	4	9	9	10	10	1	K	K	K	K	H	...	...	...	...	...	...	
23	Nbs Steu: Ast.	Cut Steu.	Cut Steu.	10	8	8	6	4	0	1	J	L	L	L	L	...	...	...	...	...	...	
24	Acu.	Cut Steu.	Steu.	1	1	7	9	9	1	1	K	K	K	K	K	...	...	...	...	...	...	
25	St.	Acut Ci: Ciou.	Steu: Acut Ci.	10	9	7	4	2	1	E	H	J	K	K	K	...	...	...	...	...	...	
26	Ci.	---	---	5	0	0	0	0	0	G	H	K	K	K	K	...	...	...	...	...	...	
27	---	Ci.	Steu: Ci.	0	3	4	-	6	0	G	H	K	-	K	K	...	...	...	...	...	...	
28	Ci: Cist.	Ci: Cist.	Ci.	6	7	6	5	4	0	J	J	K	K	K	K	...	...	...	...	...	...	
29	---	---	Cut Acut Ci.	0	0	0	0	7	7	G	J	K	J	K	K	...	...	...	...	...	...	
30	---	Cu.	Cut Steu: Ci.	0	0	6	4	5	6	1	J	K	K	J	K	...	...	...	...	...	...	
31	Cut Steu.	Cu.	Cut Ast: Acu.	4	7	6	9	10	4	G	H	1	J	J	K	...	...	...	...	...	...	
Mean Cloud Am't.				5.5	5.1	6.3	6.5	6.4	3.7													
Day	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	Remarks on the Weather of the Day.
	Cloud Forms.			Cloud Amount (All Forms).						Visibility.						Precipitation.						

\* Mean of 26 days. † Mean of 27 days.



Day.	Cloud Forms.			Cloud Amount (All Forms).						Visibility.					Precipitation.					Remarks on the Weather of the Day.		
	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h		18h	21h
2	St: Steu. Ast.	Cus. Ast. Ci.	Steu.	10	9	6	8	10	9	1	1	K	K	J	J	...	...	...	...	...	...	●● early a.
3	Steu.	Ci.	Cus. Ci.	5	6	1	3	2	0	1	J	K	K	K	J	...	...	...	...	...	...	● early a.
4	---	Steu.	Steu. Ast.	0	0	6	-	6	6	H	1	1	-	J	J	...	...	...	...	...	...	m ● early a.
5	Acu.	Cu.	---	0	0	6	6	0	0	H	H	K	J	K	J	...	...	...	...	...	...	● early a.
6	---	---	Acu.	1	0	0	0	1	0	H	1	K	J	K	J	...	...	...	...	...	...	● early a.
6	Cist.	Ci.	Ast. Cist. Cist.	2	0	4	9	6	2	0	H	K	K	J	J	...	...	...	...	...	...	● early a: ⊕ p.
7	St: Cist. Cist.	Cus. Ci.	Cus. Cist.	8	9	8	7	7	5	0	J	K	K	K	K	...	...	...	...	...	...	U n.
8	Cus. Ci.	Cus. Ci.	Cus. Ci.	6	7	1	0	1	0	1	J	K	K	K	K	...	...	...	...	...	...	...
9	---	Cus. Steu.	---	0	0	2	0	0	0	1	J	K	K	K	K	...	...	...	...	...	...	...
10	---	---	Freu. Ci.	0	0	0	-	1	0	1	J	K	-	K	K	...	...	...	...	...	...	● early a.
11	Ci.	Cus. Ci.	Steu. Ast. Cist.	2	0	2	2	7	4	H	H	K	K	J	J	...	...	...	...	...	...	● early a.
12	Steu. St: Ast.	Steu. Ast.	Nb: Ast.	10	10	10	10	10	10	1	1	1	1	H	1	...	...	...	...	...	...	● a: ● p: ● n.
13	Nb: Ast.	Steu. Ast.	Ast. Cist.	10	10	10	9	3	8	0	H	H	J	J	G	...	...	...	...	...	...	● a.
14	---	Cu.	Steu. Ast. Ci.	0	0	6	5	4	0	0	J	K	K	1	1	...	...	...	...	...	...	● early a.
15	Ci: Cist.	Ci.	Ci.	4	4	2	9	8	0	F	G	K	K	K	K	...	...	...	...	...	...	m ● early a.
16	---	Cis. Cist.	Ast. Ci: Cist.	0	0	2	4	8	2	F	1	K	K	1	J	...	...	...	...	...	...	m ● early a.
17	Steu. Ast: Ci.	Cus. Steu.	Cus. Ci: Cist.	9	8	4	-	3	8	H	1	L	-	K	J	...	...	...	...	...	...	● early a.
18	Steu. Cus: Ast.	Cus. Steu.	Steu. Ast. Ci.	9	10	9	9	7	0	1	1	K	L	J	J	...	...	...	...	...	...	● early a.
19	Steu. Ast: Acu.	Cu.	---	9	7	5	3	0	0	H	H	K	L	L	K	...	...	...	...	...	...	● early a.
20	Nb: Ast.	Cu.	Steu. Cus. Ci.	10	8	5	3	3	4	G	J	L	L	K	K	...	...	...	...	...	...	T ●●● early a.
21	Steu. Ast.	Nb: Ast.	St: Ast: Ci.	8	8	10	10	8	2	G	H	1	H	1	K	...	...	...	...	...	...	● early a: ● late a: ●● p.
22	Steu. Ast.	Cus. Steu.	Cus: Steu. Ast.	8	4	4	5	8	9	1	J	K	J	1	H	...	...	...	...	...	...	...
23	Steu. Ast: Cist.	Nb: Ast.	Steu.	10	10	10	10	10	10	G	H	1	H	F	G	...	...	...	...	...	...	● a: ●● p: ● m n.
24	St: Steu.	Steu.	St: Steu. Cist.	9	9	9	-	6	3	G	J	J	-	D	F	...	...	...	...	...	...	p ●● p: ●● f m late p and n.
25	Steu. Nb: Ast.	Steu. Cus.	Steu. St: Cist.	9	9	9	9	3	0	F	1	H	J	G	1	...	...	...	...	...	...	●●● p: ● m a: p ●● p.
26	St: Steu. Ast.	Steu. Ast: Cist.	Steu. St: Ast.	9	9	8	5	9	9	G	F	1	J	1	J	...	...	...	...	...	...	m a: ● n.
27	St.	St.	St: Ast.	10	10	10	10	9	9	G	H	F	G	G	G	...	...	...	...	...	...	● m a.
28	St.	St: Steu.	---	10	10	9	0	0	0	G	G	H	H	G	D	...	...	...	...	...	...	f n.
29	St.	Cis. Cist.	Acu.	10	9	6	3	1	3	C	E	G	J	1	1	...	...	...	...	...	...	f a.
30	St: Steu.	Steu.	St: Steu.	10	10	9	7	8	9	H	1	1	1	1	J	...	...	...	...	...	...	...
Mean Cloud Am't.				6.3	5.8	5.8	5.6	5.0	6.7													

## 537. RICHMOND (KEW OBSERVATORY).

OCTOBER, 1933.

1	St.	St: Steu.	Nb: Ast.	10	10	10	-	10	10	1	H	1	-	G	1	...	...	...	...	...	...	...	● <sup>0</sup> early a : ● <sup>0</sup> p and n.
2	St: Steu.	Steu: Ast: Acu.	Steu: Ast: Cist.	10	10	10	10	10	9	1	1	1	1	1	J	...	...	...	...	...	...	...	U n.
3	Steu: Acu: Ci.	Cus Steu.	St: Steu: Ast.	4	4	8	9	10	9	1	1	1	1	H	1	...	...	...	...	...	...	...	f ● <sup>0</sup> early a : m f ● <sup>0</sup> n.
4	Steu.	---	---	1	0	0	0	0	0	D	H	J	J	F	E	...	...	...	...	...	...	...	f m ● <sup>0</sup> a and n.
5	St.	---	Acu.	10	10	0	4	3	0	B	B	G	F	E	G	...	...	...	...	...	...	...	f ● <sup>0</sup> a : ● <sup>0</sup> n.
6	St.	Cus Steu.	---	10	0	4	7	0	0	C	D	1	K	G	G	...	...	...	...	...	...	...	● <sup>0</sup> f a : ● <sup>0</sup> n.
7	Acu: Ci.	Acu: Ci.	Acu: Cist.	6	10	8	4	10	8	D	D	G	1	G	G	...	...	...	...	...	...	...	● <sup>0</sup> ● <sup>0</sup> f a : ● <sup>0</sup> n.
8	Steu.	Steu: Cum.	Steu: Cum.	7	8	9	-	9	5	1	J	L	-	1	J	...	...	...	...	...	...	...	● <sup>0</sup> ● <sup>0</sup> early a : p ● <sup>0</sup> p.
9	Ci.	Cus Steu.	Steu: Cum.	4	1	8	9	9	8	G	1	J	J	1	L	...	...	...	...	...	...	...	● <sup>0</sup> ● <sup>0</sup> p.
10	Steu: Cum: Ast.	Steu.	Steu: Cum.	10	10	9	8	9	6	K	K	K	K	K	K	...	...	...	...	...	...	...	● <sup>0</sup> ● <sup>0</sup> early a, late p and n.
11	Cum: Steu: Cist.	Cum: Cu.	Cu.	9	9	8	3	2	0	J	J	K	K	J	K	...	...	...	...	...	...	...	● <sup>0</sup> ● <sup>0</sup> a.
12	---	Steu: Cus Ci.	Cus Steu.	0	1	5	9	5	0	J	J	K	K	G	1	...	...	...	...	...	...	...	f ● <sup>0</sup> a and n.
13	Steu: Acu: Cist.	Cus Steu.	Steu: Ci.	6	8	7	9	6	4	G	H	J	K	G	1	...	...	...	...	...	...	...	U ● <sup>0</sup> early a.
14	Steu: Acu: Ci.	Steu: Cum: Ast.	Steu: Cist.	8	8	10	8	2	4	L	K	1	G	G	G	...	...	...	...	...	...	...	● <sup>0</sup> early a : ● <sup>0</sup> a and p.
15	---	Cus Steu.	Steu: Acu.	0	5	9	-	9	5	D	H	K	-	G	K	...	...	...	...	...	...	...	U f m ⊕ early a.
16	Ci.	Steu: Cu.	Cum: Nb.	2	0	7	5	7	1	K	K	K	K	K	K	...	...	...	...	...	...	...	p ● <sup>0</sup> p ● <sup>0</sup> n.
17	Ci.	Steu.	Steu: Ci.	1	2	9	5	1	K	J	J	1	E	F	...	...	...	...	...	...	...	...	U early a : z f ● <sup>0</sup> n.
18	St.	---	Steu.	10	1	0	4	2	1	B	D	J	J	G	G	...	...	...	...	...	...	...	U f a.
19	Cus Acu: Ci.	Acu: Ci: Cist.	Ci.	4	5	4	3	6	0	G	G	J	1	F	H	...	...	...	...	...	...	...	z late p.
20	Steu: Ast: Ci.	Acu: Ast: Ci.	Steu.	7	8	7	8	10	9	G	H	1	H	H	H	...	...	...	...	...	...	...	...
21	St: Steu.	St: Steu.	St: Steu.	9	10	10	9	10	10	1	H	H	H	1	G	...	...	...	...	...	...	...	● <sup>0</sup> n.
22	St.	St.	St.	10	10	10	-	10	10	E	F	E	-	E	E	...	...	...	...	...	...	...	f m ● <sup>0</sup> ● <sup>0</sup> a : f ● <sup>0</sup> p and n.
23	St.	Ast: Acu: Ci.	St.	10	9	8	8	10	10	G	H	G	H	G	D	F	...	...	...	...	...	...	f p : f m ● <sup>0</sup> n.
24	St.	St.	St.	10	10	10	10	10	10	G	H	G	G	G	1	...	...	...	...	...	...	...	● <sup>0</sup> ● <sup>0</sup> early a : ● <sup>0</sup> late p and n.
25	St: Steu: Ast.	Steu: Ast.	Steu: Cu.	9	10	10	10	3	0	1	H	1	1	J	K	...	...	...	...	...	...	...	● <sup>0</sup> a.
26	---	Steu: Freu.	---	0	3	6	7	0	0	J	J	J	J	J	K	...	...	...	...	...	...	...	...
27	St: Steu: Ast.	St.	Freu.	10	10	10	10	2	0	G	1	1	K	F	J	...	...	...	...	...	...	...	● <sup>0</sup> ● <sup>0</sup> a : ● <sup>0</sup> △ <sup>0</sup> m p : m U n.
28	Steu: Ci.	Steu: Ast: Ci.	Steu.	4	8	9	10	10	9	K	J	K	1	G	G	...	...	...	...	...	...	...	U a : ● <sup>0</sup> ● <sup>0</sup> p : ● <sup>0</sup> n.
29	St: Cist.	Cu.	Steu: Acu: Ci.	9	9	6	-	6	9	G	1	G	-	1	G	...	...	...	...	...	...	...	● <sup>0</sup> a : p ● <sup>0</sup> n.
30	Steu: Ci.	St: Steu.	Steu: St.	3	10	9	9	8	7	1	1	H	H	F	F	...	...	...	...	...	...	...	● <sup>0</sup> a : m late p and n.
31	Acu: Ci.	St: Nb: Acu.	Steu: Acu.	8	10	10	9	4	3	K	J	1	1	H	1	...	...	...	...	...	...	...	● <sup>0</sup> a : p ● <sup>0</sup> p.
Mean Cloud Am't.				6.5	6.7	7.3	7.4	6.4	4.8														
Day	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	Remarks on the Weather of the Day.	
	Cloud Forms.			Cloud Amount (All Forms).						Visibility.					Precipitation.								



538. RICHMOND (KEW OBSERVATORY).

NOVEMBER, 1933.

Day.	Cloud Forms.			Cloud Amount (All Forms).						Visibility.					Precipitation.						Remarks on the Weather of the Day.	
	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h		21h
1	Steu. Acu.	Steu. Acu.	St.	4	5	9	9	10	4	J	J	1	1	J	J	...	...	...	...	...	...	U n.
2	Steu. Ci.	Cus. Ci. Cieu.	Steu.	7	9	8	3	2	9	K	J	1	1	1	H	...	...	...	...	...	...	●° a and n.
3	Steu. Cus. Acu.	Cus. Ci.	St.	2	1	7	9	10	0	J	J	1	1	1	H	...	...	...	...	...	...	●° early a and n.
4	Steu. Ci.	Steu. Nbr. Acu.	Acu.	4	0	5	7	3	2	1	1	H	H	G	G	...	...	...	...	...	...	●° late a: f n.
5	St.	Steu. Acu.	St.	10	9	9	-	7	0	F	F	G	-	G	B	...	...	...	...	...	...	U m a: f n.
6	St: Steu.	Steu. Acu. Ast.	Nb.	10	10	10	10	10	10	F	E	G	F	F	F	...	...	...	...	...	...	m f ●° a: m ●° p and early n.
7	Steu. Acu. Ci.	Steu. Acu.	Steu. Ast.	8	10	9	10	10	10	G	F	H	H	H	H	...	...	...	...	...	...	m a: ●° early n.
8	St: Steu.	---	---	2	0	0	0	0	10	G	F	H	F	D	C	...	...	...	...	...	...	U m a: f n. late p and n.
9	Steu.	Steu.	---	9	9	9	9	0	8	D	D	1	H	G	F	...	...	...	...	...	...	f n a: m n.
10	St: Steu. Acu.	Steu.	Steu.	9	6	8	5	8	8	F	G	J	H	1	J	...	...	...	...	...	...	●° m early a: p ●° p: ●° n.
11	---	St.	St.	0	10	10	10	10	10	F	E	G	G	G	B	...	...	...	...	...	...	U m feary a: f n.
12	St: Steu.	Cus. Acu. Ci.	Steu.	9	9	7	-	9	1	G	G	-	G	G	...	...	...	...	...	...	...	f n ●° a.
13	Steu.	Acu. Ast. Ci.	Nb.	4	0	6	7	10	9	F	E	H	H	G	G	...	...	...	...	...	...	U m f a: ●° n.
14	Acu.	Frou. Steu.	---	1	0	3	2	0	10	G	E	H	G	E	H	...	...	...	...	...	...	U feary a: feary n: ●° late n.
15	Nbr. Cum.	Cus. Ci.	---	10	10	8	4	0	0	G	H	J	1	F	D	...	...	...	...	...	...	●° a: f n.
16	St.	St: Steu.	Cus. Steu.	10	10	9	9	10	10	B	D	F	G	H	J	...	...	...	...	...	...	F f m a.
17	Steu. Acu.	St: Steu. Acu.	Steu.	9	10	7	9	7	9	1	G	H	H	G	J	...	...	...	...	...	...	● a.
18	St: Steu. Ast.	St.	St.	10	10	10	10	10	10	H	F	E	E	G	F	...	...	...	...	...	...	m f ●° a: f m p: m n.
19	Steu. Ast.	Steu. Acu	---	10	9	9	-	0	7	G	F	E	-	G	J	...	...	...	...	...	...	m f a: f m ●° p.
20	St.	St.	---	10	10	10	8	0	10	B	A	X	C	D	F	...	...	...	...	...	...	F a and p: f m n.
21	St.	St.	St.	10	10	10	10	10	10	H	H	G	G	H	H	...	...	...	...	...	...	●° a and n.
22	St: Ast.	Steu.	St.	10	10	10	10	10	10	F	H	H	G	H	G	...	...	...	...	...	...	m a: ●° n.
23	Steu. Cus. Ci.	Steu.	Acu.	8	10	10	9	8	10	G	F	H	H	F	G	...	...	...	...	...	...	●° m a: m p: ●° n.
24	Steu.	Steu.	Steu.	8	5	8	9	8	9	G	G	H	1	1	J	...	...	...	...	...	...	●° a, p and n.
25	Steu.	Cu.	---	5	3	4	8	0	0	J	1	1	1	J	J	...	...	...	...	...	...	p ●° p.
26	Steu.	Steu.	St: Steu. Acu.	9	9	9	-	9	9	J	1	H	-	G	G	...	...	...	...	...	...	p ●° late p.
27	Steu.	St.	Steu. St.	9	10	10	10	9	9	1	E	D	D	F	F	...	...	...	...	...	...	f a and p: m U n.
28	Steu. St.	St.	St.	10	10	10	10	10	10	G	F	G	H	H	H	...	...	...	...	...	...	m a.
29	Cus. Steu.	Steu.	Steu.	9	10	9	10	9	10	G	G	H	G	G	G	...	...	...	...	...	...	
30	Steu.	Steu.	Steu.	10	10	10	10	9	9	1	1	H	G	G	H	...	...	...	...	...	...	
Mean Cloud Am't.				7.5	7.8	8.1	8.0	6.6	7.4													

539. RICHMOND (KEW OBSERVATORY).

DECEMBER, 1933.

1	Steu.	Steu.	St: Steu.	10	10	10	10	10	9	G	G	H	H	H	H	...	...	...	...	...	...	U a.
2	Acu. Ci.	Steu.	Steu.	2	10	9	9	9	10	1	1	G	H	H	1	...	...	...	...	...	...	f a: m p: U n.
3	Steu.	Frou. Frst.	---	10	10	3	-	0	0	J	1	1	-	1	G	...	...	...	...	...	...	U f a, p and n.
4	Steu. Cu.	Steu.	St.	7	5	9	10	10	10	G	1	H	J	J	...	...	...	...	...	...	...	f ●° a and p.
5	Steu.	St.	St.	10	10	10	10	10	0	H	G	E	F	G	G	...	...	...	...	...	...	p *° a.
6	St.	St.	---	1	0	10	3	0	4	F	E	C	C	D	E	...	...	...	...	...	...	U n.
7	St.	St.	St.	10	10	10	10	10	10	F	D	D	F	J	J	...	...	...	...	...	...	U m a and p: U n.
8	Steu.	Steu.	Steu.	10	10	9	9	9	10	J	G	H	H	H	1	...	...	...	...	...	...	m n.
9	Steu.	Steu.	---	9	9	7	6	0	0	J	G	G	G	G	1	...	...	...	...	...	...	m f *° a: f p.
10	---	Steu.	Steu.	0	0	3	-	9	9	J	F	F	-	G	J	...	...	...	...	...	...	*° a.
11	Steu.	Steu. St.	Steu.	10	9	9	9	9	9	1	G	G	H	G	F	...	...	...	...	...	...	U ●° early a.
12	Steu.	Steu.	Steu.	9	9	9	9	10	2	G	F	F	E	G	G	...	...	...	...	...	...	m a: f p: F n.
13	Cus. Steu.	Cus. Cist.	---	9	10	10	8	0	0	J	1	1	1	J	K	...	...	...	...	...	...	feary a.
14	---	---	---	0	0	0	0	0	4	J	1	H	H	1	G	...	...	...	...	...	...	m a.
15	Cus. Steu.	Steu. Cu.	---	7	0	4	5	0	5	1	1	1	1	1	H	...	...	...	...	...	...	
16	Steu. Acu.	St.	---	6	7	8	6	0	9	H	F	F	G	F	F	...	...	...	...	...	...	U m a and n.
17	Steu.	St.	St: Steu.	9	6	10	-	9	9	F	F	D	-	1	J	...	...	...	...	...	...	m f a and p.
18	Cus. Steu.	St: Steu.	---	5	7	6	2	0	10	1	E	G	G	F	B	...	...	...	...	...	...	f a: m f n.
19	St: Steu.	St: Steu.	St.	9	9	10	10	10	10	F	E	E	D	C	D	...	...	...	...	...	...	m f U a: f n.
20	St.	St.	St.	10	10	10	10	10	10	E	D	F	F	F	F	...	...	...	...	...	...	●° f a: m p and n.
21	St.	St.	St.	10	10	9	10	10	10	G	F	F	D	C	B	...	...	...	...	...	...	m a: f p: F n.
22	Steu.	Steu.	Steu.	9	9	10	9	9	9	G	G	G	G	G	1	...	...	...	...	...	...	feary a.
23	St: Steu.	Steu.	Steu.	10	9	10	9	10	9	H	F	G	G	G	J	...	...	...	...	...	...	m a.
24	Steu.	Steu.	Steu.	10	9	10	-	9	9	J	H	H	-	1	1	...	...	...	...	...	...	
25	St: Steu.	Steu.	St: Steu.	9	10	10	-	9	9	1	G	G	-	G	G	...	...	...	...	...	...	
26	Nb.	St.	St.	10	10	10	-	10	9	G	F	D	-	C	F	...	...	...	...	...	...	m f ●° a: f ●° p: f m n.
27	St.	St.	Steu. St.	10	10	10	10	9	10	G	G	G	F	G	G	...	...	...	...	...	...	m p: ●° n.
28	Nbr. Ast.	St.	St.	10	10	10	10	10	10	G	F	F	F	G	G	...	...	...	...	...	...	●° m a and p.
29	St: Steu.	St: Steu.	St.	10	10	9	9	10	9	G	F	G	G	F	F	...	...	...	...	...	...	●° m a: m n.
30	St.	St.	Nb.	10	10	10	1	10	8	C	E	F	G	H	G	...	...	...	...	...	...	U f m ●° a: ●° * p and n.
31	Steu.	Steu.	St.	9	8	9	-	10	8	J	G	F	-	G	G	...	...	...	...	...	...	m late a.
Mean Cloud Am't.				8.1	7.9	8.5	7.7	7.1	7.6													
Mean Annual Cloud Am't.																						
Day	7h	13h	18h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	7h	9h	13h	15h	18h	21h	Remarks on the Weather of the Day.
	Cloud Forms.			Cloud Amount (All Forms).						Visibility.					Precipitation.							

\* Mean of 26 days.

† Mean of 24 days.



## 540. RICHMOND (KEW OBSERVATORY).

1933.

