

AIR MINISTRY  
METEOROLOGICAL OFFICE

# THE OBSERVATORIES' YEAR BOOK 1940



*Comprising the meteorological and  
geophysical results obtained from  
autographic records and eye observations at  
the Lerwick, Aberdeen, Eskdalemuir,  
Valentia, and Kew observatories*

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The *Observatories' Year Book* was published for the years 1922 to 1937 in continuation of Part III Section II and Part IV of the *British Meteorological and Magnetic Year Book* for the period 1908 to 1921.

Publication of the *Observatories' Year Book* was necessarily suspended during the 1939-45 war. Restrictions on supplies and printing since the war have resulted in a regrettably long delay in resumption of publication. In face of the formidable accumulation of arrears, and taking changed requirements into account, it has been decided to adopt an abridged form as outlined below.

It is intended that the General Introduction to the Meteorological Tables and the parts of the Sectional Introductions which deal with site, instruments, procedure and tabulation included in the volume for 1938 shall serve as standards of reference for several years to come; and that only important departures from these standards, together with any requisite additional information, shall be included in the relevant parts of the volumes for the years after 1938. The space devoted to the discussion of observations is reduced. Monthly tables of individual hourly values of meteorological elements are discontinued, but summaries of daily mean values (or totals), monthly means (or totals) of hourly values and some maximum and minimum values are given. The diary of cloud, weather and visibility is also discontinued. No changes were made in the atmospheric electrical or magnetic tables. The seismological tables and the aerological section are now discontinued (see below).

The present volume, 1940, contains meteorological data for the observatories at Aberdeen, Eskdalemuir, Valentia (which was transferred to the Irish Meteorological Service in October 1937) and Kew; atmospheric electrical data for Lerwick, Eskdalemuir and Kew; and geomagnetic data for Lerwick, Eskdalemuir and Valentia. The seismological diary and the table of microseisms for Kew are discontinued. Seismic data registered at Kew are published in the *International Seismological Summary*, and since 1947 in the *Kew Observatory Seismological Bulletin* which is issued monthly. The aerological section, giving the results of soundings in the upper air by means of registering balloons, which has appeared in the *Observatories' Year Book* since 1922, is now omitted. Radio-sonde technique has superseded that formerly used. The results of radio-sonde and radio (or radar) wind observations in the upper air during 1940 and later years are published in the *Upper Air Supplement* to the *Daily Weather Report* (later, in the *Daily Aerological Record*).

Manuscript tabulations of hourly values of the meteorological elements are available at the observatories. Requests for information from these tabulations should be addressed to the Director, Meteorological Office, Air Ministry, Victory House, Kingsway, London, W.C.2; or, for Valentia Observatory, to the Director, Meteorological Service, Department of Industry and Commerce, 44 Upper O'Connell Street, Dublin.

NOTE ON THE TABLES:     Maximum and minimum values are shown in italics.



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## ERRATA IN PREVIOUS VOLUMES

*Observatories' Year Books, 1932-1938*

## 1932

P. 308, Table 371; Mean Temperature for September; for "296.68°A" read "286.68°A".

## 1935

P. 305, Table 356; for Monthly and Annual mean values in column 2 substitute the following values:

Month	Mean	Month	Mean
	mb.		mb.
Jan.	1028.35	July	1020.04
Feb.	1004.81	Aug.	1015.47
Mar.	1018.42	Sept.	1006.79
Apr.	1008.58	Oct.	1010.16
May	1018.85	Nov.	1000.08
June	1006.65	Dec.	1002.13
		YEAR	1011.82

## 1938

P. 158, Table 185, 0h., August; for "16.53" read "16.58"

P. 164 Table 198, 1-2h., December; for "6.8" read "6.8"  
17-18h., December; for "5.3" read "5.3"



**LERWICK**







## LERWICK OBSERVATORY

Latitude .. .. . 60°08'N.  
Longitude .. .. . 1°11'W.  
G.M.T. of Local Mean Noon 12h. 5m.  
Height of site above M.S.L. 80 to 90 metres

### INTRODUCTION

Full details of the site, instruments, procedure and tabulation are given in the *Observatories' Year Book* for 1938. Changes and additions only are mentioned here.

### ATMOSPHERIC ELECTRICITY

No changes were made in 1940.

### TERRESTRIAL MAGNETISM

The average day to day change of temperature in the magnetograph house for each of the twelve months of 1940 and for the year as a whole was as follows (in degrees Absolute).

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
0.40	0.32	0.36	0.31	0.45	0.40	0.32	0.21	0.25	0.17	0.39	0.37	0.33

There were 10 occasions on which the change reached or exceeded 1°A.

As already stated in the 1938 Year Book, a Smith portable coil magnetometer, which had been reconstructed to operate as a Schuster Smith coil magnetometer, was brought into use and adopted as the standard instrument for horizontal force in October 1939.

The volume for 1938 contains a statement on the corrections, arising from instrumental changes and comparisons, to be applied to the values of H, D and V published for the years 1923 to 1938. Corresponding corrections have not been applied to the individual values in the four tables for each month given in this volume (1940) but are shown in the tables and repeated below. The values of the elements given in Table 58 and elsewhere in the volume have been corrected.

#### Corrections

H -6 $\gamma$  throughout  
D -4.1' throughout  
V varies from month to month as below

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
-20 $\gamma$	-20 $\gamma$	-18 $\gamma$	-18 $\gamma$	-12 $\gamma$	-7 $\gamma$	-9 $\gamma$	-10 $\gamma$	-9 $\gamma$	-11 $\gamma$	-11 $\gamma$	-12 $\gamma$

### NOTES ON THE RESULTS

The factor to change variations of D expressed in minutes to units of force ( $\gamma$ ) perpendicular to the magnetic meridian remained as in 1939 approximately 4.19.

Comparing the mean values for all days of 1940 with those for 1939 it is noted that H decreased by 5 $\gamma$ , D (west) decreased by 10.4' and V increased by 26 $\gamma$ . The ranges between the extreme values recorded during 1940 were H, 2373 $\gamma$ ; D, 5°24.1'; and V, 1617 $\gamma$ .



At the assembly of the International Association of Terrestrial Magnetism and Electricity at Washington in September 1939 a new measure of magnetic disturbance, the  $K$  index, was agreed upon. Measurements of  $K$  are now given in this volume, replacing the former measure  $(HR_H + VR_V)10^{-4}$ , in accordance with the International Association of Terrestrial Magnetism and Electricity circular letter dated January 20, 1940.

The  $K$  index is fully described in *Terrestrial Magnetism and Atmospheric Electricity*, Baltimore Md, 44, 1939, p.411. Briefly, a figure is allotted, on a scale 0-9, to each 3-hour interval. The figure is a measure of the range of magnetic force during that period, measured from a curved line which represents the normal quiet day variation. The figures are first allotted from the H magnetogram, and then increased, if necessary, by inspection of the D and V curves, so that the most disturbed component determines the final figure.

The scale of ranges in  $\gamma$  corresponding to the figures 0-9 varies from observatory to observatory. The lower limit of each number for Lerwick is

$K$	0	1	2	3	4	5	6	7	8	9
Range in $\gamma$	0	10	20	40	80	140	240	400	660	1000

Table I has been slightly changed in form from previous years owing to the omission of  $(HR_H + VR_V)10^{-4}$ .  $K$  figures, and their sums, have been given for each day in the main tables, but as it is considered that monthly means of  $K$  figures are not a good measure of activity, they are not included. Tables II, III, IV and V follow the pattern of 1938 and 1939.

TABLE I

	Magnetic character figures			Mean character figures	
	0 days	1 days	2 days	Lerwick	International
January	16	13	2	0.55	0.84
February	14	15	0	0.52	0.71
March	14	10	7	0.77	0.81
April	15	10	5	0.67	0.69
May	10	20	1	0.71	0.68
June	14	14	2	0.60	0.72
July	17	13	1	0.48	0.62
August	19	12	0	0.39	0.63
September	16	12	2	0.53	0.70
October	15	13	3	0.61	0.71
November	12	16	2	0.67	0.79
December	16	14	1	0.52	0.78
Year					
1940	178	162	26	0.59	0.72
1939	186	143	36	0.59	0.77
1938	180	133	52	0.65	0.76
1937	119	197	49	0.81	0.73
1936	133	206	27	0.71	0.65
1935	100	245	20	0.78	0.67
1934	168	173	24	0.61	0.56
1933	157	169	39	0.59	0.64
1932	97	230	39	0.84	0.71
1931	121	212	32	0.75	0.66
1930	64	235	66	1.01	0.83



TABLE II - ABSOLUTE DAILY RANGE AND MEAN MONTHLY VALUES

	Mean absolute daily range						Mean daily range expressed as percentage of yearly mean					
	1940			Mean 1927-37			1940			Mean 1927-37		
	H	D	V	H	D	V	H	D	V	H	D	V
	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	%	%	%	%	%	%
January	133	128	148	66	76	65	70	99	96	56	83	66
February	108	106	120	108	98	100	57	82	78	91	107	102
March	492	275	322	130	101	118	258	213	209	109	110	120
April	271	153	179	155	102	120	142	119	116	130	111	122
May	151	102	133	164	97	109	79	79	86	138	105	111
June	223	122	148	133	84	89	117	95	96	112	91	91
July	163	92	108	130	84	90	85	66	70	109	91	92
August	128	99	116	124	87	91	67	77	75	104	95	93
September	189	112	144	122	97	112	99	87	94	103	106	114
October	179	129	156	138	110	125	94	100	101	116	120	127
November	163	128	164	81	84	83	85	99	106	68	91	85
December	96	107	110	75	83	78	50	83	71	63	90	80
Winter	125	117	135	82	85	82	65	91	88	69	93	84
Equinox	283	167	200	136	102	119	148	129	130	114	111	121
Summer	166	104	126	138	88	94	87	81	82	116	96	96
Year	191	129	154	119	92	98	..	..	..	..	..	..

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

TABLE III - FREQUENCY DISTRIBUTION OF ABSOLUTE DAILY RANGE

Range	Number of cases, 1940			Percentage distribution					
				H		D		V	
	H	D	V	1940	1927-37	1940	1927-37	1940	1927-37
$\gamma$				%	%	%	%	%	%
0 - 9	0	0	2	0.0	0.0	0.0	0.0	0.5	2.2
10 - 19	1	2	21	0.3	2.3	0.5	0.8	5.7	11.5
20 - 29	7	5	30	1.9	5.8	1.4	3.7	8.2	14.0
30 - 39	24	8	25	6.6	8.1	2.2	5.9	6.8	10.2
40 - 49	13	13	24	4.6	8.6	3.6	9.4	6.6	8.0
50 - 59	27	25	20	7.4	10.8	6.8	13.4	5.5	6.3
60 - 69	37	40	16	10.1	10.5	10.9	13.9	4.3	5.2
70 - 79	35	43	15	9.6	10.2	11.8	10.0	4.1	3.9
80 - 89	31	40	18	8.5	7.6	10.9	8.1	4.9	3.1
90 - 99	18	37	13	4.9	5.6	10.1	6.1	3.6	3.2
100 - 109	18	18	17	4.9	4.0	4.9	4.6	4.6	2.8
110 - 119	21	23	14	5.7	2.7	6.3	3.3	3.8	2.8
120 - 129	17	12	14	4.6	2.6	3.3	3.2	3.8	2.4
130 - 139	10	17	8	2.7	1.6	4.6	3.2	2.2	2.0
140 - 149	15	12	10	4.1	1.6	3.3	2.3	2.7	1.9
150 - 159	6	6	15	1.6	1.4	1.6	1.4	4.1	1.7
160 - 169	7	10	6	1.9	1.4	2.7	1.6	1.6	1.5
170 - 179	2	6	4	0.5	1.1	1.6	1.1	1.1	1.1
180 - 189	5	3	6	1.4	0.9	0.8	1.0	1.6	1.1
190 - 199	5	4	8	1.4	0.9	1.1	0.8	2.2	1.0
200 +	63	42	80	17.2	12.3	11.5	6.2	21.9	14.1
Days omitted	0	0	0	..	..	..	..	..	..



TABLE IV - AVERAGE RANGE OF DIURNAL INEQUALITY 1927-37  
WITH 1940 AS PERCENTAGE OF THIS

		All days			International quiet days			International disturbed days		
		V	H	D	V	H	D	V	H	D
Year	1927-37	$\gamma$ 41.1	$\gamma$ 43.2	$\gamma$ 8.48	$\gamma$ 8.0	$\gamma$ 34.3	$\gamma$ 7.84	$\gamma$ 110.4	$\gamma$ 89.1	$\gamma$ 12.35
	1940(%)	135	132	118	117	116	117	125	211	121
Winter	1927-37	32.0	19.9	7.08	6.0	13.9	4.22	97.0	61.6	12.85
	1940(%)	151	144	125	113	128	101	115	187	105
Equinox	1927-37	53.1	47.0	9.84	9.8	37.9	8.84	136.3	110.0	14.99
	1940(%)	123	166	123	67	119	117	142	319	175
Summer	1927-37	39.9	67.2	11.64	13.3	53.5	11.45	112.4	121.1	13.59
	1940(%)	140	122	126	134	108	120	112	110	88

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

TABLE V - RATIO OF RANGE OF INEQUALITY AT LERWICK TO THAT AT ESKDALEMUIR 1940

Type of day	Ele- ment	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
q	D	0.97	1.20	1.02	1.02	1.07	1.08	1.13	1.09	1.03	0.96	1.19	1.15
d	D	1.19	1.13	1.85	1.67	1.06	1.14	1.01	1.03	1.26	1.42	1.22	1.27
q	H	0.99	1.01	1.03	1.10	1.12	1.10	1.20	1.06	1.07	0.94	1.03	1.21
d	H	5.16	2.08	1.44	3.79	1.21	2.17	1.61	1.55	3.32	5.13	3.94	1.59
q	V	1.20	1.66	0.53	0.77	0.69	0.75	0.82	0.68	0.74	1.61	0.77	1.56
d	V	0.73	2.21	0.89	1.44	1.67	1.46	1.91	2.36	1.81	1.61	1.96	1.95

*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 limit of accuracy of measurement and registration "sudden commencements" appear to occur simultaneously at the two Observatories.



TABLE VI - PRINCIPAL MAGNETIC DISTURBANCES RECORDED AT LERWICK, 1940

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.	$\gamma$	d. h. m.	$\gamma$	d. h. m.	$\gamma$	'	d. h. m.	'	d. h. m.	'	$\gamma$	d. h. m.	$\gamma$	d. h. m.	$\gamma$
1*	Jan. 3 14 39	Jan. 4 1	1100	3 16 39	319	4 0 3	781	45.1	3 16 37	-13.6	3 15 47	58.7	1056	3 15 14	408	3 15 51	648
2	Jan. 4 11	Jan. 5 7	464	4 20 55	313	5 4 18	151	26.5	4 21 8	-12.4	4 20 54	38.9	949	4 20 30	779	5 3 52	170
3*	Jan. 10 10 17	Jan. 11 1	819	10 17 49	333	10 21 22	486	45.4	10 19 16	-10.4	10 18 0	55.8	1132	10 15 28	767	10 21 31	365
4*	Jan. 11 17 56	Jan. 12 23	597	11 19 23	289	11 22 16	308	25.5	12 15 37	-25.1	11 20 7	50.6	951	11 22 9	757	11 22 50	194
5	Jan. 18 14	Jan. 18 24	858	18 16 5	190	18 18 24	668	67.9	18 17 13	-30.7	18 18 33	98.6	1116	18 15 57	481	18 17 55	635
6	Jan. 31 13	Feb. 2 2	936	1 19 30	155	1 19 45	781	55.5	1 19 34	-20.4	31 20 28	75.9	1070	1 19 31	683	31 20 19	387
7	Feb. 24 22	Feb. 25 22	595	25 18 1	311	25 3 30	284	41.3	25 14 19	-11.1	25 4 20	52.4	1098	25 14 26	778	25 6 53	320
8	Mar. 12 16	Mar. 13 4	573	12 18 39	28	12 22 6	545	38.0	12 19 7	-25.8	12 22 39	63.8	1051	12 19 20	575	12 22 24	476
9	Mar. 19 13	Mar. 21 2	692	19 19 33	276	20 2 49	416	35.6	19 16 46	-9.1	20 18 39	44.7	1060	19 19 32	701	20 3 54	359
10*	Mar. 23 6 17	Mar. 28 5	>1475	24 15 50	<-851	{24 21 17}	>2326	199.5	25 1 15	-112.6	25 1 52	312.1	1566	25 0 43	-51	24 17 8	1617
11	Mar. 29 12	Apr. 1 23	1235	30 15 56	<-880	30 3 22	>2115	120.4	29 17 14	<-124.2	29 23 40	>244.6	1379	30 1 12	104	30 5 2	1275
12	Apr. 2 19	Apr. 3 23	897	3 20 25	<-898	3 3 8	>1795	67.5	3 5 39	-113.0	3 3 6	180.5	1027	3 20 21	92	3 2 55	935
13	Apr. 21 20	Apr. 22 19	489	22 16 55	306	22 7 56	183	27.3	22 13 25	0.1	22 0 0	27.2	918	22 16 47	781	22 4 59	137
14*	Apr. 25 2 4	Apr. 26 4	624	25 18 40	-627	25 3 31	1251	70.9	25 22 6	-89.8	25 23 27	160.7	1051	25 19 43	320	25 21 55	731
15*	May 23 17 53	May 25 5	570	24 18 40	-37	24 4 19	607	56.2	24 4 21	-9.4	24 4 54	65.6	1011	24 19 19	534	24 4 38	477
16	May 26 15	May 27 5	530	26 17 29	-72	27 0 11	602	26.8	27 0 1	-43.9	27 0 47	70.7	929	26 18 5	517	27 0 28	412
17	June 5 21	June 10 3	536	6 18 14	36	7 1 25	500	27.6	6 12 21	-14.8	6 2 29	42.4	923	6 17 57	613	7 2 52	310
18*	June 14 8 1	June 15 21	604	14 17 53	-246	14 22 41	850	42.7	14 23 5	-21.2	14 23 38	63.9	981	14 17 50	581	14 22 36	400
19*	June 25 2 53	June 26 5	>1470	25 14 10	-10	25 3 29	>1480	72.1	25 3 23	-94.9	25 14 8	167.0	1139	25 14 56	408	25 13 53	731
20	July 3 11	July 4 7	475	3 19 10	-111	3 24 0	586	22.6	3 14 8	-26.3	3 23 40	48.9	906	3 19 34	639	4 0 21	267
21	July 13 9	July 14 8	818	13 13 46	209	13 23 10	609	30.2	13 15 1	-3.9	13 23 1	34.1	1078	13 14 34	717	13 23 7	361
22	Aug. 3 5	Aug. 3 24	683	3 14 50	308	3 10 30	375	32.7	3 16 54	3.1	3 5 3	29.6	1097	3 15 14	832	3 7 44	265
23	Aug. 9 6	Aug. 10 2	587	9 16 39	219	9 18 50	368	74.9	9 18 51	-11.5	9 19 25	86.4	1009	9 18 54	668	9 19 53	341
24	Aug. 18 10	Aug. 19 1	629	18 17 45	352	18 10 4	277	35.0	18 17 18	1.8	18 23 50	33.2	1054	18 17 56	839	18 10 25	215
25*	Sept. 26 17 3	Sept. 27 7	752	26 18 24	-735	27 1 6	1487	41.1	26 18 9	-45.3	26 19 42	86.4	1025	26 17 51	498	27 3 14	527
26	Oct. 1 12	Oct. 1 21	834	1 17 56	-288	1 19 37	1122	32.7	1 18 12	-57.9	1 19 37	90.6	1103	1 19 28	625	1 19 52	478
27	Oct. 7 13	Oct. 9 1	848	7 17 39	-136	7 20 29	984	54.1	7 18 5	-61.6	8 2 13	115.7	1081	8 18 24	384	8 2 38	697
28	Nov. 4 12	Nov. 5 7	685	4 17 28	202	4 23 34	483	34.6	4 17 13	-12.1	4 21 14	46.7	1079	4 16 50	614	4 23 46	465
29*	Nov. 12 7 5	Nov. 13 9	463	12 19 26	-193	13 2 39	656	33.4	13 5 1	-54.5	13 4 1	87.9	1015	12 19 26	505	12 21 48	510
30*	Nov. 16 13 15	Nov. 16 24	476	16 18 9	354	16 22 11	122	18.7	16 17 51	-13.9	16 18 18	32.6	1002	16 18 8	862	16 23 22	140
31*	Nov. 17 14 8	Nov. 18 2	457	17 22 26	345	17 16 20	112	22.4	17 19 9	-22.6	17 19 38	45.0	1037	17 19 28	811	17 22 39	226
32	Nov. 20 21	Nov. 23 15	494	22 20 38	64	21 23 42	430	21.8	22 8 18	-21.6	22 21 1	43.4	977	22 21 3	634	21 23 40	343
33	Nov. 25 9	Nov. 26 9	783	25 14 40	281	26 2 21	502	37.6	25 14 28	-32.0	25 22 7	69.6	1117	25 14 54	709	26 3 3	408
34	Nov. 29 13	Nov. 30 5	510	29 13 12	229	29 22 16	281	25.2	29 13 7	-30.2	29 22 27	55.4	1046	29 16 53	690	29 22 34	356
35	Dec. 20 9	Dec. 21 8	853	20 16 52	215	21 3 50	638	27.3	20 17 45	-30.4	20 17 12	57.7	1076	20 16 15	656	21 4 57	420

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, 14000 $\gamma$ ; D, 12 $^{\circ}$ ; V, 46000 $\gamma$ .

## REMARKS ON THE AUTOGRAPHIC RECORDS 1940

The Lerwick mean character figure for the month is shown in brackets after the name of the month.

**JANUARY** (average character figure 0.55).— The chief feature of January was the number of minor storms with high afternoon peaks in H and no correspondingly low night bays.

The month opened with moderately quiet conditions, which were ended by a "sudden commencement" at 3d.14h.39m. (-13 $\gamma$ , +34 $\gamma$  in H; -2.0', +4.5' in D). H rose to a very high peak shortly after 15h., the maximum of 15100 $\gamma$  being reached at 16h.39m. Although it started to recover at 17h. it did not reach its normal value until 21h. After an initial rise of 170 $\gamma$ , V formed a deep trough with the minimum value of 46408 $\gamma$  at 15h.51m. It thereafter rose again, and was slightly higher than usual until 21h. During the period 15h.-18h. D oscillated continuously about its normal mean with ranges up to 45'. Considering the height of the peak in H the storm died out very quickly, and from 21h. there was only very mild activity. This continued until another more definite disturbance on the 10th. A very small "sudden commencement" at 10h.17m. was followed by three hours of quiet conditions, and then by a series of peaks in H. They were not so high as in the previous storm, the maximum at 17h.49m. being 14819 $\gamma$ . V was also about 200 $\gamma$  above normal from 15h. to 20h., while D was somewhat subnormal. As in the first disturbance, activity was practically over by 21h. Following another "sudden commencement" (-14 $\gamma$ , +32 $\gamma$  in H) at 11d.17h.56m.,



disturbance broke out again for about five hours, the most outstanding feature being a fall of  $220\gamma$  in H between 22h.9m. and 22h.17m.

The minor activity which prevailed on the 12th soon died out, and there was a relatively quiet spell until the 17th. The third and last storm of the month was preceded by about 36 hr. of small movements, and lasted from 18d.14h. to 18d.22h. This time D was more noticeably affected, the oscillations being of greater amplitude; both the maximum and minimum for the month occurred between 17h. and 19h., with a range of  $98\cdot6'$ . After a peak at 16h., V fell in steps to form three distinct troughs at 17h.5m., 17h.37m. and 17h.55m. The customary peak in H from 15h. to 18h. was followed by a shallow trough at 18h.24m., the lowest value of  $14190\gamma$  being the minimum of the month. After 22h. there was little of note until the 29th; especially quiet periods were 21st-23rd and 26th-28th. On the evening of the 29th a very regular peak in V up to  $230\gamma$  above normal was accompanied by much smaller peaks in H and D. The remainder of the month was slightly disturbed, but there were no outstanding movements.

**FEBRUARY** (average character figure  $0\cdot52$ ).— Although there were no large storms, there was much minor activity throughout the month.

The most interesting phenomenon occurred between 19h. and 20h. on the 1st. This consisted of a rise of  $510\gamma$  in three minutes in H to its maximum at 19h.30m., followed by a fall of  $781\gamma$  to its minimum at 19h.45m. — these were also the maximum and minimum for the month. The swings were accompanied by similar changes of lesser magnitude in D and V. Mild disturbance with no unusual features continued in varying degrees until the 17th, when the only really quiet spell of the month began at 0h. It came to an end at about 19d.23h., with enlarged night bays in all three elements. There was a suggestion of greater activity on the 25th when H and V following almost parallel courses executed two peaks at 14h.20m. and 17h.50m., but by 20h. the traces were back to normal. The last few days were again characterized by intermittent slight disturbance.

**MARCH** (average character figure  $0\cdot77$ ).— The last week of March was marked by the most violent series of storms yet recorded at Lerwick.

After eight very quiet days a small disturbance developed gradually at 8d.20h. All three elements formed shallow irregular bays which lasted until 9d.5h. in H and D and some two hours longer in V. Quiet conditions were soon re-established, and persisted until the 19th, interrupted only by another small disturbance from 12d.16h. to 13d.4h. This was of the usual type, with peaks in H and V from 18h. to 20h. followed by troughs from 21h. to 23h. Minor activity developed on the afternoon of the 19th, and was still prevalent when the first of the series of major storms was heralded by a small "sudden commencement" at 23d.6h.17m. Another movement of this type occurred at 9h.15m. ( $-12\gamma$ ,  $+81\gamma$  in H;  $-3\cdot0'$ ,  $+14\cdot4'$  in D;  $-5\gamma$ ,  $+20\gamma$  in V), but it was not until H, D and V began to fall shortly before 21h. that the storm became at all severe. In H the rate of fall increased from  $200\gamma$  in the hour ending 22h. to  $450\gamma$  in the following hour; it then fell  $400\gamma$  in the next 12 min. to its minimum of  $13328\gamma$  at 23h.12m., after which it recovered irregularly over a period of several hours. The fall in V was broken by a sharp peak at 23h.7m., and then continued more steeply to a minimum  $842\gamma$  lower only 42 min. later. The movements in D were not so large until 23h., but in the next hour it executed a large double oscillation with a maximum range of  $157\cdot9'$ .

This storm appeared to have quietened down when at 24d.14h. still more severe disturbance set in. At times the movements of the light spots of the la Cour instruments were so rapid that they failed to record, and unfortunately some of these movements were beyond the range of the supplementary instruments. At the beginning of the storm H rose in steps to its highest value of the year, greater than  $15475\gamma$ , at approximately 15h.50m. It then fell over  $1600\gamma$  in 7 min., recovered to a normal value, and then plunged a further  $1000\gamma$  to a sharp trough, with a minimum value less than  $13149\gamma$  at 18h.12m. After some large



oscillations, including one of 1050 $\gamma$  in 3 min., there was another minimum at 21h.17m., probably still lower than the first one. The deepest bay of all occurred between 25d.0h.30m. and 25d.4h., when H was on the average about 900 $\gamma$  subnormal. Fully 20 min. record was lost between 0h.50m. and 1h.10m., and from the appearance of the traces it would seem that the actual minimum was probably several hundred gammas lower than the 13149 $\gamma$  recorded. From 5h. until 11h. H was oscillating through ranges of up to 500 $\gamma$  with a period of about 4 min.

The D traces for this storm were almost as spectacular as the H, but although the limits of the supplementary instrument were exceeded the la Cour records are complete. After some small preliminary movements, there were several large swings between 24d.15h. and 24d.19h., the greatest being a rise of 210' in 10 min. leading up to a maximum of 15°18'4" at 18h.23m. The most violent period was from 25d.0h.30m. to 25d.4h., during which the maximum for the year of 15°19'5" at 1h.15m. was followed by an irregular fall of over 5° to a minimum of 10°7'4" at 1h.52m. After 5h. the trace was very similar to the H, the oscillations with a period of about 4 min. having amplitudes up to 70'.

In V also the two spells of greatest activity from 24d.15h. to 24d.19h. and from 25d.0h.30m. to 25d.4h. were in evidence, followed by the rapid oscillations after 5h. During the first spell there were two deep troughs, a sharp one at 15h.55m. and a broader deeper one from 17h. to 18h. The lowest value of the year, 45949 $\gamma$ , was recorded at 17h.8m. V continued to be some 200 $\gamma$  below normal until 21h., when it rose to form a double peak, with a maximum of 47437 $\gamma$  at 21h.13m. Between 25d.0h.30m. and 25d.2h. there were some very large swings, the maximum for the year, 47566 $\gamma$  at 0h.43m., being followed by successive falls of 700 $\gamma$ , 1050 $\gamma$  and 1000 $\gamma$ , separated by rises of slightly lesser magnitude. The oscillations from 5h. to 11h. were not so marked as in H and D, the greatest amplitude being about 200 $\gamma$ .

The traces were much quieter from 25d.11h. to 25d.20h., when severe disturbance broke out again. The swiftest changes in the magnetic field were between 22h.40m. and 23h.30m., during which H fell 900 $\gamma$  to form a deep bay, V made three large oscillatory movements with ranges up to 600 $\gamma$ , and D after a sharp trough at 22h.53m. rose 205' in 14 min. and then fell 150' in 7 min. There was a second deep bay in H centred at 26d.1h., which was accompanied by a shallower bay in V and a swing of 120' in D. By 3h. the storm was practically over, and all the traces were returning to their normal positions. On the following night there was only mild disturbance, the most unusual feature being an isolated bay some 60' deep in D at 19h.35m. The accompanying movements in H and V were very small, but these elements were more active later when broad shallow bays were formed between midnight and 27d.5h.

Conditions became gradually quieter over the remainder of the 27th and 28th, but at midday on the 29th H and V began the rise which usually precedes a big storm. At 16h.3m. the activity suddenly became intensified, with movements resembling a "sudden commencement". H rose 500 $\gamma$  in 14 min. to its maximum of 15231 $\gamma$  at 16h.19m., and then recovered equally quickly. Less severe disturbance prevailed from 17h. until shortly after 22h., when H fell rapidly to form a broad deep bay, which lasted until 30d.5h. apart from a slight recovery at midnight. During most of this time it was about 900 $\gamma$  below normal, and the minimum was probably 100 $\gamma$  lower than the lowest value recorded, 13120 $\gamma$  at 3h.22m.

The sudden increase in activity at 16h.3m. led to some oscillatory movements in D, which included an increase of 105' in 4 min. to its maximum of 14°0'4" at 17h.14m. As with H there was another burst of activity after 22h. the outstanding period being from 23h.20m. to 23h.50m., when a fall of over 180' took the trace beyond the limit of the supplementary instrument. The second subsidiary trace of the la Cour magnetograph also failed to record about 10 min. of this movement, and the minimum must have been about 50' lower than the lowest recorded value of 9°55'8". From midnight until 5h. D continued to be highly disturbed, with frequent swings over 60' and a final outburst at 4h.10m. when a fall of over 130' in 7 min., which again exceeded the limit of the supplementary instrument, was followed 20 min. later by a rise of 130' in 3 min.



The chief features in the V trace were bays from 16h.10m. to 17h.30m., 23h.40m. to 30d.1h. and the deepest of the three from 30d.4h.20m. to 6h. The storm abated slightly at 6h. especially in D and V, but H rose fairly steadily all day, with increased vigour after 15h., to form a peak up to 15235 $\gamma$  at 15h.56m. There were deep night bays in all three elements, but only the H range was at all comparable with that of the previous night. By 31d.3h. it seemed as if the storm had at last spent itself, but this lull came to an abrupt end at 9h.40m. with another movement of the "sudden commencement" type. H fell some 250 $\gamma$  to a shallow trough at 10h., and then speedily recovered to form two very high peaks at 13h.20m. and 16h.35m. D formed a broad deep bay from 10h. to 12h., after which it was only moderately disturbed. H also was less disturbed from 18h. until 23h., when it plunged 1100 $\gamma$  to its minimum of 13192 $\gamma$  at 23h.55m.

APRIL (average character figure 0.67).— There were two spells of major disturbance in April, but the intervening period was fairly quiet.

As the month opened, H was recovering from the very deep trough reported at the end of March. It rose steadily until 1h. and then relapsed to form a bay about 400 $\gamma$  deep from 2h. to 4h. Apart from a fall of 427 $\gamma$  in V between 0h.5m. and 0h.25m., changes in V and D were much smaller than those in H. After 4h. the traces steadied up, and became increasingly quieter until disturbance was renewed fairly suddenly at 2d.18h.57m. All three elements formed several troughs, but the movements were relatively slow until 3d.1h.43m., when H fell 750 $\gamma$  in 7 min., recovered equally rapidly, and then fell more slowly to another very deep trough. The minimum at about 3h.8m. was not recorded, but the lowest value on the la Cour chart, 13102 $\gamma$ , was the lowest recorded value for the year. The rise from this trough included an increase of 800 $\gamma$  in 4 min. ending at 3h.14m., after which disturbance became less severe. These deep troughs in H were accompanied by similar movements in D and V, the respective minima being 10°7.0' at 3h.6m. and 46092 $\gamma$  at 2h.55m., both were the lowest values of the month. All the elements were below normal until 5h.10m., when D rose 110' to a peak at 5h.39m. After this there was a steady return to quieter conditions, the last outburst being a fairly steep peak in H from 19h.30m. to 21h.

From 4d.3h.50m. to 5h.10m. there was a good example of "giant pulsations", with a period of 2.3 min. and maximum amplitudes of 13 $\gamma$ , 2.0' and 11 $\gamma$  in H, D and V respectively. These oscillations became more irregular at 5h.10m., and continued in this modified form until about 10h. Quiet conditions prevailed from the 5th to the 25th apart from minor activity on the 15th, 16th, 22nd and 23rd; the period 7d.0h.-11d.12h. was especially quiet.

Major disturbance was renewed suddenly at 25d.2h.4m. (-5 $\gamma$ , +38 $\gamma$  in H; -3.6', +8.7' in D). H and V executed deep bays between 3h. and 5h., the one in H being 750 $\gamma$  deep. From its maximum at 3h.33m., D fell 140' in 10 min., and continued to swing through large ranges until 5h. There was a quiet interlude from 6h. until 18h., when H rose to form a small peak. V and D followed suit at 19h.30m., by which time H was falling in steps to a series of troughs. The deepest of these was centred at 26d.2h.24m. when it touched 13511 $\gamma$ . V and D also formed several troughs, the minima being 46320 $\gamma$  and 10°30.2' at 21h.55m. and 23h.27m. respectively. There was an outstanding peak in D at 22h.6m. and a higher, but less sharp, one in V at 26d.0h.29m., when the maximum value for the month, 47289 $\gamma$ , was recorded. By 26d.4h. the storm had abated, and the rest of the month was only mildly disturbed.

MAY (average character figure 0.71).— Although there was less major disturbance than in April, the average character figure for May is higher on account of the more prolonged minor activity.

The first eight days were very quiet, especially the 6th. Mild activity with no outstanding features prevailed from the 9th until the 23rd, with only a few breaks of quieter conditions. At 23d.17h.53m. there was a beautiful example of a "sudden commencement" (-2 $\gamma$ , +101 $\gamma$  in H; +0.7', -7.6' in D; +11 $\gamma$ , -37 $\gamma$  in V). The ensuing storm was not of very large proportions, the ranges in H, V and D being 607 $\gamma$ , 477 $\gamma$  and 65.6' respectively. The main



features were bays in H and V at 24d.4h.30m., accompanied by a peak in D, and enhanced peaks in H and V on the following afternoon. Mild activity continued throughout the 24th and 25th, and on the night of the 26th-27th there was a second storm of similar magnitude to the first. The troughs in H and V, centred shortly after midnight, were however slightly deeper than in the previous storm, and they were accompanied this time by a trough in D.

The mild activity which still continued after this storm, died out on the 29th, and the last two days of the month were quiet.

**JUNE** (average character figure 0.60).— June was again a month of considerable minor disturbance.

The month opened with a quiet period, which ended in the early hours of the 6th, when the night bays were deeper and more irregular than usual. Again on the following night there was appreciable activity, the H trace being more affected than the other two. It formed two troughs at midnight and 7d.1h.30m., while the minima in D and V occurred about two hours later. Minor disturbance continued for several days, but died out on the 9th. A "sudden commencement" at 14d.8h.1m. (+19 $\gamma$ , -38 $\gamma$  in H; -1.1', +2.9' in D; +4 $\gamma$ , -11 $\gamma$  in V) led up to a more severe disturbance, the main features of which were enlarged afternoon peaks in H and V, a trough some 400 $\gamma$  deep in H centred at 22h.40m., and shallower troughs in V and D shortly before midnight. The largest movements were over by midnight, but all the elements remained below normal until about 15d.10h. Mildly disturbed conditions prevailed until the 20th, when the magnetic field became quieter.

A complicated movement resembling a "sudden commencement" at 22d.10h.50m. brought a return to minor activity, and yet another "sudden commencement" at 25d.2h.53m. (+26 $\gamma$ , -38 $\gamma$  in H; -3.0', +15.5' in D; +8 $\gamma$ , -15 $\gamma$  in V) was the precursor of the largest storm of the month. It was followed immediately by a peak in D and troughs in H and V, but the outstanding feature of the storm was the unusually high peak in H from 12h. to 20h. The limit of the supplementary instrument was exceeded, and the 3rd reflected la Cour trace failed to record the maximum. The highest recorded value was 15470 $\gamma$ , but the true maximum was probably about 100 $\gamma$  higher at 14h.10m. During the period 13h.-16h., D and V were also rather disturbed, D being about 30' below normal with frequent rapid oscillations of ranges up to 80', and the peak in V being broken by a deep trough with a minimum of 46408 $\gamma$  at 13h. 53m. After a further outburst of greater activity at 18h.30m. which included a fall of 450 $\gamma$  in 6 min. in H, the storm quickly degenerated into very mild disturbance, which continued until the end of the month.

**JULY** (average character figure 0.48).— The first sign of activity was on the 3rd, when in the late evening all the elements began to fall. The ensuing bays were however fairly shallow, that in H being as usual the deepest, about 400 $\gamma$  below normal. The minima were passed at about midnight, and by 4d.3h. the traces were nearly back to normal. There was a similar but milder disturbance on the following night. The next nine days were mainly quiet, but there were several spells of very slight disturbance.

The largest disturbance of the month developed gradually after 13d.9h. By 12h. H was rising to form a moderate peak, and V also began to rise shortly afterwards. The maximum in H, 14818 $\gamma$  at 13h.46m., was followed by several smaller peaks, and the final recovery did not occur until 18h. The peaks in V were not so high, and D was hardly affected at all. Slight activity continued until the 16th when quieter conditions became established; these continued with no serious interruptions for the remainder of the month.

**AUGUST** (average character figure 0.39).— This was the quietest month of the year, there being no days classed as "2" and only twelve as "1". In spite of this absence of large disturbance, the traces were rarely free from small irregularities.

The first few days were all characterized by intermittent mild activity, which came to a head on the 3rd, when there were two peaks in H at 14h.45m. and 16h.55m. and a single



peak in V. Similar conditions then continued until on the 9th the largest disturbance of the month set in with rises in H and V shortly before noon. The only feature worthy of description was a very active period between 18h.30m. and 19h.5m., during which there was a sharp needle-like peak in H, a broader peak in D and a trough in V. By midnight the magnetic field had returned to normal, and there was little of note in the rest of the month. The quietest periods were 13d.4h. to 18d.12h., 23d.19h. to 25d.22h., and 29d.15h. to 31d.23h. Periods of most marked activity were 18d.14h. to 18d.24h. (regular peaks in H and V) and 26d.12h. to 27d.6h. (bay 150 $\gamma$  deep in V at 22h.35m.).

SEPTEMBER (average character figure 0.53).— Although September was on the whole more disturbed than August, the intervening quiet periods were much freer from the small irregularities that had been so prevalent in August.

There were shallow bays in all three elements centred at about 1d.2h., and the afternoon peaks were correspondingly higher than usual. Very similar bays were recorded two nights later at 3d.1h., the one in H being 250 $\gamma$  deep. Mildly disturbed conditions continued until 10d.2h., when the first quiet spell of the month became established. It was not interrupted until the 14th, when there were small peaks in all the elements at about 19h. There were other very quiet periods from 16d.20h. to 20d.7h. and 21d.19h. to 24d.21h.

The only major storm of the month began abruptly at 26d.17h.3m. (-9 $\gamma$ , +13 $\gamma$  in H; -4.0', +9.0' in D; -6 $\gamma$ , +9 $\gamma$  in V). The storm was marked by two periods of more intense disturbance from 17h. to 21h. and from 23h. to 27d.4h. During the first of these periods there were large oscillatory movements; a peak in H at 18h.25m. was followed by a fall of 800 $\gamma$  to a trough at 19h.40m. and a further rise of 480 $\gamma$ ; in D both the maximum and minimum for the month occurred, with a range of 86.4'; V passed its maximum for the month at 17h.51m. and then formed an irregular bay. The outstanding feature of the second period was a very deep trough in H, the minimum value of 13265 $\gamma$  at 27d.1h.6m. being the lowest value recorded since the great storms of March and April. This trough was accompanied by relatively shallow irregular depressions in V and D. By 27d.6h. the field had recovered to its normal value, but there were troughs in H and V later in the day and considerable minor activity persisted for the remainder of the month.

OCTOBER (average character figure 0.61).— The increase in storminess noted in September was maintained in October.

A brief but fairly severe disturbance began gradually shortly after noon on the 1st. H formed two peaks at 16h.29m. and 17h.56m., and then fell over 1100 $\gamma$  to its minimum of 13712 $\gamma$  at 19h.37m. Except for the period 19h.20m. to 19h.55m. movements in D and V were comparatively small, but during this short spell D executed a swing of 80' and the range in V was 478 $\gamma$ . Recovery was unusually rapid, the traces being very quiet by 21h. On the following two days there was only mild activity, which ended with bays in H and V at 4d.3h.

Further slight disturbance broke out on the afternoon of the 6th, and developed into a more pronounced storm about 24 hr. later. The storm lasted for over 36 hr., with ranges of 984 $\gamma$ , 115.7' and 697 $\gamma$  in H, D and V respectively. There were no outstanding features, the elements tracing a typical Lerwick disturbed day variation, with smaller irregularities superimposed. The storm died out fairly suddenly at 9d.1h., and there was nothing further of note until the 25th. The quietest periods were 13d.0h. to 15d.6h. and 22d.15h. to 25d.10h.

At 25d.20h. H and V rose to form peaks over 100 $\gamma$  above normal, but recovered completely by midnight. Another well defined minor disturbance lasted from 26d.14h. to 23h., peaks in H and V from 16h. to 18h. being followed by bays in all three elements between 21h. and 22h. Slight activity continued until the 28th, and the last three days of the month were quiet.



**NOVEMBER** (average character figure 0.67).— November, like May, was a month of almost continuous minor disturbance.

After a moderately quiet opening to the month the first definite disturbance began gradually at 4d.14h. with rises in H and V. The customary peaks centred at 17h. were followed by shallow bays shortly before midnight. Smaller fluctuations continued for several days until at 10d.2h. the only really quiet spell of the month became established. It broke down at 11d.23h. and on the following night the largest of the month's disturbances occurred. Rapid movements began fairly abruptly at 12d.21h.10m., and between then and 13d.7h. there was a series of troughs in all three elements, interrupted at times by partial recoveries.

The chief features in the minor activity which marked the remainder of the month were: bays over 200γ deep in H and V centred at 21d.23h.40m.; peaks in all three elements from 25d.13h. to 25d. 18h., during which the maximum values of them all for the month occurred; oscillatory movements with ranges up to 160γ, 43' and 135γ in H, D and V respectively between 29d.21h. and 29d.23h. The nearest approach to a quiet spell was from 18d.3h. to 20d.14h.

**DECEMBER** (average character figure 0.52).— This was again a month of considerable minor activity.

The first five days were mildly active with no noteworthy features; this activity diminished on the 5th, and from 6d.6h. to 9d.5h. it was very quiet, the only long quiet spell of the month. The minor disturbance which prevailed almost continuously for the rest of the month reached its maximum on the 20th, when there were two high peaks in H at 16h.20m. and 16h.52m. These were accompanied by oscillations with a range of up to 43' in D and a peak followed by a sharp trough 230γ deep in V. The only other unusual feature in the month was an isolated bay some 40' deep in D centred at 28d.21h.33m., H and V being practically undisturbed at this time.



POTENTIAL GRADIENT (reduced to level surface)  
Mean values for periods of sixty minutes between exact hours, G.M.T.

1940

1 LERWICK

	JANUARY, factor 1.31				FEBRUARY, factor 1.32				MARCH, factor 1.30			
	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.
					<i>volts per metre</i>							
1	102	-124	158	248	123	95	108	136	100	124	167	130
2	171	31	118	112	114	222	219	108	127	97	52	58
3	65	118	136	149	80	123	117	117	27	94	91	94
4	65	87	109	99	95	89	117	95	76	6	82	88
5	71	127	236	167	191	74	86	65	100	182	136	103
6	186	189	341	363	34	95	62	86	58	106	155	94
7	158	214	180	62	89	108	129	129	58	76	39	279
8	-462	-6	99	71	99	-832	108	188	239	109	121	106
9	71	146	186	316	188	-517	185	311	Z±	73	127	115
10	369	295	459	288	62	80	148	95	91	94	206	139
11	186	164	127	174	74	120	92	108	-85	106	127	97
12	220	146	251	115	105	151	114	283	112	127	136	130
13	90	71	102	109	139	0	-46	-37	127	148	258	379
14	87	105	143	161	89	265	166	194	136	291	145	215
15	112	279	121	25	228	92	139	123	>227	173	394	118
16	-34	124	245	124	83	108	139	148	94	124	115	158
17	260	167	211	127	59	86	89	62	121	73	103	121
18	583	143	171	<-47	89	80	108	99	136	197	115	94
19	341	-310	279	174	89	92	99	108	167	-9	-58	115
20	-109	143	174	273	92	80	43	-262	-73	48	230	58
21	124	236	267	242	160	243	293	225	94	215	-1257	103
22	242	174	295	164	74	92	62	185	-136	94	161	167
23	161	192	198	146	345	-370	126	132	155	145	236	276
24	77	158	205	273	99	102	123	169	285	>818	73	315
25	112	158	139	115	102	-246	-385	419	224	36	-136	97
26	84	158	177	77	376	268	280	376	139	188	-12	39
27	71	171	139	124	385	200	99	163	Z±	136	155	39
28	93	124	158	329	108	123	151	169	103	133	121	127
29	71	109	96	93	136	142	139	145	88	145	203	-439
30	90	99	171	112					12	103	121	<-621
31	62	84	127	121					-121	109	136	76
(a)	154	150	188	165	135	125	131	164	124	146	148	136
(b)	105	121	188	165	135	40	107	143	83	118	64	112
Mean	(a) 164		(b) 145		(a) 139		(b) 106		(a) 139		(b) 94	

  

	APRIL, factor 1.27				MAY, factor 1.32				JUNE, factor 1.35			
	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.
					<i>volts per metre</i>							
1	87	131	64	Z±	149	125	194	226	135	77	367	278
2	Z±	116	131	282	203	212	274	313	153	447	73	147
3	73	102	79	<-669	209	277	191	182	147	187	174	119
4	9	-175	-306	128	155	238	146	185	40	251	205	165
5	99	137	157	183	101	191	161	143	116	129	318	257
6	113	-87	163	218	-152	86	75	143	297	168	159	98
7	338	-29	119	108	122	146	197	384	110	196	153	156
8	76	210	154	128	569	131	155	229	83	272	324	242
9	93	102	96	204	167	176	188	137	156	28	46	92
10	-38	102	116	99	89	155	107	131	95	95	104	67
11	47	157	96	15	116	134	92	113	122	141	373	407
12	131	17	163	192	110	80	131	188	141	217	162	86
13	67	113	79	143	-271	66	134	384	86	107	168	187
14	90	81	-431	-509	101	92	80	149	181	303	211	150
15	<-393	Z±	>233	>480	113	164	346	-51	193	303	251	144
16	113	154	279	67	155	462	223	304	73	107	116	138
17	119	102	166	137	92	116	840	936	95	125	141	98
18	148	172	204	253	864	146	191	209	132	113	165	214
19	111	131	93	61	125	206	361	280	214	349	187	144
20	58	102	131	113	170	146	116	241	184	159	156	190
21	81	87	90	306	191	101	158	232	135	171	107	64
22	84	183	119	128	164	-128	107	107	334	303	-21	116
23	113	131	183	256	185	179	164	215	89	116	141	141
24	151	201	276	218	417	194	185	521	80	<-520	98	184
25	143	15	<-611	338	375	131	218	295	156	208	171	303
26	533	93	178	32	387	313	352	268	125	104	77	77
27	-84	111	189	61	188	170	143	89	28	135	92	153
28	143	172	227	178	119	122	182	182	92	98	119	64
29	189	175	186	169	206	170	441	510	83	98	113	<-260
30	204	81	38	186	358	143	Z±	235	153	122	153	119
31					113	146	131	390				
(a)	131	122	148	173	218	167	209	264	134	177	170	159
(b)	120	101	111	123	184	158	209	255	138	180	168	158
Mean	(a) 143		(b) 114		(a) 215		(b) 201		(a) 160		(b) 161	

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)  
Mean values for periods of sixty minutes between exact hours, G.M.T.

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1 LERWICK

1940

	JULY, factor 1.33				AUGUST, factor 1.35				SEPTEMBER, factor 1.36			
	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.
					<i>volts per metre</i>							
1	18	182	242	305	213	223	201	271	-	-	96	34
2	54	111	102	135	177	223	259	192	105	-	145	266
3	99	194	72	84	397	226	250	345	155	114	148	340
4	81	72	-206	39	232	159	180	241	402	491	396	-
5	<-837	182	120	126	241	287	226	235	-	114	-	114
6	149	147	185	149	235	210	238	171	77	-494	99	167
7	102	99	78	111	131	189	174	241	124	151	232	108
8	84	117	114	54	226	192	140	131	90	87	108	121
9	158	449	141	293	113	180	186	351	49	133	3	111
10	144	120	173	149	244	290	134	217	117	<-294	188	278
11	39	48	200	332	113	-61	113	153	74	117	96	96
12	147	117	167	167	122	125	113	122	28	213	114	148
13	144	99	39	90	88	470	290	412	83	111	161	182
14	84	123	185	203	244	259	<67	204	111	124	192	176
15	164	227	161	167	167	125	46	88	-49	Z±	238	256
16	293	272	209	233	110	247	210	217	87	93	99	142
17	117	117	84	114	119	229	168	229	31	-216	56	56
18	57	<-144	81	99	104	104	92	119	59	71	74	-19
19	-78	305	164	251	79	149	92	168	90	151	396	124
20	227	0	155	182	125	-27	232	253	142	494	49	105
21	161	123	33	102	195	146	159	125	62	99	-	-
22	135	57	75	200	104	104	140	128	83	337	433	-
23	111	212	155	191	18	95	131	153	-	213	173	-664
24	123	182	164	126	134	131	98	201	-19	6	0	15
25	158	161	147	179	271	149	116	79	3	28	87	90
26	135	149	179	164	98	116	104	149	90	164	148	65
27	129	117	111	167	92	113	110	149	-93	124	130	188
28	155	135	164	161	95	107	107	<-488	31	-65	90	155
29	167	176	149	356	64	229	101	101	96	111	124	93
30	245	263	123	212	95	95	<31	-	53	90	121	83
31	215	317	152	188	-	58	-125	-				
(a)	134	162	137	172	155	180	150	194	93	154	150	141
(b)	130	162	128	176	156	171	159	194	65	83	120	121
Mean	(a) 151		(b) 149		(a) 170		(b) 170		(a) 135		(b) 97	

  

	OCTOBER, factor 1.31				NOVEMBER, factor 1.25				DECEMBER, factor 1.24			
	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.
					<i>volts per metre</i>							
1	148	115	121	94	128	257	>470	174	100	125	168	145
2	115	239	148	142	114	182	205	194	371	177	143	148
3	80	130	142	106	114	160	171	151	125	188	151	148
4	177	103	171	115	86	151	348	200	94	137	37	123
5	186	6	133	106	86	202	-570	385	Z±	54	117	Z±
6	159	-357	100	156	151	191	285	137	Z±	145	180	117
7	115	12	124	171	91	94	125	100	88	105	>385	125
8	124	-148	177	156	94	171	194	145	160	151	205	171
9	127	<-767	<-664	233	68	-613	168	-641	<-541	>279	Z±	182
10	<-502	145	-80	118	<-314	<-399	174	197	145	Z±	650	199
11	100	59	127	201	117	111	66	-162	120	103	197	162
12	218	280	325	227	123	46	143	134	68	88	123	105
13	174	201	236	263	88	<-470	<-299	103	137	128	140	117
14	165	162	30	91	342	-248	40	<-570	60	43	100	-641
15	209	86	248	207	-14	160	168	Z±	291	225	162	299
16	136	162	189	180	Z±	105	114	<-727	-57	83	-111	191
17	150	-24	165	100	171	-154	162	177	>399	143	171	194
18	-56	136	65	71	154	162	131	-85	154	262	143	140
19	94	142	162	183	46	108	239	97	123	157	251	442
20	118	86	189	142	-143	214	<-1225	48	97	180	128	140
21	91	77	32	127	143	308	148	>427	108	123	154	143
22	106	127	153	162	114	97	143	-51	140	120	205	205
23	115	142	121	91	66	134	148	140	134	188	171	105
24	59	106	80	150	>228	>271	291	137	60	114	-	-
25	50	74	186	133	-214	97	-63	-23	-	-	111	208
26	59	3	136	136	29	171	-40	63	57	<-271	174	162
27	88	204	139	180	91	143	405	131	103	123	103	168
28	53	201	147	-35	174	>228	88	100	57	128	160	276
29	-221	124	162	142	74	171	108	-100	143	103	94	108
30	88	-94	118	86	108	296	182	120	86	205	428	<-299
31	80	201	168	204					168	299	214	105
(a)	121	128	148	149	120	169	189	160	138	149	188	171
(b)	103	88	148	141	84	96	127	56	128	149	139	133
Mean	(a) 137		(b) 120		(a) 159		(b) 91		(a) 161		(b) 137	

  

The factor used for converting the potential at the collector to potential gradient in volts per metre in the open is given for each month	(a)	138	152	163	171
	(b)	119	122	139	148
Annual means		(a) 156		(b) 132	



POTENTIAL GRADIENT(reduced to level surface): DIURNAL INEQUALITIES  
The departures from the mean of the day are adjusted for non-cyclic change†

2 LERWICK

1940

	Hour G.M.T.																							Non-cyclic change†	No. of days used	Mean	
	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 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
	volts per metre																										v./m.
	0a days only*																										
Jan.	-54	-47	-38	-34	-39	-30	-24	-36	-32	+24	+13	+33	+37	+40	+45	+42	+57	+61	+31	+22	-10	-8	-22	-28	+41	7	206
Feb.	-21	-19	-5	+11	-1	+2	-7	+10	-9	-11	-1	+13	+14	+16	+11	+11	+27	+15	+7	+8	-3	-27	-17	+24	+4	8	124
Mar.	-41	-50	-53	-49	-45	-47	-27	-30	-25	-33	-13	+17	+25	+41	+67	+43	+33	+43	+37	+60	+30	+11	+11	-7	-57	2	125
Apr.	-9	-11	-28	-19	-21	-27	-8	-5	+5	-8	-10	-4	-8	+9	+20	+7	+7	+15	+15	+23	+31	+12	+10	+4	+29	6	153
May	+23	+20	+1	+4	-1	-23	-6	-33	-91	-76	-33	-13	-20	-8	-3	-18	-27	-12	+25	+56	+70	+60	+35	+43	+43	12	272
June	-44	-49	-38	-31	-18	-9	+14	+17	+26	+16	+23	+14	+5	+4	+22	+12	+31	+22	+30	+14	-4	-6	-17	-35	-26	16	167
July	-2	-13	-4	+6	+13	+27	+29	+24	+16	-6	-9	-11	-22	-31	-15	-14	-21	-21	-19	-9	+20	+35	+22	+6	-3	11	166
Aug.	-22	-16	-10	-12	+2	+3	+14	+8	+7	-4	+9	+11	+3	+4	-14	-36	-25	-2	+4	+3	+18	+35	+10	+12	+11	7	191
Sept.	+3	-21	-22	-30	-28	+5	+51	-1	-22	-22	-39	-35	-26	-13	0	+2	-5	+8	+21	+46	+37	+57	+20	+12	+16	3	129
Oct.	-20	-17	-12	-14	-21	-25	-8	-3	+2	-9	-7	-7	-1	-2	+25	+22	+16	+19	+38	+24	+13	+11	-10	-15	0	11	149
Nov.	-69	-109	-91	-81	-83	-82	-58	-51	-27	+1	+149	+85	+48	+27	+84	+101	+94	+69	+37	+15	+8	-1	-13	-53	-31	2	179
Dec.	-33	-43	-47	-43	-38	-37	-22	-4	-13	+18	+5	+12	+21	+47	+20	+21	+15	+24	+26	+46	+41	+11	-2	-27	-14	6	153
Year	-24	-31	-29	-24	-23	-20	-4	-9	-14	-9	+7	+10	+6	+11	+22	+16	+17	+20	+21	+26	+21	+17	+4	-10	+1	91	168
Winter	-44	-55	-45	-37	-40	-37	-28	-20	-20	+8	+41	+36	+30	+33	+40	+44	+48	+42	+25	+23	+9	-6	-13	-33	0	23	165
Equinox	-17	-25	-29	-28	-29	-23	+2	-10	-10	-18	-17	-7	-3	+9	+28	+19	+13	+21	+28	+38	+28	+23	+8	-1	-3	22	139
Summer	-11	-15	-13	-8	-1	-1	+13	+4	-11	-17	-3	0	-9	-8	-3	-14	-11	-3	+10	+16	+26	+33	+19	+4	+6	46	199

	1a and 2a days only*																										
Jan.	-25	-49	-56	-54	-54	-47	-57	-29	-18	-9	+15	+14	+25	+33	+29	+49	+46	+43	+61	+35	+20	+38	+14	-22	-92	7	126
Feb.	-9	-19	-33	-38	-25	-37	-29	-30	-15	-17	-7	-10	+9	+9	-5	+27	+40	+49	+56	+25	+34	+40	+16	-32	-23	8	137
Mar.	-17	+8	+9	+3	+1	+5	+15	+29	+35	+35	+25	-7	-12	-29	-20	-12	-16	-3	-1	-28	-5	-7	+2	-8	+55	7	104
Apr.	-5	-3	-13	-9	-10	-5	-11	-15	-19	-17	-5	-13	-23	-13	-25	-9	-10	+13	+29	+29	+61	+37	+28	+10	-27	4	116
May	+3	-39	+10	-13	-33	-21	-17	-7	+12	-9	-27	-27	-38	-28	+7	+11	-18	+11	+29	+26	+45	+55	+37	+33	+14	8	180
June	+22	+15	+6	-1	+11	+10	+17	0	-10	-20	-7	-10	-4	-4	+11	-15	-47	-51	-14	-24	-8	+15	+51	+55	+15	6	119
July	-17	-14	-12	-8	-1	+13	+17	+21	+7	-4	-25	-26	-8	-24	-39	-30	-19	+8	+33	+57	+19	+20	+25	+8	-37	6	123
Aug.	+57	+71	+4	-13	-43	-9	+15	-10	+1	-27	-9	-26	-39	-23	-20	-26	-53	-40	+1	+29	+44	+34	+44	+39	-49	7	144
Sept.	-1	-16	-15	-6	-20	-29	-46	-45	+12	+16	+5	-17	-3	-11	+29	+24	+18	+21	+20	+19	+22	+29	-10	+3	+23	4	77
Oct.	-2	-10	-43	-44	-21	-9	+5	-27	-20	+18	-2	-13	+16	+5	+6	+4	+18	+23	+3	+20	+25	+42	+5	+2	-51	5	111
Nov.	-63	-57	-22	-11	-15	-19	+13	+63	+89	+6	-15	+1	+21	+59	+30	-1	+49	+39	-1	-73	-95	-21	+13	+9	-53	2	133
Dec.	-33	-4	+13	-105	+5	0	+11	+12	+6	+1	-7	+18	+33	+36	+20	-6	+3	+9	+4	0	-1	-13	-4	+2	-7	1	121
Year	-7	-10	-13	-25	-17	-12	-6	-3	+7	-2	-5	-10	-2	+1	+2	+1	+1	+10	+18	+10	+13	+22	+18	+8	-19	65	124
Winter	-33	-32	-25	-52	-22	-26	-15	+4	+15	-5	-3	+6	+22	+34	+19	+17	+35	+35	+30	-3	-11	+11	+10	-11	-44	18	129
Equinox	-6	-5	-15	-14	-13	-9	-9	-15	+2	+13	+6	-13	-5	-12	-3	+2	+3	+13	+13	+10	+26	+25	+6	+2	0	20	102
Summer	+16	+8	+2	-9	-17	-2	+8	+1	+3	-15	-17	-22	-22	-20	-10	-15	-34	-18	+12	+22	+25	+31	+39	+34	-14	27	141

Winter: January, February, November, December  
Equinox: March, April, September, October  
Summer: May to August.