Month	January			February			March			April			May			June		
Day	F	$\lambda \times 10^{18}$	$\frac{1}{\lambda} \times 10^{18}$	F	$\lambda \times 10^{18}$	$\frac{1}{\lambda} \times 10^{18}$	F	$\lambda \times 10^{18}$	$\frac{1}{\lambda} \times 10^{18}$	F	$\lambda \times 10^{18}$	$\frac{1}{\lambda} \times 10^{18}$	F	$\lambda \times 10^{18}$	$\frac{1}{\lambda} \times 10^{18}$	F	$\lambda \times 10^{18}$	$\frac{1}{\lambda} \times 10^{18}$
	Volt. cm. <sup>-1</sup>	ohm. cm. <sup>-1</sup>	amp. cm. <sup>-2</sup>	Volt. cm. <sup>-1</sup>	ohm. cm. <sup>-1</sup>	amp. cm. <sup>-2</sup>	Volt. cm. <sup>-1</sup>	ohm. cm. <sup>-1</sup>	amp. cm. <sup>-2</sup>	Volt. cm. <sup>-1</sup>	ohm. cm. <sup>-1</sup>	amp. cm. <sup>-2</sup>	Volt. cm. <sup>-1</sup>	ohm. cm. <sup>-1</sup>	amp. cm. <sup>-2</sup>	Volt. cm. <sup>-1</sup>	ohm. cm. <sup>-1</sup>	amp. cm. <sup>-2</sup>
1	...	...	...	...	...	...	4.60	24	109	...	...	...	6.55	23	152	...	...	...
2	2.60	26	68	3.00	24	73	...	...	...	...	...	...	...	...	...	...	...	...
3	4.40	19	81	5.20	19	89	...	...	...	3.40	30	105	2.55	23	59	...	...	...
4	...	...	...	...	...	...	...	...	...	2.45	41	101	2.10	53	111	...	...	...
5	6.65	11	74	...	...	...	...	...	...	2.50	43	109	2.80	65	182	...	...	...
6	3.30	17	58	3.90	22	84	4.25	30	127	...	...	...	...	...	...	2.30	44	100
7	...	...	...	...	...	...	2.95	38	114	2.05	51	105	...	...	...	2.85	54	152
8	...	...	...	2.65	17	44	2.80	34	94	...	...	...	2.75	44	121	2.40	65	155
9	4.20	21	87	2.70	20	53	3.05	31	95	...	...	...	...	...	...	2.00	71	143
10	10.20	5	54	...	...	...	5.05	32	159	3.40	43	147	1.80	36	65	...	...	...
11	...	...	...	...	...	...	...	...	...	2.00	57	116	2.45	38	93	...	...	...
12	9.50	14	129	...	...	...	...	...	...	...	...	...	2.00	58	115	1.60	73	116
13	...	...	...	4.30	25	109	4.85	16	79	2.50	48	120	...	...	...	...	...	...
14	...	...	...	4.45	21	91	2.65	37	97	...	...	...	...	...	...	4.10	45	183
15	...	...	...	...	...	...	3.20	31	100	...	...	...	1.95	59	116	1.75	56	97
16	...	...	...	4.55	24	107	...	...	...	...	...	...	1.85	62	113	1.40	95	131
17	4.80	16	75	2.70	29	78	...	...	...	...	...	...	5.55	20	113	...	...	...
18	7.10	11	76	...	...	...	...	...	...	...	...	...	2.25	48	107	...	...	...
19	7.45	8	59	...	...	...	...	...	...	...	...	...	1.70	55	93	...	...	...
20	6.45	10	64	3.30	20	67	3.40	39	133	5.20	40	204	...	...	...	1.65	89	145
21	...	...	...	3.25	32	104	3.50	30	106	3.15	59	185	...	...	...	2.45	60	148
22	...	...	...	4.15	29	118	3.45	31	106	...	...	...	2.30	44	102	...	...	...
23	8.35	8	64	4.25	23	99	8.00	23	186	...	...	...	1.70	60	103	1.05	62	67
24	...	...	...	...	...	...	8.30	19	155	...	...	...	1.55	70	107	...	...	...
25	6.80	15	101	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
26	5.55	13	71	...	...	...	...	...	...	2.45	40	97	1.80	50	91	1.60	64	102
27	6.15	13	81	...	...	...	6.70	23	154	2.00	46	92	...	...	...	...	...	...
28	...	...	...	3.85	39	150	3.10	27	83	1.55	54	83	...	...	...	1.25	68	87
29	...	...	...	...	...	...	2.30	52	118	...	...	...	2.25	64	143	1.45	56	80
30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.15	75	87
31	...	...	...	...	...	...	1.95	49	96	...	...	...	1.50	56	85	...	...	...
Mean	6.25	14	76	3.75	25	90	4.10	31	117	2.70	46	122	2.50	49	109	1.95	65	120
No. of Days Used	15	15	15	14	14	14	18	18	18	12	12	12	19	19	19	15	15	15
Month	July			August			September			October			November			December		
Day	F	$\lambda \times 10^{18}$	$\frac{1}{\lambda} \times 10^{18}$	F	$\lambda \times 10^{18}$	$\frac{1}{\lambda} \times 10^{18}$	F	$\lambda \times 10^{18}$	$\frac{1}{\lambda} \times 10^{18}$	F	$\lambda \times 10^{18}$	$\frac{1}{\lambda} \times 10^{18}$	F	$\lambda \times 10^{18}$	$\frac{1}{\lambda} \times 10^{18}$	F	$\lambda \times 10^{18}$	$\frac{1}{\lambda} \times 10^{18}$
	Volt. cm. <sup>-1</sup>	ohm. cm. <sup>-1</sup>	amp. cm. <sup>-2</sup>	Volt. cm. <sup>-1</sup>	ohm. cm. <sup>-1</sup>	amp. cm. <sup>-2</sup>	Volt. cm. <sup>-1</sup>	ohm. cm. <sup>-1</sup>	amp. cm. <sup>-2</sup>	Volt. cm. <sup>-1</sup>	ohm. cm. <sup>-1</sup>	amp. cm. <sup>-2</sup>	Volt. cm. <sup>-1</sup>	ohm. cm. <sup>-1</sup>	amp. cm. <sup>-2</sup>	Volt. cm. <sup>-1</sup>	ohm. cm. <sup>-1</sup>	amp. cm. <sup>-2</sup>
1	...	...	...	1.65	54	89	1.80	71	129	...	...	...	...	...	...	3.30	27	89
2	...	...	...	1.40	57	79	...	...	...	5.10	38	196	4.70	17	78	...	...	...
3	2.55	40	103	...	...	...	...	...	...	5.60	34	191	4.10	22	91	...	...	...
4	...	...	...	2.80	39	110	1.30	58	76	3.15	37	115	...	...	...	...	...	...
5	3.85	43	165	...	...	...	2.80	56	159	3.35	21	71	...	...	...	6.15	13	80
6	5.15	33	172	...	...	...	3.30	41	136	2.25	56	124	...	...	...	5.35	7	39
7	1.70	87	148	...	...	...	3.65	53	193	...	...	...	2.85	18	52	...	...	...
8	...	...	...	1.15	65	75	4.05	53	214	...	...	...	4.75	20	96	5.65	20	114
9	...	...	...	1.55	61	96	...	...	...	...	...	...	3.85	25	96	...	...	...
10	...	...	...	2.70	45	123	...	...	...	2.50	63	157	3.45	22	77	...	...	...
11	1.85	65	119	...	...	...	3.75	40	148	2.00	43	86	...	...	...	6.85	12	83
12	...	...	...	...	...	...	...	...	...	2.45	43	106	...	...	...	8.85	6	54
13	...	...	...	...	...	...	3.10	48	148	2.60	47	123	4.60	15	69	6.10	22	133
14	1.85	77	143	...	...	...	2.10	52	110	...	...	...	5.40	16	85	6.80	18	123
15	...	...	...	...	...	...	1.40	61	84	...	...	...	4.95	21	103	3.85	21	82
16	...	...	...	1.45	68	98	...	...	...	...	...	...	7.60	13	101	...	...	...
17	...	...	...	1.15	59	89	...	...	...	2.65	23	61	...	...	...	...	...	...
18	1.50	65	98	1.20	72	87	1.70	57	98	2.35	34	80	...	...	...	3.40	14	49
19	1.60	86	139	...	...	...	2.05	65	134	2.75	37	101	...	...	...	...	...	...
20	1.85	46	85	...	...	...	2.15	64	137	5.65	29	162	...	...	...	...	...	...
21	1.75	60	103	1.00	55	55	...	...	...	...	...	...	...	...	...	5.70	10	60
22	...	...	...	1.10	55	61	4.30	54	233	...	...	...	...	...	...	...	...	...
23	...	...	...	1.45	56	81	...	...	...	2.25	25	57	6.40	16	102	...	...	...
24	...	...	...	1.40	70	96	...	...	...	3.95	27	105	...	...	...	...	...	...
25	2.15	68	146	2.10	68	141	...	...	...	...	...	...	...	...	...	...	...	...
26	...	...	...	...	...	...	5.30	32	167	2.30	27	61	...	...	...	...	...	...
27	...	...	...	...	...	...	3.25	33	108	2.25	24	54	7.55	9	69	...	...	...
28	...	...	...	1.80	91	165	3.75	38	142	...	...	...	3.30	19	62	...	...	...
29	...	...	...	...	...	...	3.95	40	158	...	...	...	6.20	17	108	5.25	13	70
30	...	...	...	1.80	73	129	...	...	...	4.30	24	104	5.40	19	102	...	...	...
31	...	...	...	1.25	55	67	...	...	...	...	...	...	...	...	...	...	...	...
Mean	2.35	61	129	1.60	61	95	3.00	51	143	3.20	35	109	5.00	18	86	5.60	15	81
No. of Days Used	11	11	11	17	17	17	18	18	18	18	18	18	15	15	15	12	12	12
The Year.													Mean . . .	3.43	40	107		
													No. of Days Used.	184	184	184		



541. RICHMOND (Kew Observatory).

1933.

Month.	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE	
Day.	Character	Duration Negative Pot. Grad.	Character	Duration Negative Pot. Grad.	Character	Duration Negative Pot. Grad.	Character	Duration Negative Pot. Grad.	Character	Duration Negative Pot. Grad.	Character	Duration Negative Pot. Grad.
		Hours		Hours		Hours		Hours		Hours		Hours
1	1	2.1	2	3.4	1	1.4	0	...	1	0.9	0	...
2	0	...	1	1.2	2	4.5	0	...	1	2.5	0	...
3	0	...	1	0.4	2	3.4	0	...	1	1.7	0	...
4	1	0.2	1	0.2	1	0.4	0	...	0	...	0	...
5	1	2.3	0	...	0	...	0	...	1	2.2	1	0.1
6	1	0.1	1	0.8	2	4.8	0	...	1	1.4	0	...
7	0	...	1	1.1	1	1.3	0	...	2	6.7	0	...
8	1	0.9	0	...	0	...	0	...	0	...	0	...
9	0	...	0	...	1	0.1	0	...	1	2.0	0	...
10	0	...	1	2.7	0	...	0	...	1	0.3	1	0.1
11	2	4.1	0	...	0	...	0	...	1	1.2	1	2.9
12	0	...	0	...	0	...	1	0.9	1	0.2	0	...
13	2	3.6	0	...	1	0.1	0	...	1	2.0	1	1.3
14	0	...	0	...	0	...	0	...	1	0.6	0	...
15	2	8.9	0	...	1	0.5	0	...	0	...	2	4.3
16	2	5.4	0	...	2	8.2	0	...	0	...	1	1.6
17	1	0.4	1	0.7	2	8.4	0	...	0	...	1	2.2
18	1	0.8	1	0.8	1	2.3	0	...	0	...	2	3.2
19	1	1.3	1	1.4	2	3.9	1	2.8	0	...	2	4.2
20	0	...	0	...	2	4.1	1	1.5	0	...	1	1.4
21	0	...	1	0.6	0	...	0	...	1	0.2	2	3.2
22	0	...	0	...	0	...	0	...	1	0.9	1	2.0
23	0	...	0	...	0	...	1	0.2	1	0.9	0	...
24	0	...	2	5.4	0	...	1	0.5	1	0.8	1	1.7
25	0	...	2	13.9	0	...	1	2.6	1	0.1	0	...
26	0	...	2	13.1	0	...	0	...	1	0.6	1	0.3
27	0	...	2	7.3	0	...	0	...	1	2.9	0	...
28	0	...	0	...	0	...	0	...	1	0.6	0	...
29	1	0.3	-	---	0	...	1	2.3	1	0.7	1	0.1
30	2	3.3	-	---	1	2.5	1	0.7	0	...	0	...
31	0	...	-	---	0	...	-	---	0	...	-	---
Total	-	33.7	-	53.0	-	45.9	-	11.5	-	29.4	-	28.6
No. of Days Used.	-	31	-	28	-	31	-	30	-	31	-	30
Mean	-	1.1	-	1.9	-	1.5	-	0.4	-	0.9	-	1.0
Month.	JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
Day.	Character	Duration Negative Pot. Grad.	Character	Duration Negative Pot. Grad.	Character	Duration Negative Pot. Grad.	Character	Duration Negative Pot. Grad.	Character	Duration Negative Pot. Grad.	Character	Duration Negative Pot. Grad.
		Hours		Hours		Hours		Hours		Hours		Hours
1	0	...	0	...	1	1.9	1	1.0	0	...	1	0.1
2	0	...	0	...	0	...	1	1.1	2	3.2	0	...
3	1	0.1	1	0.1	1	0.1	0	...	1	0.3	0	...
4	1	0.1	0	...	1	0.1	0	...	1	0.1	0	...
5	0	...	0	...	0	...	0	...	1	2.4	0	...
6	0	...	0	...	0	...	0	...	0	...	1	1.6
7	0	...	0	...	0	...	1	0.3	1	0.3	0	...
8	1	0.1	0	...	0	...	1	1.2	1	0.1	0	...
9	1	0.4	0	...	0	...	0	...	0	...	0	...
10	0	...	0	...	0	...	1	0.1	1	1.8	0	...
11	1	2.9	1	1.5	0	...	1	0.3	0	...	0	...
12	1	0.1	0	...	1	1.5	1	0.1	1	0.2	0	...
13	1	1.8	0	...	2	5.1	0	...	1	1.1	0	...
14	0	...	1	2.1	0	...	1	1.0	0	...	1	1.2
15	2	3.1	1	0.6	0	...	0	...	2	6.1	2	7.0
16	1	1.8	0	...	0	...	1	0.4	1	0.3	0	...
17	1	0.3	0	...	1	1.2	0	...	1	1.1	1	0.6
18	0	...	1	0.1	1	0.6	0	...	0	...	1	0.1
19	0	...	0	...	0	...	0	...	1	0.7	1	0.3
20	1	1.3	1	0.4	1	2.6	0	...	1	0.2	1	0.6
21	0	...	1	2.9	1	2.7	1	0.2	2	4.0	0	...
22	0	...	1	0.8	1	0.1	1	1.2	0	...	0	...
23	0	...	1	0.1	2	6.1	0	...	1	0.3	0	...
24	0	...	0	...	1	2.3	2	3.1	1	0.4	0	...
25	0	...	1	0.1	2	4.3	2	4.0	1	0.9	0	...
26	0	...	1	0.2	1	0.1	0	...	1	0.1	2	4.1
27	1	1.2	0	...	1	1.7	2	5.7	0	...	1	0.9
28	0	...	0	...	0	...	2	3.7	0	...	2	4.8
29	1	0.9	1	0.1	0	...	2	4.1	0	...	0	...
30	0	...	0	...	0	...	1	2.0	0	...	1	2.0
31	0	...	0	...	-	---	1	1.8	-	---	2	4.0
Total	-	14.1	-	9.0	-	30.4	-	31.3	-	23.6	-	27.3
No. of Days Used.	-	31	-	31	-	30	-	31	-	30	-	31
Mean	-	0.5	-	0.3	-	1.0	-	1.0	-	0.8	-	0.9

Annual Values:- Character Frequency 0 1 2 Duration Total No. of Days. Mean.  
187 140 38 337.8 365 0.93



Month.		JANUARY. Factor 2.64.				FEBRUARY. Factor 2.64.				MARCH. Factor 2.64.			
Hour G. M. T.		2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.
Day.		v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m
1		290	475	170	265	90	-130	225	240	420	355	460	420
2		130	210	265	170	90	715	315	685	420	635	-275	490
3		55	315	420	555	530	605	475	275	120	265	80	200
4		315	460	Z±	500	105	210	200	210	120	305	355	675
5		120	265	715	870	105	185	250	315	315	500	370	530
6		145	570	385	555	130	450	345	130	-210	Z±	450	860
7		435	555	530	420	-55	355	345	595	450	715	315	925
8		55	160	120	210	305	450	345	265	700	805	265	395
9		65	315	435	570	200	395	290	315	160	315	355	490
10		1240	1635	1015	700	265	475	Z±	315	275	475	570	475
11		265	435	-540	500	315	475	530	870	500	620	675	595
12		385	885	925	790	515	595	435	450	265	500	570	635
13		990	1015	830	580	475	605	475	475	250	290	435	570
14		635	540	645	805	395	420	490	790	240	240	250	555
15		500	290	-315	Z-	580	660	490	620	370	420	315	370
16		935	385	540	635	475	725	450	660	90	-130	0	420
17		515	845	420	620	-160	530	265	580	-475	500	185	290
18		450	580	740	1015	410	540	450	420	-160	385	370	830
19		160	675	790	635	145	450	385	620	-370	-1055	200	370
20		500	700	635	910	595	885	330	580	-160	185	660	580
21		460	500	450	900	-240	700	315	515	490	765	315	540
22		475	685	450	740	395	530	420	620	395	685	315	450
23		675	660	830	910	395	635	410	530	315	530	805	635
24		420	715	540	500	570	25	-635	25	250	450	780	700
25		305	595	635	820	-780	-185	Z±	-990	475	740	580	645
26		635	900	580	845	-420	225	Z±	Z-	315	540	410	660
27		530	790	660	765	-275	200	450	620	420	790	555	715
28		450	750	605	765	515	675	420	645	515	570	315	460
29		315	540	555	845					330	605	240	395
30		315	200	-120	765					160	370	-120	450
31		475	740	385	240					315	420	210	500
Means (a)		427	593	566	647	345	489	379	476	334	499	393	543
Means (b)		428	608	504	652	264	475	339	482	250	426	352	532
Mean for day.		(a) 558		(b) 548		(a) 422		(b) 390		(a) 442		(b) 390	
Month.		APRIL. Factor 2.60.				MAY. Factor 2.62.				JUNE. Factor 2.62.			
Hour G.M.T.		2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.
Day.		v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m
1		220	300	275	365	210	430	760	130	355	225	105	290
2		260	415	235	365	195	405	300	325	130	210	145	195
3		170	310	340	375	170	-185	300	420	155	250	155	300
4		300	470	235	260	510	430	210	355	300	290	105	155
5		195	430	260	275	235	-420	290	500	275	535	80	105
6		220	405	210	310	290	405	275	170	145	470	250	380
7		220	415	210	415	Z-	105	235	235	235	565	315	420
8		180	520	180	340	65	260	275	210	210	315	210	340
9		90	375	180	285	145	325	Z±	250	290	380	210	210
10		145	235	365	415	130	290	185	260	130	155	130	185
11		310	365	180	285	290	380	250	315	-25	120	300	365
12		80	310	325	285	275	445	195	300	365	325	170	225
13		235	520	235	415	---	-315	225	275	145	90	195	185
14		90	325	105	365	155	15	235	185	210	550	395	315
15		50	260	260	285	80	445	195	395	155	395	185	Z-
16		105	260	105	155	80	325	185	225	0	195	145	275
17		235	325	365	545	80	365	470	225	210	290	-225	300
18		310	560	675	480	260	250	210	185	210	210	40	Z-
19		260	520	-235	610	105	355	170	380	90	Z+	Z±	225
20		405	560	15	650	250	250	185	300	90	195	225	260
21		340	480	325	830	120	355	300	260	80	250	250	355
22		340	535	235	390	210	670	275	210	405	405	445	25
23		145	235	210	105	260	430	170	420	120	260	155	210
24		80	180	210	260	210	260	155	170	80	80	120	315
25		105	130	-1025	545	80	235	145	105	---	130	195	155
26		285	340	275	340	195	225	170	130	130	300	170	105
27		105	180	220	430	145	365	315	420	120	460	155	210
28		260	365	155	285	155	260	155	185	185	275	145	290
29		90	220	180	470	145	365	235	500	80	250	145	195
30		155	285	155	40	235	460	155	155	120	275	105	210
31						120	225	170	325				
Means (a)		199	361	240	373	186	333	247	275	179	291	187	243
Means (b)		199	361	182	373	188	296	248	277	175	297	177	247
Mean for day.		(a) 293		(b) 279		(a) 260		(b) 252		(a) 225		(b) 224	

Note.- The Potential Gradient is reckoned as positive if the potential increases upwards. For indeterminate potential gradient the following notation is used:- Z±, Indeterminate, positive value; Z-, Indeterminate, negative value; Z±, Indeterminate in magnitude and sign.

(a) Mean from all Positive readings.

(b) Mean from all complete days, using both positive and negative readings.



POTENTIAL GRADIENT (reduced to level surface, Paddock Site): VOLTS PER METRE.  
 KELVIN ELECTROGRAPH STANDARDIZED BY WILSON READINGS, UNDERGROUND LABORATORY.  
 Mean Values for periods of sixty minutes, between the exact hours, Greenwich Mean Time.

423

542. RICHMOND (Kew Observatory).

1933.

Month.	JULY. Factor 2.63				AUGUST. Factor 2.68				SEPTEMBER. Factor 2.67							
Hour G.M.T.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.				
Day.	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m				
1	105	315	185	210	105	190	145	135	-135	400	160	215				
2	170	315	210	105	280	350	145	230	105	295	200	200				
3	65	420	265	340	80	310	180	135	65	265	80	160				
4	195	300	330	105	145	430	270	320	80	280	135	535				
5	195	485	395	420	215	390	230	310	185	455	295	335				
6	340	340	475	370	65	270	105	80	265	560	335	360				
7	250	395	170	235	40	200	55	190	215	400	375	425				
8	130	210	130	315	200	280	105	160	145	415	375	280				
9	145	210	130	210	200	350	135	160	175	425	265	345				
10	145	225	160	160	160	480	270	310	120	375	175	295				
11	160	225	195	170	230	415	Z±	400	215	440	360	400				
12	120	265	170	195	135	400	280	360	145	360	120	25				
13	195	145	130	170	270	255	190	360	175	615	305	240				
14	120	235	185	290	160	-230	415	160	160	400	200	215				
15	330	250	210	0	95	230	120	Z±	135	360	135	160				
16	120	185	130	210	135	390	135	215	240	375	175	295				
17	340	420	25	185	190	310	105	200	Z±	265	185	265				
18	210	225	145	185	65	200	120	215	55	185	200	295				
19	90	355	145	290	135	215	175	215	135	535	185	375				
20	210	300	185	170	120	160	135	145	185	305	225	335				
21	145	380	185	340	175	280	105	400	305	585	Z-	535				
22	265	355	160	120	230	400	120	190	240	400	400	240				
23	65	225	105	145	160	310	145	335	240	385	-440	265				
24	105	330	130	185	190	535	160	270	215	455	Z±	575				
25	225	250	225	250	65	320	190	105	55	400	-145	710				
26	225	355	130	130	120	440	135	200	455	465	480	400				
27	250	515	-160	250	120	350	145	495	160	255	360	545				
28	185	290	130	170	240	320	190	320	225	425	320	375				
29	---	---	90	210	160	360	145	160	790	320	425	360				
30	---	235	90	185	230	455	190	190	265	305	375	375				
31	80	145	65	170	55	350	105	160								
Means (a)	179	297	176	209	154	331	164	237	205	390	263	338				
Means (b)	179	299	170	210	153	313	166	232	189	385	225	324				
Mean for Day.	(a) 215		(b) 215		(a) 221		(b) 216		(a) 299		(b) 281					
Month.	OCTOBER. Factor 2.64				NOVEMBER. Factor 2.68				DECEMBER. Factor 2.71							
Hour G.M.T.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.				
Day.	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m				
1	Z±	305	210	395	190	525	360	335	230	490	340	595				
2	170	355	500	540	40	360	390	390	435	625	675	515				
3	305	700	555	555	200	480	400	565	190	325	500	500				
4	315	555	315	315	270	480	95	400	245	625	635	570				
5	160	475	345	475	---	---	480	270	325	675	650	760				
6	80	395	130	410	320	350	270	160	570	500	555	-610				
7	200	210	225	395	215	335	295	160	490	705	405	690				
8	130	265	240	275	335	415	525	375	460	760	595	825				
9	275	395	305	315	415	190	400	390	380	675	540	555				
10	130	130	265	210	-120	565	350	270	530	570	595	515				
11	65	130	210	490	230	390	525	320	515	815	665	760				
12	265	475	240	500	430	105	440	655	255	570	840	770				
13	265	580	275	500	360	495	645	Z±	350	420	595	705				
14	80	305	Z±	490	535	685	495	710	445	840	585	950				
15	290	420	250	410	175	-175	440	790	-55	-300	365	585				
16	130	385	Z±	385	910	725	750	480	380	690	595	475				
17	145	395	275	420	135	Z±	360	430	515	475	325	490				
18	290	605	240	315	135	280	535	440	460	595	405	500				
19	240	370	275	420	360	470	-80	270	160	635	530	540				
20	410	450	515	475	135	430	1045	695	190	490	405	365				
21	330	410	500	460	40	25	415	335	380	460	555	865				
22	225	225	200	330	335	400	535	535	555	770	490	625				
23	170	225	210	305	95	565	670	565	340	475	310	445				
24	Z±	330	385	290	415	320	465	440	245	255	365	475				
25	55	160	15	500	105	375	190	255	230	270	705	540				
26	290	450	240	460	295	350	565	400	205	95	405	635				
27	210	-225	Z±	385	480	630	670	910	460	460	555	595				
28	275	450	275	105	310	605	270	390	165	175	515	555				
29	90	210	385	225	240	590	615	670	380	475	490	595				
30	210	-410	420	490	295	455	480	815	325	625	475	585				
31	410	395	55	515					110	70	420	595				
Means (a)	214	371	288	399	286	429	471	463	350	520	519	606				
Means (b)	223	347	287	400	274	405	448	471	337	494	519	567				
Mean for Day.	(a) 318		(b) 314		(a) 412		(b) 399		(a) 499		(b) 479					
									Annual Means (a)				255	409	324	401
									(b)				238	392	301	397
									(a) 347		(b) 332					

Note.- The Potential Gradient is reckoned as positive if the potential increases upwards. For indeterminate potential gradient the following notation is used. Z-, Indeterminate, positive value; Z-, Indeterminate, negative value; Z±, Indeterminate in magnitude and sign.  
 (a) Mean from all positive readings.  
 (b) Mean from all complete days, using both positive and negative readings.



POTENTIAL GRADIENT (reduced to level surface): DIURNAL INEQUALITIES (in volts per metre).  
The departures from the mean of the day are adjusted for non-cyclic change.†  
SELECTED QUIET DAYS.

543. RICHMOND (Kew Observatory).

1933.