\* For explanation of 0a, 1a, 2a days see p. 16, *Observatories' Year Book, 1938*.

† See p. 10, *Observatories' Year Book, 1938*.



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

17

1940.

3 LERWICK

	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE	
	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient
1	1b	hr. 0.6	0a	hr. ...	0a	hr. ...	2b	hr. 4.5	0a	hr. ...	0a	hr. ...
2	1a	0.5	1b	0.3	1b	1.3	1b	0.4	0a	...	0a	...
3	0a	...	1a	0.2	1a	1.5	2b	5.5	0a	...	0a	...
4	1a	0.1	0a	...	1b	0.5	2b	9.5	0a	...	0a	...
5	0a	...	0a	...	1a	0.2	0a	...	1b	0.7	1a	0.3
6	0a	...	1a	0.2	1a	0.2	1b	2.6	2a	3.3	0a	...
7	1a	1.3	1b	0.5	1a	0.9	1b	1.3	1a	0.5	0a	...
8	2b	10.3	2b	4.7	2b	3.5	1b	0.4	1a	0.1	0a	...
9	0a	...	2b	7.1	1b	0.5	0a	...	1a	0.1	1a	0.6
10	0a	...	1a	1.0	0a	...	1b	1.2	1b	1.4	1a	0.6
11	1a	0.1	1a	0.1	1b	0.7	1b	1.6	1b	0.7	1b	0.2
12	0a	...	1b	0.3	1b	0.3	1b	1.2	1a	0.1	0a	...
13	1a	1.0	1b	3.0	1c	0.7	2b	4.0	2b	5.6	0a	...
14	1b	2.9	1b	1.1	1b	1.1	2c	10.3	1b	2.7	0a	...
15	1c	3.0	1b	0.3	1c	2.0	2c	9.3	2b	3.4	0a	...
16	2a	3.2	0a	...	1b	0.1	2c	3.6	1a	0.2	1b	0.8
17	1c	2.0	0a	...	1a	0.3	1b	1.8	0a	...	0a	...
18	1b	0.5	0a	...	1a	0.5	1b	1.3	0a	...	0a	...
19	2c	3.1	1b	0.6	2c	7.1	1a	0.2	0a	...	0a	...
20	1b	1.0	2b	4.9	2b	8.5	1a	0.1	0a	...	0a	...
21	1c	1.0	0a	...	2b	4.1	1a	0.1	1b	1.2	1a	1.2
22	1b	0.4	1a	0.2	2b	5.5	0a	...	2b	3.3	2b	4.5
23	1b	0.1	2b	5.1	0b	...	0a	...	1b	0.1	1a	0.1
24	1b	0.2	1a	0.9	2c	5.7	0a	...	0a	...	1b	2.6
25	1a	0.2	1b	1.8	2b	8.3	2c	4.3	0a	...	1b	1.1
26	0a	...	1a	0.9	2a	3.5	2b	4.7	1a	0.8	1a	0.3
27	1b	0.3	2b	3.1	1c	2.1	2b	4.8	1b	1.3	1b	2.1
28	1b	0.1	1a	0.1	1b	1.5	0a	...	1a	0.3	0a	...
29	1b	0.2	0a	...	2b	6.7	1b	0.1	0a	...	1b	1.6
30	1b	0.1			2b	6.7	1a	0.1	2b	3.1	0a	...
31	1b	0.4			2b	5.8			0a	...		
Total	27	32.6	26	36.4	39	79.8	34	72.9	24	28.9	14	16.0
No. of days used	31	31	29	29	31	31	30	30	31	31	30	30
Mean	0.87	1.1	0.90	1.3	1.26	2.6	1.13	2.4	0.77	0.9	0.47	0.5

  

	JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient
1	1b	hr. 2.7	0a	hr. ...	(1b)	hr. -	0a	hr. ...	1c	hr. 0.9	1b	hr. 0.9
2	1a	1.7	0a	...	(1a)	-	0a	...	1b	0.1	1c	1.4
3	1a	0.5	1a	0.2	0a	...	0a	...	0a	...	1b	0.4
4	2b	6.3	0a	...	(1b)	-	0a	...	0a	...	1b	1.4
5	2b	7.6	0a	...	(1a)	-	1b	0.5	2b	3.3	2c	3.8
6	0a	...	1b	0.7	1b	2.6	2c	8.5	1b	1.1	1c	2.7
7	0a	...	1b	1.2	1c	0.8	1c	1.8	1b	1.6	1c	1.0
8	1b	0.5	1b	0.5	2a	3.1	1b	2.1	1b	0.1	1b	0.9
9	1b	1.2	1b	0.4	1b	1.1	2c	5.6	2c	12.8	1c	2.7
10	1b	0.3	1a	2.0	1c	1.9	2c	6.7	2c	6.1	1c	0.7
11	2b	3.1	1a	1.7	1b	1.4	1b	1.8	1b	1.7	1b	2.0
12	1b	0.1	0a	...	1b	2.9	0a	...	2b	3.4	0a	...
13	1a	1.0	1b	0.2	1b	1.0	0a	...	2c	6.8	1a	0.2
14	0a	...	1b	1.9	1b	0.3	1a	0.3	2c	5.7	2b	6.3
15	1a	0.1	1a	0.2	2b	4.0	0a	...	2c	3.4	1b	1.6
16	0a	...	1b	2.9	1b	1.8	1a	0.1	1c	3.0	2b	5.8
17	0a	...	0a	...	2c	10.7	1b	2.1	1b	2.8	1b	0.4
18	1b	1.9	1a	0.2	2b	3.6	1a	2.4	1a	1.3	1b	3.0
19	2b	3.2	1a	0.3	1b	2.3	0a	...	1b	2.4	0a	...
20	1b	1.5	1b	2.5	1b	1.1	0a	...	2c	11.2	0a	...
21	1a	0.6	1b	0.6	(1b)	-	0a	...	1c	0.9	0a	...
22	1a	0.4	1b	0.3	(2b)	-	1a	0.5	1b	2.1	0a	...
23	1b	2.1	1b	1.2	(2b)	-	1b	2.5	1b	1.6	0a	...
24	0a	...	0a	...	2b	4.2	1b	2.4	1c	1.7	(0a)	-
25	0a	...	1b	0.3	1a	2.8	1b	1.1	2b	7.7	(0a)	-
26	0a	...	1b	1.2	1a	0.4	1b	1.1	1b	2.6	1b	1.5
27	1b	0.1	1b	1.6	2b	4.1	0a	...	1c	0.4	1b	1.5
28	1b	0.5	2c	5.3	1a	1.0	1b	2.4	1c	0.7	1b	1.5
29	0a	...	1a	2.1	0a	...	1b	1.3	1b	3.0	1b	0.3
30	0a	...	(2b)	-	0a	...	2a	3.9	1a	0.3	1c	1.4
31	0a	...	(2a)	-			1b	2.5			1b	0.4
Total	24	35.4	27	27.5	35	51.1	24	49.6	37	88.7	26	41.8
No. of days used	31	31	31	29	30	23	31	31	30	30	31	29
Mean	0.77	1.1	0.87	0.9	1.17	2.2	0.77	1.6	1.23	3.0	0.84	1.4

Annual values: Character 0 1 2  
 No. of days used 95 205 66

Mean character figure 0.92 (366 days)

Duration: Total 560.7 hr.  
 No. of days 355  
 Mean 1.58 hr.



**TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

4 LERWICK (H)		14,000γ (0.14 C.G.S. unit) +																								JANUARY 1940			
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			
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ			
1	403	403	404	396	402	402	405	403	402	403	404	403	403	403	406	409	409	411	412	409	410	395	396	395	387	403			
2	365	367	362	380	386	393	398	400	392	396	395	392	392	387	388	386	394	397	401	404	403	402	389	355	392	389			
3 d	391	393	385	383	402	402	392	378	367	357	353	357	357	370	386	409	509	930	741	606	514	456	397	345	335	440			
4	348	357	353	359	359	367	371	370	366	367	364	351	351	361	355	381	372	378	391	394	401	417	376	381	383	372			
5	380	376	377	380	341	378	392	392	388	385	383	385	385	387	388	392	394	395	396	396	394	391	375	386	381	385			
6	372	342	372	376	394	403	408	397	391	389	386	381	381	379	388	394	386	375	391	404	392	389	392	398	382	387			
7	376	389	395	398	397	397	400	399	391	385	382	380	380	384	390	375	391	392	393	416	405	396	411	407	379	393			
8	383	383	388	387	406	399	394	397	396	396	396	396	396	399	400	394	387	393	394	397	407	397	396	405	395	395			
9	390	396	398	400	402	404	403	403	403	403	402	403	396	391	387	400	396	386	402	392	413	388	391	395	393	397			
10 d	380	387	393	391	399	402	404	406	404	403	405	406	406	413	404	531	473	546	569	520	479	400	367	366	367	426			
11 d	349	367	379	376	366	385	406	401	380	372	373	379	379	386	391	387	395	391	390	422	541	452	456	375	352	395			
12	379	354	345	354	377	386	378	400	397	387	384	390	390	375	394	403	384	386	394	408	406	394	369	392	385	384			
13	384	380	384	391	386	391	394	395	388	381	385	390	390	393	397	396	395	394	397	397	401	397	397	397	396	392			
14 q	394	393	394	393	394	397	398	399	394	391	383	382	382	393	397	397	396	399	400	401	396	392	395	391	392	394			
15	381	385	387	388	392	396	397	399	397	397	393	392	389	389	393	400	397	399	402	402	404	404	409	405	402	396			
16	399	393	392	405	405	413	414	403	399	393	383	384	384	394	396	389	399	398	387	386	386	388	390	385	387	395			
17	386	389	393	402	402	413	391	399	396	395	388	390	390	402	397	380	390	401	396	385	381	370	382	368	371	390			
18 d	362	385	385	389	395	399	403	404	390	390	391	384	384	390	402	423	532	779	633	350	443	386	377	348	344	420			
19	353	357	365	368	369	369	371	373	375	377	378	374	374	371	377	380	387	387	389	382	385	382	379	380	379	375			
20	382	384	384	384	387	390	390	386	381	377	377	379	379	382	387	384	387	387	386	377	373	385	387	387	390	384			
21 q	393	392	393	393	394	395	393	391	386	384	383	384	384	387	390	388	384	394	394	392	392	393	392	393	393	391			
22	393	393	396	396	399	398	402	401	395	385	386	389	389	386	388	390	395	398	394	388	380	398	400	399	399	394			
23	394	396	397	399	400	403	403	406	401	395	392	398	398	400	403	403	403	407	407	408	405	396	395	395	393	400			
24	394	395	399	384	398	396	395	397	400	398	393	390	390	387	392	396	407	404	405	402	407	395	393	390	390	396			
25	388	383	370	392	394	395	396	381	373	381	382	387	387	387	388	383	391	398	399	399	398	400	391	394	394	389			
26 q	396	396	396	396	395	394	393	391	386	384	382	383	383	386	395	400	399	399	400	401	407	402	395	404	399	395			
27 q	399	397	402	402	403	399	402	406	406	400	391	384	384	386	392	402	399	401	407	408	409	408	407	405	404	401			
28 q	406	397	399	400	401	403	405	408	401	395	391	390	390	395	401	407	405	406	406	407	409	408	405	404	400	402			
29	396	396	396	400	403	401	402	402	398	392	384	387	387	391	399	406	420	431	457	467	420	413	410	400	400	407			
30	387	378	374	394	402	404	411	414	402	378	378	373	373	374	393	408	407	399	404	408	403	408	408	412	396	396			
31 d	397	392	390	393	403	420	412	408	408	407	396	391	391	396	369	365	405	405	396	380	394	365	391	392	352	393			
Mean	384	384	385	389	392	397	398	397	392	388	386	385	385	388	391	399	406	431	424	410	412	399	394	389	384	396			

Corrections to be applied to all values: H, -6γ; D, -4.1'; V, -20γ.

**MAGNETIC DECLINATION (WEST)**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

5 LERWICK (D)		12° +													JANUARY 1940												
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	
1		20.3	19.6	19.7	14.1	15.5	16.3	16.8	18.2	19.5	21.3	23.6	23.1	25.4	23.8	24.8	24.8	22.3	21.4	21.8	20.2	17.4	15.5	18.6	17.5	20.1	
2		14.5	18.0	11.7	8.4	12.2	15.5	24.3	25.8	25.9	26.0	24.6	24.3	27.1	28.9	29.3	24.8	22.5	20.5	20.0	19.7	19.8	17.7	20.5	9.6	20.5	
3	d	15.6	16.8	16.6	15.7	12.3	21.6	29.0	29.2	29.2	29.2	27.1	26.9	28.4	29.0	30.8	15.4	23.1	31.6	25.1	23.6	16.4	13.4	16.9	16.1	22.5	
4		17.4	17.7	18.9	20.3	19.9	20.8	20.3	20.5	20.7	20.5	22.0	24.5	23.4	23.4	24.2	8.8	22.0	26.5	25.8	22.9	14.6	14.7	19.2	20.3	20.4	
5		21.0	21.1	19.8	17.2	18.9	18.4	20.7	19.5	20.0	20.6	21.3	22.4	23.0	22.7	22.4	22.1	21.6	21.4	21.2	20.4	20.2	16.7	18.2	10.4	20.1	
6		16.0	14.9	18.4	13.1	12.4	13.9	20.2	21.2	21.0	21.7	22.7	23.2	26.8	26.3	25.0	25.4	15.5	20.6	9.7	10.0	18.9	17.5	15.2	16.9	18.6	
7		15.9	22.0	18.9	19.8	20.9	21.3	21.8	21.6	20.9	22.4	23.2	23.3	22.8	23.9	16.8	21.6	22.0	20.6	7.9	15.7	18.6	6.1	13.5	15.5	19.0	
8		18.6	22.6	21.2	22.2	23.6	19.3	21.5	19.8	19.5	19.8	20.6	21.7	22.6	22.3	21.2	20.0	20.4	22.1	21.0	18.9	21.0	17.8	14.1	19.1	20.5	
9		19.3	20.1	19.6	20.1	20.4	20.4	19.7	19.0	19.1	20.3	21.8	22.2	23.1	22.6	21.0	22.8	14.5	19.1	23.3	5.5	17.3	16.6	17.9	20.6	19.4	
10	d	23.6	20.7	19.4	20.8	20.0	19.3	19.7	20.0	20.5	21.2	22.6	24.0	24.7	27.7	30.8	25.6	27.7	16.6	19.2	27.3	7.6	17.2	15.5	17.0	21.2	
11	d	20.5	19.6	18.4	17.1	18.7	20.6	19.8	23.5	23.6	20.7	20.9	21.5	22.5	22.6	19.5	21.0	24.1	22.6	25.6	10.1	-1.5	15.4	15.8	16.7	19.1	
12		10.1	3.9	8.2	14.7	16.6	17.3	19.8	20.4	26.0	24.3	22.5	23.1	24.6	19.7	23.9	23.8	17.3	25.0	16.8	16.9	15.3	6.3	14.8	18.1	17.9	
13		18.7	17.4	18.4	19.1	16.4	17.2	17.7	18.9	19.4	20.4	21.5	23.6	24.7	22.7	20.1	19.5	19.7	20.6	21.1	18.7	20.1	19.6	18.6	18.3	19.7	
14	q	18.7	18.9	19.3	19.5	19.8	19.6	19.2	18.7	19.2	20.0	20.6	22.2	23.0	23.4	21.7	21.1	21.6	21.0	20.5	20.1	18.3	16.6	16.8	16.8	19.9	
15		9.6	5.3	8.0	14.0	18.0	18.3	18.7	19.1	19.2	19.9	22.2	24.6	26.4	25.7	24.1	23.2	22.0	21.3	21.0	20.8	20.3	20.3	20.6	19.9	19.3	
16		19.1	15.6	14.6	13.9	16.9	18.9	19.7	23.2	25.4	26.2	25.6	24.6	27.9	27.0	25.0	21.7	22.4	17.5	2.7	14.3	17.5	16.6	12.6	16.9	19.4	
17		19.8	19.6	19.6	16.4	18.9	20.2	23.7	23.6	20.2	20.9	21.3	23.5	26.0	26.7	28.3	23.2	23.8	22.2	19.9	15.4	9.5	15.5	12.7	9.2	20.0	
18	q	14.9	18.7	17.6	20.2	20.7	20.5	21.6	21.2	19.8	18.7	22.6	26.1	27.3	29.0	25.1	19.5	14.3	23.1	0.4	11.8	13.7	18.9	20.6	21.1	19.5	
19		20.5	19.9	19.9	19.3	18.2	17.9	17.6	17.7	18.4	19.9	21.5	22.1	22.1	21.7	20.3	20.4	21.6	20.9	19.0	18.7	18.8	18.7	19.4	19.8	19.8	
20		18.6	18.2	19.4	19.7	19.3	18.7	18.9	18.9	19.0	19.9	21.1	22.0	22.0	21.8	21.4	21.2	21.1	20.9	16.9	8.5	17.0	19.5	19.4	19.7	19.3	
21	q	19.8	19.7	19.8	19.9	19.5	19.2	18.9	18.4	18.4	19.5	20.6	21.7	21.7	20.5	19.9	18.8	19.9	19.1	19.0	19.5	19.2	19.7	19.5	19.7	19.7	
22		19.9	20.2	20.4	20.2	19.5	20.3	19.1	18.4	18.9	20.1	22.5	25.0	24.9	25.4	23.7	24.2	22.3	22.0	15.4	18.4	16.4	20.1	20.9	21.4	20.8	
23		21.1	20.5	20.3	20.0	19.7	19.5	18.9	19.3	19.4	20.2	22.3	22.9	23.8	24.7	22.9	23.0	22.1	22.3	21.5	23.0	19.3	16.3	16.4	17.1	20.7	
24		17.6	15.3	13.3	8.4	13.8	15.8	16.2	16.4	17.8	20.2	21.2	23.1	25.8	27.2	27.0	27.8	29.0	29.8	23.6	23.3	10.6	19.6	20.3	17.7	20.0	
25		18.2	15.2	19.9	11.8	14.3	16.8	18.1	18.0	17.5	17.9	20.6	21.4	24.6	28.5	28.0	23.6	22.7	21.3	20.0	19.3	19.0	15.3	14.8	19.6	19.4	
26	q	20.0	19.6	19.3	19.2	19.1	18.9	18.4	18.2	18.7	19.8	20.6	21.3	21.8	22.4	21.4	20.6	20.5	19.8	19.7	20.5	21.2	19.9	19.2	18.0	19.9	
27	q	19.2	19.7	20.1	19.0	18.0	18.2	20.7	18.7	18.4	20.1	20.7	22.0	22.6	23.0	22.6	21.7	21.5	21.4	20.7	20.2	19.6	19.2	19.0	19.0	20.2	
28	q	18.6	19.8	20.0	19.1	19.4	19.3	18.4	17.9	19.0	20.5	21.5	22.6	23.3	23.1	22.1	20.8	21.1	21.2	21.4	21.2	20.6	19.8	18.1	17.2	20.3	
29		18.8	17.7	17.6	18.7	16.7	17.1	17.4	18.1	18.6	20.2	22.6	24.8	25.8	27.2	30.0	35.0	39.9	45.2	32.4	21.4	20.6	20.7	19.9	14.8	23.4	
30		14.3	11.9	4.2	10.4	14.7	16.8	17.3	18.4	19.4	20.0	23.7	25.0	27.2	26.2	26.8	26.4	18.6	22.1	22.7	19.8	18.9	16.3	16.6	15.9	18.9	
31	d	19.8	16.4	19.8	20.6	20.7	23.3	23.5	23.7	20.7	22.1	23.0	24.4	26.1	29.1	26.1	24.1	23.3	11.7	11.1	14.8	5.6	15.5	1.5	0.4	18.6	
Mean		18.1	17.6	17.5	17.2	17.9	18.7	19.9	20.2	20.4	21.1	22.2	23.3	24.6	24.8	24.1	22.3	21.9	22.3	18.9	18.1	16.5	16.9	17.0	16.8	19.9	



**TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

19

6 LERWICK (V)

46,000γ (0.46 C.G.S. unit) +

JANUARY 1940

	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	Mean
	0-1	1-2																							
1	860	859	853	853	859	863	862	864	867	866	865	865	861	862	862	867	868	873	878	895	895	887	884	868	868
2	870	829	809	831	847	852	855	860	867	868	872	875	878	876	879	881	877	874	872	871	870	880	862	829	862
3 d	835	840	840	828	814	816	820	832	841	856	872	880	886	892	908	735	719	891	960	971	922	945	888	862	861
4	821	842	859	862	865	873	876	878	882	886	890	894	899	906	909	952	908	882	889	912	936	858	872	871	884
5	870	871	854	821	828	830	851	864	870	872	874	877	877	877	876	875	872	871	871	875	881	898	883	867	867
6	862	849	829	841	801	795	818	837	857	863	869	874	883	898	906	915	941	909	924	889	884	870	841	832	866
7	837	812	831	855	862	862	860	861	865	868	872	878	887	894	916	894	883	885	878	866	870	857	822	842	865
8	855	858	847	841	824	836	852	858	863	865	865	868	869	874	880	885	879	876	872	867	867	871	866	851	862
9	851	864	869	870	870	870	869	868	867	865	865	871	876	878	878	884	904	886	888	880	883	886	877	874	875
10 d	859	847	843	856	865	871	870	866	864	866	866	864	867	881	990	1096	1054	1045	1004	978	909	823	867	868	905
11 d	856	867	880	878	871	872	867	863	867	875	876	875	880	886	892	889	893	886	894	945	878	903	872	821	879
12	833	829	823	817	817	836	851	864	862	871	875	877	891	904	894	909	918	915	922	904	903	850	846	861	870
13	870	873	859	844	845	857	860	860	865	867	867	870	872	872	877	877	877	877	877	875	872	871	870	870	868
14 q	870	870	869	870	870	870	871	871	870	869	868	866	862	867	869	873	874	873	874	880	888	881	878	860	871
15	826	828	831	846	857	864	866	865	865	865	866	865	862	862	868	873	872	871	870	869	871	869	872	873	861
16	869	866	861	849	853	852	856	857	855	857	861	859	858	866	873	872	877	890	903	881	877	873	858	852	866
17	844	847	849	844	839	840	848	851	860	866	871	869	869	889	936	916	910	964	936	897	895	876	851	824	875
18 d	831	852	862	862	861	862	858	859	869	871	871	873	869	873	934	1003	971	789	850	939	913	913	889	863	881
19	870	870	871	875	877	878	880	879	877	876	879	883	886	884	882	879	880	879	887	882	880	880	879	879	879
20	875	874	875	875	869	872	875	876	879	879	880	882	885	887	889	885	881	885	895	900	882	877	877	876	880
21 q	873	875	875	874	873	872	872	873	877	878	878	878	878	879	881	885	878	878	878	877	876	876	875	875	876
22	875	874	873	872	871	869	867	867	868	870	869	869	874	877	878	879	878	889	901	913	894	877	873	872	877
23	873	874	873	870	869	867	866	863	867	870	868	868	869	872	873	873	871	870	869	876	910	929	911	895	877
24	888	887	859	845	849	858	861	861	861	863	866	867	873	875	876	887	899	910	903	913	969	918	908	896	883
25	886	884	850	809	834	845	850	854	859	862	868	873	875	888	916	898	901	903	888	878	873	880	879	875	872
26 q	874	876	877	877	876	875	874	872	871	871	870	869	869	871	873	873	875	875	875	871	873	882	875	875	874
27 q	875	875	874	875	873	871	866	864	863	864	867	869	870	871	872	878	877	873	873	873	870	867	866	866	871
28 q	862	868	870	872	873	873	870	868	867	868	868	868	866	865	866	868	871	872	873	873	873	873	872	872	874
29	874	872	872	867	865	869	870	869	869	869	869	868	866	865	869	883	923	1028	1093	993	939	912	901	903	900
30	854	805	790	833	853	862	861	860	862	870	869	877	876	872	878	899	939	906	888	887	890	913	905	912	873
31 d	867	852	865	865	859	847	847	860	864	868	872	873	877	892	891	886	946	937	925	892	788	866	857	825	872
Mean	860	858	855	854	854	857	860	863	866	869	871	872	875	879	890	893	894	895	900	897	888	883	874	865	874

Corrections to be applied to all values: H, -6γ; D, -4.1'; V, -20γ.

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

7 LERWICK

JANUARY 1940

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 + °A.			
	Horizontal force				Declination			Vertical force											
	Maximum 14,000γ +		Minimum 14,000γ +		Range	Maximum 12° +		Minimum 12° +		Range	Maximum 46,000γ +						Minimum 46,000γ +		Range
	h. m.	γ	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ				
1	17 50	419	356	23 54	63	12 6	27.4	9.8	23 59	17.6	21 2	915	839	2 52	76	2,1,1,1,2,2,3,3	15	0	73.7
2	19 9	406	304	22 44	102	22 34	36.0	2.0	2 49	34.0	22 5	886	784	2 15	102	4,3,2,2,2,1,0,4	18	1	74.0
3 d	16 39	1106	329	23 18	777	16 37	49.2	-9.5	15 47	58.7	15 14	1076	428	15 51	648	2,3,2,2,3,8,6,4	30	2	74.0
4	20 55	470	325	0 3	145	21 8	30.6	-8.3	20 54	38.9	20 30	969	805	0 43	164	3,1,1,2,3,4,5,4	23	1	73.8
5	17 50	400	319	4 18	81	4 38	25.4	7.0	23 43	18.4	21 37	906	799	3 52	107	2,3,1,1,1,1,1,3	12	0	73.9
6	18 54	443	330	1 46	113	13 29	33.9	-16.0	18 53	49.9	18 34	968	788	4 27	180	3,3,2,2,3,3,5,3	24	1	74.2
7	21 58	485	354	14 8	131	13 50	27.4	-12.1	21 53	39.5	14 42	925	794	1 53	131	3,1,1,1,3,3,3,5	20	1	74.9
8	22 54	426	374	7 10	52	3 57	27.4	9.9	22 5	17.5	15 24	889	810	4 41	79	2,3,2,1,2,1,2,3	16	0	75.5
9	19 24	455	370	16 11	85	12 43	26.8	-15.8	19 15	42.6	19 6	920	836	19 45	84	2,0,1,1,2,3,5,2	16	1	76.0
10 d	17 49	825	339	21 22	486	19 16	49.5	-6.3	18 0	55.8	15 28	1152	787	21 31	365	2,1,1,1,6,6,5,4	26	1	76.7
11 d	19 23	603	295	22 16	308	18 41	28.4	-21.0	20 7	49.4	22 9	971	777	22 50	194	3,2,3,3,2,2,5,6	26	1	77.1
12	18 38	439	300	21 24	139	15 37	29.6	-15.3	21 42	44.9	18 35	935	800	4 7	135	4,3,3,2,3,3,4,5	27	1	77.9
13	3 9	409	376	1 37	33	11 4	26.5	14.3	4 24	12.2	19 8	878	837	4 7	41	2,2,2,2,2,1,1,0	12	0	78.2
14 q	18 12	403	379	11 35	24	13 13	24.2	14.2	21 26	10.0	20 11	892	840	24 0	52	0,0,0,0,0,0,1,3	4	0	78.2
15	22 4	411	370	0 30	41	12 57	27.5	2.7	1 9	24.8	22 56	876	821	0 19	55	3,2,0,1,1,0,0,1	8	0	78.1
16	6 42	417	372	22 33	45	12 30	30.4	-1.0	18 33	31.4	18 21	913	842	24 0	71	2,2,2,2,2,3,4,3	20	0	76.9
17	19 9	435	349	22 55	86	14 28	34.9	-2.8	23 47	37.7	17 15	976	805	2 58	171	3,3,2,1,4,3,4,4	24	1	75.1
18 d	16 5	864	196	18 24	668	17 13	72.0	-26.6	18 33	98.6	15 57	1136	501	17 55	635	3,2,2,3,4,7,6,3	30	2	74.1
19	16 9	404	343	1 15	61	16 16	24.0	16.5	7 45	7.5	18 49	890	863	0 0	27	2,1,2,2,1,2,1,1	12	0	73.7
20	16 45	398	358	19 16	40	15 52	23.6	0.8	19 27	22.8	19 24	913	867	4 16	46	1,1,1,1,2,2,3,0	11	0	73.6
21 q	16 55	399	378	15 32	21	11 19	22.8	17.3	17 35	5.5	15 43	887	872	0 41	15	0,0,0,0,0,1,0,0	1	0	73.2
22	6 46	408	371	19 6	37	17 38	27.4	7.5	18 9	19.9	18 5	925	863	6 55	62	0,0,1,1,0,3,3,1	9	0	73.0
23	17 8	412	382	21 46	30	13 43	26.4	13.2	21 58	13.2	21 20	934	862	6 59	72	0,0,1,1,0,1,3,3	9	0	72.6
24	20 9	430	377	21 1	53	17 18	36.9	2.5	20 34	34.4	20 25	999	841	3 26	158	3,3,1,1,2,3,4,3	20	1	72.5
25	16 25	406	364	2 16	42	13 9	31.1	8.3	21 56	22.8	14 18	922	804	3 16	118	3,3,2,1,3,2,2,3	19	0	72.6
26 q	22 7	412	378	10 49	34	22 18	24.4	15.2	22 45	9.2	21 48	887	868	19 50	19	0,0,0,1,0,1,1,2	5	0	73.0
27 q	23 56	420	380	11 52	40	13 44	23.6	17.4	4 30	6.2	15 51	879	857	7 2	22	1,0,1,1,1,1,0,2	7	0	73.6
28 q	0 0	419	388	10 55	31	12 32	23.6	15.4	22 56	8.2	23 48	877	855	0 3	22	1,0,1,0,0,0,0,1	3	0	73.9
29	18 36	484	382	10 56	102	17 21	49.6	10.2	23 46	39.4	18 13	1106	862	4 9	244	1,1,1,0,2,5,5,3	18	1	74.1
30	20 51	432	364	12 12	68	15 37	29.9	2.0	2 33	27.9	16 24	947	764	2 2	183	4,3,2,2,3,3,3,3	23	1	74.2
31 d	19 31	462	264	20 10	198	16 30	32.1	-16.3	20 28	48.4	16 34	1000	703	20 19	297	2,2,2,2,3,4,6,4	25	1	74.2
Mean	- -	481	347	- -	133	- -	31.7	1.1	- -	30.6	- -	947	799	- -	148	-	-	0.55	74.7



**TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

8 LERWICK (H)		14,000γ (0.14 C.G.S. unit) +																						FEBRUARY 1940		
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
		γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1 d		357	372	363	354	377	386	375	393	368	371	377	368	382	395	412	412	416	450	407	384	363	372	373	328	381
2 d		322	382	377	377	376	386	394	382	365	378	384	385	389	380	392	391	399	401	378	388	387	389	398	355	383
3 d		377	401	394	395	395	399	399	397	396	377	368	372	383	368	401	389	396	436	395	391	392	381	410	384	391
4		398	392	392	393	394	395	398	399	395	390	383	386	387	389	393	401	393	391	394	396	400	394	396	403	394
5		399	394	396	395	398	402	404	407	401	398	390	386	390	393	383	384	404	409	408	395	393	385	375	387	395
6		408	388	387	393	397	403	409	409	401	400	397	402	405	401	399	404	406	420	416	405	405	393	401	387	401
7		398	388	392	397	399	398	396	395	395	390	386	378	384	387	394	404	397	392	399	399	400	404	408	404	395
8		399	380	393	401	397	397	406	408	397	389	379	386	388	392	401	394	398	404	402	404	398	381	382	379	394
9		361	356	364	357	379	402	405	396	395	388	384	383	389	396	394	399	395	399	401	402	402	402	398	386	389
10		392	393	403	401	397	399	397	397	395	389	383	382	383	389	398	399	399	409	408	399	399	389	393	387	395
11		396	397	401	405	409	410	406	403	402	396	382	385	391	399	399	394	395	397	398	394	363	341	311	305	387
12 d		365	378	388	367	387	393	397	400	391	388	381	383	389	396	371	414	413	404	404	406	408	405	405	399	393
13		399	413	395	397	406	408	408	408	405	397	387	384	387	378	385	395	405	408	409	404	390	393	395	382	397
14 q		401	398	397	399	404	405	405	405	405	393	378	376	384	393	401	403	403	405	406	408	406	404	402	398	399
15		394	395	396	406	407	406	408	409	402	384	382	385	390	387	396	400	402	407	408	411	408	413	412	409	401
16		408	409	403	406	406	409	406	403	400	396	384	380	389	394	400	407	398	396	406	411	414	402	398	402	401
17 q		403	402	402	403	404	410	414	411	402	399	396	390	389	396	399	406	405	397	402	404	405	404	405	406	402
18 q		406	405	404	405	406	408	408	408	406	403	402	399	393	396	399	401	404	407	408	405	405	408	406	408	404
19 q		407	408	407	406	407	408	408	408	408	403	399	397	400	405	407	407	408	409	412	413	410	412	416	409	407
20		393	349	313	381	392	394	387	405	409	402	393	396	401	411	399	415	417	411	411	413	408	398	399	391	395
21		364	371	392	384	391	391	397	391	391	380	371	380	374	403	411	424	399	393	396	396	395	394	390	391	390
22		394	390	395	388	391	400	402	383	375	392	390	386	387	402	399	406	407	411	407	403	405	396	408	395	396
23		381	383	391	394	391	390	390	387	381	381	387	383	386	396	396	390	396	401	410	412	384	373	347	337	386
24		331	365	381	390	393	389	388	386	392	384	386	384	387	392	392	408	404	401	403	411	402	403	404	399	391
25 d		393	390	368	353	363	369	389	394	395	371	334	353	389	462	532	498	471	506	426	386	377	381	384	386	403
26		389	391	390	393	395	395	391	390	385	376	376	379	384	382	388	390	391	398	399	412	388	393	397	398	390
27 q		397	396	398	395	395	398	402	400	393	385	380	385	395	391	398	406	403	403	407	404	404	407	406	403	398
28		405	402	399	398	404	408	405	404	403	393	384	384	389	393	395	391	399	399	404	410	414	404	396	410	400
29		408	409	411	409	411	410	413	412	405	396	386	383	388	387	381	406	411	406	404	405	417	407	401	403	403
Mean		388	390	389	391	396	399	400	400	395	389	383	383	389	395	401	405	405	409	404	402	398	394	394	389	395

Corrections to be applied to all values: H, -6γ; D, -4.1'; V, -20γ.

**MAGNETIC DECLINATION (WEST)**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

9	LERWICK (D)													12° +												FEBRUARY 1940									
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									
1 d		1.2	5.2	12.3	14.3	18.0	19.9	20.5	23.1	22.0	20.9	22.1	23.9	23.4	24.7	23.0	19.5	24.5	1.5	12.2	23.2	14.7	11.2	10.3	22.4	17.3									
2 d		24.7	19.8	18.1	19.5	20.7	20.0	20.8	21.5	22.6	22.0	20.9	23.9	23.6	23.1	24.7	20.2	23.0	21.4	8.6	6.1	16.6	15.6	16.8	20.3	19.8									
3 d		20.5	18.6	18.4	17.3	18.7	19.2	19.0	18.6	19.4	22.0	23.8	23.7	24.4	20.6	20.9	23.8	19.1	2.7	18.0	21.1	19.6	9.8	13.0	15.6	18.7									
4		18.7	19.0	19.5	19.0	18.7	18.7	18.2	18.2	17.5	17.9	19.6	21.7	22.2	21.3	21.6	22.6	12.3	22.8	22.4	20.4	9.1	14.6	18.0	20.4	18.9									
5		20.9	20.4	18.9	18.1	18.9	19.3	19.5	19.9	19.5	20.0	20.8	22.0	22.8	23.3	22.2	20.2	21.5	20.5	20.8	18.2	16.5	11.4	13.2	14.8	19.3									
6		15.4	16.5	17.8	16.2	17.3	17.2	17.5	18.9	22.8	23.0	22.1	25.0	25.1	23.3	22.7	22.4	22.5	24.8	22.3	26.3	10.7	14.4	15.1	15.8	19.8									
7		15.3	21.5	15.8	16.5	16.6	18.6	19.2	18.7	18.0	17.8	20.9	21.4	25.0	24.9	21.0	24.5	25.7	24.1	21.7	21.2	17.5	17.9	17.4	19.8	20.0									
8		19.6	20.7	18.3	18.1	17.3	18.9	19.3	20.0	19.9	19.7	19.5	20.1	22.1	23.5	23.7	22.7	21.4	23.4	22.8	22.0	10.8	16.6	13.2	16.4	19.6									
9		5.8	10.5	12.7	12.9	19.0	14.3	15.8	18.2	18.4	21.0	20.4	22.3	23.0	24.0	22.2	23.7	21.2	20.7	20.2	19.8	19.2	19.3	18.4	21.0	18.5									
10		14.6	15.5	16.9	15.2	17.4	16.7	17.5	17.6	17.9	18.6	20.1	21.4	23.3	24.0	23.7	21.8	19.7	19.8	21.1	15.9	17.6	16.2	12.9	13.8	18.3									
11		17.5	19.5	19.6	19.5	19.2	19.0	18.9	18.3	18.0	18.8	20.6	25.7	25.8	25.5	26.8	23.3	20.7	19.5	17.7	16.4	9.4	4.4	4.4	3.2	18.0									
12 d		7.0	11.1	14.9	8.6	14.6	15.2	19.0	18.3	18.1	18.9	19.7	22.7	25.2	28.4	24.2	27.2	21.0	21.0	21.0	20.8	21.4	20.1	20.2	18.1	19.0									
13		17.3	18.8	15.4	18.8	18.6	19.2	19.7	19.7	19.6	20.6	21.0	23.2	26.1	26.0	25.7	22.6	21.7	21.1	21.1	20.8	7.5	16.2	19.4	20.4	20.0									
14 q		17.4	17.0	18.1	16.6	17.3	18.2	18.3	18.4	19.1	19.8	23.4	23.6	22.3	21.4	21.6	21.3	20.6	20.1	20.0	19.9	19.5	18.0	16.5	14.9	19.3									
15		16.7	18.6	20.8	17.9	17.1	17.6	17.7	18.2	18.9	21.3	23.7	25.7	25.8	24.9	25.7	24.5	22.8	21.0	20.5	20.3	20.1	16.4	18.6	18.7	20.6									
16		19.1	17.4	17.8	18.0	19.3	18.4	18.3	18.6	18.4	19.3	20.6	21.4	20.8	21.2	21.6	21.7	22.5	20.8	20.7	15.6	12.3	14.3	17.3	16.6	18.8									
17 q		19.1	19.9	19.1	18.7	17.7	17.6	17.9	18.8	19.6	20.5	22.5	22.6	22.3	21.5	21.6	21.5	21.2	19.7	20.4	20.3	19.7	19.8	19.5	19.1	20.0									
18 q		18.8	19.1	19.2	19.5	19.3	18.2	18.4	19.0	19.5	19.7	20.3	21.0	21.4	21.0	21.0	20.7	20.8	20.3	19.9	20.2	20.4	20.0	19.6	19.3	19.9									
19 q		19.1	19.0	18.4	18.4	18.4	18.3	18.1	18.3	18.8	19.5	20.5	22.0	21.6	21.0	20.5	20.7	21.4	21.4	20.8	20.9	21.4	20.0	19.5	17.0	19.8									
20		13.4	9.5	7.5	11.2	8.2	12.2	15.8	18.0	18.9	21.0	22.5	23.4	24.9	25.2	25.1	23.8	28.1	27.0	23.9	23.9	22.2	24.2	16.6	17.3	19.3									
21		12.3	10.0	11.3	11.2	15.6	16.5	17.5	19.2	19.8	21.5	23.1	24.3	25.0	27.3	24.7	25.4	21.6	22.7	21.8	20.7	19.6	19.3	15.1	15.5	19.2									
22		15.7	15.1	5.8	10.1	12.6	15.1	17.3	20.3	23.8	21.6	24.1	25.4	26.0	26.7	23.7	25.0	22.5	25.1	24.5	21.7	21.2	21.0	18.0	17.7	20.0									
23		12.7	13.5	14.1	12.7	13.9	15.7	15.3	15.9	16.6	16.9	19.8	20.5	21.3	22.0	22.1	19.5	19.5	19.3	19.4	18.1	17.4	18.4	10.7	9.9	16.9									
24		10.2	8.4	9.7	7.8	7.1	9.7	10.8	13.8	16.2	21.4	22.0	23.1	23.5	26.0	24.0	24.5	25.6	24.7	22.3	21.3	22.2	20.3	16.9	9.8	17.6									
25 d		13.7	5.1	4.1	6.6	-0.6	2.4	7.7	19.1	22.7	25.7	29.0	29.8	29.5	29.8	30.2	28.2	21.3	29.4	22.0	21.3	19.4	18.6	18.3	17.9	18.8									
26		18.1	17.9	17.7	17.6	17.3	17.4	17.5	18.4	19.1	19.6	20.0	21.8	22.9	22.0	22.1	21.7	19.9	17.3	14.3	5.1	6.3	15.8	19.1	19.5	17.9									
27 q		19.4	19.3	20.6	18.0	17.0	12.7	15.4	16.8	17.9	19.1	20.6	21.8	23.8	23.2	21.6	21.2	20.5	19.6	19.2	19.5	18.9	19.2	19.0	17.7	19.3									
28		17.2	17.1	17.0	16.9	16.6	17.1	16.9	16.6	16.9	18.4	20.8	22.6	23.1	23.4	22.7	20.9	20.1	19.5	19.5	19.6	19.7	15.6	10.2	19.7	18.7									
29		19.4	20.0	18.8	17.9	17.6	19.8	21.0	18.3	19.6	19.4	22.7	25.2	28.1	29.3	26.1	24.8	16.4	19.8	19.7	17.3	13.3	16.1	18.7	19.7	20.4									
Mean		15.9	16.0	15.8	15.6	16.2	16.7	17.5	18.6	19.3	20.2	21.6	23.1	23.9	24.1	23.3	22.8	21.3	20.4	20.0	19.2	16.7	16.7	16.1	17.0	19.1									



TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

21

10	LERWICK (V)				46,000γ (0.46 C.G.S. unit) +																				FEBRUARY 1940			
	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			
1 d	767	777	814	815	843	844	850	872	879	897	896	907	917	922	926	919	910	914	932	913	849	879	856	841	872			
2 d	782	821	846	858	861	865	869	877	890	881	882	883	885	887	894	903	888	888	913	900	893	887	877	857	874			
3 d	832	841	863	866	867	866	868	869	871	876	880	882	889	903	905	919	927	915	902	886	880	890	837	853	879			
4	850	861	865	869	869	869	868	868	872	873	874	875	876	878	879	884	906	894	882	879	881	876	871	855	874			
5	834	848	860	866	867	864	863	863	865	864	865	868	867	872	885	893	875	871	872	880	887	892	838	808	865			
6	804	842	846	848	859	863	862	862	859	853	858	859	863	868	874	874	877	878	930	961	958	920	902	887	875			
7	828	771	808	854	861	864	865	868	868	867	868	871	874	880	901	900	903	898	889	887	887	882	875	871	868			
8	863	823	834	853	855	855	851	854	857	862	867	871	873	873	877	886	885	885	886	894	912	901	884	854	869			
9	805	803	833	838	831	837	847	855	864	865	869	868	868	873	876	882	880	876	874	873	869	871	876	858	858			
10	843	861	852	864	870	870	869	868	867	866	865	864	862	862	866	873	875	874	879	892	889	889	887	877	870			
11	866	864	868	869	869	869	869	868	864	863	863	858	857	861	873	879	878	877	880	883	881	848	805	764	861			
12 d	822	847	865	865	852	848	850	856	863	863	863	865	866	877	896	932	959	915	888	881	877	876	871	863	873			
13	832	829	846	857	858	862	863	862	860	861	861	859	862	868	872	871	871	873	876	882	901	880	871	832	863			
14 q	824	852	862	863	863	865	865	865	864	866	867	867	868	870	871	869	872	874	873	872	872	873	872	864	866			
15	859	854	852	854	862	865	864	863	863	865	865	864	867	878	877	875	876	874	873	870	873	870	864	866	866			
16	866	861	865	864	862	862	864	866	867	864	866	864	862	857	859	867	882	885	876	877	868	861	867	865	867			
17 q	863	865	866	866	864	862	860	860	864	864	864	868	869	865	863	866	874	879	874	869	869	869	869	868	867			
18 q	867	866	865	864	863	862	863	860	860	859	859	859	862	862	860	863	863	864	865	868	868	867	869	867	864			
19 q	866	865	864	864	863	862	861	860	862	865	867	866	864	863	862	859	860	861	861	862	866	868	865	855	863			
20	824	797	713	763	829	852	850	833	846	851	859	865	872	875	883	879	881	901	902	916	931	912	897	890	859			
21	876	832	846	840	842	860	864	868	870	872	872	877	887	889	913	912	947	930	908	895	890	887	888	881	881			
22	878	867	843	841	828	826	828	840	846	845	854	864	867	873	882	891	900	904	915	910	897	901	890	867	869			
23	864	870	875	877	870	854	852	854	854	856	857	864	866	869	876	877	874	872	870	875	868	874	864	821	865			
24	823	831	846	852	850	841	832	828	827	835	840	855	864	870	880	886	897	908	893	881	889	886	873	884	861			
25 d	887	873	853	876	837	824	870	823	845	859	868	877	900	949	1049	1020	1035	1043	1002	911	891	875	870	869	902			
26	870	871	875	875	876	875	875	874	872	872	870	869	870	874	877	881	890	891	888	875	871	864	864	864	874			
27 q	864	865	862	849	834	845	859	867	869	869	869	867	865	869	871	873	876	875	875	875	874	869	869	867	866			
28	864	864	866	868	869	869	870	870	869	868	869	865	866	867	868	873	876	880	878	874	870	874	876	860	870			
29	859	855	852	855	858	860	850	855	857	859	861	860	864	875	886	902	948	904	886	881	867	861	864	864	870			
Mean	844	844	848	855	856	857	857	860	863	864	866	868	871	877	886	890	896	893	891	887	884	879	869	858	869			

Corrections to be applied to all values: H, -6γ; D, -4.1'; V, -20γ.

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

11 LERWICK		TERRESTRIAL MAGNETIC ELEMENTS										FEBRUARY 1940			
		Horizontal force			Declination			Vertical force			3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +	
		Maximum 14,000γ +	Minimum 14,000γ +	Range	Maximum 12° +	Minimum 12° +	Range	Maximum 46,000γ +	Minimum 46,000γ +	Range					
		h. m. γ	γ h. m.	γ	h. m. γ	γ h. m.	γ	h. m. γ	γ h. m.	γ				°A.	
1 d		19 30 942	161 19 45	781	19 34 59.6	-14.8 17 26	74.4	19 31 1090	709 20 1	381	4,3,3,3,3,5,8,5	34	1	74.1	
2 d		22 43 414	255 0 4	159	0 4 32.3	-3.6 19 4	35.9	18 50 920	763 0 29	157	5,2,3,2,3,3,4,3	25	1	74.0	
3 d		22 10 461	354 13 37	107	14 58 27.5	-6.7 17 23	34.2	17 6 958	810 22 24	148	3,1,1,2,3,4,3,4	21	1	74.0	
4		23 55 414	380 16 17	34	17 40 26.4	6.3 20 43	20.1	16 30 914	832 24 0	82	1,0,1,1,1,4,3,3	14	1	73.8	
5		24 0 438	353 22 56	85	0 0 25.6	8.7 21 23	16.9	15 6 902	777 24 0	125	2,1,1,1,3,3,2,4	17	0	73.7	
6		0 4 439	366 23 31	73	19 5 30.1	1.1 20 48	29.0	20 5 968	774 0 9	194	3,1,2,2,2,2,4,4	20	1	73.8	
7		1 16 417	362 0 54	55	1 33 30.2	8.5 1 2	21.7	16 41 906	763 1 57	143	4,2,1,2,2,2,2,2	17	1	74.1	
8		6 30 413	358 23 14	55	13 6 25.7	5.4 20 32	20.3	20 10 929	816 1 47	113	3,2,1,2,1,1,3,3	16	1	74.5	
9		6 57 408	337 1 0	71	23 37 29.0	0.9 0 49	28.1	15 31 883	790 0 38	93	3,3,2,2,1,1,0,3	15	0	74.9	
10		17 5 414	372 0 3	42	13 1 24.7	5.3 22 43	19.4	19 37 899	816 0 2	83	3,2,1,1,1,1,3,3	15	0	75.4	
11		19 29 420	260 23 0	160	14 10 27.7	-0.2 23 37	27.9	19 25 903	748 23 16	155	1,0,1,2,2,1,3,4	14	1	75.3	
12 d		15 51 473	352 0 0	121	13 8 30.8	5.2 0 14	25.6	16 12 999	788 0 0	211	4,3,2,2,3,4,2,2	22	1	75.0	
13		1 26 426	369 13 57	57	13 47 30.7	-0.4 20 21	31.1	20 16 916	809 23 58	107	3,1,1,1,2,1,4,4	17	1	74.6	
14 q		8 19 411	371 11 12	40	11 7 26.0	13.6 23 54	12.4	17 52 875	808 0 10	67	3,1,1,2,1,0,0,2	10	0	74.4	
15		21 25 420	373 9 50	47	13 9 28.5	12.3 21 25	16.2	14 19 881	846 2 50	35	2,1,1,2,2,1,1,2	12	0	74.4	
16		20 44 430	374 11 22	56	11 14 23.8	9.0 20 3	14.8	17 4 889	854 20 45	35	2,1,1,2,1,2,3,2	14	0	74.4	
17 q		15 46 419	381 11 56	38	12 18 23.6	17.0 5 55	6.6	17 20 881	859 7 10	22	0,1,1,2,1,2,0,0	7	0	74.5	
18 q		18 47 412	391 12 56	21	12 43 22.0	17.7 5 41	4.3	20 5 869	858 10 20	11	0,0,0,1,1,0,1,0	3	0	74.4	
19 q		23 14 420	395 12 1	25	11 22 22.8	15.3 23 46	7.5	21 36 869	843 24 0	26	0,0,0,0,0,0,1,2	3	0	74.5	
20		16 50 425	255 2 24	170	16 54 32.9	-4.2 2 25	37.1	20 34 951	681 2 25	270	5,4,2,1,2,3,3,3	24	1	74.5	
21		15 12 433	320 0 43	113	13 53 30.5	-0.2 0 57	30.7	16 33 965	812 1 15	153	4,3,2,2,3,3,2,2	21	1	75.0	
22		22 59 435	360 8 1	75	13 18 28.4	-0.1 2 39	28.5	18 43 925	823 4 47	102	3,2,3,2,2,2,2,3	19	0	76.5	
23		19 14 421	325 22 38	96	19 27 24.8	5.6 22 59	19.2	22 25 888	809 23 51	79	2,2,1,1,2,1,3,3	15	1	77.3	
24		16 54 426	290 0 13	136	16 32 28.8	0.8 0 44	28.0	17 16 914	791 0 59	123	4,2,2,2,2,2,2,3	19	0	77.7	
25 d		18 1 601	317 3 30	284	14 19 45.4	-7.0 4 20	52.4	14 26 1118	798 6 53	320	3,4,4,3,5,5,5,1	30	1	77.2	
26		19 40 459	373 9 47	86	12 26 25.4	-6.7 19 39	32.1	16 52 895	849 19 43	46	1,0,1,1,2,2,4,3	14	0	76.4	
27 q		15 48 412	378 10 39	34	12 52 26.3	11.1 5 39	15.2	16 28 876	832 4 19	44	2,3,2,1,2,1,1,1	13	0	76.7	
28		20 14 417	379 11 23	38	13 7 25.5	4.6 22 19	20.9	22 28 884	862 0 4	22	1,1,1,1,1,1,1,3	10	0	77.0	
29		16 6 434	375 14 20	59	13 58 31.4	9.2 16 21	22.2	16 20 978	849 2 41	129	2,2,2,3,2,4,2,2	19	1	76.3	
Mean		- - 450	343 - -	108	- - 29.2	3.9 - -	25.3	- - 926	806 - -	120	-	-	0.52	75.1	



**TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

12 LERWICK (H)

14,000γ (0.14 C.G.S. unit) +

MARCH 1940

	Hour G.M.T.																								Mean
	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	
1	401	400	400	402	410	407	416	406	392	385	380	377	385	391	398	402	404	399	406	408	409	409	409	408	400
2	408	408	406	408	408	408	409	405	398	389	383	379	383	388	396	402	403	404	409	410	411	405	407	409	401
3	408	408	407	411	413	405	412	407	402	390	380	382	387	391	399	396	403	399	408	409	409	419	402	407	402
4	403	403	405	404	408	410	408	404	397	388	384	383	386	393	387	395	401	405	411	411	408	409	406	412	401
5	406	403	398	398	403	408	410	402	399	395	387	383	385	389	391	398	402	405	409	411	412	411	412	408	401
6 q	408	407	406	407	410	411	411	407	398	387	378	379	384	389	399	403	408	411	412	418	420	419	412	407	404
7 q	412	410	409	404	403	410	405	402	394	384	377	377	385	390	393	408	412	414	417	419	415	412	410	409	403
8	404	406	403	401	407	405	398	398	399	395	391	394	390	397	402	410	418	419	425	425	390	367	364	322	397
9	318	301	241	242	290	353	371	378	377	374	369	372	377	384	395	414	419	419	418	408	419	405	399	395	368
10	396	389	393	400	393	388	388	390	391	396	393	392	391	397	401	405	406	411	411	415	410	401	402	400	398
11 q	399	400	401	402	400	399	401	401	393	384	376	375	380	384	392	403	397	402	410	411	414	411	413	413	398
12	411	409	410	410	410	410	408	405	397	384	377	377	383	392	401	415	428	452	515	498	408	236	225	359	397
13	396	379	330	388	402	407	401	392	388	371	364	363	375	381	397	397	393	401	403	402	403	402	399	391	389
14	393	398	398	400	399	389	403	392	389	373	374	363	367	371	382	402	400	396	397	413	407	396	405	404	392
15 q	402	401	399	399	401	401	400	397	389	377	368	367	371	377	385	393	403	407	408	409	409	410	409	407	395
16	405	405	405	407	406	408	404	402	399	388	376	378	373	389	386	405	416	419	425	418	408	402	385	396	400
17	401	398	399	402	404	405	408	404	396	382	367	364	370	378	387	397	402	405	407	408	409	410	410	409	397
18 q	408	408	408	409	409	409	409	404	395	384	378	375	379	391	401	404	406	409	412	417	417	419	422	421	404
19	421	419	413	414	413	415	411	402	384	377	383	382	376	401	426	448	467	592	534	509	380	388	361	323	418
20	349	378	343	342	379	394	392	379	368	356	332	327	359	388	396	383	405	397	417	407	358	387	392	413	377
21	377	381	394	400	386	391	395	390	381	371	366	369	372	383	396	385	392	404	405	407	399	401	405	410	390
22	403	402	395	401	399	403	402	396	382	375	367	355	360	366	381	388	406	408	418	420	395	370	382	400	391
23	401	397	397	395	396	398	398	408	377	356	361	327	337	352	378	387	440	430	424	422	428	271	10	-248	343
24 d	20	177	195	254	243	312	364	368	373	365	349	355	379	416	527	903	272	348	-85	379	158	-207	-207	-77	258
25 d	-115	-663	-374	-419	37	-93	128	97	280	356	310	370	494	429	416	399	371	408	398	382	377	138	211	-113	159
26	-18	-78	53	190	278	283	316	354	348	340	336	333	334	338	350	372	386	398	417	441	396	377	368	358	303
27	181	207	283	261	263	352	371	366	356	340	333	332	335	345	365	373	388	406	386	385	386	423	381	341	340
28	301	209	233	345	344	359	379	376	368	352	346	334	343	366	390	395	410	406	407	404	401	386	388	379	359
29 d	379	374	373	375	384	389	389	383	374	335	316	344	397	458	474	636	784	537	540	417	385	308	145	-260	385
30 d	15	-415	-498	-647	-416	8	277	334	188	145	222	389	449	597	535	799	842	657	621	349	361	160	261	156	225
31 d	-55	-218	181	335	342	347	350	354	336	297	280	509	516	793	589	456	803	525	458	385	319	329	344	-20	356
Mean	317	281	303	314	343	361	382	381	374	364	358	371	384	407	410	438	442	429	414	413	391	351	340	298	369

Corrections to be applied to all values: H, -6γ; D, -4.1'; V, -18γ.