Month and Season.	Hour 0-1	G.M.T. 1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Non Cyclic Change	Mean Values
Jan.	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m
Feb.	-55	-120	-168	-142	-128	-117	-88	-17	+53	+90	+46	-18	-13	-41	-37	+18	+57	+102	+167	+178	+137	+103	+24	-27	-5	563
Mar.	-21	-62	-87	-122	-117	-135	-91	+3	+69	+81	+80	+70	+28	-44	-67	-63	-7	+44	+116	+95	+101	+88	+40	+2	-44	487
Apr.	-47	-116	-147	-134	-120	-122	-86	+12	+90	+77	-18	-31	-48	-18	+8	+31	+57	+69	+119	+150	+111	+92	+48	+23	-59	489
May	-53	-72	-74	-79	-50	-28	+39	+68	+107	+76	+9	-26	-47	-56	-38	-20	-16	-2	+22	+74	+74	+74	+35	-15	-61	281
June	-26	-37	-47	-47	-73	-54	+29	+118	+104	+79	+41	+12	-31	-39	-24	-30	-27	-27	-19	+20	+27	+29	+8	+15	+15	232
July	-6	-30	-18	-4	-1	+32	+103	+113	+83	+37	-19	-36	-66	-73	-59	-46	-24	-46	-38	-10	+30	+34	+28	+17	-1	244
Aug.	-46	-21	-22	-40	-47	-13	+55	+71	+92	+72	+29	+9	-11	-22	-14	-38	-45	-34	-18	-7	+17	+28	+14	-8	+39	230
Sept.	-33	-50	-56	-39	-49	-8	+43	+123	+124	+110	+66	+16	-21	-44	-54	-62	-59	-55	-37	+14	+8	+25	+24	+14	+48	243
Oct.	-74	-97	-108	-101	-95	-64	+38	+116	+124	+82	+10	-4	-16	-12	-2	+9	+33	+34	+49	+87	+41	+32	-15	-46	+5	282
Nov.	-79	-101	-105	-81	-73	-29	-7	+91	+139	+100	+30	-39	-69	-61	-41	-6	+26	+61	+87	+93	+77	+36	-6	-43	-26	352
Dec.	-82	-129	-142	-162	-120	-125	-79	-9	+11	+33	+43	+61	+35	+23	+20	+100	+131	+93	+79	+57	+78	+65	+51	-19	+20	487
Year.	-50	-97	-164	-175	-161	-143	-115	-69	+43	+66	-76	+45	+44	+37	+78	+69	+79	+105	+122	+107	+87	+18	-8	-28	-43	504
Winter.	-47	-78	-95	-94	-85	-67	-13	+52	+88	+77	+33	+5	-18	-29	-20	-3	+17	+29	+55	+70	+66	+51	+20	-10	...	363
Spring.	-52	-102	-140	-150	-129	-130	-93	-23	+44	+73	+61	+39	+23	-6	-1	+31	+65	+86	+123	+109	+101	+66	+27	-18	...	505
Summer.	-63	-97	-109	-99	-85	-61	-4	+72	+115	+84	+8	-25	-45	-37	-18	+3	+25	+41	+69	+96	+76	+59	+15	-20	...	346
Year.	-27	-35	-36	-33	-43	-11	+57	+106	+104	+75	+29	0	-32	-45	-40	-44	-39	-41	-28	+4	+21	+29	+19	+9	...	237

AIR POLLUTION: HOURLY MEANS FOR EACH MONTH (milligrams per cubic metre).  
COMPLETE DAYS ONLY.

544. RICHMOND (Kew Observatory).

1933.

Month and Season	Hour 0-1	G.M.T. 1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	No. of Days Used.
	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	
Jan.	.21	.17	.13	<u>.12</u>	.13	.15	.16	.21	.33	.45	.50	.47	.38	.33	.33	.34	.39	.40	.45	.44	.49	<u>.52</u>	.43	.33	.33	31
Feb.	.11	.10	.09	.09	<u>.07</u>	.09	.10	.15	.23	.24	.20	.18	.14	.14	.12	.13	.15	.21	.29	.33	<u>.35</u>	.28	.21	.17	.17	28
Mar.	.26	.20	.19	.15	.13	.13	.15	.20	.27	.24	.19	.19	.15	.13	.13	<u>.12</u>	<u>.12</u>	.17	.22	.27	.31	<u>.34</u>	.32	.27	.20	29
Apr.	.11	.10	.10	.10	.11	.11	.14	.18	.18	.14	.10	.09	.09	<u>.08</u>	<u>.08</u>	.09	.09	.11	.13	.18	.20	<u>.22</u>	.19	.15	.13	30
May	.11	.12	.12	.11	.11	.15	.16	<u>.19</u>	.17	.13	.12	.11	.10	.09	<u>.09</u>	.09	.10	.11	.11	.14	.13	.15	.13	.12	.12	28
June	.07	.08	.08	.08	.09	.09	.10	<u>.11</u>	.10	.08	.07	.07	.05	.05	<u>.05</u>	<u>.05</u>	<u>.05</u>	<u>.05</u>	.05	.05	.06	.08	.07	.08	<u>.07</u>	26
July	.08	.08	.08	.08	.09	.10	.13	.13	<u>.13</u>	.08	.07	.07	.05	.05	.05	.05	.05	<u>.04</u>	.05	.08	.07	.07	.08	.07	.07	31
Aug.	.08	.09	.08	.08	.07	.10	.12	<u>.14</u>	.13	.11	.10	.09	.08	.08	.07	.07	.06	<u>.05</u>	.06	.06	.08	.08	.09	.09	.09	28
Sept.	.14	.14	.15	.13	.14	.15	.21	<u>.26</u>	<u>.26</u>	.20	.16	.13	.10	<u>.10</u>	.10	.11	.10	.12	.15	.18	.17	.15	.15	.15	.15	30
Oct.	.25	.22	.22	.20	.18	<u>.18</u>	.20	.23	.33	.35	.26	.22	.18	<u>.19</u>	.19	.22	.25	.31	.38	.39	<u>.42</u>	<u>.42</u>	.37	.30	.27	31
Nov.	.32	.28	.27	.25	.25	<u>.25</u>	<u>.23</u>	.29	.47	.50	.37	.38	.39	.37	.39	.39	.40	.46	.49	.53	<u>.54</u>	<u>.52</u>	.50	.42	.39	29
Dec.	.36	.28	.27	.27	.23	<u>.21</u>	.22	.28	.42	.52	.64	.59	.56	.53	.49	.54	.61	.61	.58	.62	<u>.64</u>	<u>.64</u>	.62	.50	<u>.47</u>	30
Year.	.18	.15	.15	.14	<u>.13</u>	.14	.16	.20	.25	.25	.23	.21	.19	.18	.17	.18	.20	.22	.25	.27	.29	<u>.29</u>	.27	.22	.21	361
Winter.	.25	.21	.19	.18	<u>.17</u>	.17	.18	.23	.36	.43	.43	.40	.37	.34	.33	.35	.39	.42	.45	.48	<u>.51</u>	.49	.44	.36	.34	118
Equx. Spring.	.19	.15	.14	.13	.12	.12	.15	.19	.23	.19	.15	.14	.12	.11	.11	<u>.11</u>	<u>.11</u>	.14	.17	.23	.25	<u>.28</u>	.26	.21	.17	59
Autumn.	.19	.18	.18	.16	.16	.16	.20	.25	.29	.27	.21	.17	<u>.14</u>	.14	.15	.16	.18	.21	.27	.28	<u>.30</u>	.29	.26	.23	.21	61
Summer.	.09	.09	.09	.09	.09	.11	.13	<u>.14</u>	.13	.10	.09	.08	.07	.07	.06	.07	.06	<u>.06</u>	.07	.08	.09	.09	.09	.09	.09	113

AIR POLLUTION: DIURNAL INEQUALITIES (milligrams per cubic metre).  
The departures from the mean of the day are adjusted for non-cyclic change.†

545. RICHMOND (Kew Observatory).

1933.

Month and Season.	Hour 0-1	G.M.T. 1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Non Cyclic Change	Range
Jan.	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>
Feb.	-.12	-.16	-.20	-.21	-.20	-.18	-.17	-.12	+.01	+.12	+.17	+.14	+.06	+.00	+.00	+.01	+.06	+.07	+.12	+.11	+.16	+.20	+.11	+.01	+.01	+.41
Mar.	-.05	-.06	-.07	-.08	-.08	-.07	-.07	-.01	+.05	+.07	+.03	+.01	-.04	-.04	-.06	-.05	-.03	+.03	+.11	+.15	+.17	+.09	+.03	-.01	+.03	.26
Apr.	-.01	-.03	-.03	-.03	-.02	-.02	+.01	+.05	+.05	+.01	-.03	-.04	-.04	-.05	-.05	-.04	-.04	-.02	.00	+.05	+.07	+.09	+.06	+.02	.00	.14
May	-.01	-.01	-.01	-.01	-.01	+.02	+.04	+.07	+.05	+.01	-.01	-.01	-.02	-.03	-.04	-.03	-.03	-.02	-.02	+.01	+.01	+.02	+.01	.00	.00	.11
June	.00	+.01	+.01	+.01	+.01	+.02	+.03	+.04	+.03	+.01	.00	-.01	-.02	-.02	-.02	-.02	-.02	-.02	-.02	-.01	-.01	+.01	+.01	+.01	.00	.06
July	.00	.00	+.01	+.01	+.01	+.03	+.05	+.05	+.05	+.01	.00	-.01	-.02	-.03	-.03	-.02	-.03	-.03	-.03	-.02	-.01	.00	.00	-.01	.00	.08
Aug.	.00	.00	-.01	.00	-.01	+.02	+.03	+.05	+.04	+.02	.00	-.01	-.01	-.01	-.01	-.02	-.02	-.02	-.03	-.03	-.01	-.01	.00	.00	.00	.09
Sept.	-.01	-.01	.00	-.02	-.01	.00	+.06	+.11	+.05	+.01	-.03	-.05	-.05	-.05	-.05	-.05	-.05	-.04	.00	+.03	+.02	.00	.00	.00	.00	.16
Oct.	-.02	-.05	-.05	-.07	-.09	-.09	-.03	+.06	+.06	-.01	-.05	-.09	-.08	-.07	-.06	-.05	-.01	+.04	+.11	+.12	+.15	+.15	+.10	+.03	.00	.24
Nov.	-.06	-.11	-.11	-.13	-.13	-.13	-.15	-.09	+.09	+.11	-.01	-.01	+.01	-.02	+.01	.00	+.01	+.07	+.10	+.14	+.15	+.13	+.11	+.03	+.01	.30
Dec.	-.11	-.18	-.20	-.20	-.24	-.25	-.25	-.19	-.05	+.05	+.17	+.12	+.09	+.06	+.02	+.07	+.15	+.14	+.11	+.15	+.17	+.17	+.15	+.03	.00	.42
Year.	-.03	-.05	-.06	-.07	-.07	-.05	-.05	-.01	+.05	+.05	+.03	+.01	-.01	-.03	-.03	-.02	-.01	+.01	+.04	+.07	+.08	+.08	+.06	+.02	.00	.15
Winter.	-.09	-.13	-.15	-.15	-.17	-.16	-.16	-.10	+.03	+.09	+.09	+.07	+.03	.00	-.01	+.01	+.05	+.08	+.11	+.14	+.17	+.15	+.10	+.01	+.01	.34
Spring.	.00	-.03	-.03	-.05	-.05	-.05	-.01	+.03	+.07	+.04	-.01	-.03	-.06	-.06	-.06	-.05	-.05	-.01	+.03	+.07	+.09	+.10	+.07	+.03	-.01	.16
Summer.	.00	.00	.00	.00	.00	+.02	+.04	+.05	+.04	+.01	.00	-.01	-.02	-.02	-.03	-.02	-.03	-.03	-.02	-.01	.00	+.01	+.01	.00	.00	.08



*Galitzin Seismographs, three components.*

**1933.**

Date.	Compt.	Phase.	G.M.T.	Period.	Ampli- tude.	Δ	Remarks.	Date.	Compt.	Phase.	G.M.T.	Period.	Ampli- tude.	Δ	Remarks.
Jan. 1*	ZNE	eL F	h. m. s. 9 58 10 25	s. ... ...	μ ... ...	km. ... ...	New Hebrides. 15° S., 167° E. (Manila).	Feb. 3	N NE NE Z N	e i L L M F	h. m. s. 22 33 52 33 57 52 58 59 12 23 30	s. ... ... ... 23 ...	μ ... ... ... - 8 ...	km. ... ... ... ... ...	Kurile Islands. 46° N., 151° E. (J.S.A.).
3*	ZNE	eL F	16 9 40	... ... ...	... ... ...	... ... ...	Japan. (40° N., 144° E. (Tokyo).								
4*	ZNE	eL F	2 9 45	... ... ...	... ... ...	... ... ...	S.E. of Japan 26° N., 145° E. (Tokyo).	8		e F	7 10 24 12	... ... ...	... ... ...	... ... ...	Southern Germany. Very small.
4*	ZNE	eL F	4 29 50	... ... ...	... ... ...	... ... ...	Coast of Alaska 62° N., 148° W. (U.S.C.G.S.).	13	NE NE Z N E Z	e L eL M M M F	3 10 15 20 20 37 24 59 25 1 4 5	... ... ... 18 12 12 ...	... ... ... +19 +33 -42 ...	... ... ... ... ... ...	Gobi Desert, China. 45° N., 89° E. (Bombay).
7	ZN ZNE E NE NE E N Z N E	eP eS e(SS) e eL M M eL M M F	4 19 29 31 35 00 36 16 45 46 55 47 54 52 54 54 55 3 6 5	... ... ... ... ... 41 38 ... 20 21 ...	... ... ... ... ... -27 +30 ... +31 +55 ...	(9000) ... ... ... ... ... ... ... ... ... ...	Japan, 40° N., 144° E. (Tokyo).								
8		e F	7 13 40	... ... ...	... ... ...	... ... ...		14		e F	6 45 7 10	... ... ...	... ... ...	... ... ...	China. 43° N., 81° E. (U.R.S.S.).
								19		e F	5 26 45	... ... ...	... ... ...	... ... ...	
8								22		e F	18 25 40	... ... ...	... ... ...	... ... ...	Azores.
9	ZE Z ZNE NE NE ZNE N	iP iPP iS eSS iSS eSS F	2 10 27 11 17 17 29 18 54 19 53 21 21 22 41 3 15	... ... ... ... ... ... ... ...	... ... ... ... ... ... ... ...	5700† ... ... ... ... ... ... ...	Compression. Azimuth about east. Samarkand, 40° N., 67° E. (Strasbourg). Deep focus (0.03). †Distance and depth from tables by F. J. Scrase.	23	Z ZNE ZNE E NE N NE NE NE N E ZNE E N Z	iP iPP i eSKS iSKKS i iPS iPPS iSS LQ M M LR M M M F	8 22 31 26 12 26 36 33 8 33 28 34 6 35 18 35 48 40 7 48 51 16 51 21 54 59 12 9 0 16 0 33 11 30	... ... ... ... ... ... ... ... ... ... 44 40 ... 23 21 19 ...	... ... ... ... ... ... ... ... ... ... +150 +95 ... +170 -125 -125 ...	10700 ... ... ... ... ... ... ... ... ... ... ... ... ... ... ...	Compression. Pacific Ocean off Northern Chile, 20° S., 71° W. (J.S.A.).
14	ZNE ZNE	i(Sg) i F	8 31 52 31 56 33	... ... ...	... ... ...	... ... ...	Northern England. Very small.								
17		e F	19 40 20 5	... ... ...	... ... ...	... ... ...									
17		e F	22 46 55	... ... ...	... ... ...	... ... ...		25		e F	23 32 45	... ... ...	... ... ...	... ... ...	Felt in Sicily.
18	ZNE	eL F	9 13 25	... ... ...	... ... ...	... ... ...		27		e F	17 35 18 10	... ... ...	... ... ...	... ... ...	
21		e F	16 3 17 10	... ... ...	... ... ...	... ... ...		28		e F	22 27 35	... ... ...	... ... ...	... ... ...	Very small.
21	ZNE ZNE E NE E NE NE NE NE Z N Z E N E N E	iP iPP ePPP eSKS iSKKS iS iPS iSS eSSS L eL M M M M M M F	19 34 58 39 2 41 17 45 31 46 7 46 37 48 5 53 37 57 19 20 3 8 16 43 17 36 17 54 21 29 22 22 24 35 24 38 22 40	... ... ... ... ... ... ... ... ... ... ... 23 21 22 20 19 20 18 ...	... ... ... ... ... ... ... ... ... ... ... +51 +59 -59 -51 +64 +49 +58 ...	11200 ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ...	Dilatation. Indian Ocean, 34° S., 58.5° E. (Strasbourg).	Mar. 2/3	ZNE ZNE ZNE Z E E E E E N ZNE N E Z	iP i i iPP iPP iSKS i iS iPS i i i SS eL M M M F	17 43 31 43 35 43 39 46 58 49 3 49 5 53 51 53 57 54 1 54 53 55 3 55 32 58 59 59 9 59 16 59 (43) 18 7 From 18 10 to 18 40 1 30	... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... 			

\* Confused by microseisms.



## SEISMOLOGICAL DIARY—continued.

Galitzin Seismographs, three components.

546. Richmond (Kew Observatory).

Lat. 51° 28' 6" N. Long. 0° 18' 47" W. Height above M.S.L. 5 metres.

1933.

Date.	Compt.	Phase.	G.M.T.	Period.	Ampli- tude.	Δ	Remarks.	Date.	Compt.	Phase.	G.M.T.	Period.	Ampli- tude.	Δ	Remarks.
Mar. 3		e F	h. m. s. 15 50 16 10	s. ... ...	μ ... ...	km. ... ...		Mar. 17* cont.	E Z E Z	M eL M M F	h. m. s. 29 57 30 42 22 42 26 21 25	s. 27 ... 19 18 ...	μ +24 ... -24 +21 ...	km. ... ... ... ...	
6		e F	13 46 14 5	... ...	... ...	... ...	Garro Hills, Assam. (Bombay.)								
7		e F	14 49 15 0	... ...	... ...	... ...	Southern Italy.	18*	N NE	e eL	3 35 51	... ...	... ...	... ...	Western Pacific Ocean. 21° N., 135° E. (U.R.S.S.)
8		e F	2 22 40	... ...	... ...	... ...	Pacific Ocean off Japan. 42° N., 148° E. (U.R.S.S.)		E Z N	M eL M F	54 8 59 4 6 40 30	46 ... 20 ...	(-50) ... + 8 ...	... ... ... ...	Small on "N-S" component.
10		e F	6 29 35	... ...	... ...	... ...	Very small.	22	NE NE Z	eS eL eL F	18 22 46 25 28 35	... ... ... ...	... ... ... ...	... ... ... ...	Felt in Ionian Is- lands.
11	ZNE NE NE Z N E Z	eP eS eL eL M M M F	2 6 15 16 18 26 30 37 34 39 52 44 58 3 30	... ... ... ... 22 17 19 ...	... ... ... ... +24 +14 -17 ...	... ... ... ... ... ... ... ...	Destructive round long Beach, Southern California. 33° 35' N., 117° 59' W. (Pasadena.)	23	Z NE Z	e eL eL F	18 4 (23) 12 14 45	... ... ... ...	... ... ... ...	... ... ... ...	Gobi Desert, China. (Bombay.)
11	Z N ZNE Z NE E Z Z N	eP ePP eSKS e(S) eL M eL M M F	14 34 24 38 8 44 19 45 27 15 6 8 44 14 17 39 19 48 16 10	... ... ... ... ... 23 15 16 ...	... ... ... ... ... + 7 + 5 + 6 ...	... ... ... ... ... ... ... ...	(10100)	26		e F	5 38 45	... ...	... ...	... ...	} Very small.
								26		e F	19 47 55	... ...	... ...	... ...	
								28		e F	4 54 5 10	... ...	... ...	... ...	
11	Z Z ZNE NE NE Z E E	iP i iPP eSKS iS i e iSS F	19 45 7 47 2 49 5 54 53 55 31 56 55 58 57 20 2 13 21 5	... ... ... ... ... ... ... ... ...	... ... ... ... ... ... ... ... ...	... ... ... ... ... ... ... ... ...	Western Pacific Ocean. 24° N., 138° E. (Manila.) Deep focus. Surface waves very poorly developed.	31 Apr. 1		e F	22 38 55	... ...	... ...	... ...	Yun nan, China. 24° N., 102° E. (Bombay.)
								9	NE E Z N	eL M eL M F	16 44 47 24 48 50 9 17 15	... 24 ... 21 ...	... + 5 ... + 4 ...	... ... ... ...	Japan. 39.5° N. 143.5° E. (Tokyo.)
12		e F	5 55 6 10	... ...	... ...	... ...	Japan. 36° N., 140° E. (U.R.S.S.)								
13		e F	8 5 20	... ...	... ...	... ...									
14	ZNE E N NE Z N	eP eS e L L M F	1 24 30 28 34 28 42 30 0 32 4 32 29 —	... ... ... ... ... 12 ...	... ... ... ... ... +15 ...	... ... ... ... ... ... ...	Ægean Sea. 39° N., 25° E. (U.R.S.S.)		ZNE Z NE N E N NE Z N E Z	iP e ePP S e eSS eL eL M M M F	2 59 11 59 30 3 2 16 9 35 13 37 15 9 21 2 26 32 35 22 35 33 39 36 —	... ... ... ... ... ... ... ... ... 21 21 20 ...	... ... ... ... ... ... ... ... ... +23 +41 -14 ...	... ... ... ... ... ... ... ... ... ... ... ...	9280 Japan. 39° N., 143° E. (J.S.A.)
14	N NE Z	e eL eL F	1 47 50 56 2 40	... ... ... ...	... ... ... ...	... ... ... ...	Overlapped by next shock.	9	Z ZNE N E E NE Z N N E Z	eP eS e eSS eL eL M M M F	4 10 51 21 14 25 37 26 57 30 39 37 39 40 56 45 58 48 12 48 16 5 30	... ... ... ... ... ... ... ... ... ... ... ...	... ... ... ... ... ... ... ... ... ... ... ...	... ... ... ... ... ... ... ... ... ... ... ...	9250 Pacific Ocean off Central America. 19° N., 107° W. (J.S.A.)
15	ZNE	eL F	6 23 7 10	... ...	... ...	... ...									
17*	ZN NE N ZE N E ZN N E Z	iP eS iSKS eSP eSS eL eL M M M F	16 6 58 16 36 17 13 17 21 20 58 25 29 38 44 48 46 17 40	... ... ... ... ... ... ... 20 14 ...	... ... ... ... ... ... ... -24 +17 -16 ...	... ... ... ... ... ... ... ... ... ...	8365 Kamtchatka. 56° N., 160° E. (J.S.A.)	9		e F	11 19 40	... ...	... ...	... ...	Japan.
								9	ZE	e eL F	21 47 53 22 10	... ... ...	... ... ...	... ... ...	Repetition of shock at 9d. 4h.
17*	Z E E NE NE N	ePP eSKS ePS e eL M	19 51 13 57 44 20 0 19 16 53 23 29 57	... ... ... ... ... 27	... ... ... ... ... -37	... ... ... ... ... ...	(11800) Felt in Eastern Mindanao. 6.5° N., 128° E. (Manila.)	12	N N N	i i i F	14 31 57 32 16 32 19 33	... ... ... ...	... ... ... ...	... ... ... ...	Very small. Felt in Jersey.
								13		e F	23 22 55	... ...	... ...	... ...	

\* Confused by wind and microseisms.



## SEISMOLOGICAL DIARY—continued.

Galitzin Seismographs, three components.

546. Richmond (Kew Observatory).

Lat. 51° 28' 6" N. Long. 0° 18' 47" W. Height above M.S.L. 5 metres.

1933.

Date.	Compt.	Phase.	G.M.T.	Period.	Ampli- tude.	Δ	Remarks.	Date.	Compt.	Phase.	G.M.T.	Period.	Ampli- tude.	Δ	Remarks.
Apr. 16		e F	h. m. s. 7 26 8 25	s. ... ...	μ ... ...	km. ... ...	Between New Zealand and Kermadec Islands 34° S., 178° W. (Stuttgart.)	May 1	Z E ZN	eP eL eL	h. m. s. 19 1 45 30 34	s. ... ...	μ ... ...	km. ... ...	South of Aleutian Is- lands. 50° N., 170° W. (J.S.A.)
16	ZE Z E Z Z	ePP eSP eL M F	19 37 6 46 35 20 13 27 31 58 21 45	... ... ... 21 21	... ... ... + 8 ...	(13000) ... ... ... ...	No "N" record. New Guinea. 3° S., 139° E. (Stuttgart.)	1	Z E E ZN E Z	iP eS eL eL M M F	20 3 23 13 34 26 31 35 5 44 51 22 5	... ... ... ... 28 18	... ... ... ... -13 + 6	9010 ... ... ... ... ...	Overlapped by next shock. Pacific Ocean off Kurile Islands. 45° N., 153° E. (U.R.S.S.)
19		e F	2 34 4 00	... ...	... ...	... ...		2		e F	0 2 35	... ...	... ...	... ...	
19	Z E NE NE E N Z N E Z	ePP e(S) eSSS eL M M eL M M M F	7 1 4 8 20 18 40 30 32 42 32 55 37 42 9 42 9 42 15 8 50	... ... ... ... 26 25 ... 17 17 15	... ... ... ... -16 -16 ... +50 +33 -47	(10000) ... ... ... ... ... ... ... ... ... ...	Felt at Fu-chow. 24° N., 122° E. (Kōti.)	4		e F	0 18 35	... ...	... ...	...	
23	ZNE ZNE NE ZNE Z NE Z E Z N	iP i iS i i L L M M M	6 2 54 2 57 7 16 7 23 7 26 9 11 13 24 14 1 15 11	... ... ... ... ... ... ... 17 10 12	... ... ... ... ... ... ... +94 -51 +89	2720 ... ... ... ... ... ... ... ... ... ...	Amplitudes of iP as read in mm. :— Z. N. E. +2.7 +1.4 -2.8 Giving azimuth about 115° 36.5° N., 26.5° E. (Strasbourg.) Destructive in Italian island of Kos, Aegean Sea. Overlapped by next shock.	6	Z E ZN NE N ZE E Z	iP iS e e N eL M M F	5 45 52 55 57 56 2 6 1 6 8 11 12 51 15 44 7 10	... ... ... ... ... ... 27 20	... ... ... ... ... ... -13 -10	8900 ... ... ... ... ... ... ... ...	Pacific Ocean off Central America. 6° N., 83° W. (J.S.A.)
23		F	—	...	...	...	Overlapped by next shock.	6		e F	21 12 30	... ...	... ...	...	Very small.
23	Z NE NE Z E	eP eS L L M F	7 26 14 36 40 54 8 1 2 51 9 30	... ... ... ... 21	... ... ... ... -20	9310 ... ... ... ...	Pacific Ocean east of Japan. 39.7° N., 143.6° E. (Tokyo.)	8		e F	1 22 40	... ...	... ...	...	Aegean Sea. 38.5° N., 24.0° E. (U.R.S.S.)
23	ZNE	eL F	11 27 40	...	...	...		8	ZE ZE ZE E N ZE N E Z	iP i ePP eS eL eL M M M F	10 46 11 46 15 49 19 56 10 11 9 13 20 14 23 41 24 36 13 35	... ... ... ... ... ... 24 18 17	... ... ... ... ... ... +21 +27 +17	8770 ... ... ... ... ... ... ... ...	Compression. Pacific Ocean off Mexico. 16° N., 101° W. (J.S.A.)
25	ZN ZNE	e eL F	22 42 41 48 23 00	...	...	...		9		e F	3 25 40	... ...	... ...	...	
27	ZN ZNE ZNE E N N E NE Z N Z E	P iP iPP iS iPS i iSS eL eL M M M eL <sub>2</sub> F	2 46 48 46 53 49 14 55 35 55 51 56 50 59 36 3 5 9 11 54 18 3 19 47 5 8 6 0	... ... ... ... ... ... ... ... ... 28 13 15	... ... ... ... ... ... ... ... ... +101 -67 -48	7350 ... ... ... ... ... ... ... ... ... ... ... ...	Amplitudes of iP as read in mm. :— Z. N. E. -10.0 +5.3 -1.4 Giving azimuth about 344° Alaska. 61° N., 150° W. (U.S.C.G.S.) Via Antipodes.	11	Z ZNE Z ZNE ZNE N E Z	eP iP PP eS eL M M M F	19 14 18 14 20 15 40 17 59 20 20 56 22 18 22 22 20 15	... ... ... ... ... 14 11 8	... ... ... ... ... +85 -62 +41	2210 ... ... ... ... ... ... ... ...	Dilatation. Amplitudes of iP as read in mm :— Z. N. E. +6.0 +2.0 -3.4 Azimuth = 118° giv- ing epicentre near 40° N., 23° E. Gulf of Salonica.
27	Z NE Z NE Z	e(P) e(S) e eL eL F	12 12 27 17 11 19 17 34 37 13 40	... ... ... ... ... ...	... ... ... ... ... ...	... ... ... ... ... ...	South of Aleutian Is- lands. 50° N., 170° W. (U.R.S.S.)	15		e F	20 11 30	... ...	... ...	...	
28	NE N Z	eS L M eL F	22 38 48 42 43 18 45 23 0	... ... 16 ...	... ... - 9 ...	... ... ... ...	Eastern Mediterranean. 35° N., 28° E. (U.R.S.S.)	16	ZE NE NE Z N E	eP eSKS eL eL M M F	1 25 (28) 35 (50) 2 3 7 5 32 15 17 3 35	... ... ... ... 25 19	... ... ... ... +14 +11	10000 ... ... ... ... ... ...	North-west of Suma- tra. 6° N., 95° E. (U.R.S.S.)
								18		e F	0 40 1 5	... ...	... ...	...	Kamchatka.



## SEISMOLOGICAL DIARY—continued.

Galitzin Seismographs, three components.

546. Richmond (Kew Observatory).

Lat. 51° 28' 6" N. Long. 0° 18' 47" W. Height above M.S.L. 5 metres.

1933.

Date.	Compt.	Phase.	G.M.T.	Period.	Ampli- tude.	Δ	Remarks.	Date.	Compt.	Phase.	G.M.T.	Period.	Ampli- tude.	Δ	Remarks.
May 19	Z	eP	h. m. s.	s.	μ	km.	Atlantic Ocean. 1° 5' S., 11° W. (Strasbourg.)	June 10	Z	eP	h. m. s.	s.	μ	km.	Compression. Atlantic Ocean west of Iceland. 64° N., 25° W. (J.S.A.)
	ZNE	iP	18 7 30	...	...	5990			ZNE	iP	12 10 52	...	...	2050	
	ZNE	eS	7 34	...	...	...			NE	eS	10 57	...	...	...	
	NE	eL	15 5	...	...	...			ZNE	L	14 20	...	...	...	
	Z	eL	20	...	...	...			Z	M	15	...	...	...	
	N	M	24	...	...	...			E	M	17 4	15	+16	...	
	E	M	27 41	26	+55	...			N	M	17 27	13	-16	...	
	Z	M	31 27	15	-43	...			F	F	18 20	12	+17	...	
		F	31 57	13	+39	...					14 10	...	...	...	
20		e	5 50	...	...	...		10	ZNE	eL	14 23	...	...	...	
		F	7 0	...	...	...				F	40	...	...	...	
23		e	17 29	...	...	...		10		e	15 21	...	...	...	
		F	18 00	...	...	...				F	35	...	...	...	
30		e	12 22	...	...	...	Very small.	10		e	16 38	...	...	...	
		F	45	...	...	...				F	17 00	...	...	...	
30		e	14 48	...	...	...		10		e	20 42	...	...	...	
		F	55	...	...	...				F	55	...	...	...	
31		e	20 6	...	...	...	Greece. 39° 5' N., 23° 0' E. (U.R.S.S.)	11		e	13 28	...	...	...	
		F	15	...	...	...				F	35	...	...	...	
June 1	ZN	eP	2 45 13	...	...	2280	Felt in eastern Mace- donia. 40° 5' N., 22° 5' E. (U.R.S.S.)	11		e	14 34	...	...	...	
	ZNE	eS	49 00	...	...	...				F	15 35	...	...	...	
		eL	51	...	...	...		12	Z	eP	15 34 22	...	...	...	Pacific Ocean. 50° N., 145° W. (U.R.S.S.)
	N	M	52 3	13	+ 3	...			ZNE	eL	16 2	...	...	...	
		F	3 10	...	...	...				F	45	...	...	...	
2	Z	eP	7 51 30	...	...	9550	Japan. 31° 7' N., 131° 1' E. (Tokyo.)	12	ZNE	eL	21 50	...	...	...	Japan. 38° 8' N., 141° 7' E. (Tokyo.)
	E	eS	8 1 57	...	...	...				F	22 10	...	...	...	
	NE	eL	22	...	...	...		13	Z	eP	20 45 59	...	...	9100	Pacific Ocean off Japan. 40° 7' N., 143° 7' E. (Tokyo.)
	Z	eL	26	...	...	...			Z	ePP	46 15	...	...	...	
	N	M	33 56	20	+10	...			NE	eS	49 10	...	...	...	
	E	M	37 48	18	-11	...			E	eL	56 15	...	...	...	
		F	9 10	...	...	...			ZN	eL	21 12	...	...	...	
2		e	13 27	...	...	...	Very small. North of New Guinea. 0°, 136° 5' E. (U.R.S.S.)		N	M	17	...	...	...	
		F	40	...	...	...			E	M	22 25	20	+ 9	...	
3	Z	eP	17 22 2	...	...	(10000)	Japan. 29° N., 129° 5' E. (Manila.)	13	Z	eP	22 30 33	...	...	7230	Alaska. 61° N., 149° W. (J.S.A.)
	Z	ePP	25 32	...	...	...			Z	ePP	32 54	...	...	...	
	ZNE	eL	58	...	...	...			NE	eS	39 14	...	...	...	
	N	M	18 1 5	19	+ 8	...			E	eL	51	...	...	...	
	Z	M	6 30	15	- 8	...			ZN	eL	54	...	...	...	
		F	45	...	...	...			E	M	59 52	18	+ 3	...	
4		e	13 32	...	...	...	Very small		N	M	23 0 52	19	+ 6	...	
		F	40	...	...	...				F	50	...	...	...	
4		e	14 9	...	...	...		14		e	21 33	...	...	...	Very small.
		F	15	...	...	...				F	45	...	...	...	
6		e	2 51	...	...	...	Philippine Islands. 14° 20' N., 121° 35' E. (Manila.)	16		e	1 30	...	...	...	
	NE	eL	3 18	...	...	...				F	2 5	...	...	...	
	Z	eL	27	...	...	...		18	E	e	5 0	...	...	...	
	Z	M	30 46	19	- 7	...			ZNE	eL	8	...	...	...	
	N	M	32 8	20	- 6	...			N	M	10 28	24	- 7	...	
		F	4 0	...	...	...				F	6 0	...	...	...	
7	Z	eP	11 57 49	...	...	8400	Southern China. 25° 2' N., 101° 9' E. (Chiufeng.)	18/19	ZNE	iP	21 50 9	...	...	9200	Amplitudes of iP as read in mm. :— Z. N. E. +4.7 -2.0 (-0.8)
	NE	eS	12 7 29	...	...	...			ZNE	iPP	53 20	...	...	...	
	NE	eL	23	...	...	...			ZN	ePPP	55 29	...	...	...	
	Z	eL	28	...	...	...			NE	iS	22 0 29	...	...	...	
	Z	M	35 8	15	- 7	...			E	i	0 34	...	...	...	Large movement.
		F	14 00	...	...	...			ZE	i	0 57	...	...	...	
8	Z	iP	18 23 10	...	...	9300	Pacific Ocean off Japan. 40° 2' N., 144° 0' E. (Tokyo.)		ZE	iPS	1 27	...	...	...	Emergent on N-S component.
	ZNE	ePP	26 25	...	...	...			N	iPPS	2 20	...	...	...	
	NE	eL	52	...	...	...			E	iSS	6 18	...	...	...	
	ZE	eL	55	...	...	...			E	iSSS	9 38	...	...	...	
	E	M	57 10	25	+ 9	...			NE	L	15	...	...	...	
		F	20 00	...	...	...			Z	L	20	...	...	...	
10		e	12 4	...	...	...	Caribbean Sea. 17° N., 85° W. (J.S.A.)		E	M	20 28	36	-200	...	North of Japan. 38° 5' N., 142° 8' E. (Tokyo.)
		F	—	...	...	...			N	M	22 24	30	-155	...	
				...	...	...	Overlapped by next shock.		E	M	23 20	27	+105	...	
				...	...	...			N	M	26 57	23	+140	...	
				...	...	...			E	M	27 56	20	+125	...	
				...	...	...			N	M	29 18	23	-195	...	
				...	...	...			E	M	29 35	22	+125	...	
				...	...	...			N	M	30 29	22	-170	...	
				...	...	...			Z	M	30 44	21	-185	...	



SEISMOLOGICAL DIARY—continued.  
Galitzin Seismographs, three components.

546. Richmond (Kew Observatory).

Lat. 51° 28' 6" N. Long. 0° 18' 47" W. Height above M.S.L. 5 metres.

1933.

Date.	Compt.	Phase.	G.M.T.	Period.	Ampli- tude.	Δ	Remarks.	Date.	Compt.	Phase.	G.M.T.	Period.	Ampli- tude.	Δ	Remarks.
June 18/19 cont.	Z	M F	h. m. s. 32 56 1 45	s. 17 ...	μ -135 ...	km. ... ...		July 9 cont.	ZNE	eL F	h. m. s. 10 10 —	s. ... ...	μ ... ...	km. ... ...	Overlapped by next shock.
19		e F	19 23 50	... ...	... ...	...	Alaska. 60° N., 145° W. (U.R.S.S.)	9	Z	eP F	10 0 29 11 30	... ...	... ...	...	
24/25	ZNE E NE N Z E N E Z N E Z	eP iSKS iSS eL M eL M M M M M M F	22 8 46 19 40 29 6 37 44 50 45 51 48 56 36 23 1 16 1 28 3 6 4 25 4 37 2 40	... ... ... ... 43 ... 29 24 20 20 20 17 18 ...	... ... ... ... +340 ... +135 +150 +185 +100 +145 +135 +110 ...	(11200) ... ... ... ... ... ... ... ... ... ... ... ... ...	Destructive in southern Sumatra. 5° S., 104.2° E. (Batavia.)	9	Z	eP F	10 0 29 11 30	... ...	... ...	...	
								9	Z	e F	11 33 47 12 40	... ...	... ...	...	Very small; traces only on horizontal components.
								9	ZNE NE NE Z E Z	iP iS L L M M F	12 42 52 52 59 13 12 16 15 32 23 40 15 45	... ... ... ... 25 21 ...	... ... ... ... -35 +22 ...	8930 ... ... ... ... ... ...	Compression. Kurile Islands. 45° N., 150° E. (U.S.C.G.S.) Repetition of 9d. rh.
25		e F	6 36 7 0	... ...	... ...	...	Very small. Borneo. 2° N., 112° E. (U.R.S.S.)	9	Z E NE Z	eP eS eL eL F	16 19 19 29 25 48 52 17 35	... ... ... ... ...	... ... ... ... ...	8910 ... ... ... ...	Kurile Islands. Further repetition.
25	ZNE ZNE Z	e eL M F	21 14 24 30 54 22 20	... ... 14 ...	... ... + 6 ...	... ... ... ...	Nevada. 39° N., 119° W. (U.S.C.G.S.)	9	Z ZNE	eP eL F	18 3 49 38 19 10	... ... ... ...	... ... ... ...	...	
27	ZE NE ZNE	eP eS L F	15 44 41 48 21 50 16 15	... ... ... ...	... ... ... ...	2200 ... ... ...	Iceland.	9		e F	21 49 22 15	... ...	... ...	...	
28		e F	12 9 30	... ...	... ...	...	Very small.	9		e F	23 0 30	... ...	... ...	...	
28/29	Z NE ZNE	e e eL F	23 46 38 56 14 0 10 1 5	... ... ... ...	... ... ... ...	8330 ... ... ...	Aleutian Islands. 53° N., 163° W. (J.S.A.)	10	Z ZNE	eP eL F	0 34 7 1 8 30	... ... ...	... ... ...	...	East Indies. (Manila.)
29		e F	3 9 30	... ...	... ...	...		10	ZNE E E ZN E Z	iP eS eL eL M M F	3 34 33 44 45 4 2 5 12 1 12 4 5 30	... ... ... ... 16 16 ...	... ... ... ... +26 +23 ...	9030 ... ... ... ... ... ...	Compression. Pacific Ocean off Mexico. 17° N., 104° W. (U.S.C.G.S.) Repetition of 9d. 5h.
29		e F	15 30 35	... ...	... ...	...	Very small.	10	Z ZNE	eP eL F	10 53 36 11 40 12 30	... ... ...	... ... ...	...	
29	ZNE ZNE	eP eL F	16 58 37 17 3 15	... ... ...	... ... ...	...		10		e F	12 35 13 0	... ...	... ...	...	
29	ZNE ZNE	eP eL F	18 33 50 39 50	... ... ...	... ... ...	...	Iceland.	11		e F	7 44 50	... ...	... ...	...	
July 2		e F	12 7 40	... ...	... ...	...		12		e F	12 50 13 5	... ...	... ...	...	
3		e F	15 52 16 15	... ...	... ...	...		12		e F	14 15 25	... ...	... ...	...	
7		e F	8 7 25	... ...	... ...	...	Very small.	14	Z	e(P) F	1 58 11 2 5	... ...	... ...	...	
9	ZNE NE E ZN E N Z	iP eS eL eL M M M F	1 42 16 52 21 2 5 13 14 52 21 29 24 15 4 25	... ... ... ... 25 18 16 ...	... ... ... ... - 9 - 9 + 7 ...	8900 ... ... ... ... ... ... ...	Compression. Kurile Islands. 45° N., 150° E. (U.S.C.G.S.)	18	Z E ZN	ePP eL eL F	19 24 15 58 20 5 40	... ... ... ...	... ... ... ...	...	Caroline Islands. 8° N., 144° E. (Manila.)
								19	ZNE	eL F	5 45 6 0	... ...	... ...	...	
								19		e F	11 27 12 30	... ...	... ...	...	Aleutian Islands. 50° N., 170° W. (J.S.A.)
9	Z NE N ZE	eP eS eL eL F	5 46 59 57 27 11 14 45	... ... ... ... ...	... ... ... ... ...	9550 ... ... ... ...	Pacific Ocean off Mexico. 17° N., 105° W. (U.S.C.G.S.)	19	ZN ZNE	e eL F	13 44 18 14 15 15 (10)	... ... ...	... ... ...	...	Aleutian Islands. 50° N., 170° W. (J.S.A.)
9	NE	e(S)	9 50 22	...	...	...	Earlier phases lost during changing of charts.	19	ZN ZNE	eP eL F	15 11 47 40 16 50	... ... ...	... ... ...	(8700) ...	Aleutian Islands. 51° N., 174° W. (U.S.C.G.S.)



## SEISMOLOGICAL DIARY—continued.

Galitzin Seismographs, three components.

546. Richmond (Kew Observatory).

Lat. 51° 28' 6" N. Long. 0° 18' 47" W. Height above M.S.L. 5 metres.

1933.

Date.	Compt.	Phase.	G.M.T.	Period.	Amplitude.	Δ	Remarks.	Date.	Compt.	Phase.	G.M.T.	Period.	Amplitude.	Δ	Remarks.
July 19	ZNE	eP	h. m. s.	s.	μ	km.	Ægean Sea.	Aug. 7	Z	eP	h. m. s.	s.	μ	km.	Very small.
	NE	eS	20 12 29	...	...	2800	36° N., 27° E.		E	e(S)	3 15 19	...	...	(9370)	
	Z	e	16 57	...	...	...	(Strasbourg.)		ZNE	eL	25 48	...	...	...	
	NE	L	17 6	...	...	...			F	F	41	...	...	...	
	N	M	18	...	...	...					4 10	...	...	...	Kachin. 27° N., 97° E. (Manila.)
		F	21 18	16	-25	...					13 30	...	...	...	
			21 0	...	...	...		7		e	14 5	...	...	...	
				...	...	...			F	F		...	...	...	
20/21	Z	eP	23 26 34	...	...	9210	Pacific Ocean off	11	ZNE	iP	9 5 47	...	...	8430	Indian Ocean. 31° S., 56° E. (Stuttgart.)
	NE	eS	36 55	...	...	...	Japan.		Z	ePP	8 41	...	...	...	
	E	eL	54	...	...	...	41° N., 146° E.		ZNE	eS	15 29	...	...	...	
	ZN	eL	57	...	...	...	(Stuttgart.)		E	eSSS	24 8	...	...	...	
		F	0 35	...	...	...			ZNE	eL	31	...	...	...	Felt in Ponta Delgada, Azores.
				...	...	...			E	M	35 44	25	+15	...	
				...	...	...			N	M	35 57	25	+21	...	
				...	...	...			F	F	10 45	...	...	...	
21/22	Z	eP	20 21 13	...	...	12170	Near Sandwich	13	Z	eP	9 41 46	...	...	...	Pacific Ocean, S.E. of Japan. 28° N., 143° E. (Manila.)
	Z	e(PP)	25 23	...	...	...	Islands.		Z	ePP	45 49	...	...	...	
	E	eS	33 40	...	...	...	(Bombay.)		ZNE	eL	10 18	...	...	...	
	Z	e	35 6	...	...	...			F	F	12 10	...	...	...	
	N	ePS	35 24	...	...	...						...	...	...	No records 5h. 15m. to 8h. 15m.
	E	ePPS	36 3	...	...	...						...	...	...	
	N	eSS	41 31	...	...	...						...	...	...	
	E	eL	52	...	...	...						...	...	...	
	ZN	eL	21 2	...	...	...						...	...	...	Felt in S.E. Luzon. 13.6° N., 124.8° E. (Manila.)
	N	M	8 31	19	-20	...		14		e	22 52	...	...	...	
	Z	M	8 36	20	-24	...			F	F	23 5	...	...	...	
		F	0 10	...	...	...						...	...	...	
22	ZNE	eP	21 7 2	...	...	8420	Amplitudes of eP as	15	ZNE	eP	0 50 8	...	...	2570	Compression. Destructive near Chentu, China. 30.5° N., 103.5° E. (Chinfeng.)
	NE	eS	16 43	...	...	...	read in mm. :—		E	eS	54 19	...	...	...	
	N	eSS	21 44	...	...	...	Z. N. E.		ZNE	eL	55	...	...	...	
	N	eSSS	25 37	...	...	...	+1.5 -0.8 (+0.2)		F	F	2 0	...	...	...	
	Z	ePKKP	25 49	...	...	...						...	...	...	Possibly not seismic.
	E	eL	27	...	...	...	Azimuth between N.	15	NE	eL	3 41	...	...	...	
	ZN	eL	32	...	...	...	and NNW.		Z	eL	49	...	...	...	
	E	M	34 14	26	-33	...	Aleutian Islands.			F	4 15	...	...	...	
	N	M	43 27	20	-37	...	52° N., 169° W.	15	NE	eL	20 24	...	...	...	North Atlantic Ocean.
	E	M	44 53	20	+40	...	(U.S.C.G.S.)		Z	eL	26	...	...	...	
	N	M	46 34	19	-40	...				F	35	...	...	...	
	Z	M	46 37	18	+41	...						...	...	...	
		eL <sub>2</sub>	23 17	...	...	...	Via Antipodes.	17		e	6 34	...	...	...	S. Atlantic, Sandwich Group. 58° S., 27° W. (J.S.A.)
		F	1 15	...	...	...			F	F	45	...	...	...	
				...	...	...						...	...	...	
				...	...	...						...	...	...	
23	Z	eP	4 26 10	...	...	(11000)	Pacific Ocean off	18			—	...	...	...	Very small; traces only on horizontal components.
	E	eSKS	36 52	...	...	...	Peru.					...	...	...	
	ZNE	eL	57	...	...	...	16.5° S., 77.5° W.	20	NE	eL	12 36	...	...	...	
		F	5 45	...	...	...	(Stuttgart.)		Z	eL	45	...	...	...	
23	Z	eP	9 44 41	...	...	...	Atlantic Ocean.	22		eL	11 47	...	...	...	Felt in Samoa. 15° S., 175° W. (J.S.A.)
	ZNE	eL	54	...	...	...	30° N., 40° W.			F	13 0	...	...	...	
		F	10 30	...	...	...	(Stuttgart.)					...	...	...	
				...	...	...						...	...	...	
24	Z	e	10 22	...	...	...	Very small; traces	25	ZNE	eP	8 2 2	...	...	8430	Confused by micro- seisms and wind. Greenland. 67° N., 52° W. (U.R.S.S.)
		F	40	...	...	...	only on horizontal		E	eS	11 44	...	...	...	
				...	...	...	components.		NE	eSS	16 27	...	...	...	
				...	...	...	Felt in Samoa.		NE	eSSS	19 30	...	...	...	
24	Z	ePKP	19 15 11	...	...	(16000)	15° S., 175° W.		NE	L	23.8	...	...	...	Possibly not seismic.
	ZN	ePP	18 37	...	...	...	(J.S.A.)		Z	eL	26	...	...	...	
	N	eSKS	25 17	...	...	...			N	M	31 7	23	-135	...	
	ZNE	eL	20 2	...	...	...			E	M	35 44	24	+175	...	
	Z	M	15 1	20	+22	...				F	10 45	...	...	...	Very small.
	N	M	15 6	20	+18	...						...	...	...	
	E	M	20 (0)	20	+11	...						...	...	...	
		F	22 10	...	...	...						...	...	...	
25	Z	e	3 40.2	...	...	...	Possibly not seismic.	25		e	21 18	...	...	...	Very small.
		F	43	...	...	...			F	F	35	...	...	...	
				...	...	...						...	...	...	
				...	...	...						...	...	...	
25	Z	e	5 5 6	...	...	...		26	ZE	eP	20 23 56	...	...	2160	S. Atlantic, Sandwich Group. 58° S., 27° W. (J.S.A.)
	NE	L	27	...	...	...			ZNE	eS	27 33	...	...	...	
		F	45	...	...	...				L	28.4	...	...	...	
				...	...	...			N	M	29 5	19	+6	...	
31	Z	iP	11 40 26	...	...	...	Confused by micro- seisms and wind.	28/29	Z	eP	22 34 23	...	...	12670	Very small.
	ZNE	L	46	...	...	...	Greenland.		ZNE	ePKP	38 21	...	...	...	
		M	48	...	...	...	67° N., 52° W.		Z	ePP	39 19	...	...	...	
		F	12 10	...	...	...	(U.R.S.S.)		NE	iSKS	45 3	...	...	...	
				...	...	...			E	iS	47 8	...	...	...	Very small.
				...	...	...			NE	iPS	48 51	...	...	...	
				...	...	...			Z	iSP	48 55	...	...	...	
				...	...	...			NE	eSS	54 51	...	...	...	
				...	...	...			N	eSSS	58 27	...	...	...	Very small.
				...	...	...			N	eSSSS	23 2 15	...	...	...	
				...	...	...			NE	eL	5	...	...	...	
				...	...	...			Z	eL	8	...	...	...	
Aug. 4		e	18 21	...	...	...	Very small.		E	M	20 59	18	-78	...	Very small.
		F	30	...	...	...			N	M	22 23	20	+135	...	
				...	...	...			N	M	22 38	18	-130	...	
				...	...	...			Z	F	3 15	...	...	...	
5	NE	e	1 4	...	...	...	Solomon Islands.					...	...	...	Very small.
	Z	eL	44	...	...	...	(Stuttgart.)					...	...	...	
		eL	53	...	...	...						...	...	...	
		F	3 5	...	...	...						...	...	...	



## SEISMOLOGICAL DIARY—continued.

Galitzin Seismographs, three components.

546. Richmond (Kew Observatory).

Lat. 51° 28' 6" N. Long. 0° 18' 47" W. Height above M.S.L. 5 metres.

1933.