**MAGNETIC DECLINATION (WEST)**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

13 LERWICK (D)

12° +

MARCH 1940

	Hour G.M.T.																								Mean
	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	
1	19.5	18.8	19.1	19.1	18.3	19.7	22.0	19.3	18.2	18.9	21.0	22.1	24.8	23.8	22.1	20.4	19.4	17.8	18.6	19.5	19.3	19.2	18.7	18.8	19.9
2	18.8	18.9	19.7	19.5	18.3	17.6	17.7	17.2	16.3	16.8	19.0	21.4	24.0	23.5	23.2	22.3	20.7	19.9	20.4	20.0	19.5	16.2	18.0	19.6	19.5
3	19.4	19.2	21.0	17.8	16.0	18.7	18.3	16.9	17.0	18.8	20.7	22.5	23.2	23.4	22.6	21.6	19.2	18.6	19.7	19.4	18.2	10.9	16.8	17.9	19.1
4	18.7	19.0	19.0	19.2	17.9	17.5	17.3	17.0	17.2	17.7	19.6	22.6	24.8	25.7	24.1	22.5	21.1	20.6	20.1	19.6	18.7	19.0	17.0	12.8	19.5
5	13.2	16.1	16.4	18.4	18.1	16.5	16.6	16.3	16.5	18.9	20.9	23.1	24.5	24.7	23.1	21.2	20.1	19.9	19.6	19.6	19.4	19.4	18.4	18.8	19.2
6 q	19.3	18.9	18.6	18.3	18.0	17.5	17.3	16.6	16.4	17.4	19.4	21.4	23.4	23.8	23.6	22.0	20.9	20.4	20.6	20.6	20.2	20.0	19.5	18.1	19.7
7 q	17.3	17.6	17.2	16.9	16.0	16.7	15.9	15.4	14.8	14.8	17.4	20.4	24.5	26.4	25.0	23.3	21.5	20.5	20.3	19.8	20.5	20.2	19.5	17.6	19.1
8	16.9	14.4	12.0	11.9	14.6	14.8	15.1	16.5	14.4	16.1	18.9	21.2	23.0	23.3	23.7	23.1	20.7	20.2	21.0	24.7	18.4	9.2	7.7	-1.0	16.7
9	2.7	-11.9	-9.6	-7.3	16.2	14.0	18.2	18.9	19.1	18.4	20.0	22.8	25.2	26.5	26.6	26.4	21.3	21.6	20.5	22.3	22.5	18.4	18.1	16.6	16.1
10	17.3	15.7	14.2	12.3	12.8	13.4	14.1	14.4	15.4	18.2	20.5	23.0	23.4	23.4	21.7	20.2	18.7	19.3	19.4	19.6	21.4	20.1	19.0	18.7	18.2
11 q	18.4	17.6	17.7	16.5	16.4	16.2	16.3	16.3	16.2	16.7	18.9	22.3	24.8	24.9	24.9	24.5	21.8	21.4	20.7	20.4	20.3	19.0	18.4	18.4	19.5
12	18.7	18.4	18.4	18.8	18.1	17.4	16.7	15.5	15.1	15.2	18.3	22.0	24.9	26.8	27.0	26.8	19.3	28.4	26.7	29.8	21.7	5.1	4.5	17.9	19.6
13	15.5	17.3	16.5	16.1	14.8	15.9	17.4	16.8	18.1	20.0	23.3	24.2	25.4	25.2	25.5	23.2	19.8	19.2	19.1	19.3	18.8	18.9	11.2	10.8	18.8
14	15.8	17.2	17.6	16.5	14.1	15.8	18.4	20.4	20.8	19.9	21.8	22.8	24.6	26.3	25.8	25.5	22.4	20.6	16.3	16.2	15.8	16.1	17.9	18.3	19.5
15 q	18.1	18.2	17.1	16.7	16.3	16.3	15.9	15.3	14.7	15.4	17.4	20.4	24.4	25.1	24.8	23.0	21.0	20.4	20.4	19.9	19.5	19.3	19.2	18.1	19.0
16	17.5	17.3	17.3	16.2	15.3	14.4	14.1	15.4	15.7	17.1	19.3	24.0	24.8	27.2	24.9	24.0	23.0	22.9	23.2	22.4	25.1	18.2	14.4	15.1	19.5
17	16.3	18.0	17.7	17.4	17.4	16.6	16.3	15.6	15.8	17.4	19.5	21.5	24.6	25.9	25.0	23.4	20.9	19.6	19.5	19.6	19.3	19.0	18.6	18.6	19.3
18 q	18.4	18.4	18.4	18.4	17.6	17.0	16.6	15.1	14.3	14.9	18.1	22.0	25.0	25.7	24.4	22.3	20.4	19.9	20.3	20.1	19.8	19.8	19.6	19.2	19.4
19	18.0	16.9	18.4	15.8	14.8	11.4	11.7	12.7	14.3	20.1	22.9	24.1	25.1	30.0	32.7	34.4	37.2	33.2	22.6	18.7	10.5	9.2	2.8	2.2	19.2
20	1.8	10.2	10.1	3.9	9.0	11.0	11.8	10.7	14.3	17.1	21.0	25.8	26.6	29.6	28.8	23.0	22.4	18.2	5.5	13.5	7.3	13.1	15.5	20.9	15.5
21	14.8	9.0	16.5	14.7	15.7	18.4	13.3	13.3	13.7	14.5	15.8	20.7	23.8	27.5	28.3	24.8	21.4	19.8	18.6	16.4	12.7	17.5	19.1	19.0	17.9
22	20.5	17.5	15.1	12.5	14.7	14.1	14.7	12.8	12.9	14.6	17.0	20.9	24.1	24.2	24.1	21.7	20.4	19.4	19.7	20.0	8.4	18.3	12.8	16.9	17.4
23	18.9	18.3	17.6	17.1	15.8	12.5	12.6	12.8	14.0	17.3	21.3	27.1	26.8	28.6	27.1	25.5	23.5	20.9	18.1	19.0	19.6	-10.9	0.4	17.4	17.6
24 d	5.1	5.7	7.7	3.0	6.7	9.9	12.6	12.6	11.3	11.4	14.4	16.7	21.5	20.7	1.5	34.4	72.2	82.4	78.3	25.7	25.1	11.2	25.7	12.7	18.8
25 d	3.8	59.9	-18.6	-41.0	-33.1	-28.8	-10.4	2.8	6.5	11.0	5.9	24.1	24.2	27.1	23.7	17.7	15.1	14.1	17.5	17.9	-5.2	11.2	30.8	29.3	8.6
26	-1.3	2.0	14.3	3.5	3.6	9.4	18.4	13.8	10.8	10.2	11.1	14.2	17.5	19.3	19.9	20.6	20.7	21.0	17.9	-9.9	7.4	14.2	16.4	17.4	12.2
27	26.3	18.2	10.7	4.8	9.7	21.7	15.2	12.1	13.1	14.4	16.6	20.8	23.8	26.0	26.5	25.0	20.5	17.1	19.5	19.7	17.6	-2.2	7.0	6.9	16.3
28	9.6	6.4	5.3	15.9	16.6	17.9	18.6	16.6	11.7	13.5	15.8	19.3	23.4	26.1	24.2	23.1	22.8	18.9	16.4	14.8	17.7	16.6	13.8	11.4	16.5
29 d	16.9	14.2	14.3	15.2	14.4	15.9	14.1	12.8	11.2	11.3	16.4	21.2	25.2	27.3	29.1	27.3	25.4	83.3	73.0	36.4	33.9	13.8	5.4	<-45.6	21.3
30 d	-39.5	-25.2	-25.2	-41.6	-27.3	34.9	6.6	2.2	1.5	10.7	18.9	13.5	7.9	6.0	19.0	25.2	32.4	27.3	17.2	32.4	13.3	9.2	15.4	-9.4	5.2
31 d	-22.2	5.1	15.9	6.3	10.6	11.1	10.6	12.1	8.2	5.8	-65.0	-53.1	6.1	24.1	26.2	27.2	33.4	27.3	25.0	19.0	20.2	18.4	17.2	16.8	8.6
Mean	12.1	14.4	12.6	10.1	11.9	14.7	14.6	14.4	14.2	15.6	15.7	19.2	23.1	24.8	24.2	24.1	23.9	25.0	23.1	19.9	17.6	14.4	13.8	12.4	17.3



**TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

23

14 LERWICK (V)

46,000γ (0.46 C.G.S. unit) +

MARCH 1940

	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	Mean
	0-1	1-2																							
1	865	866	866	865	863	864	850	860	866	865	863	868	870	873	872	871	871	875	872	870	870	869	869	869	867
2	866	865	866	861	865	865	866	871	876	875	870	866	865	865	866	869	874	875	870	870	870	875	871	867	869
3	866	864	857	854	855	857	853	860	863	866	867	867	868	869	874	877	880	877	870	869	869	863	864	861	865
4	865	865	865	865	863	861	861	862	864	864	861	859	862	868	871	867	866	864	862	864	866	865	867	836	863
5	844	843	846	854	854	855	859	861	859	857	860	863	862	863	866	866	865	861	860	859	859	860	860	861	858
6 q	861	863	864	864	861	860	860	860	861	860	859	856	855	859	860	862	861	856	856	855	855	859	863	867	860
7 q	865	865	865	865	864	856	859	859	860	859	857	854	854	856	859	861	863	860	859	859	859	860	861	862	860
8	864	850	849	850	849	850	853	850	850	851	849	851	855	855	861	869	875	875	870	872	888	857	846	777	855
9	758	698	700	746	676	676	743	797	825	840	854	864	866	878	888	901	911	927	906	905	890	901	899	891	831
10	882	881	878	871	871	868	865	864	858	854	858	860	860	865	875	877	877	872	871	869	869	874	873	871	869
11 q	870	870	869	870	871	870	867	866	867	865	866	865	864	868	871	876	879	876	875	875	871	868	865	863	869
12	863	865	865	865	866	866	867	868	868	865	860	856	851	854	863	873	914	949	1013	1047	986	856	673	759	875
13	850	861	800	838	867	866	867	871	871	874	871	873	874	871	875	889	897	886	880	876	875	870	869	845	867
14	849	859	866	868	866	865	849	853	852	860	860	861	865	866	870	879	894	901	899	880	875	879	869	866	869
15 q	866	866	868	870	870	870	870	870	870	870	870	866	866	867	868	866	865	866	866	867	867	866	866	866	868
16	867	866	867	865	866	865	867	867	867	868	867	864	865	865	869	867	874	881	889	907	925	912	893	875	876
17	866	870	871	871	871	871	870	871	870	872	872	870	866	867	870	871	871	871	869	869	869	869	869	868	870
18 q	868	866	866	866	866	867	868	872	872	871	866	862	864	865	866	865	865	862	862	864	865	865	865	865	866
19	864	862	846	835	836	840	849	856	862	860	852	853	854	858	877	901	967	1050	1003	996	923	901	867	804	884
20	776	825	805	735	777	842	868	874	876	881	887	899	900	895	915	907	888	904	905	880	863	872	868	814	861
21	774	802	846	857	850	821	848	859	865	870	874	873	870	870	881	890	878	874	872	879	883	876	868	857	860
22	816	803	795	824	848	855	860	865	867	869	869	864	857	860	863	866	866	867	865	869	895	853	844	860	854
23	869	871	874	871	861	860	848	837	839	850	861	890	888	885	898	906	919	970	946	909	884	784	705	485	855
24 d	464	540	672	755	766	801	829	863	877	882	892	890	889	894	978	974	697	350	560	679	677	1073	961	1032	791
25 d	1142	836	836	1073	1003	793	866	956	919	977	1024	962	930	956	953	959	966	958	980	963	856	758	1019	961	944
26	924	719	623	713	824	852	866	890	908	919	921	918	917	918	917	913	916	920	941	930	906	903	896	893	877
27	761	669	681	743	778	812	869	897	897	899	897	892	889	892	896	905	935	936	917	906	903	866	829	811	853
28	779	749	764	824	824	860	868	879	887	890	888	892	890	896	919	923	926	940	932	919	862	878	866	839	871
29 d	829	846	860	867	871	882	888	893	891	894	893	884	903	954	984	1054	645	771	745	787	932	924	1003	898	879
30 d	577	1161	940	950	645	277	601	799	902	956	917	958	1009	1049	1020	927	898	1004	887	869	932	731	745	673	851
31 d	487	700	708	809	831	864	900	902	918	949	1028	1033	1027	937	1042	1018	948	962	991	961	800	827	869	824	889
Mean	822	831	825	847	841	829	850	866	872	878	882	882	882	885	896	898	879	882	884	885	876	868	864	843	865

Corrections to be applied to all values: H, -6γ; D, -4.1'; V, -18γ.

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

15 LERWICK

MARCH 1940

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 + °A.			
	Horizontal force				Declination				Vertical force										
	Maximum 14,000γ +	Minimum 14,000γ +	Range		Maximum 12° +	Minimum 12° +	Range		Maximum 46,000γ +	Minimum 46,000γ +	Range								
	h. m.	γ	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ								
1	6 24	424	371	11 9	53	12 18	26.5	16.7	17 48	9.8	18 2	875	845	6 27	30	0,2,2,2,2,1,1,0	10	0	76.0
2	20 11	416	377	11 19	39	12 27	24.7	14.5	21 20	10.2	16 51	879	859	3 26	20	1,1,1,1,1,1,1,2	9	0	76.6
3	21 29	440	375	10 17	65	13 8	24.0	5.0	21 26	19.0	16 18	882	853	2 46	29	1,2,2,1,1,2,2,3	14	0	77.2
4	23 12	429	382	11 5	47	13 50	26.6	10.3	23 32	16.3	14 16	875	828	23 24	47	0,0,0,1,2,0,1,3	7	0	78.0
5	22 25	417	378	11 14	39	13 53	25.2	12.3	0 1	12.9	15 45	868	838	1 54	30	2,1,1,1,1,0,0,0	6	0	77.4
6 q	20 23	424	374	10 40	50	12 52	24.5	16.0	8 17	8.5	23 42	869	854	19 50	15	0,0,0,1,0,1,1,1	4	0	76.4
7 q	19 39	423	370	11 3	53	13 57	27.3	14.3	9 15	13.0	0 12	869	850	12 6	19	1,1,0,0,1,1,1,1	6	0	76.0
8	19 42	430	298	23 16	132	20 11	29.6	-12.0	23 48	41.6	20 30	901	749	23 8	152	2,2,2,1,1,1,4,4	17	1	75.8
9	16 50	428	123	3 17	305	13 6	28.3	-24.8	1 55	53.1	17 8	929	607	5 4	322	5,6,3,1,2,2,2,3	24	1	76.1
10	20 14	419	384	1 33	35	11 59	24.4	11.7	3 19	12.7	0 2	887	854	9 40	33	2,1,2,1,1,1,2,2	12	0	76.0
11 q	20 24	417	373	11 34	44	14 56	26.0	15.4	5 40	10.6	16 48	880	862	23 28	18	1,0,1,0,1,1,1,0	5	0	76.0
12	18 39	579	34	22 6	545	19 7	42.1	-21.7	22 39	63.8	19 20	1069	593	22 24	476	0,0,0,1,1,4,6,6	18	1	76.5
13	22 44	417	304	2 30	113	12 34	26.6	7.2	22 32	19.4	16 19	902	783	2 22	119	4,3,1,2,2,2,1,3	18	1	76.2
14	19 57	425	361	11 53	64	13 46	26.9	9.2	19 49	17.7	18 18	906	844	0 0	62	2,1,2,2,1,2,3,2	15	0	75.8
15 q	21 55	410	364	11 19	46	13 3	25.7	14.5	8 40	11.2	8 30	870	865	12 24	5	0,0,0,1,0,0,0,0	1	0	75.3
16	18 37	430	366	12 27	64	20 5	29.2	12.2	22 5	17.0	20 34	932	863	12 0	69	0,0,1,1,1,1,3,3	10	0	75.1
17	22 53	411	360	11 2	51	13 21	26.3	14.8	8 36	11.5	9 29	874	864	0 17	10	1,0,0,1,0,0,0,0	2	0	75.2
18 q	22 10	422	373	11 14	49	13 32	26.3	14.1	8 12	12.2	7 56	874	861	17 59	13	0,0,0,0,1,0,0,0	1	0	75.7
19	19 33	698	301	23 47	397	16 46	39.7	-1.3	22 12	41.0	19 32	1078	757	23 57	321	2,2,2,2,3,5,6,5	29	1	76.1
20	18 26	431	282	2 49	149	14 10	33.6	-5.0	18 39	38.6	14 48	930	719	3 54	211	4,4,3,3,4,2,4,4	28	1	76.3
21	24 0	419	359	0 41	60	14 15	29.5	6.3	1 16	23.2	15 30	893	752	0 13	141	4,3,2,1,2,2,3,3	20	1	76.5
22	19 15	426	330	21 15	96	21 12	33.1	0.7	20 24	32.4	20 53	901	789	2 15	112	3,3,1,2,1,2,4,3	19	1	76.9
23	16 32	476	-666	23 12	1142	23 51	88.0	-69.9	23 35	157.9	23 7	998	156	23 49	842	0,2,4,4,4,4,5,9	32	2	76.7
24 d	15 50	>1481	<-845	21 17	>2326	18 23	202.5	-65.8	22 38	268.3	21 13	1455	-33	17 8	1488	7.5,4,3,7,9,9,9	53	2	76.7
25 d	9 37	619	<-845	1 0	>1464	1 15	203.6	-108.5	1 52	312.1	0 43	1584	302	1 36	1282	9,9,8,8,5,3,5,9	56	2	76.8
26	19 36	471	-396	1 8	867	1 21	62.3	-59.8	1 8	122.1	0 12	1046	508	2 5	538	7,6,4,2,2,3,6,3	33	2	76.9
27	21 33	450	-10	0 53	460	0 52	35.2	-14.0	21 27	49.2	16 42	954	620	1 4	334	6,5,3,4,3,3,3,4	31	1	76.9
28	20 3	448	-19	2 9	467	13 9	27.6	4.5	2 11	32.1	17 40	949	724	2 24	225	6,3,3,2,3,2,3,3	25	1	76.2
29 d	16 19	1237	-704	23 19	1941	17 14	124.5	<-120.1	23 40	>244.6	23 22	1171	314	16 25	857	3,2,2,4,5,8,7,9	40	2	76.0
30 d	15 56	1241	<-874	3 22	>2115	19 4	80.0	<-120.5	4 20	>200.5	1 12	1397	122	5 2	1275	9,9,7,7,6,8,7,6	59	2	76.0
31 d	16 35	1172	-802	23 55	1974	23 46	58.2	-94.4	10 40	152.6	10 18	1184	290	0 31	894	8,4,3,7,8,8,6,9	53	2	76.8
Mean	-	559	67	-	492	-	48.6	-17.0	-	65.6	-	990	667	-	322	-	-	0.77	76.3



**TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

16 LERWICK (H)		14,000γ (0.14 C.G.S. unit) +																				APRIL 1940				
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
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1 d	-33	256	3	23	280	335	307	344	311	278	284	325	365	381	392	390	381	372	419	410	380	383	393	367	306	306
2 d	356	350	345	351	352	355	355	355	349	352	354	359	372	375	379	397	413	426	452	301	126	126	23	80	321	321
3 d	295	-131	-56	-178	-22	46	85	172	289	355	380	376	362	366	411	428	476	493	486	555	720	457	402	387	298	298
4	376	370	370	363	373	370	370	367	352	343	345	344	355	369	393	402	399	400	401	398	394	409	389	395	377	377
5	394	387	386	382	378	382	386	385	375	361	356	355	355	358	370	378	385	389	401	401	419	409	397	386	382	382
6	386	387	388	389	375	359	383	385	372	356	346	351	355	362	372	380	388	394	401	406	402	402	398	396	381	381
7 q	395	395	394	397	398	400	400	395	382	368	355	348	353	361	376	388	395	401	409	410	402	400	398	397	388	388
8 q	397	396	395	397	398	398	398	392	382	367	354	351	356	367	381	403	413	399	409	403	404	404	403	402	390	390
9 q	402	402	397	398	398	401	402	398	386	369	354	351	360	377	383	388	389	396	406	404	404	402	402	403	391	391
10 q	401	401	401	401	402	403	402	395	381	365	350	345	355	367	381	393	401	408	415	413	412	410	410	409	393	393
11	408	407	407	406	410	411	411	405	390	377	365	366	371	386	389	406	410	406	411	411	408	407	405	403	399	399
12 q	402	402	402	402	402	403	402	399	387	369	349	346	356	364	378	396	409	412	413	412	414	416	411	411	394	394
13	404	412	406	408	410	408	411	407	390	376	370	356	367	386	378	366	406	407	411	413	411	404	401	401	396	396
14	401	401	401	390	404	399	382	372	375	352	349	355	358	370	381	396	421	407	407	414	412	407	406	407	390	390
15	401	385	384	386	391	396	392	390	376	359	350	353	379	368	430	462	417	426	426	421	420	398	399	369	395	395
16	355	351	355	355	322	370	382	369	361	355	351	355	369	374	396	404	431	435	423	412	406	403	402	398	381	381
17	395	389	379	363	380	388	371	373	376	370	357	359	366	373	393	403	406	416	424	424	406	402	399	395	388	388
18	402	397	394	396	398	398	393	388	379	368	360	356	361	374	384	395	401	412	413	412	409	410	409	412	393	393
19	410	408	393	390	398	404	397	390	384	374	371	372	383	388	399	423	407	413	416	410	405	404	403	402	398	398
20	403	402	400	405	394	403	407	398	393	385	380	379	387	410	416	410	431	440	432	430	413	404	404	406	405	405
21	423	420	419	419	419	415	415	407	401	388	373	367	368	377	382	394	407	411	418	428	403	398	397	387	401	401
22	397	398	398	399	391	368	337	322	331	350	347	343	346	379	403	399	435	449	416	414	408	402	399	402	385	385
23	396	391	396	397	300	397	391	376	364	348	340	341	369	355	373	394	401	406	409	418	414	403	378	351	379	379
24	364	390	394	396	398	395	391	382	389	355	348	349	366	383	395	392	410	402	413	413	412	413	411	409	390	390
25 d	408	409	422	-97	-12	374	389	384	375	353	341	335	343	366	382	411	428	459	574	464	95	-7	-42	-205	290	290
26 d	-132	31	-140	211	324	361	304	329	349	367	366	380	390	421	423	433	433	462	466	446	390	380	358	326	320	320
27	346	341	367	368	375	382	378	378	367	354	350	343	359	389	402	393	423	428	437	425	401	397	380	389	382	382
28	386	364	388	390	389	386	385	385	378	368	360	363	376	385	411	428	414	417	420	413	406	405	410	388	392	392
29	322	387	396	388	367	380	393	390	379	369	368	370	376	373	395	409	398	419	419	415	412	411	407	409	390	390
30	408	405	403	402	405	407	405	398	385	368	357	351	363	388	423	435	437	437	435	421	417	411	405	386	402	402
Mean	356	357	346	337	353	376	374	374	370	361	354	355	365	376	392	403	412	418	426	417	397	382	372	362	377	377

Corrections to be applied to all values: H, -6γ; D, -4.1'; V, -18γ.