Date.	Compt.	Phase.	G.M.T.	Period.	Ampli- tude.	Δ	Remarks.	Date.	Compt.	Phase.	G.M.T.	Period.	Ampli- tude.	Δ	Remarks.
Aug. 29	ZN NE	iSP iSKS	h. m. s. 15 6 30 13 48	s. ...	μ ...	km. (9500)	Brazil. 8° S., 71° W. (J.S.A.)	Sept. 21		e F	h. m. s. 20 27 21 10	s. ...	μ ...	km. ...	Very small.
	ZNE ZNE	iS iSP eL F	13 59 15 6 30 16 5	...	...	...	Focus about 400 km. Below normal. "L" waves very poorly developed.	22	Z Z N	e(P) i e F	11 57 10 57 23 12 1 3 15	...	...	...	Pacific Ocean (Stuttgart.) Deep focus.
31	NE NE Z	e eL eL F	3 10 23 27 50	...	...	...		22	ZNE	eL F	12 56 13 45	...	...	...	
Sept. 2	Z ZN NE NE ZNE	eP ipP iSKS iS iSP	16 53 34 55 11 17 3 24 3 51 5 8	...	...	(10000)	Pacific Ocean off Japan. Focus about 400 km. below normal. 30° N., 139° E. (Stuttgart.)	24	ZNE NE NE Z E N	eP eS eL eL M M E	15 31 24 41 14 45 50 16 1 54 6 38 17 20	...	...	8600	Aleutian Islands. 51° N., 177° W. (U.S.C.G.S.)
	NE Z N Z	eL eL M M F	10 15 39 36 39 42 18 50	...	...	...	"L" waves very poorly developed.	25	E N ZE	e eL eL F	14 34 38 43 15 15	...	...	...	
6		e F	2 40 3 25	...	...	...		25	ZNE Z ZNE ZNE NE Z ZNE E Z N	eP i ePP ePPP eS e eL M M M F	19 1 27 1 39 3 41 5 5 9 41 15 21 19 29 13 29 49 29 56 21 20	...	...	6710	Compression. Tibet. 33° N., 85° E. (Stuttgart.)
6		e F	18 30 19 5	...	...	...									
6/7	Z Z N	iPKP ipPKP e(SKKS)	22 27 9 29 34 36 47	...	...	(17000)	Small on horizontal components. Pacific Ocean. 24° S., 178° W. (J.S.A.)	26	Z N ZNE	eP e iL F	3 36 6 40 (17) 41 11 4 5	...	...	...	Destructive around Lama dei Peligni, Central Italy.
	ZNE	eL F	48 0 40	...	...	...	Focus about 600 km. below normal. "L" waves very poorly developed.	27	ZNE	eL F	22 48 23 10	...	...	...	
7		e F	9 9 20	...	...	...		27/28	ZNE	eL F	23 45 0 5	...	...	...	Very small.
7		e F	18 53 19 10	...	...	...	Very small.	30	Z NE Z N Z	ePP eL eL M M F	14 41 29 15 17 27 35 31 35 36 17 15	...	...	...	New Guinea. 3° S., 139° E. (Stuttgart.)
7/8		e F	23 10 0 10	...	...	...									
8		e F	7 2 10	...	...	...	Very small.	Oct. 2		eL F	15 18 —	...	...	...	Overlapped by next shock.
9	Z NE	iPKP ePKS eL F	21 39 19 42 52 22 23 23 45	...	...	(15000)	Small on horizontal components. Pacific Ocean near Santa Cruz Island. 11° S., 165° E. (Stuttgart.)	2	ZE ZN ZN Z E NE Z E NE Z E Z N Z	iP i i iPP iSKS iS e i L L M M M M F	15 42 4 42 56 43 51 45 24 52 29 52 37 53 45 53 54 16 4 9 15 9 18 35 18 41 20 15 22 40 19 40	...	...	9450	Compression. Azimuth about W. Coast of Ecuador. 2.5° S., 80° W. (J.S.A.)
12	ZN	eP eL F	12 36 42 42 55	...	...	...									Focus about 230 km. below normal.
12		e F	13 55 14 10	...	...	...									
17		e F	4 44 5 10	...	...	...	Very small.	3		e F	19 19 20 5	...	...	...	Norecords, 3d. 8h. 32m. to 15h. 5m. and 4d. 8h. 45m. to 12h. 0m. during standardiza- tion, etc.
20	NE Z	eL eL F	0 7 15 40	...	...	...	South of Aleutian Islands. 48° N., 175° W. (U.R.S.S.)	3		e F	22 32 45	...	...	...	
21	NE Z	eL eL F	1 22 31 55	...	...	...	East Indies. 12° N., 120° E. (U.R.S.S.)	5		e F	5 58 6 15	...	...	...	
21	NE ZNE	e eL F	3 47 59 4 45	...	...	...	Japan. 35° N., 135° E. (U.R.S.S.)								
21	NE Z E N	eL eL M M F	10 28 35 38 56 39 11 11 15	...	...	...	Pacific Ocean off Japan. 35° N., 143° E. (Stuttgart.)								



## SEISMOLOGICAL DIARY—continued.

Galitzin Seismographs, three components.

546. Richmond (Kew Observatory).

Lat. 51° 28' 6" N. Long. 0° 18' 47" W. Height above M.S.L. 5 metres.

1933.

Date.	Compt.	Phase.	G.M.T.	Period.	Amplitude.	Δ	Remarks.	Date.	Compt.	Phase.	G.M.T.	Period.	Amplitude.	Δ	Remarks.
Oct. 5	ZNE NE ZNE	eP eS eL F	h. m. s. 6 26 2 29 30 31 55	s. ... ... ...	μ ... ... ...	km. 2050 ... ...	Compression. North Atlantic Ocean. (Stuttgart.)	Nov. 5	NE N	eL M F	h. m. s. 21 5 9 30 22 0	s. ... 24 ...	μ ... + 6 ...	km. ... ... ...	Aleutian region. 49° N., 179° W. (U.R.S.S.)
5	ZE NE E ZNE E N Z	iP eS e eL M M F	13 37 56 44 29 47 52 51 57 32 58 50 14 5 39 15 50	... ... ... ... 22 22 12	... ... ... ... +16 -17 +11	4830 ... ... ... ... ... ...	Persia. 34° N., 54° E. (U.R.S.S.)	6		e F	7 27 40	... ...	... ...	...	Persia. 35° N., 53° E. (U.R.S.S.)
								8		e F	0 54 6 58	... ...	... ...	...	Felt in Southern Germany.
7		e F	3 34 4 15	... ...	... ...	... ...		19	Z NE NE NE Z	ePKP eSS e eL F	3 30 57 53 5 54 31 4 21 29 5 45	... ... ... ... ...	... ... ... ... ...	(15500)	New Hebrides. 16° S., 167° E. (Stuttgart.)
14	Z NE NE Z	eP eS eL F	22 30 39 40 24 56 23 0 45	... ... ... ...	... ... ... ...	8500 ... ... ...	Gulf of Alaska. 54° N., 158° W. (Stuttgart.)	20/21	ZNE ZNE ZNE Z NE E ZNE	eP iP iPP iP <sub>2</sub> P iS iSS eL	23 28 34 28 39 30 8 31 4 34 10 36 16 37	... ... ... ... ... ... ...	... ... ... ... ... ... ...	3810	Compression. Amplitudes of iP as read in mm. :— Z. N. E. -14.0 +9.7 -4.2 Azimuth=335° giving epicentre near 75° N., 65° W. Baffin Bay.
*16	NE Z	eL eL F	5 4 10 15	... ... ...	... ... ...	... ... ...	Afghanistan. 32° N., 67° E. (U.R.S.S.)		E N E N Z N Z Z	M M M M M M M F	38-41 39-40 44 33 44 43 44 47 47 7 47 10 50 17 3 30	22 (20) 14 14 14 11 11 11	>310* >270* >260* >250* +340 +170 -165 -140	...	*Maxima too large to be recorded completely.
*17	ZNE	eL F	14 15 40	... ...	... ...	... ...									
20		e F	11 17 40	... ...	... ...	... ...	Possibly not seismic. Confused by wind and and microseisms.								
21	E ZN	eL eL F	3 30 35 4 40	... ... ...	... ... ...	... ... ...	Pacific Ocean east of Japan. 35° N., 135° E. (U.R.S.S.)								
22	ZNE	eL F	12 35 13 15	... ...	... ...	... ...	Kurile Islands. (Stuttgart.)	22	ZE NE Z	e eL eL F	0 11 25 27 1 5	... ... ... ...	... ... ... ...	...	Central America. 9° N., 83° W. (J.S.A.)
23	ZNE	eL F	5 22 6 10	... ...	... ...	... ...		22	E N ZE	e eL eL F	5 14 25 29 6 5	... ... ... ...	... ... ... ...	...	Central America. 9° N., 84° W. (J.S.A.)
23	ZNE NE Z N	e eL eL M F	14 4 26 20 23 28 51 15 5	... ... ... 22 ...	... ... ... + 6 ...	... ... ... ... ...	Indian Ocean. (Tananarive.)	22		e F	8 50 9 40	... ...	... ...	...	Very small.
24		e F	16 35 17 0	... ...	... ...	... ...	} Very small.	22	Z ZNE ZE N NE Z N E Z	iPKP iPKS eSKS eSS eL eL M M M F	13 1 28 4 45 8 39 21 14 40 48 58 21 59 22 14 6 10 15 30	... ... ... ... ... ... 22 23 18 ...	... ... ... ... ... ... +22 -20 +15 ...	(14000)	Arafura Sea.
24		e F	22 45 55	... ...	... ...	... ...									
25/26	Z Z N NE NE Z N N E Z	eP isP ePP iSKS isS isS ePS eL M M M F	23 41 14 42 6 45 15 51 28 52 2 53 34 53 38 0 8 20 35 20 45 20 50 1 40	... ... ... ... ... ... ... ... 20 19 20	... ... ... ... ... ... ... ... +14 -15 -16	(10500) ... ... ... ... ... ... ... ... ... ... ...	Chile. 22° S., 68° W. (J.S.A.) Focus about 180 km. below normal.	22	NE NE Z	e eL eL F	19 44 47 52 20 5	... ... ... ...	... ... ... ...	...	
								22	NE NE Z	e eL eL F	23 17 21 40	... ... ...	... ... ...	...	
26	Z	e eL F	12 40 55 14 45	... ... ...	... ... ...	... ...	Confused by wind and microseisms.	23	ZNE	e F	1 20 25	... ...	... ...	...	Very small. Central Italy.
30		e F	8 20 40	... ...	... ...	... ...	New Hebrides. 17° S., 172° E. (U.R.S.S.)	23	NE ZNE E	eS eL M F	19 19 49 35 38 13 20 20	... ... 22 ...	... ... -5 ...	...	Central America. 9° N., 83° W. (J.S.A.)
Nov. 1	ZE	eL F	16 17 40	... ...	... ...	... ...		28	Z NE ZNE E N Z	iP eS eL M M M F	11 17 44 24 11 27 36 51 39 11 40 23 12 35	... ... ... ... 25 22 ...	... ... ... ... +25 -30 -21 ...	4720	Persia. 33° N., 55° E. (Stuttgart.)
2	Z ZNE Z	eP eL M F	12 38 56 13 0 23 21 14 15	... ... 18 ...	... ... + 7 ...	... ... ... ...	Horizontal components disturbed by wind. South of Aleutian Islands. 48° N., 168° W. (J.S.A.)								

\* Confused by microseisms.



## SEISMOLOGICAL DIARY—continued.

Galitzin Seismographs, three components.

546. Richmond (Kew Observatory).

Lat 51° 28' 6" N. Long 0° 18' 47" W. Height above M.S.L. 5 metres.

1933.

Date.	Compt.	Phase.	G.M.T.	Period.	Ampli- tude.	Δ	Remarks.	Date.	Compt.	Phase.	G.M.T.	Period.	Ampli- tude.	Δ	Remarks.
Nov. 29	ZNE	eL F	h. m. s. 5 38 6 20	s. ... ...	μ ... ...	km. ... ...		Dec. 13 cont.	E NE NE Z E N Z	i e eL eL M M M F	h. m. s. 50 30 55 46 22 3 6 13 15 13 23 13 45 23 10	s. ... ... ... 17 20 16 ...	μ ... ... ... -54 -21 -46 ...	km. ... ... ... ... ... ... ...	Pacific Ocean off Central America. 18° N., 104° W. (U.S.C.G.S.)
29	ZNE	eL F	19 47 20 15	... ...	... ...	...									
30		e F	4 54 5 5	... ...	... ...	...									
Dec. 2	ZNE	eL F	6 45 7 15	... ...	... ...	...	"N" record defective (broken contact be- tween pendulum coils and leads) 2d. 9h. 38m. to 7d. 11h. 57m.	14	ZNE E Z	eL M M F	8 3 6 47 6 49 25	... 15 15 ...	... +12 +11 ...	...	Repetition from pre- ceding epicentre.
2	ZE	eL F	20 55 22 5	... ...	... ...	...		14		e F	19 18 45	... ...	... ...	...	Persia. 32° N., 54° E. (U.R.S.S.)
4	E E	iS iPS F	19 54 39 55 1 20 15	... ... ...	... ... ...	...	Karafuto. 47° N., 144° E. (Stuttgart.)	15	ZE ZNE ZE ZNE ZNE N E Z	iP i iPP iS L M M M F	7 46 47 46 50 47 8 50 45 51 43 52 42 53 15 53 28 8 25	... ... ... ... ... 19 17 16 ...	... ... ... ... ... -27 -34 +30 ...	2410 ... ... ... ... ... ... ...	Atlantic Ocean. 54° N., 35° W. (J.S.A.)
6			—	...	...	...	No records 10h. 19m. to 11h. 25m. Adjustments for tilt of pillar.								
7			—	...	...	...	No records 10h. 45m. to 11h. 57m. Repairing "N."								
9	ZNE	eL F	8 25 35	... ...	... ...	...	Kashmir. 37° N., 75° E. (U.R.S.S.)	18		e F	21 44 55	... ...	... ...	...	
12	Z Z N NE Z N	iPKP ePKS eSKS eL eL M F	14 30 20 33 35 37 24 15 7 16 19 20 16 45	... ... ... ... ... 25 ...	... ... ... ... ... -13 ...	(13800) ... ... ... ... ... ...	New Britain. 5° S., 153° E. (Manila.)	19		e F	18 4 25	... ...	... ...	...	
								21/22		e F	23 59 0 30	... ...	... ...	...	Very small. Pacific Ocean South of Japan. 25° N., 137° E. (U.R.S.S.)
13	ZNE ZNE N NE	iP i i iS	21 36 16 36 23 45 39 46 39	... ... ... ...	... ... ... ...	9250 ... ... ...	Compression. Horizontal compon- ents disturbed by wind.	24	NE E ZN	e eL eL F	11 27 46 52 12 55	... ... ... ...	... ... ... ...	...	Pacific Ocean. 37° N., 171° E. (U.R.S.S.)







547. RICHMOND (Kew Observatory).

1933.

Month.	JANUARY								FEBRUARY								MARCH							
Hour G.M.T.	Oh.		6h.		12h.		18h.		Oh.		6h.		12h.		18h.		Oh.		6h.		12h.		18h.	
	A.	Tp	A.	Tp	A.	Tp	A.	Tp	A.	Tp	A.	Tp	A.	Tp	A.	Tp	A.	Tp	A.	Tp	A.	Tp	A.	Tp
Day.	$\mu$	s	$\mu$	s	$\mu$	s	$\mu$	s	$\mu$	s	$\mu$	s	$\mu$	s	$\mu$	s	$\mu$	s	$\mu$	s	$\mu$	s	$\mu$	s
1	5.4	7.7	6.4	7.0	4.1	7.0	2.6	6.7	2.9	5.8	3.4	6.0	3.6	5.6	3.2	6.0	0.2	4.7	0.2	4.7	0.3	4.0	0.2	5.0
2	2.4	6.7	1.9	6.3	2.2	7.3	4.2	6.7	2.0	6.0	3.6	6.5	3.1	6.3	4.5	6.5	0.2	7.0	0.2	6.5	0.3	4.0	...	...
3	4.8	6.7	4.6	7.5	6.5	9.0	6.6	8.0	3.2	7.0	2.5	6.3	2.0	6.7	1.8	6.7	0.3	4.3	0.5	5.0	0.9	4.8	0.4	5.6
4	5.5	9.0	4.7	9.0	8.1	8.3	4.8	8.3	1.8	6.7	1.6	5.2	1.3	5.2	1.4	6.0	1.9	5.6	2.2	5.2	1.5	6.3	1.4	5.8
5	4.3	8.7	2.7	8.3	2.8	8.0	3.3	9.0	1.8	5.0	2.1	5.6	2.7	5.6	3.4	6.0	1.6	5.8	1.1	5.6	0.9	5.4	1.5	5.4
6	3.1	8.7	2.3	8.7	3.3	8.0	3.8	8.3	3.2	6.0	2.3	6.5	2.0	5.8	2.0	5.8	2.4	5.4	2.3	5.6	2.3	5.6	2.0	6.0
7	2.3	8.0	2.0	7.0	1.8	8.0	2.0	7.0	2.6	6.0	1.9	6.3	2.0	6.0	2.1	6.3	2.0	6.0	2.0	5.8	1.5	5.6	1.6	5.8
8	1.8	6.7	1.8	7.0	2.2	7.7	2.0	7.7	2.4	6.7	2.3	7.0	1.9	6.5	1.9	6.5	1.3	5.4	1.2	6.0	0.6	5.6	0.9	5.2
9	2.2	7.5	1.8	7.0	1.8	7.5	1.8	6.7	3.2	6.3	7.7	7.5	5.7	7.0	5.4	7.5	0.6	5.6	0.6	5.6	0.8	5.6	1.1	5.6
10	1.3	6.5	1.3	6.5	0.9	6.7	0.9	6.7	5.1	7.5	3.6	7.3	3.3	6.7	2.9	7.3	1.1	5.6	1.0	6.0	0.8	6.0	1.0	6.0
11	1.6	8.0	0.9	7.3	1.2	7.5	1.8	6.7	2.5	7.0	1.5	5.6	2.3	5.0	1.8	6.7	0.2	5.0	0.6	6.0	0.2	5.4	0.4	4.5
12	1.8	7.0	1.4	7.3	3.4	7.0	1.8	6.7	1.9	6.3	1.0	7.5	1.9	7.5	1.7	7.7	0.2	6.0	0.2	5.4	0.2	6.5	0.2	6.0
13	2.6	7.3	3.6	8.7	2.9	8.7	3.1	8.0	2.5	7.0	3.1	7.5	3.3	7.3	3.1	7.5	0.2	6.0	0.2	6.0	0.2	6.5	0.2	6.5
14	1.7	7.7	3.6	7.0	3.3	7.3	4.6	7.5	1.9	7.3	1.5	6.7	1.5	6.5	1.6	5.2	0.2	7.0	0.8	6.5	0.8	6.5	0.9	6.5
15	4.1	8.3	4.6	8.0	4.0	7.7	4.5	8.3	1.6	5.0	0.9	5.4	0.6	5.6	0.5	5.0	1.0	6.3	1.1	5.0	1.1	6.5	1.0	4.5
16	3.7	8.3	4.9	8.0	3.5	7.7	2.8	8.0	0.7	5.0	0.4	6.3	0.4	6.0	0.2	6.0	1.7	4.8	2.0	6.0	2.7	7.0	2.8	6.5
17	2.8	8.0	1.8	7.0	1.6	7.3	1.2	6.0	0.3	4.0	0.3	4.3	0.3	4.1	0.3	4.3	3.7	7.0	3.1	6.7	3.1	5.8	3.8	6.0
18	0.8	6.5	1.4	5.8	1.1	6.5	1.6	5.0	0.2	5.6	0.2	5.6	0.2	6.0	0.2	5.2	3.0	5.4	2.7	6.3	2.8	6.5	2.0	6.0
19	1.2	7.5	1.8	6.7	1.9	6.5	1.8	7.0	0.2	4.8	0.2	4.7	0.2	4.7	0.2	4.7	1.9	6.5	1.8	6.7	1.9	6.5	2.3	6.5
20	1.5	7.5	1.6	6.0	0.5	4.0	0.8	4.1	0.5	5.0	1.7	5.6	1.6	5.0	0.8	6.0	2.7	7.0	2.7	6.3	2.0	5.8	1.9	6.5
21	0.5	4.3	0.5	4.7	1.6	5.0	1.0	6.0	1.0	6.0	1.4	6.0	1.6	5.0	2.0	6.0	1.9	5.6	2.2	5.4	2.0	5.2	1.9	6.5
22	1.4	6.0	1.8	6.7	2.0	6.0	1.4	5.8	1.8	5.8	2.1	5.8	0.2	5.4	0.2	5.0	2.1	6.5	2.1	6.3	2.3	6.3	2.3	6.5
23	1.3	5.4	0.9	5.0	0.5	4.7	0.7	4.8	0.3	3.7	0.2	5.4	0.2	6.0	0.2	6.0	1.8	5.2	2.0	5.8	2.3	4.3	1.8	4.3
24	1.1	5.0	0.7	7.0	1.2	6.0	0.4	6.0	0.4	5.2	0.2	4.5	0.3	3.7	0.3	3.5	2.7	4.0	1.7	4.5	1.4	4.0	0.5	4.0
25	1.4	6.5	0.8	6.5	1.4	6.5	0.6	6.0	0.3	4.3	0.5	4.0	2.3	5.0	1.6	5.0	0.3	4.3	0.3	4.1	0.2	5.4	0.3	4.3
26	0.5	4.5	0.5	5.4	0.2	6.0	0.2	5.0	1.6	4.3	1.4	5.0	1.3	4.1	0.3	4.3	0.2	5.4	0.4	5.6	0.2	5.6	0.2	6.0
27	0.2	5.0	0.0	---	0.0	---	0.3	4.7	0.6	5.4	1.1	5.0	1.6	5.0	1.8	5.2	0.2	6.0	0.4	6.0	0.2	6.0	0.2	6.0
28	...	...	0.5	5.0	0.7	5.6	0.7	5.0	1.4	4.7	1.6	5.0	1.3	4.3	0.7	4.8	0.5	4.7	0.2	5.2	0.2	5.4	0.2	6.0
29	0.7	5.0	0.7	5.0	0.5	4.5	0.3	4.3	...	...	...	...	...	...	...	...	0.4	6.5	0.8	6.5	0.5	6.7	0.6	6.3
30	0.6	6.0	0.4	6.0	0.2	5.0	0.4	5.6	...	...	...	...	...	...	...	...	0.6	5.8	0.4	5.8	0.2	5.6	0.4	5.6
31	0.6	5.4	1.1	5.6	1.2	5.4	2.4	6.0	...	...	...	...	...	...	...	...	0.4	6.0	0.4	5.6	0.9	5.2	0.7	5.2
Mean	2.1	6.9	2.0	6.8	2.1	6.7	2.1	6.5	1.7	5.7	1.8	5.9	1.7	5.6	1.7	5.8	1.2	5.7	1.2	5.7	1.1	5.7	1.2	5.7
Mean for Day.	A = 2.1 $\mu$ ; Tp = 6.7s.								A = 1.7 $\mu$ ; Tp = 5.7 s.								A = 1.2 $\mu$ ; Tp = 5.7s.							

Month.	APRIL								MAY								JUNE							
Hour G.M.T.	Oh.		6h.		12h.		18h.		Oh.		6h.		12h.		18h.		Oh.		6h.		12h.		18h.	
	A.	Tp	A.	Tp	A.	Tp	A.	Tp	A.	Tp	A.	Tp	A.	Tp	A.	Tp	A.	Tp	A.	Tp	A.	Tp	A.	Tp
Day.	$\mu$	s	$\mu$	s	$\mu$	s	$\mu$	s	$\mu$	s	$\mu$	s	$\mu$	s	$\mu$	s	$\mu$	s	$\mu$	s	$\mu$	s	$\mu$	s
1	0.2	5.6	0.2	5.0	0.5	5.0	0.5	5.0	0.4	6.5	0.2	6.0	0.2	5.0	0.2	6.0	0.2	5.0	0.0	---	0.0	---	0.0	---
2	0.2	5.2	0.4	5.2	1.9	5.4	1.7	5.6	0.0	---	0.3	4.0	0.3	4.0	0.5	4.3	0.2	4.7	0.0	---	0.0	---	0.3	4.0
3	1.8	6.0	1.5	5.6	1.1	5.6	1.1	5.6	1.9	4.1	1.8	4.3	1.7	4.5	1.0	4.7	0.2	5.0	0.2	4.7	0.0	---	0.0	---
4	1.2	5.8	0.9	4.8	0.9	5.2	0.4	5.6	1.1	4.0	0.5	4.3	1.2	4.5	1.2	4.7	0.3	4.3	0.2	4.7	0.3	4.3	0.2	4.7
5	0.4	5.2	0.4	5.4	0.5	5.0	0.5	5.0	1.1	5.0	1.2	4.5	1.0	4.5	0.9	5.0	0.3	4.3	0.2	4.7	0.3	4.3	0.2	4.7
6	0.2	5.0	0.2	5.4	0.2	6.5	0.2	6.0	0.5	4.3	0.7	4.7	0.2	4.7	0.3	3.7	0.2	5.6	0.2	5.0	0.2	5.4	0.2	5.6
7	0.2	5.6	0.5	4.8	0.2	5.2	0.2	5.0	0.3	4.0	0.3	4.3	0.3	4.3	0.3	4.3	0.2	5.4	0.2	5.0	0.0	---	0.0	---
8	0.5	5.0	0.2	5.4	0.3	4.3	0.0	---	0.3	4.3	0.0	---	0.0	---	0.3	4.3	0.0	---	0.0	---	0.0	---	0.0	---
9	0.2	4.5	0.2	4.5	0.2	5.0	0.2	4.7	0.2	5.0	0.5	4.7	0.7	5.0	1.8	5.0	0.0	---	0.0	---	0.0	---	0.0	---
10	0.2	5.0	0.2	5.0	0.4	5.6	0.4	5.6	1.5	6.3	0.7	5.0	0.4	6.0	0.8	6.3	0.0	---	0.0	---	0.0	---	0.0	---
11	0.6	6.0	1.8	5.0	1.4	6.0	1.3	6.3	0.9	7.5	0.5	4.8	0.6	6.0	0.8	6.3	0.0	---	0.0	---	0.0	---	0.0	---
12	1.5	5.6	0.6	5.4	0.7	5.2	0.8	5.6	0.9	6.7	1.0	7.3	0.8	6.0	0.4	5.6	0.0	---	0.0	---	0.0	---	0.0	---
13	1.0	6.0	1.2	6.0	0.4	6.3	0.6	6.0	0.4	6.0	0.2	5.8	0.2	6.0	0.2	5.2	0.0	---	0.0	---	0.0	---	0.0	---
14	0.4	5.2	0.4	5.6	0.5	5.0	0.7	5.2	0.0	---	0.0	---	0.0	---										



## 547. RICHMOND (Kew Observatory).

1933.

Month.	JULY								AUGUST								SEPTEMBER							
Hour.G.M.T.	Oh.		6h.		12h.		18h.		Oh.		6h.		12h.		18h.		Oh.		6h.		12h.		18h.	
	A.	T <sub>p</sub>	A.	T <sub>p</sub>	A.	T <sub>p</sub>	A.	T <sub>p</sub>	A.	T <sub>p</sub>	A.	T <sub>p</sub>	A.	T <sub>p</sub>	A.	T <sub>p</sub>	A.	T <sub>p</sub>	A.	T <sub>p</sub>	A.	T <sub>p</sub>	A.	T <sub>p</sub>
Day.	μ	s	μ	s	μ	s	μ	s	μ	s	μ	s	μ	s	μ	s	μ	s	μ	s	μ	s	μ	s
1	0.2	5.6	0.2	5.6	0.2	5.0	0.2	5.2	0.3	4.1	0.3	3.5	0.3	3.7	0.3	4.0	0.2	4.5	0.2	4.7	0.2	4.7	0.2	4.7
2	0.2	5.4	0.2	5.0	0.2	5.0	0.2	5.0	0.0	---	0.0	---	0.0	---	0.3	4.3	0.0	---	0.3	4.1	0.0	---	...	---
3	0.2	4.8	0.0	---	0.0	---	0.0	---	0.3	4.3	0.2	4.8	0.0	---	0.3	4.3	0.0	---	0.0	---	0.0	---	0.0	---
4	0.0	---	0.0	---	0.0	---	0.0	---	0.2	4.8	0.2	4.8	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---	0.2	5.0
5	0.0	---	0.0	---	0.0	---	0.0	---	0.2	4.8	0.0	---	0.0	---	0.0	---	0.2	5.6	0.2	6.0	0.0	---	0.2	4.7
6	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---	0.2	4.5	0.2	5.2	0.2	4.7	0.4	5.6
7	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---	0.4	5.6	0.5	4.7	0.2	5.0	0.3	4.0
8	0.0	---	0.0	---	0.0	---	0.0	---	0.2	4.7	0.2	5.0	0.2	5.0	0.2	5.0	0.3	4.3	0.3	4.0	0.3	4.0	0.2	6.0
9	0.0	---	0.0	---	0.0	---	0.2	4.5	0.3	4.3	0.2	4.5	0.0	---	0.0	---	0.2	4.7	0.2	4.7	0.2	5.0	0.2	5.6
10	0.3	4.3	0.3	4.3	0.2	4.7	0.2	4.7	0.2	4.7	0.0	---	0.0	---	0.0	---	0.2	5.0	0.2	4.7	0.0	---	0.0	---
11	0.2	4.7	0.2	4.7	0.2	5.4	0.2	5.4	0.3	3.3	0.3	4.3	0.3	3.6	0.3	4.3	0.0	---	0.0	---	0.0	---	0.0	---
12	0.2	4.8	0.2	5.0	0.2	5.0	0.2	4.8	0.3	3.6	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---
13	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---
14	0.3	4.3	0.2	4.8	0.2	5.0	0.2	5.0	0.0	---	0.0	---	0.0	---	0.0	---	0.0	---	0.2	5.0	0.2	4.7	0.2	4.5
15	0.2	5.0	0.2	5.8	0.2	5.6	0.2	5.6	0.0	---	0.0	---	0.3	4.3	0.2	4.5	0.2	4.5	0.2	6.0	0.3	4.0	0.5	5.0
16	0.2	5.8	0.2	5.0	0.2	4.7	0.2	4.7	0.2	5.0	0.2	4.5	0.2	4.5	0.0	---	0.2	5.4	0.5	5.0	0.2	5.0	0.5	5.0
17	0.2	4.5	0.0	---	0.0	---	0.0	---	0.3	4.0	0.3	4.3	0.0	---	0.2	4.5	0.2	5.0	0.3	4.3	0.3	4.3	0.2	4.7
18	0.0	---	0.0	---	0.0	---	0.2	4.7	1.3	6.7	...	---	0.2	4.7	0.2	4.7	0.5	4.3	0.4	5.2	0.5	4.0	0.5	4.3
19	0.2	4.7	0.2	4.7	0.0	---	0.2	4.7	0.5	4.7	0.2	4.8	0.2	4.7	0.2	4.7	0.5	4.5	0.7	5.0	0.5	4.8	0.5	4.8
20	0.2	5.2	0.2	4.7	0.0	---	0.0	---	0.5	5.0	0.2	4.8	0.2	4.8	0.2	4.5	0.5	4.7	0.6	5.6	0.2	4.8	0.3	4.0
21	0.0	---	0.0	---	0.0	---	0.0	---	0.2	4.5	0.5	4.8	0.0	---	0.2	4.7	0.2	5.6	0.4	5.4	0.3	4.3	0.3	4.0
22	0.0	---	0.0	---	0.0	---	0.0	---	0.3	3.6	0.3	4.3	0.3	3.2	0.3	4.0	0.0	---	0.0	---	0.0	---	0.0	---
23	0.0	---	0.0	---	0.0	---	0.0	---	0.3	4.0	0.2	4.8	0.3	4.0	0.3	3.7	0.0	---	0.0	---	0.0	---	0.2	5.0
24	0.0	---	0.0	---	0.0	---	0.0	---	0.3	4.3	0.3	4.3	0.3	4.3	0.3	3.7	0.5	5.0	0.6	6.0	0.8	5.6	0.2	5.6
25	0.0	---	0.0	---	0.0	---	0.0	---	0.3	4.3	0.3	4.3	0.0	---	0.0	---	0.5	4.7	0.4	6.7	0.2	5.0	0.3	4.3
26	0.0	---	0.0	---	0.2	5.6	0.2	6.5	0.2	5.6	0.3	4.3	0.0	---	0.2	4.7	0.2	4.7	0.2	5.0	0.0	---	0.0	---
27	0.2	5.0	0.2	5.0	0.0	---	0.0	---	0.5	4.7	0.5	4.8	0.5	4.8	0.5	5.0	0.0	---	0.0	---	0.0	---	0.0	---
28	0.0	---	0.0	---	0.0	---	0.0	---	0.3	4.3	0.3	4.0	0.3	4.3	0.2	4.8	0.0	---	0.0	---	0.0	---	0.0	---
29	0.4	2.7	0.4	2.9	0.0	---	0.3	3.5	...	---	0.2	5.0	0.2	4.7	0.2	4.7	0.0	---	0.0	---	0.3	4.0	0.3	4.3
30	0.2	4.7	0.2	4.7	0.3	4.3	0.3	4.3	0.2	4.7	0.3	4.3	0.3	4.3	0.2	4.7	0.2	4.5	0.3	4.0	0.3	3.7	0.3	3.7
31	0.2	4.5	0.3	4.1	0.2	6.0	0.5	4.0	0.2	5.0	0.0	---	0.2	4.7	0.3	4.3								
Mean	0.1	4.7	0.1	4.7	0.1	5.2	0.1	4.8	0.3	4.5	0.2	4.5	0.1	4.3	0.2	4.5	0.2	4.6	0.2	5.1	0.2	4.6	0.2	4.8
Mean For Day.	A = 0.1 μ; T <sub>p</sub> = 4.9s.								A = 0.2 μ; T <sub>p</sub> = 4.5s.								A = 0.2 μ; T <sub>p</sub> = 4.8s.							

Month.	OCTOBER								NOVEMBER								DECEMBER							
Hour G.M.T.	Oh.		6h.		12h.		18h.		Oh.		6h.		12h.		18h.		Oh.		6h.		12h.		18h.	
	A.	T <sub>p</sub>	A.	T <sub>p</sub>	A.	T <sub>p</sub>	A.	T <sub>p</sub>	A.	T <sub>p</sub>	A.	T <sub>p</sub>	A.	T <sub>p</sub>	A.	T <sub>p</sub>	A.	T <sub>p</sub>	A.	T <sub>p</sub>	A.	T <sub>p</sub>	A.	T <sub>p</sub>
Day.	μ	s	μ	s	μ	s	μ	s	μ	s	μ	s	μ	s	μ	s	μ	s	μ	s	μ	s	μ	s
1	0.3	4.0	0.3	4.0	0.0	---	0.0	---	1.5	6.5	1.0	6.0	1.0	5.8	0.4	5.6	0.4	6.5	0.4	6.5	0.8	6.0	0.9	6.5
2	0.2	4.8	0.2	6.0	0.0	---	0.3	4.1	0.7	5.4	0.8	4.3	0.4	3.2	0.5	4.3	0.6	6.5	0.2	6.0	2.1	4.8	0.8	6.5
3	0.2	5.0	0.2	4.8	...	---	0.2	5.6	1.0	4.7	1.0	4.5	1.0	5.8	0.4	5.8	1.1	4.8	0.5	5.4	1.2	5.6	1.4	5.6
4	0.2	5.8	0.2	6.0	0.2	4.7	0.2	5.0	0.2	4.7	0.2	4.7	0.2	5.0	0.3	4.5	1.8	5.0	2.3	5.6	2.1	5.6	1.5	5.0
5	0.2	5.0	0.2	4.7	0.0	---	0.0	---	0.3	4.0	0.3	4.3	0.4	6.5	0.5	5.0	2.0	5.0	1.2	5.6	0.6	7.3	1.0	7.3
6	0.2	4.8	0.2	5.0	0.2	4.8	0.2	5.0	0.4	6.5	0.6	6.5	0.4	5.6	0.4	5.8	1.0	7.0	0.9	6.0	1.6	7.0	0.6	6.5
7	0.2	5.0	0.0	---	0.0	---	0.0	---	0.4	6.3	0.7	5.2	0.5	4.8	0.2	6.5	0.4	7.0	0.2	6.5	0.6	6.7	0.4	6.6
8	0.0	---	0.0	---	0.3	3.7	0.3	3.7	0.4	6.3	0.8	6.5	0.4	6.3	0.4	6.3	0.4	6.7	0.3	3.7	0.3	4.0	0.3	4.3
9	0.8	4.3	0.7	5.4	1.6	5.0	1.5	5.6	0.5	7.5	0.9	7.0	0.4	6.0	0.8	5.8	1.6	5.0	0.5	4.3	0.2	4.7	0.3	3.7
10	2.0	5.4	0.7	5.6	2.0	5.2	1.3	6.0	0.5	5.0	0.4	5.6	0.2	5.6	0.2	5.0	0.3	3.6	0.3	4.3	0.0	---	0.0	---
11	1.7	5.4	1.5	5.0	2.1	5.0	1.9	6.5	0.4	6.5	0.6	6.0	0.6	6.0	1.0	6.0	0.0	---	0.0	---	0.0	---	0.0	---
12	3.5	5.4	2.5	5.6	1.9	5.6	1.4	5.8	1.4	5.8	1.8	8.0	2.9	7.5	1.7	7.5	0.0	---	0.0	---	0.3	3.5	0.2	4.7
13	1.1	5.4	0.4	5.8	0.5	5.0	0.7	5.0	0.9	6.7	0.9	6.7	1.4	7.0	1.4	6.0	0.2	4.8	0.6	4.0	0.9	4.0	0.6	4.5
14	0.8	5.8	1.0	6.0	1.0	5.8	0.7	5.2	1.4	6.0	0.9	7.5	1.6	8.7	2.2	7.7	1.4	5.0	1.6	5.2	1.3	5.6	1.1	5.2
15	0.8	5.8	1.4	6.0	1.4	6.0	1.4	6.0	2.2	8.3	3.5	7.7	3.8	9.0	3.3	8.0	1.9	6.5	1.8	7.0	1.8	7.0	1.8	



M.O. 370  
Aerological

Air Ministry  
METEOROLOGICAL OFFICE

THE  
OBSERVATORIES' YEAR BOOK  
1933

Comprising the meteorological and geophysical results obtained from autographic records and eye observations at the observatories at Lerwick, Aberdeen, Eskdalemuir, Cahirciveen (Valentia Observatory), and Richmond (Kew Observatory), and the results of soundings of the upper atmosphere by means of registering balloons.

AEROLOGICAL SECTION

Published by the authority of the  
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1935



## AEROLOGICAL SECTION.

Station.		Latitude.		Longitude.		Height above Sea Level.
Kew Observatory	..	51° 28' N.	..	0° 19' W.	..	7 metres.
Sealand	..	53° 14' N.	..	3° 0' W.	..	5 metres.

## INTRODUCTION.

**Notes on the tables of Upper Air Temperatures obtained from soundings with registering balloons at Richmond and Sealand, 1933.**

The tables in the Aerological Section are presented in the same form as those appearing in the Observatories' Year Book since 1930. As in that volume geopotential is used in place of geometric height for the vertical coordinate. The units employed are :

1 Leo (symbol l.) =  $10^5$  c.g.s. units of geopotential

1 Kiloleo (symbol Kl.) =  $10^8$  c.g.s. "

A table shewing the relation between height and geopotential in latitude  $52^\circ 20'$ , the approximate mean latitude of Kew Observatory and Sealand, is given in the Introduction to the Aerological Section of the Observatories' Year Book, 1930.

The Dines pattern meteorograph was employed solely as before, and the method of operation remained the same as in recent years. A full description will be found in "The Dines Balloon Meteorograph and the method of using it."\* In the computation of pressure-geopotentials the graphical method was employed, checked as to its main features by an arithmetical process. The effect of humidity on the density of the air was neglected.

A total of 44 soundings were made during the year, 33 from the Aviation Service Station of the Meteorological Office at Sealand Aerodrome and 11 from Kew Observatory. In the cases of 39 of these soundings the instruments were found and returned, the rest being lost. In two, which were found and returned, the record was unsatisfactory and could only partly be utilised. The choice of station from which a sounding was made was generally determined in view of the probable direction and length of the run of the balloon.

The ventilation of the Dines meteorograph is effected solely by the natural draught produced by its vertical velocity. The vertical velocity of the rising balloon may be taken to have lain between the limits 200 and 360 metres per minute in the troposphere. It is probable that even when the balloon is known to have burst, this velocity was not always maintained up to the highest point of the sounding. After the balloon had burst the velocity of fall was much higher, ranging from about 900 metres per minute at 20 Kl. down to 300 near the ground. The ventilation on the descent was much more adequate than on the ascent, especially in the stratosphere.

As regards temperature, unless stated to the contrary the mean of the records on the ascent and descent was employed entirely in computing the published figures. In general the difference between the two records did not exceed  $4^\circ\text{A.}$ , with a mean of about half that amount. Whenever direct evidence is available it is almost always found that in the troposphere the descending record is the colder of the two. An analysis of a large number of British soundings has led to the conclusion that as far as the troposphere is concerned this effect is mainly due to a temperature lag of the thermograph member, and that the mean of the two records gives in general a close approximation to the true air temperature.† Occasionally in exceptional circumstances it is deemed best to give greater weight to one record than to the other, or to publish the data from one record only. All such occasions are mentioned in the notes, they generally refer either to occasions of strong solar radiation when the less vigorous

\* M.O. 321, H.M. Stationery Office.

† See also :—Memoirs of the Indian Meteorological Department. Vol. XXIV. Part V. By J. H. Field.



ventilation of the meteorograph on the ascent makes that record less reliable than that of the descent, or to the lowest layers of the troposphere only.

In the case of high soundings made during the day-time a pronounced rise of temperature is sometimes observed over about a kiloleo at the extreme top. There is good evidence that this is a fictitious effect due to solar radiation and that the ascent is a great deal more affected by it than the descent. The rise of temperature in such cases is therefore usually ignored, and in addition greater weight is given to the descent than to the ascent in the upper parts of such records as show an unusually large difference between them. All occasions on which such selection has been made are specifically mentioned in the notes. An account of this phenomenon is to be found in "Memoirs of the Royal Meteorological Society," Vol. 2, No. 18. By L. H. G. Dines.

In most cases the meteorograph was fitted with a hair hygograph. Only the record of relative humidity on the ascent in each case has been published, except when specific mention to the contrary is made in the Notes. The record of the descent appears to be the less reliable for two reasons, first that the previous exposure of the hair to extreme cold and dryness makes it more sluggish in response to changes in the relative humidity, second that the higher velocity at which the meteorograph falls increases the lag in its response reckoned in terms of height. The hygrometer readily shows changes in the relative humidity in the lower part of the troposphere, but the absolute value of its readings may be subject to an uncertain error of five or more on the percentage scale. No difference has been made as concerns this or previous volumes, in the interpretation of the records as between temperatures above and below the freezing point. For purposes of reference it may however be stated that Depegrams supplied to the International Commission for the exploration of the Upper Air were, up to the year 1929, drawn on the assumption that the published figures of relative humidity at temperatures below  $273^{\circ}\text{A}$ . referred to ice; since 1930 it has been presumed that they refer to water in all cases. Below a temperature of  $250^{\circ}\text{A}$ . it seems doubtful if in the ordinary way the record has any meaning, and the figures for the higher parts of the atmosphere have not therefore been published.

In order to ensure as far as possible that the hygograph works under standard conditions, it is normally exposed to a saturated atmosphere for ten minutes about an hour before the sounding is made.

The method employed in calibrating the hygograph is as follows:—It is first immersed in either water or a saturated atmosphere for at least ten minutes, and a mark made by the scribe on the record plate which is taken as corresponding with steady saturated conditions. It is then taken out, roughly dried to remove superfluous water, and placed as soon as possible in a testing chamber through which a current of air flows continually. The relative humidity of the air stream is next reduced in two or more stages to a minimum value of about 20%, plenty of time being allowed at each stage for the conditions to become steady. When in each case steady conditions have been attained a mark is made by the scribe. The object of the test is to obtain two marks at relative humidities near 25%, and in such case the total time taken is about 25 to 30 minutes from the instant when the hygograph is removed from the water in the first place. If the relative humidity is reduced in more than two stages the total time taken is greater, allowing about ten minutes per stage. The calibration is carried out at temperatures above  $288^{\circ}\text{A}$ .

When the contraction of the hair corresponding with a relative humidity of 25% has been determined in the manner described, the contraction throughout the scale under the conditions met with in the sounding is assumed to follow an empirical law, which has been determined from the average behaviour of a large number of hairs. A table expressing this law appeared in the Introduction to the Aerological Section of the Year Book for 1930 and represented the procedure which had been adopted up to the end of that year. As a result of further experiments made in 1931 it was found



desirable to amend the statement of the empirical law of contraction of the hygrograph hairs, and for purposes of tabulation since January, 1931, the following table has been used :

Relative humidity %	110	100	95	90	80	70	60	50	40	30	25
Contraction of hair. Saturated length.	—·07k	00k	·035k	·080k	·185k	·315k	·45k	·59k	·74k	·90k	·99k

Here, the quantity  $k$  is defined as the contraction of the hair from its saturated length at the relative humidity of 25% expressed as a fraction of the saturated length, and determined as set out above.

The average value of  $k$  has been found to be about ·0099, but individual hairs differ from the mean by anything up to 15% on either side. This figure is based on observations made on about 80 meteorographs, involving 40 or more entirely separate human hairs derived from various sources.

In working up the records the hair has been assumed to have a uniform absolute coefficient of thermal expansion of  $34 \times 10^{-6}$  per degree A. Since the frame of the hygrograph is made of nickel silver having a coefficient of  $18 \times 10^{-6}$  the relative expansion of hair to frame is assumed to be  $16 \times 10^{-6}$  per degree A.

No allowance has been made in computing the published figures for the fact that the results of the calibration are not necessarily valid at low temperatures below the freezing point.

It has been noticed on many occasions that on passing through a cloud the hygrograph hairs expand more than they do when immersed in water or in an artificial saturated atmosphere. This phenomenon is not yet fully understood, but it has been proved that it is not due to errors in calibration or setting of the instrument ; accordingly in this volume its occurrence is indicated by publishing a value of the relative humidity in excess of 100%. The values are determined by extrapolation of the table upwards through 100. If, for example, the hairs are found to have extended by ·035 $k$  beyond their length when immersed in water at the same temperature the relative humidity is tabulated as 105%, but there is not enough evidence to be able to state what exactly is the corresponding physical condition of the atmosphere in regard to water vapour.

Data of well marked inversions and regions of zero lapse rate in the troposphere are included in the notes on the soundings. They are set out in a uniform manner on the principle that corresponding values of geopotential, temperature and relative humidity are given for the salient points in each special case, the sequence being always from lesser geopotentials to greater.

The figures given in the table of lapse rates do not in every case agree with the temperatures appearing in the table of temperature-geopotentials. The reason for this is that both were determined independently from the original data, which can sometimes profitably be read to the nearest half degree, but are rounded off to whole degrees for publication.

The lapse rates given between ground level and 0·5 Kl. are determined from the reading in the thermometer screen at the station and that of the meteorograph at 0·5 Kl. A source of error arises here in that the two standards are independent and are not exposed in the same manner. A small difference is capable of making an appreciable error in the lapse rate, and it is possible that lapse rates apparently greater than 10°A. per Kl. in this layer are sometimes due to this cause.

Whenever possible the meteorograph was briefly calibrated again at one temperature after return, before the record plate had been disturbed, in order to discover



whether any shift of zero had taken place since the previous calibration. This provides some check on the behaviour of the instrument, but disturbance is almost inevitable considering the rough treatment experienced in the shock of the fall and after. The mean values of the disturbance without regard to sign were  $1.1^{\circ}\text{A.}$  for the temperature and 4mb. for the pressure.

All new meteorographs, and all old ones used again after repair, were seasoned in a vacuum chamber before use by being subjected to several slow reductions of pressure. This process has been found greatly to reduce the chance of a systematic difference occurring between the results of a fast and slow calibration. More detail is given in the Introduction to the tables for 1923, and within the limits of accuracy at present attainable in the measurement of upper air pressures, the results of the fast reduction of pressure in the calibration test may be taken as applying to the slow reduction in the actual sounding.

The lag, or difference in pressure reading as between a falling and a rising pressure, is of the order 3 or 4 millibars on the average in the middle region of a high sounding, falling off to lesser values on either side. If a correction be applied to the recorded temperature-pressures to allow for this error, it results, for an average sounding in the troposphere, in an increase in the difference between the temperatures recorded at any pressure on the ascent and descent. The effect is to make the recorded temperatures on the descent too high by about half a degree at a level of 6 or 7 kiloleos, with a tendency for the error to fall off above and below. When the mean of the two records is employed the resultant error is halved and becomes negligible.

In Table 548 occur the entries "Type of Tropopause" and " $L_c$ =Geopotential at Tropopause." These are defined as follows:—Type I. The stratosphere commences with an inversion, and  $L_c$  is the geopotential at the first point of zero temperature gradient. Type II. The stratosphere begins with an abrupt transition to a temperature gradient below  $2^{\circ}\text{A.}$  per kiloleo without inversion, and  $L_c$  is the geopotential of the abrupt transition. Type III. There is no abrupt change of temperature gradient, and the base of the stratosphere is taken at the point where the mean fall of temperature for the kiloleo next above is  $2^{\circ}\text{A.}$  or less, provided that it does not exceed  $2^{\circ}\text{A.}$  for any subsequent kiloleo. In the Remarks on the Soundings the pressure distribution is classified according to the types defined in "Aids to Forecasting."†

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†—E. Gold, F.R.S., Geophysical Memoir No. 16, M.O. 220f, London, 1920.



T.=Temperature in degrees absolute.

P.=Pressure in millibars.

548.

L.=Geopotential Level above M.S.L. in kiloleos (Kl.)

RH.=Relative Humidity as percentage.

1933.

No. of Sounding.	913.	914.	915.	920.	921.	922.	923.	924.	925.	926.
Date.	Jan. 11.	Jan. 12.	Jan. 12.	Mar. 9.	Mar. 9.	Mar. 23.	Apr. 5.	Apr. 12.	Apr. 13.	Apr. 13.
Station.	Sealand.	Sealand.	Sealand.	Sealand.	Sealand.	Kew.	Kew.	Sealand.	Sealand.	Sealand.
Start G.M.T. ... ..	17h. 40m.	7h. 31m.	13h. 00m.	7h. 30m.	12h. 48m.	11h. 24m.	16h. 32m.	17h. 45m.	6h. 25m.	12h. 57m.
$L_t$ =Geopotential at Greatest Height ... (Kl.)	19.25	21.53	4.77	18.05	15.80	21.24	2.19	14.70	20.40	18.16
$T_t$ =Corresponding Temperature ... (°A)	216	217	257	215	219	219	274	219	219	222
$P_t$ =Corresponding Pressure ... (mb.)	56	39	550	70	101	42	780	119	48	69
Place of Fall ... ..	In sea at Clevedon, Somerset.	Kingsland, Hereford.	Rossett, Wrexham, N. Wales.	Penistone, nr. Sheffield, Yorks.	Heaton, Bradford, Yorks.	Berkhampstead, Herts.	Tooting, Surrey.	Seaton, Rutland.	Essington, nr. Wolverhampton, Staffs.	Nether-seale, Burton-on Trent, Derby.
Distance ... .. (Km.)	197	109	14	97	103	37	11	172	91	123
Bearing. Degrees from N. ... ..	178	174	162	70	50	330	120	115	138	114
Geostrophic Wind— Speed ... .. (m/s.)	14	0	5	15	14	17	3	9	9	11
Degrees from N. ... ..	30	—	220	230	230	135	315	10	10	350
Wind (Anemograph)— Speed ... .. (m/s.)	3	Calm.	1	4	5	6	2	8	3	8
Degrees from N. ... ..	315	—	145	155	155	90	315	315	325	295
Humidity at surface ... .. (%)	85	98	78	79	69	44	63	67	78	60
Type of Tropopause ... ..	I.	I.	—	I.	I.	I.	—	I.	I.	I.
$L_c$ =Geopotential at ... .. (Kl.)	11.54	12.45	—	11.69	11.20	12.07	—	10.50	11.15	10.99
$T_c$ =Temp. at ... .. (°A)	209	206	—	208	210	205	—	213	213	209
$P_c$ =Pressure at ... .. (mb.)	197	172	—	197	213	186	—	233	210	217
Mean Temp. in Stratosphere	( $L_c+2$ ) to ( $L_c+5$ ) (°A.)	214	212	—	215	—	215	—	219	219
	( $L_c+5$ ) to ( $L_c+8$ ) (°A.)	215	214	—	—	218	—	—	218	—
	( $L_c+8$ ) to ( $L_c+11$ ) (°A.)	—	—	—	—	—	—	—	—	—
$T_m$ (Mean Temp. 1 to 9 Kl.) ... .. (°A.)	250	253	—	256	255	256	—	252	251	252
$P_s$ (Pressure at M.S.L.) ... .. (mb.)	1026	1027	1025	1024	1025	1026	1025	1021	1027	1030

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## REMARKS ON THE SOUNDINGS AND THE PREVAILING WEATHER CONDITIONS, 1933.