**MAGNETIC DECLINATION (WEST)**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

17 LERWICK (D)		12° +												APRIL 1940												
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
1 d		26.6	9.8	10.6	6.5	1.4	13.4	12.3	12.5	16.7	10.7	14.2	20.6	25.5	22.7	22.6	21.5	19.8	17.9	14.2	9.2	17.1	18.1	17.5	16.6	15.7
2 d		16.4	15.0	15.5	14.7	15.5	13.6	12.7	11.7	11.2	14.1	16.6	20.4	22.4	21.9	20.4	18.5	19.3	19.3	19.6	15.8	-2.0	-1.2	-16.9	-13.9	12.5
3 d		17.0	-19.2	-32.1	-31.1	-11.0	25.0	30.7	27.6	16.3	13.0	16.9	20.1	22.2	23.6	25.9	28.5	26.0	22.2	29.1	27.9	26.8	24.9	19.9	17.7	15.3
4		17.4	15.1	13.6	15.5	13.1	13.4	12.8	11.9	13.6	18.6	16.8	19.3	21.6	21.5	21.3	20.7	18.8	17.3	8.1	15.4	16.7	14.1	15.7	17.7	16.3
5		18.9	16.8	13.2	13.6	14.8	16.3	14.6	12.9	12.4	13.8	15.5	19.5	22.1	22.8	22.3	20.9	19.6	17.1	13.7	16.4	11.6	14.6	13.2	16.7	16.4
6		24.5	18.8	15.5	14.1	14.2	16.7	17.7	15.8	14.7	14.6	17.1	20.3	23.1	24.1	23.4	20.8	18.8	17.8	17.7	17.3	16.8	16.4	13.1	14.7	17.8
7 q		16.3	16.3	16.2	15.8	15.7	15.5	14.2	12.3	11.1	11.7	14.6	18.1	21.5	24.4	24.3	22.5	20.3	18.7	17.8	17.7	18.7	18.6	17.6	17.6	17.4
8 q		17.2	16.7	16.4	16.3	16.1	14.6	12.3	10.6	9.9	12.5	15.2	17.9	22.3	24.5	23.3	21.5	19.6	16.2	16.5	17.9	18.0	18.0	17.4	17.5	17.0
9 q		18.6	17.3	18.2	16.0	15.4	14.2	12.7	11.9	12.0	13.0	15.2	19.3	23.4	26.1	24.8	22.8	19.8	17.9	17.3	17.2	17.3	17.7	17.8	17.8	17.7
10 q		18.6	17.4	16.4	16.0	15.5	14.4	13.5	12.5	11.6	12.3	14.1	17.8	22.5	24.5	23.0	21.0	19.2	18.3	18.5	18.5	18.6	18.0	17.8	17.3	17.4
11		16.9	16.4	15.8	15.3	15.0	14.1	13.3	12.1	11.3	12.0	15.1	19.8	24.4	27.1	24.2	22.3	21.0	18.2	17.3	17.3	17.6	17.9	17.6	17.2	17.5
12 q		17.1	16.6	16.2	15.7	14.7	13.4	11.9	10.6	11.3	13.2	15.6	20.3	25.1	25.7	23.8	22.2	20.8	19.6	19.5	19.2	18.5	18.6	18.3	17.8	17.7
13		18.0	13.6	13.2	13.7	12.0	13.1	14.4	12.6	12.5	14.3	16.5	20.7	25.6	28.8	30.8	26.0	23.5	19.6	19.2	19.0	18.2	18.7	16.9	16.8	18.2
14		16.9	17.8	17.6	16.8	15.6	17.0	12.7	14.4	15.3	16.4	20.1	23.6	24.2	25.6	25.0	23.7	23.5	20.3	19.3	19.2	17.6	18.5	17.5	14.6	18.9
15		9.5	11.1	13.1	13.5	12.9	10.1	8.1	8.9	10.9	12.8	17.4	18.8	26.1	26.0	28.2	20.9	21.2	21.6	19.9	11.2	12.9	15.3	17.1	21.1	16.2
16		8.1	3.9	6.0	9.0	12.9	16.7	11.9	12.6	14.4	16.7	20.8	22.4	25.4	24.5	24.3	22.1	21.9	20.9	17.9	18.1	15.3	12.7	18.1	16.8	16.4
17		17.2	16.1	16.2	19.4	14.4	12.0	13.7	14.7	14.5	16.1	18.2	20.9	24.4	25.4	24.9	23.3	21.0	19.4	17.8	18.2	18.6	17.7	17.6	16.9	18.3
18		17.2	14.4	13.8	12.7	12.1	11.8	11.8	12.6	13.3	16.7	18.9	22.4	25.5	25.7	23.8	21.2	19.6	19.2	18.3	17.8	17.8	18.6	18.0	17.5	17.5
19		16.8	12.9	12.1	7.3	5.9	6.0	9.5	11.1	11.6	13.6	16.5	20.4	24.0	25.4	25.1	24.7	21.0	20.0	17.8	15.9	16.1	17.3	17.4	17.3	16.1
20		17.4	17.3	17.4	17.4	15.5	13.2	11.1	10.2	9.2	11.8	14.2	17.7	21.6	25.0	26.5	25.9	26.1	25.3	22.3	21.5	21.2	18.2	15.8	16.3	18.3
21		16.3	14.7	14.2	14.4	15.0	15.2	15.1	13.0	14.4	14.7	17.8	20.4	22.9	24.1	23.7	22.4	20.0	18.1	17.8	17.6	15.9	13.4	11.3	4.7	16.5
22		9.5	15.8	11.2	11.7	18.6	17.2	15.2	17.7	18.8	17.3	18.6	22.2	27.0	30.2	28.2	24.6	21.0	19.7	18.6	17.3	16.9	16.7	16.9	15.5	18.6
23		16.1	16.7	17.5	14.4	13.4	13.0	12.0	11.6	11.6	12.9	15.7	19.4	25.0	25.7	24.6	22.6	20.6	19.3	17.9	17.5	16.6	7.9	11.2	4.9	16.2
24		4.9	12.7	15.4	15.2	15.2	13.7	12.5	12.1	12.7	14.5	16.4	19.3	23.6	25.8	25.7	24.0	22.5	19.6	18.1	17.4	17.4	17.4	16.5	17.3	17.1
25 d		17.5	17.3	18.5	12.2	5.5	4.4	7.6	9.5	11.2	14.0	17.3	19.3	22.2	24.2	23.6	23.4	22.3	19.3	26.2	22.5	5.6	-27.5	7.5	-37.8	11.9
26 d		-15.6	-7.4	-14.1	0.8	9.5	9.5	10.1	12.7	11.1	12.1	16.0	18.1	19.9	22.2	25.6	26.3	24.9	22.9	22.6	22.9	14.0	14.5	14.1	12.0	12.7
27		3.4	9.6	11.9	12.7	9.1	9.1	9.5	11.0	13.4	15.4	18.1	20.8	22.3	24.7	24.0	23.9	23.6	20.4	19.2	17.4	15.6	16.5	17.4	14.7	16.0
28		14.4	17.5	14.3	12.2	12.7	11.1	10.8	10.9	11.1	13.0	16.4	17.5	20.7	23.2	25.0	23.8	23.6	21.6	18.8	18.6	18.2	17.2	15.4	16.8	16.9
29		18.2	13.3	10.2	9.8	15.3	18.7	16.8	13.6	14.3	15.4	17.2	20.6	23.4	23.9	24.5	23.7	20.7	19.7	18.8	17.7	18.1	17.0	17.2	17.5	17.7
30		17.4	16.6	16.0	14.6	12.1	10.2	9.1	9.6	11.0	13.2	17.4	20.6	23.1	22.8	23.5	20.4	19.6	20.5	21.6	20.6	21.1	19.5	16.2	11.2	17.0
Mean		15.0	13.0	12.0	11.9	12.3	13.6	13.0	12.7	12.8	14.0	16.7	19.9	23.4	24.7	24.5	22.9	21.3	19.6	18.7	18.0	16.4	14.8	15.0	13.0	16.6



APRIL 1940

Corrections to be applied to all values: H,  $-6\gamma$ ; D,  $-4.1'$ ; V,  $-18\gamma$ .

APRIL 1940

q denotes an international quiet day and d an international disturbed day.



**TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

20 LERWICK (H)

14,000γ (0.14 C.G.S. unit) +

MAY 1940

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
1	γ	390	392	390	400	394	392	390	382	371	367	367	373	380	391	373	389	406	433	431	433	408	406	404	390	394
2	γ	394	395	391	403	397	389	401	396	381	368	364	365	367	381	384	406	413	417	412	409	408	409	404	405	394
3 q	γ	404	403	395	394	402	402	403	393	383	377	373	369	381	398	400	399	402	407	410	413	411	407	410	407	398
4 q	γ	406	402	397	396	400	398	387	376	367	361	360	361	373	383	391	404	415	420	417	414	412	414	416	413	395
5	γ	407	398	399	403	403	408	403	391	373	360	360	370	378	385	395	401	404	411	423	427	419	411	410	407	398
6 q	γ	406	405	407	409	409	409	404	397	387	378	375	376	386	398	401	413	418	422	423	421	420	420	419	419	405
7	γ	423	420	416	418	420	412	392	376	367	373	372	370	374	380	389	401	407	426	430	412	416	409	405	405	401
8	γ	407	406	407	402	411	405	397	387	374	364	361	368	381	393	404	399	403	419	425	427	425	419	418	416	401
9	γ	415	416	414	398	380	409	397	386	369	356	357	368	389	410	392	388	406	412	413	425	421	426	427	422	400
10	γ	418	420	417	416	413	397	391	395	388	370	374	376	393	387	400	416	446	455	462	452	439	418	381	389	409
11	γ	369	385	373	366	392	398	391	379	369	364	359	351	364	386	415	431	425	441	428	444	427	406	405	397	394
12	γ	381	401	398	386	368	369	349	360	367	363	356	366	366	382	379	437	452	442	455	452	416	407	393	390	393
13	γ	370	395	397	400	388	383	384	381	370	367	364	374	375	392	395	395	418	442	449	447	415	409	401	397	396
14	γ	383	385	394	395	394	380	366	368	354	354	365	377	381	384	399	441	450	438	438	438	430	407	396	398	396
15	γ	397	393	391	352	357	384	385	369	364	370	364	365	377	385	423	433	434	433	467	447	433	412	394	366	396
16	γ	353	342	390	405	400	396	389	382	377	370	363	368	374	379	381	391	408	427	438	435	423	416	416	414	393
17	γ	406	409	412	404	391	388	392	393	387	388	389	373	363	377	390	401	426	445	463	461	436	420	402	403	405
18 d	γ	348	315	361	361	371	347	365	347	305	337	398	408	427	362	388	390	405	415	430	398	397	391	389	393	377
19	γ	395	372	380	374	385	388	383	363	358	363	370	366	360	379	381	393	403	425	411	411	425	413	404	408	388
20	γ	408	406	400	397	391	387	392	393	384	373	369	369	382	397	442	420	473	445	421	406	406	405	406	407	403
21	γ	406	408	410	378	385	401	397	386	375	362	354	366	378	393	403	413	419	426	430	435	423	412	403	403	399
22 d	γ	405	385	339	333	280	262	256	351	385	344	349	408	394	389	417	426	418	422	423	425	429	408	407	406	378
23 d	γ	404	404	401	402	404	409	406	394	375	373	369	361	371	391	406	406	421	433	486	480	444	427	431	422	409
24 d	γ	431	427	424	382	210	330	359	386	326	231	228	345	400	453	513	539	489	472	530	450	389	359	362	364	392
25	γ	327	381	343	357	396	394	387	377	365	357	357	366	373	388	403	414	438	473	447	440	445	412	406	400	394
26 d	γ	396	396	378	372	383	344	378	366	370	354	347	359	372	376	388	408	479	514	517	490	446	365	244	168	384
27	γ	156	306	360	397	379	367	372	374	355	342	349	357	367	385	396	402	415	442	447	420	424	426	412	372	376
28	γ	386	394	386	354	376	396	377	361	365	364	359	357	360	380	417	425	440	445	459	439	428	406	403	394	395
29	γ	391	396	393	402	396	384	382	373	363	359	363	369	382	392	410	414	429	446	439	436	427	409	406	401	398
30 q	γ	400	400	400	399	397	394	388	380	377	371	372	383	393	399	401	402	414	433	424	433	432	424	414	406	401
31 q	γ	401	398	399	401	401	397	396	393	390	379	375	376	388	394	402	415	425	426	427	426	421	414	411	411	403
Mean		387	392	392	389	383	384	383	379	369	360	361	370	379	389	403	413	426	436	441	434	422	409	400	393	396

Corrections to be applied to all values: H, -6γ; D, -4.1'; V, -12γ.

**MAGNETIC DECLINATION (WEST)**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

21 LERWICK (D)

12° +

MAY 1940

	Hour	G. M. T.																						Mean		
	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	
1		9.7	11.2	13.3	12.8	10.8	9.6	7.0	8.4	10.1	13.6	18.3	21.7	25.4	26.1	24.5	21.3	18.7	19.2	18.6	13.1	15.3	18.0	17.4	14.7	15.8
2		13.4	11.9	11.6	10.5	7.7	10.0	10.0	10.6	12.4	14.6	18.0	21.5	24.7	26.4	25.0	23.3	20.5	16.8	15.5	16.7	17.3	17.2	16.8	16.8	16.2
3	q	16.9	17.1	15.4	16.9	13.9	12.9	11.0	10.2	13.3	16.8	17.6	20.1	23.7	24.8	24.5	22.0	19.7	18.3	17.5	17.4	17.5	17.4	17.1	15.4	17.4
4		15.4	16.6	13.8	14.7	12.4	10.1	9.4	11.0	12.3	15.2	18.1	21.0	23.4	22.2	20.5	20.2	19.0	17.2	15.9	16.0	17.4	19.0	18.9	17.2	16.5
5		16.5	15.9	15.0	14.2	12.1	11.7	11.1	10.8	10.6	13.5	17.9	20.6	23.9	23.3	22.2	20.3	18.6	17.5	18.3	18.6	16.9	16.4	17.9	17.6	16.7
6	q	17.2	16.4	16.0	15.2	14.0	13.1	12.8	13.0	13.3	15.7	19.0	22.7	25.8	25.7	24.0	22.7	20.8	19.6	18.6	18.5	18.3	18.0	17.9	18.2	18.2
7		18.6	16.1	14.0	13.5	12.8	12.5	12.5	11.1	14.8	18.3	19.6	21.3	24.1	23.9	23.0	22.1	19.6	18.9	18.3	17.2	17.2	16.5	17.7	17.0	17.5
8		14.6	15.5	13.1	13.4	10.6	10.0	9.9	9.9	10.9	14.4	18.6	22.0	24.2	24.4	22.9	21.6	20.6	19.3	19.0	19.1	19.0	17.5	17.2	18.3	16.9
9		18.6	18.6	13.4	12.2	14.8	12.8	9.3	10.2	11.8	14.3	16.7	20.8	24.3	25.3	25.1	21.8	22.4	21.4	20.4	17.7	16.2	19.9	19.7	18.9	17.8
10		18.5	16.5	15.5	13.6	10.9	7.7	9.8	11.4	12.0	16.2	19.7	24.0	26.5	26.2	23.7	24.4	24.3	21.6	17.1	18.8	10.1	3.4	12.6	14.8	16.6
11		13.0	10.4	15.3	10.1	10.3	13.4	14.2	12.2	12.6	14.5	18.7	22.8	27.6	26.6	24.7	23.5	21.3	20.5	19.4	18.2	13.5	16.3	18.1	19.0	17.3
12		16.1	14.4	9.9	13.2	15.8	16.0	16.1	19.1	13.2	12.9	15.9	19.1	21.7	24.6	23.9	19.8	17.8	21.4	19.8	14.6	17.5	19.7	16.5	5.2	16.8
13		9.7	13.0	10.4	11.8	11.6	12.5	10.6	9.4	11.0	12.7	15.3	19.0	23.0	25.4	25.1	22.0	22.3	22.7	21.0	20.1	16.2	9.5	9.4	9.4	15.5
14		6.1	6.6	7.6	10.3	11.9	10.0	11.0	12.4	11.6	15.9	18.9	21.9	23.7	24.5	22.6	20.9	18.7	20.4	21.2	21.5	18.6	18.8	20.9	16.5	16.4
15		16.4	16.1	15.3	16.8	16.3	13.7	10.9	13.3	17.9	18.6	19.8	21.9	23.9	22.4	22.0	14.1	18.0	20.3	20.1	17.0	13.0	14.8	17.3	8.7	17.0
16		8.1	3.8	7.4	8.9	9.0	9.6	10.7	11.7	13.6	16.7	18.9	20.3	22.2	22.3	21.3	20.3	19.3	19.2	18.3	16.3	16.1	18.5	18.7	18.1	15.4
17		19.5	16.4	13.2	13.1	10.1	10.0	10.2	10.4	13.3	16.1	20.4	23.4	23.8	24.5	23.8	21.5	19.7	18.8	20.6	11.7	17.9	18.1	13.9	12.8	16.8
18	d	13.3	15.5	3.8	-2.6	2.8	7.6	10.6	4.8	8.1	25.3	18.7	21.4	20.6	27.2	24.7	24.0	19.8	16.1	14.2	13.4	14.7	16.2	17.1	17.8	14.8
19		16.3	20.1	14.5	12.0	11.6	10.3	9.8	11.2	14.4	13.4	13.1	17.2	21.6	22.7	21.5	20.9	20.3	18.8	16.5	17.1	17.4	19.7	16.3	16.5	16.4
20		16.4	16.8	15.0	13.4	14.8	14.7	12.0	10.9	11.4	13.0	15.6	18.7	21.1	23.3	23.5	21.7	21.1	16.8	17.6	18.3	18.3	17.5	17.2	16.7	16.9
21		16.4	15.5	15.9	18.6	13.7	7.7	9.7	10.3	12.2	14.0	18.0	20.7	22.3	22.6	21.6	20.9	19.7	18.3	17.5	18.0	14.0	16.8	19.0	18.6	16.7
22	d	16.1	20.2	18.0	17.3	22.8	20.7	13.6	16.7	13.3	11.9	16.1	19.1	22.1	24.2	22.6	20.3	17.9	14.1	16.9	17.4	18.1	18.5	19.5	17.4	18.1
23		17.6	17.5	15.7	15.8	14.1	9.8	8.4	9.0	11.7	14.4	17.3	20.9	24.2	25.1	24.7	22.4	20.0	18.8	21.3	24.7	6.9	15.3	12.4	13.0	16.7
24	d	14.5	13.6	12.7	14.2	20.3	11.1	7.1	0.5	7.8	10.1	22.0	24.9	26.4	29.9	28.3	31.8	25.0	25.4	28.2	28.1	16.1	10.5	14.2	15.9	18.3
25		11.2	14.3	15.7	15.2	11.8	9.3	7.3	7.8	10.6	13.0	15.0	17.8	19.6	20.5	21.4	21.4	21.0	15.4	21.2	19.4	13.9	18.2	17.9	17.2	15.7
26	d	16.2	16.1	16.7	10.9	10.0	13.3	14.2	17.8	17.1	18.8	22.4	24.1	23.7	21.4	19.8	17.6	20.9	24.3	14.4	21.3	18.3	13.0	12.8	7.2	17.2
27		-4.8	0.4	-1.1	3.7	4.5	7.5	11.0	12.6	13.3	15.5	19.9	22.1	24.0	25.5	23.6	22.6	21.2	20.8	18.9	20.5	21.4	19.8	13.7	23.3	15.0
28		12.8	8.7	6.3	11.1	10.7	5.7	6.7	10.1	7.7	11.1	14.6	19.3	22.9	23.8	24.9	23.7	23.2	19.5	18.8	18.7	17.4	17.7	15.7	17.5	15.4
29		17.1	16.9	11.0	10.4	10.6	10.2	9.3	9.3	10.6	12.7	14.9	18.5	21.2	21.6	22.8	22.5	22.7	22.0	20.3	19.8	15.4	16.4	16.2	15.8	16.2
30	q	15.1	14.7	13.1	12.5	11.8	10.1	9.2	8.1	9.2	12.2	15.8	18.5	20.6	22.6	22.5	21.2	20.4	20.2	19.3	19.2	18.2	14.6	16.2	16.5	15.9
31		15.3	15.5	12.5	10.9	11.3	11.7	11.0	11.3	12.0	13.1	16.3	19.8	21.5	21.7	20.9	20.2	20.5	20.4	19.6	18.8	18.1	18.1	16.8	16.2	16.4
Mean		14.3	14.3	12.6	12.4	12.1	11.1	10.5	10.8	12.1	14.8	17.8	20.9	23.3	24.2	23.3	21.7	20.5	19.5	18.8	18.3	16.3	16.5	16.5	15.7	16.6



**TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

27

22 LERWICK (V)

46,000γ (0.46 C.G.S. unit) +

MAY 1940

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
		γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1		844	853	866	864	874	877	876	876	872	863	859	858	862	870	877	872	874	879	896	898	895	885	884	888	873
2		875	870	867	850	859	864	855	863	864	868	866	865	868	872	877	879	894	905	904	893	884	882	883	881	875
3 q		878	874	877	878	874	879	882	881	879	878	878	875	871	874	879	887	890	887	883	879	879	883	879	876	879
4 q		878	873	876	879	878	879	881	879	875	870	868	867	867	871	875	877	884	888	890	887	883	878	877	873	877
5		857	864	871	874	876	873	874	874	873	868	866	862	860	867	873	877	878	878	876	875	880	881	876	874	872
6 q		874	874	877	878	878	877	874	873	871	866	864	863	863	865	868	868	873	874	873	871	872	869	871	872	871
7		867	864	870	874	873	873	874	873	864	856	857	859	863	868	872	873	878	879	883	884	878	874	872	868	871
8		864	861	847	841	850	866	873	872	867	863	858	857	858	863	874	884	882	876	874	871	872	873	873	868	866
9		868	846	848	854	849	823	845	864	874	860	853	852	858	874	903	903	884	874	870	872	880	872	870	870	865
10		872	871	876	878	875	876	872	862	853	847	841	847	857	867	870	883	890	910	908	897	885	821	805	789	865
11		788	778	797	770	829	841	851	860	864	868	868	868	867	875	888	893	901	913	911	885	863	868	867	859	857
12		830	842	843	852	843	841	850	850	859	870	869	870	874	881	891	903	917	903	900	907	901	884	862	838	870
13		819	801	838	861	871	862	860	867	874	870	863	857	859	870	885	882	874	876	893	905	898	856	847	835	863
14		803	806	825	841	856	864	873	871	877	874	874	878	884	886	879	888	911	913	906	900	887	886	871	864	872
15		873	874	867	844	785	803	822	839	841	847	858	857	857	864	874	918	916	893	891	893	885	886	871	827	862
16		810	790	834	861	874	878	877	875	871	865	863	861	863	866	874	874	874	873	875	882	884	877	875	874	865
17		862	844	852	869	873	862	854	851	850	845	844	850	855	859	870	882	882	892	896	905	878	879	878	855	866
18 d		819	753	778	775	802	798	757	797	826	834	862	867	920	992	921	891	912	924	924	903	890	882	877	873	857
19		848	804	827	867	880	887	886	883	874	872	878	880	878	876	879	884	884	883	894	885	882	826	818	853	868
20		868	869	873	882	873	864	870	868	869	867	858	855	860	877	888	917	922	934	904	886	874	869	869	873	879
21		877	878	879	864	799	821	856	865	865	864	862	859	858	861	866	869	874	875	877	877	887	879	866	835	863
22 d		852	833	725	737	769	751	793	803	833	869	884	918	909	885	890	914	927	930	901	887	888	879	867	866	855
23 d		869	870	878	875	876	884	880	878	875	870	869	869	866	873	878	882	885	887	874	894	868	841	841	865	873
24 d		873	876	870	856	671	695	766	845	857	884	873	887	930	948	962	951	961	952	956	954	877	794	784	809	868
25		748	809	809	800	840	872	884	890	886	879	872	868	872	881	889	893	899	909	894	893	876	873	877	875	866
26 d		875	869	846	827	834	837	834	850	855	869	867	860	870	873	879	885	885	910	925	908	892	854	722	613	852
27		619	665	726	811	840	857	864	869	870	874	863	863	856	863	878	875	876	877	883	878	868	865	856	773	836
28		789	813	804	773	736	797	834	850	867	869	868	874	874	872	878	897	901	913	891	876	879	857	860	849	851
29		827	801	821	850	863	867	870	871	874	874	870	868	870	874	874	875	875	876	884	881	872	870	874	875	865
30 q		875	875	873	873	874	875	876	876	876	875	873	866	864	865	865	869	870	873	879	875	878	872	864	866	872
31 q		867	862	854	861	865	867	866	866	864	861	857	847	850	859	865	869	872	873	871	873	875	875	868	870	865
Mean		841	837	842	846	843	849	856	863	865	866	865	865	870	877	882	888	892	894	893	889	881	867	858	849	866

Corrections to be applied to all values: H, -6γ; D, -4.1'; V, -12γ.

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

23 LERWICK

MAY 1940

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 + °A.
	Horizontal force			Declination			Vertical force									
	Maximum 14,000γ +	Minimum 14,000γ +	Range	Maximum 12° +	Minimum 12° +	Range	Maximum 46,000γ +	Minimum 46,000γ +	Range							
1	h. m. γ	γ h. m.	γ	h. m. γ	γ h. m.	γ	h. m. γ	γ h. m.	γ							
2	19 34 446	363 10 56	83	13 22 27.2	6.0 6 46	21.2	19 31 904	841 0 38	63	2,1,1,2,2,3,3,2	16	0	79.7			
3 q	17 15 422	359 11 1	63	13 25 27.1	7.1 4 47	20.0	17 45 908	845 3 27	63	2,2,1,1,1,2,2,0	11	0	80.0			
4 q	19 50 416	364 11 16	52	13 48 25.9	9.1 6 27	16.8	16 18 893	869 12 44	24	2,1,1,1,2,1,1,1	10	0	80.8			
5	23 55 426	358 10 22	68	12 52 23.5	8.2 6 24	15.3	18 50 892	865 12 16	27	2,1,1,0,1,1,1,2	9	0	81.5			
6 q	20 23 428	355 10 33	73	12 41 25.6	9.1 7 56	16.5	20 57 884	853 0 20	31	2,1,2,2,1,1,2,2	13	0	82.4			
7	17 21 425	373 10 27	52	13 6 26.7	12.4 8 4	14.3	4 21 878	863 12 24	15	0,0,0,1,1,0,0,0	2	0	83.0			
8	18 6 438	363 8 18	75	12 55 24.5	10.4 7 35	14.1	19 10 887	855 9 17	32	1,1,2,1,1,2,2,1	11	0	83.0			
9	19 46 431	358 10 10	73	13 5 25.8	8.8 6 50	17.0	15 32 886	837 3 34	49	2,2,1,1,2,1,1,1	11	0	82.9			
10	19 30 433	354 9 55	79	14 40 26.9	8.5 5 51	18.4	15 5 911	820 5 29	91	3,3,2,2,3,2,1	18	1	82.6			
11	18 52 476	363 9 24	113	13 6 28.2	-4.5 21 17	32.7	17 42 919	782 23 33	137	1,2,2,2,3,3,4,4	21	1	82.8			
12	19 56 469	340 3 0	129	13 3 28.5	8.1 3 34	20.4	18 2 921	756 3 20	165	3,4,2,2,3,2,3,2	21	1	82.5			
13	19 23 470	343 6 40	127	13 27 25.3	-1.6 23 35	26.9	16 10 922	818 0 40	104	3,3,3,2,2,3,3,4	23	1	81.9			
14	18 14 456	353 12 10	103	14 0 27.3	0.6 21 8	26.7	19 38 908	789 1 11	119	3,2,2,2,3,3,4,3	22	1	81.2			
15	16 25 460	348 9 58	112	13 10 25.7	2.2 0 49	23.5	17 24 918	791 0 53	127	3,2,2,2,2,3,2,2	18	1	80.8			
16	18 55 481	330 3 50	151	12 28 24.9	4.1 23 30	20.8	15 42 936	778 4 46	158	1,4,2,2,3,3,3,3	21	1	80.8			
17	19 22 444	324 1 43	120	13 29 22.6	-2.1 1 45	24.7	20 28 885	776 1 23	109	4,1,0,1,1,2,2,0	11	1	81.3			
18 d	18 47 479	356 12 1	123	13 50 25.6	6.4 19 40	19.2	19 30 922	840 1 18	82	2,2,2,2,2,3,3,3	19	1	82.2			
19	18 20 448	284 0 52	164	9 5 25.9	-5.2 3 30	31.1	13 38 1005	739 6 7	266	4,4,4,4,4,3,3,1	27	1	83.1			
20	21 14 453	345 8 2	108	21 29 29.6	8.9 6 8	20.7	18 12 896	771 1 50	125	4,2,2,2,1,3,2,4	20	1	83.9			
21	16 46 483	362 9 29	121	14 17 25.1	9.2 7 32	15.9	17 15 945	853 11 4	92	1,2,2,1,3,4,3,1	17	1	84.6			
22 d	19 15 445	351 10 28	94	3 55 26.1	6.1 5 54	20.0	20 19 890	787 4 44	103	1,4,2,1,1,1,2,3	15	1	85.3			
23 d	14 39 439	209 6 6	230	1 54 33.9	-2.9 3 55	36.8	17 18 937	698 2 21	239	5,5,5,4,3,2,2,2	28	1	85.5			
24 d	20 15 536	356 11 27	180	19 31 26.9	-3.8 20 25	30.7	20 14 951	825 20 44	126	1,2,2,2,2,4,4,3	20	1	85.2			
25	18 40 576	-31 4 19	607	4 21 60.3	-5.3 4 54	65.6	19 19 1023	546 4 38	477	2,7,5,6,5,5,6,4	40	2	85.9			
26 d	17 52 497	289 0 37	208	18 4 23.2	3.8 0 49	19.4	17 16 923	696 0 28	227	4,4,1,1,2,3,3,2	20	1	85.9			
27	17 29 536	73 23 47	463	23 58 29.9	-1.3 22 54	31.2	18 5 941	571 23 39	370	3,3,3,2,2,4,4,6	27	1	85.7			
28	18 4 462	-66 0 11	528	0 1 30.9	-39.8 0 47	70.7	18 27 886	529 0 28	357	7,4,2,3,2,3,3,4	28	1	85.5			
29	18 44 469	322 3 50	147	14 34 26.3	4.5 5 11	21.8	17 20 918	716 4 20	202	3,4,3,3,3,3,2,3	24	1	85.3			
30 q	17 35 463	356 9 15	107	17 34 23.2	7.8 7 45	15.4	18 20 887	797 1 20	90	3,2,1,2,1,3,2,1	15	1	84.7			
31 q	17 41 442	368 9 41	74	13 27 23.4	7.1 7 55	16.3	20 55 881	862 22 44	19	1,0,1,2,1,2,2,2	11	0	85.3			
Mean	17 50 429	373 11 5	56	13 45 22.2	10.4 6 14	11.8	21 35 876	844 11 50	32	1,1,1,1,2,1,0,1	8	0	85.1			
Mean	- - 461	310 - -	151	- - 27.4	3.0 - -	24.4	- - 914	781 - -	133	-	-	0.71	83.2			



**TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

24 LERWICK (H)

14,000γ (0.14 C.G.S. unit) +

JUNE 1940

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
1 q	407	406	405	410	410	404	398	393	384	375	376	379	388	397	402	423	432	433	433	435	434	423	410	407	407
2	403	404	395	402	399	403	413	398	385	369	362	364	377	399	429	439	430	431	443	440	435	410	397	401	405
3	398	402	402	404	401	395	384	377	371	361	362	364	379	356	384	400	413	423	426	428	425	421	420	418	396
4 q	409	398	403	408	408	408	404	396	387	383	381	384	393	406	416	419	423	428	431	439	433	429	422	422	410
5	423	420	420	419	421	415	407	395	386	371	367	379	400	400	409	422	436	443	449	458	446	440	407	388	413
6 d	376	305	344	339	272	261	352	366	325	328	363	394	383	403	434	444	427	506	529	482	449	406	343	283	380
7 d	282	162	275	297	271	349	387	375	344	321	319	353	375	422	422	429	432	452	458	448	429	404	390	357	365
8	315	342	385	401	397	386	386	379	365	363	369	364	380	417	396	403	440	434	449	462	431	414	398	410	395
9	407	403	398	382	342	388	392	391	365	333	319	355	375	395	407	409	420	429	476	458	436	411	407	394	395
10	372	380	400	398	397	391	382	373	374	376	368	367	381	386	396	403	410	417	421	422	424	419	415	415	395
11 q	412	403	406	409	411	409	405	395	383	373	367	367	381	392	415	423	423	442	431	428	422	421	422	415	406
12	411	408	409	410	407	404	398	389	386	380	369	366	365	381	400	400	416	426	440	441	430	434	427	424	405
13	418	420	423	424	424	419	417	413	409	393	386	391	393	392	409	420	430	436	434	440	434	432	433	420	417
14 d	416	418	420	420	429	429	412	398	362	386	375	381	409	409	414	447	449	554	515	427	381	246	98	168	390
15 d	206	253	255	254	229	286	320	301	338	338	370	367	364	438	425	466	534	459	421	429	410	409	406	403	362
16	384	330	364	387	396	389	385	370	341	354	370	386	389	409	409	401	420	427	425	451	449	416	410	391	394
17	389	389	372	357	389	398	364	349	381	386	373	361	375	404	400	394	436	476	456	428	428	416	410	407	397
18	403	404	392	348	352	348	338	370	373	353	358	368	390	399	410	422	428	436	437	433	423	420	416	410	393
19	408	413	407	397	391	381	389	389	372	376	356	371	385	389	425	453	435	447	431	430	423	419	410	404	404
20 q	401	400	402	399	392	397	395	387	383	372	365	359	363	373	385	398	415	424	437	436	428	424	420	412	399
21 q	406	402	394	388	402	409	404	399	395	379	366	359	367	379	395	406	412	418	431	431	428	424	416	415	401
22	412	409	410	410	407	402	404	400	389	375	363	356	389	428	437	424	433	440	436	438	433	428	416	408	410
23	377	361	367	398	401	398	397	389	376	362	358	364	373	390	396	405	420	422	437	442	445	420	407	404	396
24	402	370	372	382	388	375	395	386	365	362	361	375	382	398	429	471	511	520	508	447	421	404	386	366	407
25 d	379	376	355	181	311	316	351	377	405	376	361	449	447	823	912	1039	782	604	760	499	380	367	354	340	481
26	294	319	319	376	376	388	384	368	358	349	357	351	352	361	371	379	394	422	413	433	428	425	404	387	375
27	380	366	360	359	380	379	375	369	369	359	354	372	375	396	397	422	434	408	405	402	402	396	395	396	385
28	378	378	385	391	387	388	384	379	373	362	355	352	355	357	369	388	427	477	461	439	417	406	404	404	392
29	405	404	404	403	401	395	385	372	364	358	358	364	370	379	385	398	409	413	465	459	438	424	424	423	400
30	418	408	331	408	417	409	404	403	389	367	353	352	372	397	421	410	421	449	435	424	416	421	406	400	401
Mean	383	375	379	379	380	384	387	382	373	365	362	370	381	409	423	439	443	450	456	441	426	411	396	390	399

Corrections to be applied to all values: H, -6γ; D, -4.1'; V, -7γ.