- No. of Sounding.
913. Weather cm. Clouds St-Cu. 9/10 from NNE. at about 0.9 Kl. *Inversion* (3.31–3.61 Kl., 667–631 mb., 256–255°A., 53–45%). Pressure distribution:—A ridge of high pressure extends from the British Isles to the south-west, a deep depression is centred west of Iceland. Type XII.
914. Weather bmx. Clouds Cirrus 1/10. *Inversion* near the ground, upper limit at about (0.38 Kl., 977 mb., 274°A., 81%). *Inversion* (2.00–2.57 Kl., 792–735 mb., 264–266.6°A., 43–30%). Pressure distribution:—High pressure still maintained over the British Isles, pressure falling rapidly between England and Iceland. Type VIIc.
915. Weather bz. Clouds Cirrus trace from N.W. Balloon did not burst; maximum level about 5.5 Kl. The upper portion of the record was deemed to be unreliable and was not used. *Inversion* (1.77–2.08 Kl., 816–784 mb., 266–267.2°A., 49–34%). Nearly *isothermal* (2.08–2.74 Kl., 784–720 mb., 267.2–267.5°A., 34–27%). Pressure distribution:—Similar to the foregoing, but the depression near Iceland is less deep. Type XIa.
920. Weather cloudy. Clouds St-Cu. 8/10 from W'S, Ci-St. 1/10. Very small lapse rate between the surface and 1.5 Kl. *Inversion* on descent (3.60–3.84 Kl., 650–630 mb., 264.5–265.5°A.). *Isothermal* on ascent (4.10–4.54 Kl., 609–574 mb., 262.8°A., 102–76%). Pressure distribution:—A depression centred over Iceland with a secondary west of Ireland; pressure high over the Continent. Type Va or VIa.
921. Weather cloudy. Clouds St-Cu. 7/10 from SW. at about 2 Kl. and a higher level, Cirrus and Ci-St. 2/10 from SW. moving at 8 r.p.h. *Inversion* on ascent (0.93–1.34 Kl., 916–869 mb., 280–281.7°A., 52–30%), small lapse rate (4.10–4.42 Kl., 609–584 mb., 261–260.7°A., 82–60%). Pressure distribution:—Similar to the foregoing, the depression is slowly filling up. Type VIa.
922. Weather b. Clouds Cirrus 2/10. Balloon followed by theodolite and seen to burst after 78 minutes. The mean of both records was employed in determining the temperature except above 18 Kl., where the descent was given greater weight. The mean of both ascent and descent was employed in determining the relative humidity, as they differed very little anywhere. *Inversion* (0.87–1.16 Kl., 920–887 mb., 276–279°A., 35–33%). Pressure distribution:—An anticyclone centred over Sweden extends over the British Isles and the Continent, while depressions are situated to the north and south west of Iceland. Type VIIb.
923. Weather b. Clouds St-Cu. 2/10, nearly stationary, at about 2 Kl. *Inversion* (0.96–1.31 Kl., 912–873 mb., 278–279.4°A., 88–70%). Pressure distribution:—A complex anticyclone covers the British Isles and the Continent, a ridge of high pressure extends from it to Greenland, depressions are centred west of Ireland and over Scandinavia. Type IXb or XIIIa.
924. Weather b. Clouds Fr-Cu. 1/10 from NNW. at about 0.9 Kl., Cirrus 2/10 from WSW. moving at 10 r.p.h. Balloon did not burst. *Inversion* (1.50–1.68 Kl., 845–825 mb., 270.6–273.1°A., 72–60%). A rise of temperature at the extreme top of 4°A. on both records was evidently due to the balloon floating and was ignored. Pressure distribution:—Depressions are centred over Scandinavia and the Atlantic whilst a ridge of high pressure extends from Greenland to the west of Spain. Type X or XIa.
925. Weather bc. Clouds Cu. 1/10 from NNW. at about 0.9 Kl., Cirrus 4/10 from NNW. moving at 8 r.p.h. The balloon floated at the highest point, previous to bursting, with a rise of temperature of about 8°A. which was ignored. The mean of both records was employed for the temperature except over the last Kl. at the top where greater weight was given to the descent. *Inversion* (1.42–2.35 Kl., 857–760 mb., 268–270°A.), change of lapse rate at (9.83 Kl., 260 mb., 214°A.). Pressure distribution:—Similar to the foregoing, the depression over the Atlantic is moving NE. Type I or X.
926. Weather b. Clouds Cu. 1/10 from NNW. at about 1.3 Kl., Cirrus 1/10 from NW. moving at 10 r.p.h. The relative humidity was determined from the mean of both records which agreed closely. *Inversion* (1.67–2.33 Kl., 833–765 mb., 268.3–270.0°A., 46–40%). Pressure distribution:—Similar to the foregoing, an anticyclone is developing over the British Isles. Type IXb.



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$T$ .=Temperature in degrees absolute.  
 $L$ .=Geopotential Level above M.S.L. in kiloleos (Kl.)

$P$ .=Pressure in millibars.  
 $RH$ .=Relative Humidity as percentage.

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No. of Sounding.	927.	928.	929.	930.	931.	932.	934.	935.	936.	937.
Date.	May 10.	May 11.	May 11.	May 18.	May 27.	June 8.	June 21.	July 10.	July 12.	July 13.
Station.	Sealand.	Sealand.	Sealand.	Sealand.	Kew.	Kew.	Sealand.	Sealand.	Sealand.	Sealand.
Start G.M.T. ... ..	18h. 10m.	6h. 40m.	13h. 00m.	7h. 02m.	10h. 33m.	7h. 38m.	18h. 10m.	13h. 05m.	17h. 40m.	6h. 25m.
$L_t$ =Geopotential at Greatest Height ... (Kl.)	18·01	16·82	19·77	20·44	12·43	17·05	15·78	19·59	21·11	20·35
$T_t$ =Corresponding Temperature ... (°A)	217	219	222	222	228	221	226	231	228	231
$P_t$ =Corresponding Pressure ... (mb.)	70	87	55	50	174	86	103	61	46	52
Place of Fall ... ..	Draycot, Chippenham, Wilts.	Kinver, Stourbridge, Worcester.	Netherwood Heath, Knowle, Warwick.	Cheadle, Staffs.	Edgware, Middlesex.	Guildford, Surrey.	Crickheath, Oswestry, Shropshire.	Horbury, Wakefield, Yorks.	Radbourne nr. Derby.	Rawcliffe Bridge, Goole, Yorks.
Distance ... .. (Km.)	204	101	125	72	17	31	47	107	101	147
Bearing. Degrees from N. ... ..	163	150	138	112	18	216	180	62	109	68
Geostrophic Wind— Speed ... .. (m/s.)	9	5	7	9	9	5	9	13	11	13
Degrees from N. ... ..	360	325	335	180	360	70	330	250	290	210
Wind (Anemograph)— Speed ... .. (m/s.)	7	2	8	4	2	1	2	9	7	3
Degrees from N. ... ..	280	295	305	145	155	360	280	225	235	155
Humidity at surface ... .. (%)	74	84	82	90	63	58	83	54	66	95
Type of Tropopause ... ..	I.	I.	I.	I.	II.	—	I.	I.	I.	I.
$L_c$ =Geopotential at „ ... (Kl.)	10·07	10·15	10·63	12·11	8·23	—	8·83	9·36	10·47	10·49
$T_c$ =Temp. at „ ... (°A)	219	219	216	210	228	—	222	228	219	218
$P_c$ =Pressure at „ ... (mb.)	250	250	232	190	331	—	300	288	240	238
Mean Temp. in Stratosphere { $(L_c+2)$ to $(L_c+5)$ (°A.)	217	220	221	216	—	—	228	230	225	225
{ $(L_c+5)$ to $(L_c+8)$ (°A.)	216	—	219	219	—	—	—	229	224	226
{ $(L_c+8)$ to $(L_c+11)$ (°A.)	—	—	—	—	—	—	—	—	—	—
$T_m$ (Mean Temp. 1 to 9 Kl.) ... (°A.)	252	254	255	261	252	—	252	259	257	257
$P_s$ (Pressure at M.S.L.) ... (mb.)	1015	1016	1017	1023	1012	1019	1001	1010	1009	1005

The results of an ascent from Kew at 13h. 01m. on June 8th 1933, received too late for inclusion in above Table, will be found in the 1934 Volume.

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- REMARKS ON THE SOUNDINGS AND THE PREVAILING WEATHER CONDITIONS, 1933.
927. Weather b. Clouds Cu. 1/10 from N. at about 1·3 Kl. Pressure distribution :—A complex low pressure area covers Europe, whilst pressure is high north-east of Iceland and west of Spain. Type IV.
928. Weather cloudy. Clouds Fr—St. 2/10 from NW. at about 0·4 Kl., High St—Cu. 3/10 from NNW. at about 2 Kl., Ci—St. 4/10. *Inversion* (2·47–2·69 Kl., 743–722 mb., 266·6–268·6°A., 107–85%). Pressure distribution :—Similar to the foregoing, the anticyclone west of Spain is spreading north-east. Type IV.
929. Weather cloudy. Clouds St—Cu. 5/10 from WNW. at about 0·8 Kl., A—Cu. 3/10 and Ci—St. 1/10. The mean of both records was used in determining the temperature except at the top where greater weight was given to the descending record; a pronounced rise at the extreme top on the descending record was also ignored. Small *inversion* at (3·04 Kl., 690 mb., 266°A., 75%). Pressure distribution :—Similar to the foregoing. The anticyclone now extends to Ireland and South West England. Type IV.
930. Weather overcast. Clouds 10/10 Stratus at about 0·3 Kl. The mean of both records was employed for the temperature except near the top where the two records diverged widely and greater weight was given to the descending one. An apparent rise of 8°A. at the extreme top shown on the descending record was ignored. *Inversion* with upper limit at (0·85 Kl., 922 mb., 282·3°A., 93%), *inversion* (2·46–2·94 Kl., 753–708 mb., 273–273·4°A., 107–106%). Pressure distribution :—A complex low pressure area covers Europe; a depression west of Ireland is moving east. Type VII.
931. Weather cloudy. Clouds Cu. and Fr—Cu. 7/10 from SE. at about 1 Kl., A—St. and A—Cu. 3/10 from SE. Pressure distribution :—A complex low pressure system covers Europe with a secondary centred over the English Channel. Pressure is high to the north of Iceland and west of Spain and low to the west of Ireland. Type X.
932. Weather b. Clouds nil. The balloon was followed by a theodolite and seen to burst after 70 minutes. Owing to a defect no record was obtained except for a few Kl. from the top, the published levels are approximate and were computed with the aid of temperatures obtained from an aeroplane flight at Duxford. Pressure distribution :—A ridge of high pressure extends over the British Isles and Scandinavia, depressions are centred over Italy and north of Iceland. Type IX or X.
934. Weather cloudy with slight rain. Clouds St. 2/10, St—Cu. 6/10, High St—Cu. 1/10. Pressure distribution :—A complex depression is centred over the British Isles with small centres over Europe. An anticyclone exists to the south west of Iceland. Type XIII.
935. Weather bc. Clouds Fr—Cu. 2/10 from SW. at about 0·6 Kl., A—Cu. 2/10 from WSW. at about 3·5 Kl. moving at 15 r.p.h. A sudden rise of about 5°A. at the extreme top shown on both records, due to a slowing up of the balloon, was ignored. *Inversion* (3·70–4·00 Kl., 635–611 mb., 266·6–267·3°A., 100–80%). Pressure distribution :—A depression centred north-west of Scotland extends over the British Isles, whilst a ridge of high pressure extends over the Continent from an anticyclone west of Spain. Type Va.
936. Weather cloudy. Clouds St—Cu. and Cu. 3/10 from W'S. at about 1 Kl., High St—Cu. 6/10 from W. at 2·5 Kl. *Inversion* (2·76–2·99 Kl., 715–695 mb., 270·5–271·6°A., 101–83%). Pressure distribution :—A depression near Iceland with associated secondaries extends over Northern Europe, an anticyclone is centred west of Spain. Type Ia or II.
937. Weather or. Clouds Nb. 10/10 from SSW. at about 0·5 Kl. The sounding was made in the middle of the rain area in front of an active depression. Apparent supersaturation was indicated over a wide range of level on both ascent and descent independently. Pressure distribution :—The depression referred to in the foregoing has moved south and is centred west of Scotland and moving eastward. Type IVa or VII.



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 $T$ . = Temperature in degrees absolute. $L$ . = Geopotential Level above M.S.L. in kiloeos (Kl.) $P$ . = Pressure in millibars. $RH$ . = Relative Humidity as percentage.

1933.

No. of Sounding.	938.	939.	940.	941.	942.	943.	944.	945.	946.	947.
Date.	July 13.	Aug. 9.	Aug. 10.	Aug. 10.	Aug. 11.	Sept. 1.	Sept. 13.	Sept. 14.	Sept. 14.	Oct. 4.
Station.	Kew.	Sealand.	Sealand.	Sealand.	Sealand.	Sealand.	Sealand.	Sealand.	Sealand.	Kew.
Start G.M.T. ... ..	11h. 33m.	18h. 20m.	7h. 25m.	13h. 15m.	13h. 40m.	12h. 25m.	17h. 40m.	6h. 30m.	12h. 40m.	11h. 27m.
$L_t$ = Geopotential at Greatest Height ... (Kl.)	7.52	21.68	20.81	19.67	21.75	19.35	11.49	17.95	18.35	21.13
$T_t$ = Corresponding Temperature ... (°A)	251	223	230	229	229	225	223	227	220	217
$P_t$ = Corresponding Pressure ... (mb.)	380	42	49	59	43	62	203	75	70	44
Place of Fall ... ..	Springfield, Chelmsford, Essex.	Barnoldby-le-Beck, Grimsby, Lincs.	Tealby, Lincs.	Messingham, Scunthorpe, Lincs.	Hemsworth, Pontefract, Yorks.	Kempsey, Worcester.	Foss Cross, Gloucester.	In sea 2 miles ESE. of Lyme Regis, Dorset.	Queen Camel, Yeovil, Somerset.	Itchen Stoke, Hants.
Distance ... .. (Km.)	63	193	183	159	118	163	208	281	247	75
Bearing. Degrees from N. .. ..	60	79	83	77	68	144	147	179	174	236
Geostrophic Wind— Speed ... .. (m/s.)	22	9	3	2	7	9	11	11	9	2
Degrees from N. ... ..	220	300	315	50	100	300	35	350	360	60
Wind (Anemograph)— Speed ... .. (m/s.)	4	4	2	5	2	5	8	1	7	2
Degrees from N. ... ..	180	295	315	295	180	295	305	315	305	360
Humidity at surface ... .. (%)	89	55	71	51	50	83	66	83	53	57
Type of Tropopause ... ..	—	I.	I.	I.	I.	I.	—	I.	I.	I.
$L_c$ = Geopotential at „ ... (Kl.)	—	11.55	11.52	12.11	11.17	12.89	—	11.27	13.01	13.91
$T_c$ = Temp. at „ ... (°A)	—	216	216	214	220	215	—	217	211	211
$P_c$ = Pressure at „ ... (mb.)	—	209	209	193	222	173	—	215	165	142
Mean Temp. in Stratosphere { $(L_c+2)$ to $(L_c+5)$ (°A.)	—	219	221	222	223	220	—	219	218	215
{ $(L_c+5)$ to $(L_c+8)$ (°A.)	—	221	226	—	225	—	—	—	—	—
{ $(L_c+8)$ to $(L_c+11)$ (°A.)	—	—	—	—	—	—	—	—	—	—
$T_m$ (Mean Temp. 1 to 9 Kl.) ... (°A.)	—	262	261	263	261	265	253	259	261	260
$P_s$ (Pressure at M.S.L.) ... (mb.)	1007	1019	1022	1023	1022	1020	1016	1022	1025	1025

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No. of Sounding.

## REMARKS ON THE SOUNDINGS AND THE PREVAILING WEATHER CONDITIONS, 1933.

938. Weather or. Clouds Fr-Nb. 5/10 from SSE, High St. 5/10. Ascent curtailed by an automatic release. *Inversion* (1.14–1.47 Kl., 875–840 mb., 279.7–281.0°A., 99–95%). Pressure distribution:—A depression centred near the north of Ireland is moving east. Type XV.
939. Weather bc. Clouds Cu. and St-Cu. 2/10, A-Cu. 1/10, Cirrus 1/10 from W'S. moving at 11 r.p.h. *Inversion* (1.18–1.48 Kl., 882–850 mb., 280.3–283.2°A., 79–42%). Pressure distribution:—A ridge of high pressure extends over the British Isles and France, depressions are centred over Scandinavia and Spain. Type Ia.
940. Weather bc. Clouds Cu. 3/10 at about 0.9 Kl., Cirrus 2/10 from WSW. moving at 15 r.p.h. The vertical velocity of the balloon fell off prior to the burst and a sudden fall of 9°A. is shewn on the record after the burst; the latter was ignored, while greater weight was given to the descending record than the ascending one above 19 Kl. Pressure distribution:—Similar to the foregoing, the depression over Spain has moved northwards. Type XIa.
941. Weather bc. Clouds Cu. 1/10, Cirrus 3/10 moving from W. at 10 r.p.h. Greater weight was given to the descending than to the ascending record of temperature above 16 Kl., a sudden drop in apparent temperature after the balloon burst was ignored. Pressure distribution:—Similar to the foregoing, a shallow region of low pressure now covers Southern Europe. Type Ia.
942. Weather cloudy, slight rain. Clouds St. from WSW. at about 0.8 Kl. A marked rise in the apparent temperature at the extreme top was ignored. Super-saturation was shewn on the hygrogram independently on both ascent and descent. Pressure distribution:—A quiescent region of high pressure covers the British Isles and Europe. Type IX or IXa.
943. Weather overcast with slight drizzle. Clouds St. 10/10. Over the last two Kl. at the top, more weight was given to the record of temperature on the descent than on the ascent; a sudden fall in the apparent temperature after the balloon burst was ignored. *Isothermal* (2.57–3.05 Kl., 743–700 mb., 278°A., 86–49%). Pressure distribution:—A ridge of high pressure extends over the British Isles and Norway, pressure is low over Russia, Iceland and Spain. Type IV.
944. Weather cloudy. Clouds St., Cu., and St-Cu. 9/10 from NW. at about 0.6 Kl. upwards. Pressure distribution:—A ridge of high pressure extends from south-west of Ireland to the east of Greenland, a shallow depression is centred over the Baltic. Type X.
945. Weather b. Clouds Cu. 1/10 from NW. at about 0.9 Kl., Cirrus trace. Balloon did not burst and evidently floated at the highest point, the whole sounding probably lasted very many hours. An apparent rise of temperature of 24°A. was shewn at the top on both records, which was ignored. *Isothermal* on both records, mean values (1.39–2.23 Kl., 857–770 mb., 273.5°A.). Pressure distribution:—Similar to the foregoing, a depression has now developed west of Iceland. Type X.
946. Weather b. Clouds Fr-Cu. 2/10 at 1.4 Kl. from N. Balloon did not burst and the ventilation near the top was so bad that the results have not been published above 18.4 Kl., below which they appear to be reliable. *Inversion* (1.99–2.17 Kl., 800–781 mb., 275–276.2°A., 45–43%). Pressure distribution:—An anticyclone lies over Ireland, pressure is low over Iceland, Russia and Southern Europe. Type IXb.
947. Weather b. Clouds Fr-Cu. trace, moving very slowly, Cirrus 3/10 very slow. Greater weight was given to the record of temperature on the descent than on the ascent near the top. *Inversion* (1.24–1.61 Kl., 880–840 mb., 277.7–279.2°A., 72–63%). *Isothermal* (4.89–5.14 Kl., 550–532 mb., 261°A., 37–34%). Sudden change of lapse rate at (11.61 Kl., 206 mb., 215°A.). Pressure distribution:—An anticyclone centred west of Ireland extends over the British Isles and Central Europe. Depressions are centred over Scandinavia and to the west of Spain. Type Ia.



548.  $T$ . = Temperature in degrees absolute.  $P$ . = Pressure in millibars.  
 $L$ . = Geopotential Level above M.S.L. in kiloleos (Kl.)  $RH$ . = Relative Humidity as percentage. 1933.

No. of Sounding.	948.	949.	950.	951.	952.	953.	954.	955.	956.
Date.	Oct. 11.	Oct. 12.	Oct. 12.	Nov. 8.	Nov. 9.	Nov. 29.	Dec. 13.	Dec. 14.	Dec. 14.
Station.	Sealand.	Sealand.	Sealand.	Sealand.	Sealand.	Kew.	Kew.	Kew.	Kew.
Start G.M.T. ... ..	17h. 59m.	7h. 45m.	14h. 10m.	17h. 22m.	6h. 57m.	15h. 39m.	17h. 33m.	7h. 30m.	12h. 30m.
$L_t$ = Geopotential at Greatest Height ... (Kl.)	10.63	18.74	19.08	16.92	20.29	17.37	5.76	15.93	15.38
$T_t$ = Corresponding Temperature ... (°A)	224	218	217	211	213	215	242	218	215
$P_t$ = Corresponding Pressure ... (mb.)	222	63	60	83	48	78	465	94	102
Place of Fall ... ..	North Hillswood, Leek, Staffs.	Bilsthorpe, Newark, Notts.	Swithland, Leicester-shire.	Upholland, Wigan, Lancs.	New Hey, near Rochdale, Lancs.	Chalton, Ports-mouth, Hants.	Nether Wallop, Stock-bridge, Hants.	Kimme-ridge, Dorset.	Beacon Hill, Poole, Dorset.
Distance ... .. (Km.)	67	132	134	40	73	74	96	159	154
Bearing. Degrees from N. ... ..	102	92	114	28	55	217	247	233	237
Geostrophic Wind— Speed ... .. (m/s.)	15	15	13	5	10	10	11	20	22
Degrees from N. ... ..	285	275	300	250	245	100	85	70	80
Wind (Anemograph)— Speed ... .. (m/s.)	6	3	11	Calm.	2	4	9	9	7
Degrees from N. ... ..	260	250	280	—	170	90	25	45	65
Humidity at surface ... .. (%)	68	63	57	92	86	73	50	60	61
Type of Tropopause ... ..	I.	I.	II.	I.	I.	I.	—	II.	I.
$L_c$ = Geopotential at „ ... (Kl.)	8.87	9.67	9.33	11.15	10.25	9.27	—	9.90	10.35
$T_c$ = Temp. at „ ... (°A)	218	218	219	214	216	222	—	214	212
$P_c$ = Pressure at „ ... (mb.)	292	263	279	214	245	283	—	248	230
Mean Temp. in Stratosphere	( $L_c+2$ ) to ( $L_c+5$ ) ... (°A.)	—	222	211	215	220	—	216	216
	( $L_c+5$ ) to ( $L_c+8$ ) ... (°A.)	—	221	—	213	215	—	—	—
	( $L_c+8$ ) to ( $L_c+11$ ) ... (°A.)	—	—	—	—	—	—	—	—
$T_m$ (Mean Temp. 1 to 9 Kl.) ... (°A.)	248	250	250	254	253	251	—	246	248
$P_s$ (Pressure at M.S.L.) ... (mb.)	1005	1014	1017	1023	1018	1020	1011	1016	1016

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- No. of Sounding. REMARKS ON THE SOUNDINGS AND THE PREVAILING WEATHER CONDITIONS, 1933.
948. Weather bc. Clouds Cu-Nb. 1/10 and St-Cu. 1/10 from W.N. at about 1.5 Kl. Cirrus 2/10 from WNW. moving at 8 r.p.h. Pressure distribution:—A complex depression over Scandinavia extending over the British Isles is giving way to an anticyclone south-west of Ireland. Type II.
949. Weather bc. Clouds Cu. 3/10, St-Cu. 1/10, A-Cu. trace. Cirrus (later) from WNW. moving at 8 r.p.h. Greater weight was given to the record of temperature on the descent than on the ascent near the top, and the usual sudden drop after the balloon burst was ignored. Pressure distribution:—Similar to the foregoing. Type I.
950. Weather b. Clouds Cu and Fr-Cu. 3/10 from NW. at about 1.4 Kl. Ci-Cu. (earlier) from WNW. moving at 8 r.p.h. Greater weight was given to the record of temperature on the descent than on the ascent above 18 Kl. and the usual sudden drop after the balloon burst was ignored. Several small *inversions* occurred between 2.7 and 4.5 Kl. Change of lapse rate (9.78 Kl., 260 mb., 219°A.). Pressure distribution:—The depression in the foregoing is now centred over northern Scandinavia while the anticyclone now extends over the British Isles, France and Spain. Type I.
951. Weather overcast. Clouds St. 10/10 from WSW. at about 0.9 Kl. *Inversion* (1.20–1.44 Kl., 881–855 mb., 275.2–276.8°A., 101–92%), *inversion* (2.94–3.24 Kl., 706–678 mb., 266–267.3°A., 86–69%), small *inversion* (10.18–10.38 Kl., 250–242 mb., 218.4–218.8°A.). Pressure distribution:—Depressions are centred over Iceland and the Mediterranean, a ridge of high pressure extends over the British Isles, Northern France and Germany from an anticyclone to the south-west of Ireland. Type Ia or IV.
952. Weather bcm. Clouds St-Cu. 7/10 from SW.W. at 1 Kl. In the temperature record rather more weight was given to the descent than the ascent above 18 Kl. *Inversion* on descent (1.13–1.44 Kl., 883–849 mb., 274–275°A.), *inversion* on ascent (1.51–1.62 Kl., 842–830 mb., 273.1–274.0°A., 104–94%), *inversion* (3.29–3.43 Kl., 670–657 mb., 263.7–264.3°A., 81–68%). Pressure distribution:—Depressions are centred east of Iceland and over the Mediterranean, anticyclones to the west of Spain and over Germany. Type XIa or XII.
953. Weather overcast. Clouds St-Cu. 10/10 from E. at about 0.6 Kl. *Inversion* on ascent (0.94–1.11 Kl., 906–886 mb., 270–275.7°A., 93–57%), *inversion* on descent (0.71–1.02 Kl., 934–897 mb., 272–276°A.). Pressure distribution:—Depressions are centred south-west of Iceland and over the western Mediterranean while pressure is high over Russia and to the south-west of Spain. Type VIIb.
954. Weather bc. Clouds Cirrus 3/10. Record failed at a low level owing to instrumental defect. *Inversion* (1.09–1.46 Kl., 877–836 mb., 262.7–265.4°A.). Pressure distribution:—Pressure is low over Spain, Italy, and Northern Scandinavia, while a ridge of high pressure extends across Ireland and Scotland to North Germany. Type VIIIa.
955. Weather b. Clouds none. For the record of temperature the ascent only was employed from the start to 1 Kl.; a small rise at the extreme top on both records was ignored. Sudden change of lapse rate at (10.44 Kl., 228 mb., 214.5°A.). Pressure distribution:—Areas of high pressure are centred to the west of Ireland and over Russia with depressions over Eastern Spain, Northern Russia and Greenland. Type XIa.
956. Weather bz. Clouds none. Greater weight was given to the record of temperature on the descent than on the ascent above 14 Kl. *Inversion* on ascent (1.19–1.51 Kl., 870–835 mb., 262–265.4°A., 55–46%), *inversion* on descent (0.94–1.19 Kl., 900–871 mb., 263.7–266.3°A.), sudden change of lapse rate at (4.73 Kl., 540 mb., 251°A., 38%). Pressure distribution:—Similar to the foregoing, but pressure rising over Norway. Type IX.







*P.*—Pressure in millibars.

*RH.* = Relative Humidity as percentage.

No.	927.	928.	929.	930.	931.	932.	934.	935.	936.	937.
Date.	May 10.	May 11.	May 11.	May 18.	May 27.	June 8.	June 21.	July 10.	July 12.	July 13.
Station.	Sealand.	Sealand.	Sealand.	Sealand.	Kew.	Kew.	Sealand.	Sealand.	Sealand.	Sealand.
Start. (G.M.T.)	18h. 10m.	6h. 40m.	13h. 00m.	7h. 02m.	10h. 33m.	7h. 38m.	18h. 10m.	13h. 05m.	17h. 40m.	6h. 25m.

GEOPOTENTIALS, TEMPERATURES AND RELATIVE HUMIDITIES CORRESPONDING  
WITH ISOBARIC SURFACES—*continued.*

**550.**

**1933.**

Pressure.	L.	T.	RH.	L.	T.	RH.	L.	T.	RH.	L.	T.	RH.	L.	T.	RH.	L.	T.	RH.	L.	T.	RH.	L.	T.	RH.	L.	T.	RH.	L.	T.	RH.
Millibars.	Kl.	°A 200 +	%	Kl.	°A 200 +	%	Kl.	°A 200 +	%	Kl.	°A 200 +	%	Kl.	°A 200 +	%	Kl.	°A 200 +	%	Kl.	°A 200 +	%	Kl.	°A 200 +	%	Kl.	°A 200 +	%	Kl.	°A 200 +	%
100	15·81	15	...	15·93	19	...	15·95	19	...	16·06	16	...	...	...	...	16·10	21	...	...	...	...	16·33	29	...	16·09	24	...	16·08	25	...
200	11·48	18	...	11·55	20	...	11·55	20	...	11·79	12	...	11·53	28	...	...	...	...	11·47	28	...	11·77	30	...	11·63	23	...	11·61	24	...
300	8·91	26	44	8·98	27	70	8·99	27	39	9·21	31	58	8·87	28	...	...	...	...	8·83	22	58	9·09	30	61	9·03	28	42	9·01	30	...
400	6·99	39	44	7·03	42	71	7·05	43	40	7·23	48	73	6·97	38	99	...	...	...	6·93	38	53	7·13	46	61	7·09	43	38	7·03	46	125
500	5·42	51	54	5·45	53	53	5·46	54	85	5·61	59	52	5·41	50	95	...	...	...	5·37	51	59	5·51	58	52	5·49	56	44	5·43	57	128
600	4·08	60	49	4·11	62	58	4·11	62	83	4·23	68	64	4·07	59	101	...	...	...	4·03	61	103	4·14	67	65	4·12	66	57	4·06	65	133
700	2·92	65	89	2·93	68	73	2·93	66	75	3·03	73	104	2·91	66	106	...	...	...	2·85	68	98	2·93	71	80	2·93	72	89	2·87	71	135
800	1·89	70	94	1·90	70	92	1·91	71	70	1·98	75	99	1·88	71	108	...	...	...	1·81	75	86	1·89	78	82	1·89	76	95	1·83	73	126
900	0·97	77	89	0·97	77	102	0·98	77	95	1·04	81	89	0·95	78	77	...	...	...	0·87	82	73	0·95	84	88	0·94	83	78	0·90	79	95
1000	0·12	...	...	0·13	...	...	0·13	...	...	0·19	...	...	0·10	...	...	...	...	...	0·01	...	...	0·08	...	...	0·07	...	...	0·05	...	...

551. PRESSURES, TEMPERATURES AND HUMIDITIES AT GIVEN GEOPOTENTIALS—*continued.*

1933.

Geopotentials.	P.	T.	RH.	P.	T.	RH.	P.	T.	RH.	P.	T.	RH.	P.	T.	RH.	P.	T.	RH.	P.	T.	RH.	P.	T.	RH.	P.	T.	RH.	P.	T.	RH.	P.	T.	RH.	P.	T.	RH.					
Kiloleos.	mb.	°A 200 +	%	mb.	°A 200 +	%	mb.	°A 200 +	%	mb.	°A 200 +	%	mb.	°A 200 +	%	mb.	°A 200 +	%	mb.	°A 200 +	%	mb.	°A 200 +	%	mb.	°A 200 +	%	mb.	°A 200 +	%	mb.	°A 200 +	%	mb.	°A 200 +	%	mb.	°A 200 +	%		
21	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
20	...	...	...	...	...	...	...	...	...	53	22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
19	...	...	...	...	...	...	62	22	...	63	20	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
18	70	17	...	...	...	...	73	20	...	73	19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
17	82	15	...	...	...	...	85	19	...	86	17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
16	97	15	...	99	19	...	99	19	...	101	15	...	...	...	...	102	21	...	...	...	105	29	...	101	24	...	101	24	...	101	24	...	101	24	...	101	24	...	101	24	...
15	114	16	...	116	19	...	116	20	...	119	15	...	...	...	...	119	21	...	...	...	122	28	...	119	24	...	119	24	...	119	24	...	119	24	...	119	24	...	119	24	...
14	134	17	...	136	20	...	136	21	...	139	15	...	...	...	...	140	21	...	...	...	143	29	...	139	24	...	139	24	...	139	24	...	139	24	...	139	24	...	139	24	...
13	157	18	...	159	21	...	159	22	...	164	14	...	...	...	...	163	20	...	...	...	166	30	...	162	27	...	162	27	...	162	27	...	162	27	...	162	27	...	162	27	...
12	184	19	...	187	20	...	187	22	...	193	11	...	186	28	...	...	...	...	...	...	193	30	...	189	25	...	189	25	...	189	25	...	189	25	...	189	25	...	189	25	...
11	216	19	...	218	20	...	218	19	...	227	17	...	217	28	...	...	...	...	...	...	225	30	...	221	21	...	221	21	...	221	21	...	221	21	...	221	21	...	221	21	...
10	253	19	...	256	19	...	257	19	...	266	24	...	253	26	...	...	...	...	...	...	250	27	...	261	29	...	258	21	...	258	21	...	258	21	...	258	21	...	258	21	...
9	295	25	44	299	27	70	300	27	39	310	33	59	294	28	...	...	...	...	...	...	292	23	...	304	30	61	302	29	42	300	30	...	300	30	...	300	30	...	300	30	...
8	344	32	45	347	35	73	349	35	38	359	42	63	343	29	...	...	...	...	...	...	341	28	56	353	39	62	350	36	40	348	39	...	348	39	...	348	39	...	348	39	...
7	399	39	44	402	42	71	403	43	40	413	50	69	398	38	99	...	...	...	...	...	396	37	53	407	47	61	405	44	37	402	46	...	402	46	...	402	46	...	402	46	...
6	461	47	50	463	49	60	464	50	69	474	57	56	460	45	97	...	...	...	...	...	457	46	56	468	54	56	466	52	42	462	53	...	462	53	...	462	53	...			
5	530	54	54	532	56	48	532	57	69	542	64	46	529	53	94	...	...	...	...	...	525	54	59	535	62	50	534	60	47	530	60	...	530	60	...	530	60	...			
4	607	61	50	608	63	61	609	63	87	618	69	65	606	60	101	...	...	...	...	...	601	61	103	611	67	80	610	66	59	604	66	...	604	66	...	604	66	...			
3	692	64	87	693	68	74	694	66	71	703	73	105	691	66	106	...	...	...	...	...	686	67	100	696	71	83	694	72	82	688	70	...	688	70	...	688	70	...			
2.5	739	67	83	740	67	104	741	68	64	749	75	108	738	68	106	...	...	...	...	...	732	70	94	741	75	80	740	72	96	734	71	...	734	71	...	734	71	...			
2	788	70	97	790	70	97	790	71	71	798	75	100	788	70	108	...	...	...	...	...	781	74	88	790	78	81	788	75	96	783	73	...	783	73	...	783	73	...			
1.5	841	73	92	842	73	95	843	74	77	849	78	85	840	74	104	...	...	...	...	...	832	77	79	841	80	85	839	78	89	834	75	...	834	75	...	834	75	...			
1	896	77	90	897	77	101	898	76	95	905	82	82	895	78	79	...	...	...	...	...	886	81	73	894	84	88	894	82	79	888	78	...	888	78	...	888	78	...			
0.5	954	81	76	956	80	102	956	80	85	972	82	104	952	83	65	...	...	...	...	...	942	85	72	951	88	71	950	86	75	946	82	...	946	82	...	946	82	...			
Ground.	1014	85	74	1015	83	84	1016	84	82	1022	85	90	1011	87	63	1018	93	58	1000	87	83	1009	94	54	1009	91	66	1005	85	90	1005	85	...	1005	85	...	1005	85	...		

*Note.*—The temperatures are derived from the original tabulations which are generally made to the nearest half-degree, and are shown to the nearest whole degree.

Tables of mean seasonal temperatures and correlation coefficients will be found in the Introduction. Year Book 1929.

LAPSE RATE OF TEMPERATURE BETWEEN GIVEN GEOPOTENTIALS—*continued.*

Degrees absolute per kiloleo.

**552.**

**1933.**

Kiloleos	...	...	...	...	...	...	...	...	...	...
20 to 21	...	...	...	...	...	...	...	...	-3	...
19 to 20	...	...	...	-2	...	...	...	...	-1	-2
18 to 19	...	...	-2	-1	...	...	...	-1	0	-2
17 to 18	-2	...	-1	-2	...	...	...	0	0	-1
16 to 17	0	...	0	-2	...	0	...	-1	0	-1
15 to 16	1	0	1	0	...	0	...	-1	0	0
14 to 15	1	1	1	0	...	0	...	1	0	-1
13 to 14	1	1	1	-1	...	-1	2	1	3	1
12 to 13	1	-1	0	-3	...	...	0	0	-2	-1
11 to 12	0	0	-5	6	0	...	0	0	-4	-2
10 to 11	0	-1	2	7	-2	...	-1	-1	1	-2
9 to 10	6	8	8	9	2	...	-4	1	7	10
8 to 9	7	8	8	9	1	...	5	8	8	9
7 to 8	7	7	8	8	9	...	9	8	7	7
6 to 7	8	7	7	7	7	...	9	7	8	7
5 to 6	7	7	7	7	8	...	8	8	8	7
4 to 5	7	7	6	5	7	...	6	5	6	6
3 to 4	4	5	3	4	6	...	6	4	5	5
2.5 to 3	5	-1	5	0	5	...	8	8	1	1
2 to 2.5	5	5	5	4	4	...	6	6	6	3
1.5 to 2	7	7	5	7	8	...	7	5	6	5
1 to 1.5	8	7	6	6	8	...	8	7	8	7
0.5 to 1	8	7	7	0	10	...	8	8	8	6
Gd. to 0.5	8	7	9	6	8	...	4	13	9	8

*Note.*—The lapse rates are derived from the original tabulations, which are generally made to the nearest half-degree.



T.=Temperature in degrees absolute.

P.=Pressure in millibars.

L.=Geopotential Level above M.S.L. in kiloleos (Kl.).

RH.=Relative Humidity as percentage.

No.	938.	939.	940.	941.	942.	943.	944.	945.	946.	947.																				
Date. Station.	July 13. Kew.	August 9. Sealand.	August 10. Sealand.	August 10. Sealand.	August 11. Sealand.	September 1. Sealand.	September 13. Sealand.	September 14. Sealand.	September 14. Sealand.	October 4. Kew.																				
Start. (G.M.T.)	11h. 33m.	18h. 20m.	7h. 25m.	13h. 15m.	13h. 40m.	12h. 25m.	17h. 40m.	6h. 30m.	12h. 40m.	11h. 27m.																				
GEOPOTENTIALS, TEMPERATURES AND RELATIVE HUMIDITIES CORRESPONDING WITH ISOBARIC SURFACES—continued.																														
550.											1933.																			
Pressure.	L.	T.	RH.	L.	T.	RH.	L.	T.	RH.	L.	T.	RH.	L.	T.	RH.	L.	T.	RH.	L.	T.	RH.	L.	T.	RH.	L.	T.	RH.	L.	T.	RH.
Millibars.	Kl.	°A 200 +	%	Kl.	°A 200 +	%	Kl.	°A 200 +	%	Kl.	°A 200 +	%	Kl.	°A 200 +	%	Kl.	°A 200 +	%	Kl.	°A 200 +	%	Kl.	°A 200 +	%	Kl.	°A 200 +	%	Kl.	°A 200 +	%
100	...	...	...	16·17	19	...	16·17	23	...	16·25	23	...	16·27	22	...	16·31	20	...	16·09	20	...	16·11	16	...	16·05	12	...	16·05	12	...
200	...	...	...	11·82	17	...	11·79	17	...	11·89	14	...	11·83	24	...	11·99	19	...	11·73	21	...	11·83	14	...	11·81	15	...	11·81	15	...
300	...	...	...	9·23	31	61	9·21	32	57	9·28	34	58	9·23	32	85	9·33	38	29	8·97	31	24	9·13	31	40	9·24	34	52	9·21	32	30
400	7·15	52	84	7·25	48	67	7·23	47	55	7·29	49	56	7·24	48	77	7·31	52	26	7·03	39	25	7·17	46	38	7·25	49	53	7·23	47	28
500	5·51	61	90	5·62	59	72	5·60	59	66	5·65	61	60	5·62	59	90	5·67	61	22	5·45	50	26	5·55	59	35	5·62	59	51	5·61	58	30
600	4·13	68	99	4·24	68	73	4·23	67	60	4·26	69	62	4·25	67	101	4·27	72	27	4·12	60	32	4·17	66	29	4·24	67	49	4·24	66	39
700	2·93	74	105	3·03	76	40	3·03	74	70	3·05	75	72	3·05	73	104	3·05	78	49	2·95	67	48	2·99	71	29	3·04	73	33	3·05	71	73
800	1·87	80	94	1·97	81	42	1·97	76	53	2·00	77	56	1·99	77	100	1·99	81	106	1·92	72	89	1·94	73	56	1·99	75	45	2·00	78	61
900	0·91	81	96	1·02	81	77	1·04	80	72	1·05	83	76	1·05	81	87	1·03	84	112	0·99	78	93	1·01	75	85	1·05	77	81	1·06	78	72
1000	0·05	...	...	0·15	89	63	0·18	...	...	0·19	...	...	0·19	90	56	0·17	...	...	0·13	...	...	0·17	...	...	0·21	...	...	0·21	...	...

551.			PRESSURES, TEMPERATURES AND HUMIDITIES AT GIVEN GEOPOTENTIALS—continued.																												1933.		
Geopotentials.	P.	T.	RH.	P.	T.	RH.	P.	T.	RH.	P.	T.	RH.	P.	T.	RH.	P.	T.	RH.	P.	T.	RH.	P.	T.	RH.	P.	T.	RH.	P.	T.	RH.			
Kiloleos.	mb.	°A 200 +	%	mb.	°A 200 +	%	mb.	°A 200 +	%	mb.	°A 200 +	%	mb.	°A 200 +	%	mb.	°A 200 +	%	mb.	°A 200 +	%	mb.	°A 200 +	%	mb.	200 +	%	mb.	°A 200 +	%			
21	...	...	...	47	23	...	...	...	...	...	...	...	48	28	...	...	...	...	...	...	...	...	...	...	...	...	...	...	45	17	...		
20	...	...	...	55	23	...	...	55	29	...	...	...	56	28	...	...	...	...	...	...	...	...	...	...	...	...	...	...	53	16	...		
19	...	...	...	64	23	...	...	65	27	...	...	65	28	...	...	65	24	...	...	...	...	...	...	...	...	...	...	...	62	16	...		
18	...	...	...	75	21	...	...	75	26	...	...	76	27	...	...	77	26	...	77	23	...	...	...	...	...	...	...	...	73	16	...		
17	...	...	...	88	20	...	...	88	25	...	...	89	24	...	...	89	24	...	90	21	...	...	...	...	...	...	...	...	86	15	...		
16	...	...	...	103	19	...	...	103	23	...	...	104	23	...	...	104	21	...	105	19	...	...	...	...	...	...	...	...	101	12	...		
15	...	...	...	121	19	...	...	121	21	...	...	122	21	...	...	122	21	...	123	18	...	...	...	...	...	...	...	...	119	12	...		
14	...	...	...	141	18	...	...	141	20	...	...	143	20	...	...	143	24	...	145	16	...	...	...	...	...	...	...	...	140	11	...		
13	...	...	...	166	19	...	...	165	19	...	...	167	18	...	...	167	25	...	170	15	...	...	...	...	...	...	...	...	165	13	...		
12	...	...	...	195	17	...	...	193	18	...	...	197	14	...	...	195	25	...	199	18	...	...	...	...	...	...	...	...	194	15	...		
11	...	...	...	228	19	...	...	227	19	...	...	230	20	...	...	228	20	...	233	25	...	219	24	...	...	...	...	...	228	19	...		
10	...	...	...	267	26	...	...	266	26	58	...	269	28	...	...	267	26	...	272	33	...	256	25	...	...	...	...	...	267	27	...		
9	...	...	...	311	34	62	...	309	34	57	...	312	37	59	...	311	34	86	315	41	29	298	31	24	...	...	...	...	311	36	52		
8	...	...	...	359	42	64	...	358	42	56	...	361	43	62	...	359	42	85	363	48	27	347	34	24	...	...	...	...	360	43	53		
7	408	53	85	414	50	71	...	413	49	54	...	416	51	56	...	414	50	82	417	54	25	402	39	25	...	...	...	...	414	51	52		
6	468	58	88	475	57	70	...	474	57	61	...	478	59	57	...	475	56	83	477	58	21	463	47	25	...	...	...	...	475	57	51		
5	535	63	94	543	64	74	...	542	62	64	...	546	64	62	...	543	62	94	545	66	24	532	54	28	...	...	...	...	543	64	53		
4	610	69	99	619	70	61	...	618	68	62	...	621	71	64	...	620	68	103	621	74	32	608	61	33	...	...	...	...	618	68	45		
3	693	73	106	704	76	41	...	704	74	70	...	706	75	71	...	705	73	104	705	78	51	695	67	47	...	...	...	...	703	73	34		
215	738	76	100	749	78	39	...	750	75	61	...	752	76	64	...	750	75	106	750	79	92	742	69	48	...	...	...	...	750	75	38		
2	786	79	94	797	81	42	...	798	76	52	...	800	77	56	...	799	77	100	798	81	105	792	72	91	...	...	...	...	799	75	45		
1·5	837	81	95	847	83	39	...	850	77	61	...	851	79	64	...	851	78	86	849	83	113	843	75	86	...	...	...	...	850	76	69		
1	890	80	99	902	81	76	...	905	80	73	...	906	83	75	...	906	82	87	903	84	112	898	78	93	...	...	...	...	906	78	79		
0·5	947	83	96	959	86	69	...	962	84	76	...	963	87	62	...	963	86	70	960	...	111	956	83	71	...	...	...	...	964	82	69		
Ground.	1006	87	89	1018	91	55	...	1021	89	71	...	1022	91	51	...	1021	92	50	1019	91	83	1016	87	66	...	...	...	...	1024	89	53		

Note.—The temperatures are derived from the original tabulations which are generally made to the nearest half-degree, and are shown to the nearest whole degree. Tables of mean seasonal temperatures and correlation coefficients will be found in the Introduction. Year Book 1929.

552. LAPSE RATE OF TEMPERATURE BETWEEN GIVEN GEOPOTENTIALS—continued.										
Degrees absolute per kiloleo.										
1933.										
Kiloleos.	...	...	...	...	...	...	...	...	...	...
20 to 21	...	0	...	...	...	...	...	...	...	0
19 to 20	...	0	...	...	...	...	...	...	...	0
18 to 19	...	-1	...	...	...	...	...	...	...	0
17 to 18	...	-1	...	...	...	...	...	...	...	-1
16 to 17	...	-1	...	...	...	...	...	...	...	-3
15 to 16	...	0	...	...	...	...	...	...	...	0
14 to 15	...	-1	...	...	...	...	...	...	...	-1
13 to 14	...	1	...	...	...	...	...	...	...	2
12 to 13	...	-2	...	...	...	...	...	...	...	2
11 to 12	...	2	...	...	...	...	...	...	...	5
10 to 11	...	7	...	...	...	...	...	...	...	7
9 to 10	...	8	...	...	...	...	...	...	...	7
8 to 9	...	8	...	...	...	...	...	...	...	8
7 to 8	...	8	...	...	...	...	...	...	...	7
6 to 7	...	5	...	...	...	...	...	...	...	7
5 to 6	...	6	...	...	...	...	...	...	...	5
4 to 5	...	5	...	...	...	...	...	...	...	6
3 to 4	...	4	...	...	...	...	...	...	...	4
2·5 to 3	...	7	...	...	...	...	...	...	...	8
2 to 2·5	...	6	...	...	...	...	...	...	...	6
1·5 to 2	...	3	...	...	...	...	...	...	...	1
1 to 1·5	...	-1	...	...	...	...	...	...	...	0
0·5 to 1	...	6	...	...	...	...	...	...	...	8
Gd. to 0·5	...	8	...	...	...	...	...	...	...	11



T.=Temperature in degrees absolute.

P.=Pressure in millibars.

L.=Geopotential level above M.S.L. in kiloeos (Kl.)

RH.=Relative Humidity as percentage.

No.	948.	949.	950.	951.	952.	953.	954.	955.	956.
Date.	Oct. 11.	Oct. 12.	Oct. 12.	Nov. 8.	Nov. 9.	Nov. 29.	Dec. 13.	Dec. 14.	Dec. 14.
Station.	Sealand.	Sealand.	Sealand.	Sealand.	Sealand.	Kew.	Kew.	Kew.	Kew.
Start.	17h. 59m.	7h. 45m.	14h. 10m.	17h. 22m.	6h. 57m.	15h. 39m.	17h. 33m.	7h. 30m.	12h. 30m.
(G.M.T.)									
GEOPOTENTIALS, TEMPERATURES AND RELATIVE HUMIDITIES CORRESPONDING WITH ISOBARIC SURFACES—continued.									
1933.									
Pressure.	L.	T.	RH.	L.	T.	RH.	L.	T.	RH.
Millibars.	Kl.	°A	%	Kl.	°A	%	Kl.	°A	%
100	...	...	...	15·83	21	...	15·85	21	...
200	...	...	...	11·42	23	...	11·45	23	...
300	8·71	19	87	8·85	22	52	8·87	22	42
400	6·83	35	87	6·95	38	53	6·98	37	45
500	5·29	46	88	5·38	50	52	5·41	49	53
600	3·98	55	91	4·05	58	49	4·09	59	75
700	2·83	62	96	2·89	64	63	2·93	64	70
800	1·81	70	91	1·87	69	96	1·91	69	67
900	0·89	77	80	0·95	75	96	0·99	76	76
1000	0·03	...	...	0·11	...	83	0·14	...	...

PRESSURES, TEMPERATURES AND HUMIDITIES AT GIVEN GEOPOTENTIALS—continued.									
1933.									
Geopotentials.	P.	T.	RH.	P.	T.	RH.	P.	T.	RH.
Kiloeos.	mb.	°A	%	mb.	°A	%	mb.	°A	%
21	...	...	...	...	...	...	...	...	...
20	...	...	...	...	...	...	...	...	...
19	...	...	...	...	...	...	...	...	...
18	...	...	...	...	...	...	...	...	...
17	...	...	...	...	...	...	...	...	...
16	...	...	...	...	...	...	...	...	...
15	...	...	...	...	...	...	...	...	...
14	...	...	...	...	...	...	...	...	...
13	...	...	...	...	...	...	...	...	...
12	...	...	...	...	...	...	...	...	...
11	...	...	...	...	...	...	...	...	...
10	245	24	...	250	20	...	251	20	...
9	286	18	...	293	21	52	294	20	42
8	335	25	87	342	30	53	344	28	43
7	390	33	87	397	38	53	399	37	45
6	452	42	87	458	46	54	460	45	51
5	521	49	89	527	52	50	529	52	59
4	598	55	91	604	58	51	607	60	75
3	684	61	96	690	63	63	694	64	71
2·5	731	65	95	737	67	66	741	66	60
2	780	69	94	787	69	88	791	69	65
1·5	832	72	80	839	72	99	843	72	74
1	887	76	78	895	75	96	899	76	76
0·5	945	80	83	953	78	91	956	80	...
Ground.	1004	85	68	1013	83	63	1017	85	57

Note.—The temperatures are derived from the original tabulations which are generally made to the nearest half-degree, and are shown to the nearest whole degree.

Tables of mean seasonal temperatures and correlation coefficients will be found in the Introduction. Year Book 1929.

## LAPSE RATE OF TEMPERATURE BETWEEN GIVEN GEOPOTENTIALS—continued.

Degrees absolute per kiloeo.									
1933.									
Kiloeos.									
20 to 21	...	...	...	...	...	...	...	...	...
19 to 20	...	...	...	...	...	...	...	...	...
18 to 19	...	...	...	...	...	...	...	...	...
17 to 18	...	...	...	...	...	...	...	...	...
16 to 17	...	...	...	...	...	...	...	...	...
15 to 16	...	...	...	...	...	...	...	...	...
14 to 15	...	...	...	...	...	...	...	...	...
13 to 14	...	...	...	...	...	...	...	...	...
12 to 13	...	...	...	...	...	...	...	...	...
11 to 12	...	...	...	...	...	...	...	...	...
10 to 11	...	...	...	...	...	...	...	...	...
9 to 10	...	...	...	...	...	...	...	...	...
8 to 9	...	...	...	...	...	...	...	...	...
7 to 8	...	...	...	...	...	...	...	...	...
6 to 7	...	...	...	...	...	...	...	...	...
5 to 6	...	...	...	...	...	...	...	...	...
4 to 5	...	...	...	...	...	...	...	...	...
3 to 4	...	...	...	...	...	...	...	...	...
2·5 to 3	...	...	...	...	...	...	...	...	...
2 to 2·5	...	...	...	...	...	...	...	...	...
1·5 to 2	...	...	...	...	...	...	...	...	...
1 to 1·5	...	...	...	...	...	...	...	...	...
0·5 to 1	...	...	...	...	...	...	...	...	...
Gd. to 0·5	...	...	...	...	...	...	...	...	...

Note.—The lapse rates are derived from the original tabulations, which are generally made to the nearest half-degree.