**MAGNETIC DECLINATION (WEST)**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

25 LERWICK (D)

12° +

JUNE 1940

		Hour G. M. T.																								Mean
		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	
1	q	16.4	14.4	14.0	12.7	11.7	10.7	11.9	13.3	14.2	15.0	16.6	19.6	22.0	22.4	22.6	21.4	20.0	18.7	18.5	17.8	16.7	15.3	14.8	16.0	16.5
2		14.8	14.8	12.4	10.3	4.5	6.1	8.1	9.9	11.3	14.6	18.3	21.3	24.4	26.4	25.7	22.9	21.6	17.7	18.6	18.0	18.1	18.5	15.8	13.5	16.1
3		14.4	13.1	13.0	13.3	12.7	10.9	10.0	10.2	11.3	13.7	16.4	21.1	24.5	26.4	22.5	21.5	19.5	17.9	16.2	16.2	17.0	17.4	17.6	18.9	16.5
4	q	14.6	15.9	15.8	12.8	11.0	9.7	9.6	10.7	12.1	13.7	17.1	21.0	23.0	23.3	23.0	21.1	19.7	18.1	18.2	17.6	17.4	17.4	16.4	16.5	16.5
5		16.6	16.7	14.6	12.7	12.1	10.7	10.9	12.4	11.2	18.5	19.6	22.0	24.4	23.9	22.0	21.5	19.7	18.6	19.2	20.5	19.5	20.6	18.3	13.9	17.5
6	d	7.4	-0.1	-4.7	10.1	13.3	12.9	12.1	9.6	12.3	14.3	22.1	25.0	29.7	29.4	28.4	24.9	21.9	21.7	21.4	24.9	21.7	19.0	13.7	6.1	16.5
7		16.7	12.0	9.9	0.3	1.7	8.2	10.0	7.1	11.2	16.4	20.3	22.0	26.0	27.5	26.9	26.0	23.4	21.1	16.9	19.6	12.3	11.7	14.3	18.5	15.8
8		15.2	3.0	12.0	10.7	7.3	8.8	10.1	10.9	10.4	12.1	14.2	16.7	20.4	23.5	23.4	25.3	18.3	19.5	22.4	16.2	16.6	14.6	8.1	11.2	14.6
9		12.3	13.2	13.0	13.0	16.7	12.8	6.9	5.1	6.4	10.2	15.2	20.0	21.9	24.6	24.3	22.6	20.1	20.5	15.3	17.4	15.5	15.3	15.4	11.0	15.4
10		15.4	17.9	14.2	11.3	9.2	7.4	7.0	6.4	7.9	10.7	15.2	18.7	21.4	22.8	22.3	21.0	19.0	17.7	18.0	17.4	17.1	16.9	16.8	16.7	15.3
11	q	13.6	13.6	14.5	13.0	11.7	10.3	9.9	9.3	9.0	11.8	14.7	19.0	23.6	25.8	25.7	24.3	21.1	19.4	19.2	19.3	18.9	18.2	15.5	15.0	16.5
12		15.8	15.1	14.5	12.8	10.5	9.0	8.9	8.7	8.9	9.6	13.0	17.2	22.0	25.5	26.5	23.6	21.5	21.5	20.6	19.7	18.2	19.0	18.5	17.9	16.6
13		17.9	17.0	15.7	14.5	12.7	11.0	10.6	11.0	12.1	14.2	16.9	20.5	22.6	23.0	21.6	20.3	18.9	17.6	17.3	17.3	17.4	17.5	15.8	15.2	16.6
14	d	15.4	14.2	14.1	14.7	11.1	7.1	6.7	7.8	12.1	12.7	18.6	21.4	24.5	25.7	26.2	26.7	24.7	29.6	22.6	22.5	19.6	4.1	8.9	2.4	16.4
15	d	5.6	-2.4	1.9	7.1	19.0	24.8	17.4	15.2	17.2	13.1	11.9	19.5	22.7	23.6	23.3	24.8	25.9	22.4	22.5	20.6	18.8	19.6	18.6	18.1	17.1
16		18.4	13.5	9.4	8.2	7.4	8.3	8.5	7.7	11.6	17.2	19.0	19.8	21.3	23.6	22.2	20.0	19.5	19.2	18.5	18.4	18.7	17.6	15.8	18.7	15.9
17		17.2	13.0	13.1	16.2	11.1	10.2	14.2	18.2	17.2	15.5	17.0	20.5	21.4	21.0	19.3	19.0	18.8	17.6	14.0	16.9	19.0	16.3	18.1	18.8	16.8
18		18.2	16.2	17.6	22.5	14.0	20.2	9.6	11.0	12.0	16.4	18.0	19.9	20.7	22.1	22.4	21.2	18.9	16.2	16.1	16.2	15.6	17.0	15.0	15.0	17.2
19		14.4	14.6	17.1	16.4	14.4	16.3	11.5	10.1	8.1	12.2	16.9	18.6	20.0	20.5	22.9	21.3	19.0	18.1	17.1	17.4	17.1	17.2	18.2	16.6	16.5
20	q	16.0	16.0	15.3	14.3	14.0	11.7	8.3	7.0	8.8	11.8	15.9	18.7	21.4	21.9	21.1	20.1	18.2	17.1	16.9	16.3	15.8	16.6	17.3	17.0	15.7
21	q	16.3	16.2	17.0	18.2	13.0	11.5	9.8	9.5	9.0	10.3	13.6	18.7	22.3	23.3	21.8	19.7	17.8	16.0	15.2	15.7	16.0	17.2	17.0	16.9	15.9
22		16.5	15.4	14.0	12.5	11.6	11.0	11.2	10.6	11.1	11.2	13.1	17.2	24.3	25.4	25.4	25.5	24.3	22.4	21.6	21.4	20.0	18.0	16.2	15.8	17.3
23		11.7	6.7	5.2	8.7	9.2	9.5	10.0	10.0	10.1	11.6	15.0	19.3	24.0	26.3	26.2	25.4	23.7	21.0	20.3	18.2	17.4	16.3	15.4	14.2	15.6
24		15.1	19.3	14.0	13.1	10.6	14.0	10.6	5.2	7.3	11.3	14.1	18.5	20.7	21.4	21.5	25.3	24.7	25.7	22.7	21.1	19.3	18.5	19.2	9.0	16.8
25	d	12.9	14.4	16.3	44.5	14.1	6.9	4.8	0.5	0.2	3.1	19.4	10.0	32.3	-9.0	-8.0	-0.3	24.4	34.3	32.1	16.2	20.3	21.4	27.4	26.6	15.2
26		28.8	18.6	12.3	11.0	11.7	9.2	9.1	9.9	10.4	12.4	15.0	18.2	19.6	19.7	19.4	17.9	15.7	18.2	16.8	18.0	16.7	17.2	15.2	13.3	15.6
27		12.7	15.2	12.9	13.0	10.4	9.1	8.8	11.9	11.2	12.7	13.8	16.3	19.3	22.1	20.5	18.7	14.3	17.4	17.4	17.7	17.6	16.4	16.1	15.8	15.1
28		17.4	17.4	13.3	11.5	9.8	9.1	9.0	9.7	9.0	10.1	12.4	15.1	17.5	18.2	18.5	18.0	19.2	19.9	18.1	18.2	17.2	17.4	16.9	16.0	15.0
29		14.3	13.3	12.2	11.7	9.8	7.8	6.5	7.3	9.5	12.9	15.4	17.9	19.9	21.4	21.8	21.0	18.1	15.6	19.6	17.7	20.0	19.1	17.3	17.0	15.3
30		16.2	23.2	13.1	5.8	10.6	7.0	5.7	6.2	8.5	11.0	14.2	17.2	18.4	20.0	21.4	20.8	21.1	21.4	17.3	17.2	17.6	18.2	18.2	18.3	15.4
Mean		15.3	13.7	12.6	13.2	11.2	10.7	9.6	9.4	10.4	12.7	16.1	19.0	22.6	22.4	22.0	21.4	20.4	20.1	19.0	18.4	17.8	17.0	16.4	15.3	16.1



**TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

29

26 LERWICK (V)

46,000γ (0.46 C.G.S. unit) +

JUNE 1940

	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	Mean
	0-1	1-2																							
1 q	872	873	873	871	872	869	867	868	867	865	859	856	857	861	863	865	872	872	872	873	880	875	872	873	869
2	873	868	860	834	827	822	820	837	848	851	851	850	858	869	883	913	927	915	891	884	885	881	859	854	865
3	863	865	870	872	872	872	873	874	874	872	867	861	855	859	857	864	868	879	880	876	873	872	870	868	869
4 q	842	854	863	872	876	877	874	868	865	856	855	860	863	863	866	875	877	877	873	871	873	870	870	870	867
5	870	870	873	875	874	870	868	873	873	867	856	851	847	851	864	874	877	879	877	875	879	876	873	839	868
6 d	779	709	731	728	699	736	747	811	845	866	859	886	895	869	870	900	913	917	926	915	906	899	844	807	836
7 d	797	720	672	660	714	759	829	870	880	881	879	878	871	873	890	896	895	902	900	864	858	844	848	775	831
8	718	717	769	833	859	872	875	875	876	874	868	869	869	874	894	883	899	895	877	879	865	853	804	816	851
9	854	865	866	867	843	836	858	870	877	885	883	873	865	861	873	888	899	890	884	871	876	850	817	825	866
10	816	804	839	863	869	874	872	877	874	866	857	849	850	854	853	855	861	867	868	871	870	870	870	859	859
11 q	851	853	860	864	869	872	869	868	867	863	858	857	853	854	855	866	875	881	880	874	870	869	865	861	865
12	857	857	861	863	867	871	869	868	866	863	867	860	853	849	850	859	865	867	870	869	873	870	870	869	864
13	868	867	868	870	872	874	869	869	869	861	853	850	851	854	849	858	866	873	876	875	873	871	859	859	865
14 d	856	859	863	863	855	857	861	863	868	860	859	850	847	865	868	874	888	923	918	858	862	761	702	713	850
15 d	709	693	718	715	708	705	764	824	839	879	920	920	906	898	933	927	958	958	907	895	888	880	877	867	845
16	865	801	802	825	850	859	866	874	879	875	867	869	868	867	883	876	870	874	878	877	879	832	858	843	860
17	823	848	848	808	816	837	842	833	827	844	860	871	877	892	924	906	890	907	932	915	890	897	886	875	869
18	874	877	871	812	750	753	791	828	848	857	860	870	880	898	906	914	917	904	886	882	882	871	870	871	861
19	872	873	872	866	856	829	841	855	866	866	874	870	887	891	895	921	930	925	905	892	882	878	864	849	877
20 q	855	865	871	870	871	868	868	863	862	869	873	873	868	870	873	875	878	881	880	881	880	875	871	869	871
21 q	871	872	870	856	852	857	859	861	856	854	855	852	854	861	862	869	872	873	874	874	873	869	868	866	864
22	863	862	868	871	872	871	866	865	861	857	857	850	840	841	861	876	878	883	880	875	873	871	871	858	865
23	802	729	771	821	849	865	864	867	868	863	856	854	854	853	859	857	863	871	868	875	871	872	866	854	849
24	849	821	798	815	816	831	837	858	867	864	866	858	864	882	905	920	957	965	954	900	888	879	800	789	866
25 d	826	839	831	663	665	735	789	834	845	846	848	849	933	887	929	1011	974	979	863	871	899	886	866	863	855
26	771	777	781	835	872	885	890	880	883	894	893	885	886	885	884	883	883	874	891	889	895	883	865	867	868
27	874	864	857	860	871	884	887	885	886	884	888	884	891	886	894	890	898	894	886	884	880	882	882	880	882
28	875	847	857	876	884	887	885	884	880	878	871	871	869	868	867	868	868	876	903	901	899	890	884	878	878
29	878	879	879	881	882	885	885	883	879	875	871	868	872	877	877	873	875	884	875	888	890	885	881	879	879
30	877	853	749	783	798	844	871	880	886	885	881	878	873	873	882	893	906	907	924	913	897	886	882	871	871
Mean	840	829	830	830	833	842	852	862	866	867	867	866	869	869	879	888	893	896	890	882	880	870	857	849	863

Corrections to be applied to all values: H, -6γ; D, -4.1'; V, -7γ.

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

27 LERWICK

JUNE 1940

	TERRESTRIAL MAGNETIC ELEMENTS										3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 + °A.
	Horizontal force			Declination			Vertical force							
	Maximum 14,000γ +	Minimum 14,000γ +	Range	Maximum 12° +	Minimum 12° +	Range	Maximum 46,000γ +	Minimum 46,000γ +	Range					
1 q	h. m. γ	γ h. m.	γ	h. m.	h. m.	γ	h. m. γ	γ h. m.	γ	1,0,0,1,1,1,2,2	8	0	85.0	
2	21 9 441	372 11 10	69	14 30	23.0	10.0	5 34	13.0	20 54 884	853 12 2	31	17	0	85.1
3	6 25 453	355 11 40	98	13 18	27.3	3.0	4 54	24.3	16 48 932	815 6 22	117	12	0	85.6
4 q	18 49 440	338 13 38	102	13 32	28.7	9.1	6 24	19.6	17 58 884	851 12 36	33	9	0	86.1
5	19 6 440	379 10 4	61	13 31	24.1	8.9	6 10	15.2	16 14 878	834 0 40	44	15	0	87.2
6 d	19 35 464	361 10 16	103	12 39	25.3	6.7	7 12	18.6	20 55 885	823 23 56	62	33	1	88.5
7 d	18 14 542	147 24 0	395	12 21	31.7	10.7	2 29	42.4	17 57 930	642 4 25	288	33	1	88.8
8	18 25 479	42 1 25	437	13 49	29.0	8.9	3 55	37.9	18 10 922	620 2 52	302	24	1	89.0
9	19 36 487	290 0 5	197	16 6	27.4	3.6	1 11	31.0	16 38 916	666 0 2	250	22	1	88.4
10	18 45 515	311 10 16	204	14 0	25.6	2.9	7 0	22.7	16 35 903	810 22 41	93	11	0	87.6
11 q	20 46 429	360 0 53	69	13 39	23.2	4.2	7 5	19.0	7 30 882	797 1 3	85	12	0	87.3
12	17 14 446	362 11 49	84	13 54	26.3	7.6	8 4	18.7	18 8 885	847 0 44	38	10	0	87.8
13	19 34 449	360 12 15	89	14 21	27.2	8.1	6 14	19.1	20 51 875	846 13 16	29	9	0	87.9
14 d	17 6 447	382 10 8	65	13 26	23.4	9.7	6 16	13.7	17 52 878	848 14 16	30	30	2	88.1
15 d	17 53 610	240 22 41	850	23 5	46.8	17.1	23 38	63.9	17 50 988	588 22 36	400	28	1	88.5
16	16 36 570	175 0 36	395	4 36	38.5	9.3	1 56	47.8	17 5 981	624 4 52	357	24	1	88.6
17	19 49 461	313 1 46	148	14 0	26.2	5.3	7 26	20.9	14 45 893	780 1 45	113	24	1	88.7
18	17 31 489	340 7 13	149	12 15	22.6	7.7	5 9	14.9	14 42 936	797 3 46	139	19	1	88.4
19	18 11 446	316 6 22	130	3 16	27.6	2.9	6 24	24.7	16 0 919	738 5 8	181	9	0	88.1
20 q	15 25 475	349 10 30	126	15 7	24.3	4.4	8 12	19.9	16 36 938	821 5 39	117	10	0	87.7
21 q	18 6 439	356 11 36	83	13 28	22.4	6.7	7 15	15.7	18 50 884	850 0 0	34	24	1	88.5
22	19 50 438	355 11 42	83	13 31	23.4	8.0	7 23	15.4	18 50 876	847 3 47	29	13	0	87.0
23	14 36 467	334 10 51	133	12 37	27.4	9.8	10 54	17.6	17 5 885	839 24 0	46	18	1	86.4
24	20 7 459	340 2 11	119	13 39	26.9	3.3	2 19	23.6	19 56 880	725 1 10	155	25	1	86.0
25 d	17 57 532	334 23 4	198	17 59	28.6	2.4	23 41	26.2	18 5 983	741 22 55	242	49	2	85.3
26	14 10 >1476	-4 3 29	>1480	3 23	76.2	90.8	14 8	167.0	14 56 1146	415 13 53	731	26	1	85.2
27	17 27 533	255 0 0	278	0 4	44.2	5.2	3 0	39.0	21 0 898	752 0 45	146	16	0	85.3
28	16 19 451	348 10 15	103	13 35	23.0	6.1	6 53	16.9	16 42 899	847 1 57	52	14	1	85.1
29	17 37 493	347 11 10	146	0 52	21.4	8.0	8 5	13.4	18 50 913	841 1 46	72	10	0	85.5
30	18 40 481	355 10 15	126	14 35	22.5	5.8	6 21	16.7	19 33 896	867 11 12	29	23	1	86.0
Mean	— — 511	288 — —	223 — —	29.3	0.2 — —	29.1	— —	917	768 — —	148	—	—	0.60	87.1



TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

28 LERWICK (H)

14,000γ (0.14 C.G.S. unit) +

JULY 1940

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
1	γ	388	361	340	391	400	404	402	399	386	369	357	357	369	400	420	421	436	429	421	415	403	407	407	406	395
2 q	γ	405	403	401	401	400	399	393	389	383	373	367	367	379	402	409	422	425	433	437	433	428	415	412	411	404
3	γ	403	394	388	394	399	385	379	386	394	382	368	384	385	386	390	416	442	453	469	472	442	418	373	189	395
4 d	γ	52	282	373	393	375	380	382	375	360	360	352	358	384	404	409	408	415	450	448	453	428	387	345	274	369
5	γ	333	402	406	395	394	384	366	372	374	367	362	360	380	388	427	447	424	431	451	466	434	428	405	406	400
6	γ	410	389	361	372	400	399	390	380	367	365	358	365	351	373	399	405	436	440	438	460	434	412	400	400	396
7	γ	386	394	400	406	402	396	387	373	367	359	357	358	376	379	408	434	455	459	457	432	418	408	399	397	400
8	γ	395	395	389	390	394	388	387	387	375	361	355	359	374	388	400	409	413	408	419	418	426	433	433	438	397
9	γ	416	424	418	399	411	413	399	386	376	375	373	372	375	404	435	419	435	439	475	459	451	439	423	410	414
10 d	γ	407	386	401	371	374	344	344	384	365	349	330	335	347	424	442	453	444	464	459	435	422	426	417	399	397
11	γ	402	379	372	380	337	391	388	377	367	358	354	355	361	373	394	402	412	439	442	436	436	411	394	400	390
12	γ	399	401	397	404	406	398	398	388	375	365	362	369	379	388	398	406	406	418	427	436	426	415	408	407	399
13 d	γ	407	405	401	394	399	395	382	386	390	358	345	398	557	735	617	506	544	551	493	401	379	389	372	325	439
14 d	γ	382	346	377	333	310	372	349	362	353	347	342	364	383	380	406	471	493	469	443	427	411	410	398	393	388
15	γ	390	365	326	370	373	380	380	372	369	366	358	361	389	403	415	448	449	461	457	430	422	409	394	386	395
16	γ	375	362	349	352	371	390	388	378	358	348	350	359	379	383	399	410	422	442	429	422	420	413	410	399	388
17 q	γ	398	397	397	400	402	401	396	392	383	370	368	373	381	399	410	435	431	423	423	419	412	410	406	405	401
18 q	γ	403	398	399	398	392	389	384	381	377	373	372	378	379	390	394	413	412	417	418	422	423	425	418	416	399
19	γ	408	404	403	403	409	406	398	390	379	363	359	362	373	386	409	400	416	425	428	426	427	422	411	403	400
20 q	γ	402	407	410	409	405	396	392	387	374	363	359	363	369	387	408	419	431	439	442	430	421	417	407	402	402
21	γ	402	410	406	411	414	407	399	383	358	357	363	366	366	383	399	414	426	459	483	450	445	423	414	408	408
22	γ	409	408	399	402	379	371	335	343	366	367	375	368	385	416	399	426	456	462	445	444	431	409	408	396	400
23	γ	403	396	400	400	392	388	387	388	379	372	366	366	366	381	390	402	425	432	423	426	414	408	405	394	396
24	γ	396	396	397	402	365	390	401	391	381	359	368	366	370	379	407	432	426	439	432	433	421	408	402	410	399
25	γ	377	365	378	381	389	383	368	370	379	364	358	351	371	374	384	425	426	432	419	423	418	414	408	411	390
26	γ	407	402	404	394	392	401	399	396	381	373	371	361	367	387	409	405	405	414	420	419	417	416	415	411	399
27 q	γ	411	402	398	403	404	403	406	400	387	377	367	366	376	393	408	417	417	423	424	430	431	429	428	426	405
28	γ	417	420	417	417	414	407	396	383	377	371	370	371	388	386	393	403	409	422	425	428	429	424	423	418	405
29	γ	413	405	405	412	415	412	405	397	388	378	373	372	379	404	413	425	432	447	439	441	426	423	412	413	410
30 d	γ	412	419	415	412	403	411	408	398	383	371	362	362	388	395	429	455	464	462	454	455	416	409	399	401	412
31	γ	397	357	358	388	383	361	358	383	368	345	357	357	366	362	395	413	443	409	417	432	425	421	409	404	388
Mean	γ	387	389	390	393	390	392	385	384	376	365	360	365	380	401	413	425	435	442	441	435	424	415	405	392	399

Corrections to be applied to all values: H, -6γ; D, -4.1'; V, -9γ.

MAGNETIC DECLINATION (WEST)  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

29 LERWICK (D)

12° +

JULY 1940

		Hour G.M.T.																								Mean
		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	
1	2 q	17.4	16.5	19.3	7.4	8.1	6.7	6.4	7.6	9.1	10.8	13.1	16.4	19.8	21.2	21.6	21.2	19.9	17.5	17.1	17.8	16.0	15.4	15.4	15.3	14.9
2		15.2	15.1	14.5	12.2	11.3	9.1	7.6	8.0	9.8	12.0	14.1	19.3	22.4	21.5	20.8	19.3	18.0	17.9	18.4	16.1	15.8	18.8	19.1	17.8	15.6
3		16.0	14.9	11.1	7.0	5.7	6.2	9.9	11.5	10.3	10.2	13.9	19.8	22.3	24.4	25.3	23.0	23.1	22.9	21.0	13.8	15.1	17.8	19.3	-5.4	15.0
4	d	1.0	4.8	10.6	6.6	5.6	7.8	6.9	9.3	9.3	12.2	14.5	20.1	22.2	22.5	21.5	20.8	18.4	19.8	18.9	17.9	17.3	13.1	6.6	5.9	13.1
5		2.8	7.3	11.2	10.2	9.0	8.6	7.3	5.5	5.3	10.3	15.5	18.9	22.2	23.3	24.5	22.7	18.5	18.2	16.8	15.7	17.6	12.3	13.5	12.3	13.7
6		12.2	9.6	6.1	10.8	9.6	6.4	5.9	6.4	8.9	10.8	14.2	18.1	21.3	22.8	24.9	23.6	21.1	17.3	17.2	18.9	12.2	16.1	15.6	15.4	14.4
7		18.0	14.9	11.5	11.5	10.1	7.8	6.8	7.5	9.2	12.3	14.1	16.0	19.7	22.0	20.6	20.8	20.3	17.1	20.0	18.6	18.2	17.7	17.5	17.8	15.4
8		15.4	14.2	16.0	14.6	11.0	8.6	7.1	7.6	8.3	9.9	13.2	16.1	18.5	21.0	23.8	24.3	23.2	20.8	19.2	17.7	17.1	17.0	16.8	19.2	15.9
9		17.7	16.1	15.9	19.2	13.9	10.7	9.0	10.4	13.6	16.4	18.7	20.3	22.3	23.9	24.4	23.6	22.4	21.9	20.3	20.5	16.9	16.0	12.6	17.9	17.9
10	d	16.1	22.1	18.4	15.2	16.9	15.7	14.0	13.7	14.5	11.9	11.7	17.1	21.4	21.3	22.9	24.7	18.9	17.3	16.0	18.6	18.8	18.2	11.0	14.2	17.1
11		13.8	13.6	9.0	12.1	17.7	13.0	7.5	4.8	8.5	9.8	12.2	16.1	20.2	22.3	22.8	20.7	18.8	17.1	15.6	16.4	15.1	16.9	17.3	16.6	14.9
12		15.6	14.1	16.1	14.5	13.3	11.0	9.8	9.2	9.4	11.9	14.9	15.9	19.0	21.4	22.9	21.8	20.2	19.7	19.3	18.1	15.2	16.1	16.9	16.4	15.9
13	d	16.2	15.6	16.6	12.7	9.2	10.5	12.3	12.7	11.3	13.4	17.2	15.6	15.5	17.1	20.1	25.7	23.8	20.5	16.1	17.7	19.3	18.8	17.3	15.5	16.3
14		16.8	17.9	14.0	20.6	13.2	13.7	12.1	6.8	9.1	11.6	11.7	14.4	17.3	19.1	21.8	21.0	19.0	15.8	18.2	17.9	18.8	18.4	14.4	15.0	15.8
15		14.2	16.2	13.4	3.4	10.9	9.7	7.2	9.4	6.4	9.7	15.0	18.9	20.4	20.3	19.4	17.2	15.4	17.9	18.2	17.1	16.7	15.1	14.2	16.1	14.3
16	q	16.9	19.2	13.4	15.3	11.2	9.1	7.2	7.7	8.5	10.1	13.0	16.8	20.2	21.4	21.4	18.6	16.7	16.7	16.0	17.9	17.6	16.0	13.8	15.2	15.0
17		15.7	17.9	17.3	11.0	8.2	8.3	8.7	9.2	10.0	9.2	10.0	13.2	17.3	18.5	19.1	18.2	16.4	14.7	15.5	16.9	17.0	16.4	15.9	16.1	14.2
18		15.7	14.5	13.8	12.3	11.7	10.1	8.8	8.2	9.1	11.7	15.7	19.2	22.4	23.0	22.8	22.2	19.9	18.4	17.3	17.4	17.3	18.0	16.8	14.0	15.8
19	q	14.2	13.6	12.3	12.2	10.5	7.8	6.3	5.5	7.1	9.9	14.3	17.9	21.5	23.7	23.0	20.8	18.7	17.2	17.1	17.7	18.5	15.6	15.2	14.3	14.8
20		13.4	13.1	12.3	10.9	9.8	8.9	7.5	8.4	9.6	10.8	13.5	17.1	20.8	23.0	23.2	21.5	20.7	19.5	18.9	18.1	18.2	16.8	16.3	13.8	15.3
21		13.1	12.7	10.7	9.9	9.5	6.8	6.9	5.9	6.5	10.2	13.5	17.4	19.9	22.0	24.3	24.5	23.0	22.6	20.7	18.5	16.8	13.5	9.7	11.6	14.6
22		12.5	12.1	10.2	12.1	12.5	9.5	8.7	18.7	16.4	13.6	17.2	21.9	24.8	26.6	26.5	23.8	23.1	19.7	19.4	18.5	12.0	17.0	16.9	14.2	17.0
23		15.1	11.1	10.2	10.1	8.6	7.8	7.5	7.3	9.1	11.3	14.0	18.5	21.9	23.1	21.1	19.7	20.0	18.1	16.9	14.3	15.2	17.1	15.9	13.2	14.5
24		11.5	12.4	10.0	12.4	16.2	17.0	13.9	11.0	9.4	11.7	12.9	14.5	17.9	19.8	20.8	19.0	17.6	17.6	15.8	14.4	15.9	16.8	16.7	13.6	14.9
25		9.7	4.8	6.2	11.5	11.1	11.7	10.4	13.6	14.0	11.3	9.9	12.7	17.0	19.1	20.6	20.4	20.1	19.2	17.4	16.1	15.8	15.4	14.9	14.7	14.1
26		18.1	12.9	12.6	11.7	12.1	8.2	6.4	5.9	7.0	8.0	10.9	14.3	17.4	21.2	22.4	20.8	19.1	17.4	16.9	16.3	16.1	15.6	14.9	13.0	14.1
27		12.9	12.2	11.6	11.0	10.2	8.6	7.4	7.0	8.8	11.2	14.0	16.7	19.9	20.7	21.3	20.8	19.5	19.9	20.0	18.6	17.9	17.7	17.0	16.5	15.1
28	q	15.2	14.0	13.1	13.1	10.9	9.5	7.8	6.8	7.7	10.5	16.0	20.2	21.3	23.0	22.8	20.7	19.3	18.4	16.6	17.1	17.1	17.4	16.4	13.5	15.3
29		13.3	13.5	13.1	12.1	10.8	8.4	5.5	5.7	6.6	8.4	11.7	16.2	20.5	23.5	23.3	22.4	21.9	20.3	17.4	18.6	13.9	8.9	14.7	14.9	14.4
30		d	10.7	10.0	7.0	6.1	3.8	5.3	6.1	6.9	6.4	8.8	12.7	16.8	23.5	27.3	28.4	26.5	24.5	26.3	20.6	18.5	14.2	14.5	13.1	12.9
31		13.6	18.2	19.1	11.7	6.4	8.7	9.5	9.1	8.6	10.6	12.5	16.4	20.5	22.2	22.3	19.6	17.9	15.2	15.4	17.6	15.2	12.2	16.4	15.1	14.7
Mean		13.9	13.7	12.8	11.7	10.6	9.4	8.3	8.6	9.3	11.0	13.7	17.2	20.4	22.0	22.6	21.6	20.0	18.8	17.9	17.4	16.5	16.0	15.3	13.9	15.1



**TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT**  
 Mean values for periods of sixty minutes ending at exact hours, G.M.T.

31

30 LERWICK (V)

46,000γ (0.46 C.G.S. unit) +

JULY 1940

	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	Mean
	0-1	1-2																							
1	853	816	801	809	849	856	863	868	872	877	875	869	869	863	867	870	869	877	879	876	878	876	876	878	862
2 q	878	878	877	878	877	876	875	873	870	865	863	860	858	861	870	874	879	883	886	890	890	888	883	880	875
3	879	875	873	868	870	871	858	843	845	852	849	839	849	858	868	867	868	878	894	904	880	862	816	732	858
4 d	689	701	741	803	819	837	860	870	883	883	892	879	863	867	878	887	906	892	891	885	882	865	810	727	842
5	743	807	849	862	870	874	872	870	870	872	870	861	858	873	870	886	904	896	889	882	878	859	826	840	862
6	823	794	784	800	827	847	857	870	870	863	865	868	878	871	868	869	873	889	891	877	874	872	872	865	857
7	847	854	869	877	883	885	885	881	875	872	861	855	862	873	879	886	900	909	895	894	887	881	873	858	877
8	863	873	866	858	869	879	879	879	875	874	870	863	859	865	868	873	879	881	880	881	879	875	872	853	871
9	838	845	853	853	838	849	867	872	869	863	861	857	862	860	869	905	906	894	884	902	894	892	886	858	870
10 d	859	789	783	794	795	817	831	834	859	870	889	890	898	906	910	881	914	927	923	906	896	880	844	846	864
11	853	806	759	807	798	813	846	865	870	875	868	865	869	869	870	875	878	882	897	897	892	882	869	870	857
12	866	867	862	852	855	866	874	875	872	870	867	859	862	864	863	863	868	871	872	875	888	887	881	876	869
13 d	872	871	865	860	869	868	869	857	851	854	860	851	938	1012	1070	1013	990	984	939	901	894	892	864	795	902
14 d	847	812	848	841	776	810	849	876	882	880	897	893	908	931	933	938	944	930	899	891	885	877	855	866	878
15	875	853	769	785	816	845	865	864	867	870	876	876	875	881	892	916	936	920	909	898	888	875	866	862	870
16	847	823	830	839	853	862	874	879	881	880	874	868	870	883	881	884	891	896	899	891	882	883	879	869	872
17 q	871	867	859	860	870	873	875	876	875	876	878	878	877	874	877	880	899	908	897	886	880	876	876	877	878
18 q	878	879	880	880	880	877	871	867	865	863	860	860	861	860	868	875	880	883	879	874	874	872	873	870	872
19	866	864	866	872	869	871	873	873	874	869	864	858	855	857	864	881	880	880	876	873	870	874	869	864	869
20 q	870	873	875	876	876	875	873	871	870	870	862	855	850	854	863	871	871	871	873	878	876	874	872	872	870
21	870	869	868	871	875	876	871	868	862	857	856	865	863	866	871	874	878	883	900	905	898	902	878	866	875
22	870	871	874	870	856	839	849	813	817	845	853	859	858	867	884	894	902	930	918	898	886	874	869	875	870
23	849	849	866	874	876	877	871	871	870	864	860	860	863	862	865	868	867	875	883	890	887	876	868	861	869
24	863	864	865	862	845	822	841	857	866	876	878	879	878	878	874	886	891	892	899	895	889	881	873	854	871
25	816	812	821	842	851	855	861	864	860	873	886	882	870	866	864	863	867	882	884	881	878	877	874	868	862
26	833	829	851	860	858	863	862	864	867	864	865	864	859	858	857	870	874	878	876	872	870	870	869	868	863
27 q	860	861	863	863	866	866	863	863	866	866	859	858	852	850	854	860	866	864	863	864	868	867	866	859	862
28	845	848	861	864	868	870	872	870	865	863	861	859	855	866	866	871	872	875	877	877	874	873	871	870	866
29	868	867	868	866	866	865	869	869	867	862	860	854	852	850	860	859	859	857	867	868	883	881	866	864	864
30 d	859	860	864	858	858	852	854	861	860	857	858	853	851	854	855	874	890	887	893	870	879	874	879	871	865
31	870	838	768	773	813	832	842	853	866	874	869	869	871	876	874	883	889	893	882	872	877	869	866	859	857
Mean	849	842	841	848	851	857	864	865	866	868	868	865	868	873	879	884	890	892	890	886	882	877	866	854	868

Corrections to be applied to all values: H, -6γ; D, -4.1'; V, -9γ.

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

31 LERWICK

JULY 1940

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +				
	Horizontal force				Declination				Vertical force											
	Maximum 14,000γ +		Minimum 14,000γ +		Range	Maximum 12° +		Minimum 12° +		Range	Maximum 46,000γ +						Minimum 46,000γ +		Range	
	h. m.	γ	γ	h. m.		γ	h. m.	γ	h. m.		γ	h. m.					γ			
1	16 56	440	322	2 8	118	2 12	27.6	5.8	6 8	21.8	19 41	881	777	2 58	104	4, 4, 1, 1, 3, 2, 2, 1	18	1	86.6	
2 q	18 0	439	363	10 50	76	12 40	23.4	7.0	6 22	16.4	20 54	892	858	12 28	34	0, 1, 1, 2, 2, 1, 2, 1	10	0	86.6	
3	19 10	481	-105	24 0	586	14 18	26.7	-22.2	23 40	48.9	19 34	915	658	23 38	257	2, 2, 2, 2, 3, 3, 3, 7	24	1	86.1	
4 d	19 40	461	-105	0 0	566	13 4	24.4	-7.3	23 29	31.7	16 36	910	648	0 21	262	7, 4, 3, 2, 3, 3, 3, 5	30	1	85.8	
5	19 10	493	247	0 0	246	14 57	26.7	-4.3	0 46	31.0	16 33	906	711	0 10	195	5, 2, 2, 2, 3, 3, 3, 3	23	1	85.2	
6	19 52	477	335	2 56	142	14 32	26.8	2.8	2 51	24.0	18 5	896	778	2 46	118	4, 3, 2, 2, 3, 2, 3, 2	21	1	84.7	
7	18 1	483	350	10 12	133	13 50	22.4	5.6	7 15	16.8	17 25	911	841	0 40	70	2, 1, 1, 2, 3, 2, 3, 2	16	0	85.4	
8	23 18	454	352	10 31	102	15 6	25.2	6.1	6 31	19.1	16 53	885	840	23 50	45	1, 2, 1, 1, 2, 2, 2, 2	13	0	86.2	
9	18 24	492	364	11 29	128	15 4	26.5	7.2	5 50	19.3	15 39	916	829	4 8	87	3, 2, 2, 1, 3, 2, 3, 3	19	1	86.9	
10 d	18 11	481	297	11 7	184	15 30	27.2	1.9	22 50	25.3	17 44	936	753	1 49	183	4, 4, 4, 3, 4, 3, 3, 3	28	1	87.3	
11	17 32	449	305	4 21	144	14 12	23.2	2.7	7 24	20.5	19 16	900	746	2 20	154	4, 4, 3, 1, 2, 2, 2, 3	21	1	87.5	
12	19 46	445	354	10 23	91	14 31	23.1	8.6	7 8	14.5	20 36	891	850	3 27	41	1, 2, 1, 1, 2, 1, 2, 1	11	0	87.2	
13 d	13 46	824	215	23 10	609	15 1	34.3	0.2	23 1	34.1	14 34	1087	726	23 7	361	1, 2, 2, 5, 6, 5, 5, 5	31	2	86.6	
14 d	16 25	524	381	4 5	143	3 55	30.0	2.0	7 54	28.0	16 17	954	758	4 15	196	3, 5, 3, 3, 3, 3, 3, 3	26	1	86.1	
15	17 36	472	304	2 10	168	18 8	21.5	-0.1	3 31	21.6	16 38	947	735	2 33	212	4, 4, 2, 2, 3, 3, 3, 2	23	1	86.0	
16	17 16	451	338	2 24	113	14 4	22.7	5.3	6 44	17.4	17 54	902	815	1 49	87	3, 3, 2, 2, 2, 3, 2, 2	19	0	86.0	
17 q	15 51	451	363	10 4	88	2 0	19.7	7.6	4 30	12.1	17 12	911	854	3 8	57	2, 2, 1, 1, 1, 3, 2, 0	12	0	86.2	
18 q	21 6	429	368	10 49	61	12 57	23.7	7.1	7 11	16.6	17 15	885	857	13 19	28	0, 1, 1, 1, 1, 1, 1, 2	8	0	86.5	
19	20 51	438	354	10 57	84	13 29	24.2	3.9	7 36	20.3	15 44	884	853	12 8	31	1, 1, 1, 1, 2, 2, 2, 2	12	0	86.0	
20 q	18 40	448	358	10 40	90	13 57	23.6	5.9	6 38	17.7	20 10	880	848	12 59	32	1, 1, 1, 1, 2, 1, 2, 2	11	0	85.9	
21	18 15	497	347	10 27	150	15 16	25.2	3.3	7 57	21.9	19 2	913	852	9 58	61	1, 1, 2, 2, 2, 3, 3, 3	17	0	86.3	
22	17 2	481	301	7 1	180	14 20	28.2	5.3	6 15	22.9	17 38	942	796	7 53	146	1, 3, 4, 2, 3, 3, 3, 2	21	1	86.6	
23	17 18	444	355	12 15	89	12 53	23.5	5.9	7 12	17.6	19 51	896	838	0 53	58	2, 1, 1, 1, 2, 2, 2, 3	14	0	86.8	
24	17 38	446	348	4 41	98	14 44	21.4	7.2	9 22	14.2	18 35	901	818	5 20	83	2, 3, 2, 2, 3, 2, 1, 3	18	0	86.7	
25	17 5	450	345	11 5	105	14 55	21.0	2.9	1 7	18.1	17 51	888	806	0 46	82	3, 2, 2, 2, 2, 3, 1, 1	16	0	86.9	
26	18 35	422	359	11 14	63	14 19	23.1	4.7	7 0	18.4	17 16	879	810	0 56	69	3, 2, 1, 1, 2, 2, 0, 1	12	0	87.0	
27 q	20 27	433	360	11 25	73	14 55	22.0	5.4	7 0	16.6	17 1	869	849	13 25	20	1, 0, 0, 1, 1, 2, 1, 1	7	0	86.9	
28	20 14	432	359	11 2	73	13 56	23.5	5.8	7 50	17.7	18 25	879	842	0 33	37	2, 1, 1, 2, 2, 1, 1, 2	12	0	86.5	
29	17 49	453	364	11 0	89	13 42	24.7	0.9	21 1	23.8	20 55	902	848	13 34	54	1, 2, 1, 2, 2, 2, 3, 3	16	0	86.5	
30 d	19 5	492	352	11 3	140	14 17	30.6	0.0	3 40	30.6	18 39	896	843	12 11	53	2, 3, 2, 2, 3, 3, 4, 2	21	1	86.5	
31	16 24	459	330	1 48	129	13 11	23.6	5.0	4 31	18.6	17 10	897	761	2 47	136	4, 3, 3, 2, 2, 3, 2, 2	21	1	86.4	
Mean	- -	472	309	- -	163	- -	24.8	3.0	- -	21.9	- -	908	800	- -	108	-	-	-	0.48	86.4



**TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

32 LERWICK (H)		14,000γ (0.14 C.G.S. unit) +																				AUGUST 1940				
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
		γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1		403	347	329	391	402	399	395	388	373	363	358	374	387	394	400	405	416	443	429	432	422	411	392	391	393
2		396	395	398	399	400	395	390	382	374	358	363	370	380	388	392	412	429	419	444	440	430	417	412	413	400
3 d		412	412	409	406	410	406	383	366	354	356	340	367	386	412	560	469	504	479	433	432	413	394	399	398	413
4		391	386	386	398	398	394	380	376	359	349	352	366	377	390	407	411	404	399	411	418	430	409	404	404	392
5		400	392	379	374	383	389	403	390	373	360	358	373	383	398	386	420	410	417	437	435	436	411	403	396	396
6 d		404	396	386	396	383	387	395	388	367	358	346	361	366	404	382	403	443	410	414	437	438	406	384	376	393
7		399	403	398	400	399	395	390	390	382	357	353	367	369	371	400	391	418	470	450	420	409	406	403	403	398
8		406	403	380	377	391	392	378	348	358	339	353	346	374	398	399	383	395	404	409	415	413	408	410	407	387
9 d		405	389	390	398	396	383	380	378	371	329	344	388	479	506	503	498	564	528	464	400	347	306	266	337	406
10		352	382	382	388	392	391	383	376	368	365	358	375	376	379	396	408	405	422	440	431	419	405	403	398	391
11 d		391	390	370	378	373	372	373	373	361	347	360	373	395	404	421	450	464	443	447	443	417	410	392	377	397
12		385	394	389	386	393	371	376	388	378	361	351	355	361	375	383	416	444	454	447	430	415	409	403	391	394
13		371	398	392	393	395	385	370	366	357	355	359	371	385	400	412	411	410	418	414	413	410	411	410	401	392
14		401	403	399	395	386	395	403	392	367	344	347	361	383	384	383	396	398	419	418	414	410	408	403	408	392
15 q		400	394	393	397	398	398	392	382	366	352	348	359	367	385	406	407	404	407	411	412	415	414	413	410	393
16 q		408	405	404	403	403	403	398	381	365	358	352	354	363	377	395	407	406	410	411	418	414	406	405	405	394
17 q		409	409	402	397	395	393	388	382	372	363	370	380	383	388	395	406	416	415	415	414	418	413	412	412	398
18		413	413	413	411	409	405	398	391	377	364	364	367	385	403	428	480	514	596	537	448	425	419	402	407	424
19		393	388	390	387	385	379	372	364	356	349	340	336	357	360	393	448	440	439	430	426	410	408	405	383	389
20		373	382	391	379	373	371	379	378	364	348	355	359	380	369	395	415	426	416	423	415	403	400	400	402	387
21		404	403	397	389	397	387	381	370	356	348	353	360	363	397	423	404	408	418	431	422	415	404	399	394	393
22		402	406	404	405	404	400	396	391	381	372	367	372	393	417	430	458	436	463	450	415	410	410	409	415	409
23		409	397	388	386	397	391	380	369	357	346	344	348	358	374	398	403	413	409	406	412	410	408	409	403	388
24 q		401	397	397	397	397	396	394	385	370	356	348	352	366	387	399	404	407	406	410	410	411	407	404	403	392
25		403	403	403	402	401	398	395	390	379	364	359	360	373	391	398	412	421	412	420	424	430	427	409	405	399
26 d		420	430	431	418	409	401	392	382	370	360	362	375	387	421	413	406	413	426	453	433	420	399	347	373	402
27		352	387	405	414	403	372	380	375	368	360	362	363	372	383	409	422	399	405	408	417	415	409	410	418	392
28		409	409	389	346	386	395	388	374	367	364	360	365	377	389	395	410	415	422	417	417	415	414	408	405	393
29		399	378	402	406	406	397	388	385	377	359	354	364	371	382	393	401	404	403	409	416	412	409	409	409	393
30 q		407	400	400	398	398	396	393	386	377	368	367	375	385	391	400	399	398	404	412	419	413	409	410	415	397
31		407	400	400	398	397	393	393	395	391	377	366	365	381	397	394	399	413	411	412	424	427	428	424	400	400
Mean		398	396	393	394	395	391	387	380	369	356	355	365	379	394	409	418	427	432	429	423	415	406	399	399	396

Corrections to be applied to all values: H, -6γ; D, -4.1'; V, -10γ.

**MAGNETIC DECLINATION (WEST)**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

33	LERWICK (D)													12° +												AUGUST 1940									
	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										
1	15.6	23.3	12.9	5.1	6.8	6.2	6.0	7.2	9.0	10.8	14.9	19.8	23.5	23.6	22.2	20.3	18.2	17.3	16.4	15.6	15.6	12.8	17.4	11.1	14.7										
2	11.9	12.0	11.8	12.1	10.2	9.0	7.4	6.6	5.6	9.3	13.5	19.3	23.6	25.0	23.6	21.2	20.7	18.4	19.2	8.6	13.6	15.5	15.3	14.6	14.5										
3 d	11.7	10.7	8.0	6.8	9.6	13.5	18.8	24.4	22.5	22.8	19.6	20.5	21.8	20.7	19.7	18.0	23.2	17.5	17.2	14.3	14.0	17.1	16.3	16.3	16.9										
4	16.4	21.4	19.3	14.6	13.0	11.7	12.3	14.4	14.5	14.4	16.2	18.9	21.4	22.1	22.0	19.9	16.8	15.3	15.2	15.1	10.2	14.1	15.0	15.6	16.2										
5	16.3	15.7	15.5	13.8	12.1	11.0	7.5	7.6	9.5	13.0	16.9	18.8	21.8	22.5	21.5	20.1	19.1	18.7	17.8	16.4	15.0	10.1	9.9	15.0	15.2										
6 d	15.3	15.2	12.2	10.5	9.9	10.3	10.0	9.6	11.2	13.2	16.5	19.3	22.9	24.2	22.2	19.9	20.2	16.3	16.0	16.5	10.9	15.6	12.6	4.9	14.8										
7	12.0	13.0	11.3	10.9	9.6	8.2	10.1	12.1	10.6	11.5	16.8	19.2	21.5	24.2	23.0	20.3	19.4	17.2	10.8	16.1	17.2	16.9	16.3	16.1	15.2										
8	16.3	18.5	10.9	9.8	9.3	9.0	12.9	18.4	16.7	14.5	15.3	17.0	16.4	18.7	17.9	16.7	14.5	14.1	15.2	14.2	14.6	13.2	14.4	17.2	14.8										
9 d	18.9	11.5	11.0	14.0	14.1	19.5	21.3	15.3	10.4	5.7	6.3	6.4	6.0	15.2	15.5	21.2	21.4	24.4	31.1	6.9	17.5	11.1	6.9	7.7	14.1										
10	12.1	12.7	13.1	11.6	10.0	9.7	10.5	13.0	14.6	15.8	17.0	17.9	20.7	21.3	19.0	17.8	17.2	15.7	17.2	16.5	14.9	17.3	16.7	15.8	15.3										
11 d	15.0	13.4	17.9	14.1	11.7	8.8	8.4	8.8	15.3	16.7	18.2	18.5	18.6	17.6	17.2	16.8	11.9	15.1	18.0	14.0	17.0	17.3	14.2	8.0	14.7										
12	8.7	12.2	10.5	7.6	6.2	7.4	11.4	11.8	12.6	14.3	17.4	20.7	22.5	24.3	23.9	21.5	16.9	14.1	15.1	15.2	16.3	16.0	15.5	14.7	14.9										
13	14.2	11.9	15.6	9.5	10.2	9.6	10.8	11.1	13.1	15.7	18.8	20.3	21.8	22.7	22.2	21.0	18.0	15.9	15.5	16.1	16.1	16.0	13.3	13.4	15.5										
14	14.2	13.3	12.3	13.2	15.2	11.6	8.1	8.1	9.8	13.1	16.9	19.8	21.8	23.2	23.3	21.5	18.1	15.6	13.9	14.0	15.1	15.0	15.4	18.1	15.4										
15 q	13.7	13.3	13.0	11.0	9.6	7.6	6.9	7.0	7.7	10.4	13.2	16.8	20.0	21.1	20.2	18.2	16.3	15.4	15.6	16.1	16.0	16.2	16.0	14.9	14.0										
16 q	14.2	13.3	12.1	10.6	9.8	8.3	6.7	7.5	10.1	10.5	13.1	17.0	21.1	23.2	22.5	20.7	17.8	16.2	15.3	15.4	15.2	14.4	14.3	14.0	14.3										
17 q	14.0	11.3	11.2	10.5	9.1	7.6	6.6	6.9	9.6	13.0	16.0	18.8	23.3	25.3	24.8	22.4	18.1	15.3	14.9	15.7	14.7	13.3	14.2	13.1	14.6										
18	12.8	12.8	12.2	11.7	10.7	9.8	8.8	8.3	8.4	11.6	16.1	20.9	24.2	25.6	25.3	23.9	26.6	33.4	25.5	19.2	19.3	20.1	16.5	11.0	17.3										
19	10.6	11.8	12.2	11.7	10.0	8.7	8.4	8.6	10.0	13.7	17.8	22.1	24.6	24.6	21.9	21.1	12.5	13.3	13.6	15.1	18.0	16.6	15.0	8.8	14.6										
20	5.1	5.9	3.1	7.0	6.5	8.5	9.2	5.7	6.6	9.2	13.2	18.5	24.1	23.0	21.3	19.7	18.1	15.4	10.5	13.9	14.5	14.9	14.6	14.3	12.6										
21	13.0	10.0	11.7	10.1	7.2	6.0	7.1	8.6	10.5	13.6	17.7	22.5	23.3	23.6	23.1	17.8	15.5	15.5	16.2	15.7	16.3	17.3	15.2	8.1	14.4										
22	7.2	8.6	9.1	9.1	7.8	6.3	5.9	6.1	8.2	11.1	13.7	18.8	24.2	27.5	26.6	26.0	22.3	21.6	17.4	20.2	16.5	15.9	14.5	12.2	14.9										
23	10.0	10.5	11.0	8.4	7.3	7.0	6.5	8.0	9.1	11.5	15.6	19.7	22.0	23.4	22.6	19.3	16.4	14.2	13.2	14.2	15.5	15.0	12.7	11.8	13.6										
24 q	12.0	12.5	12.0	11.2	10.5	9.4	8.5	7.8	7.7	10.3	14.2	18.5	20.6	22.2	21.2	18.9	16.7	15.2	15.0	14.7	14.4	14.9	14.5	14.1	14.0										
25	13.6	13.1	12.5	12.2	11.5	10.8	10.5	9.5	10.1	11.8	13.7	17.8	21.6	23.9	22.3	20.1	18.6	17.0	17.4	18.1	18.5	18.2	12.6	11.0	15.3										
26 d	12.5	12.8	12.5	11.9	9.9	8.4	7.5	8.1	7.6	9.8	14.1	18.4	22.8	26.1	24.9	21.4	16.6	17.7	20.8	18.9	15.8	13.5	14.0	2.1	14.5										
27	2.6	6.3	9.6	6.3	7.7	8.4	9.5	9.3	10.6	11.9	13.5	15.8	18.8	20.9	21.6	20.2	17.7	18.0	17.4	16.8	16.1	12.7	14.6	14.2	13.4										
28	12.3	13.1	9.9	14.0	12.7	8.2	8.4	7.8	9.0	10.8	13.6	16.0	19.8	21.1	20.1	17.4	15.4	14.5	14.0	11.6	11.8	15.4	13.0	13.7	13.5										
29	13.3	18.9	13.9	11.3	10.1	8.9	9.1	9.6	9.4	10.8	14.0	18.6	24.5	23.5	20.5	19.8	17.8	15.7	14.3	15.0	15.1	15.0	14.0	14.2	14.9										
30 q	13.3	13.6	11.8	11.2	10.9	10.2	9.5	9.0	9.9	11.9	15.6	20.0	23.3	22.8	20.2	18.4	16.3	15.8	16.2	14.6	11.5	14.2	15.3	15.5	14.6										
31	11.0	8.8	11.1	9.1	8.2	8.2	8.4	8.6	9.2	11.6	15.8	21.2	23.6	23.9	21.8	19.2	16.7	15.8	16.2	16.5	16.1	16.2	14.5	3.5	14.0										
Mean	12.6	12.9	12.0	10.7	9.9	9.3	9.5	9.8	10.6	12.4	15.3	18.6	21.5	22.8	21.7	20.0	17.9	17.0	16.5	15.2	15.3	15.2	14.3	12.4	14.7										



**TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

33

34	LERWICK (V)				46,000 $\gamma$ (0.46 C.G.S. unit) +																								AUGUST 1940																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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Corrections to be applied to all values: H, -6γ; D, -4.1'; V, -10γ.

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

35		LERWICK										AUGUST 1940								
TERRESTRIAL MAGNETIC ELEMENTS															3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 + °A.		
Horizontal force					Declination			Vertical force												
Maximum 14,000γ +		Minimum 14,000γ +		Range	Maximum 12° +		Minimum 12° +		Range		Maximum 46,000γ +		Minimum 46,000γ +						Range	
	h. m.	γ	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ					
1	17 40	456	289	2 14	167	1 59	28.2	2.8	3 33	25.4	19 0	898	695	2 30	203	5, 4, 1, 2, 2, 3, 2, 3	22	1	86.5	
2	18 54	485	356	9 46	129	13 25	26.1	2.6	19 38	28.7	19 35	938	835	0 0	103	2, 1, 2, 2, 2, 3, 4, 1	17	1	87.0	
3 d	14 50	689	314	10 30	375	16 54	36.8	4.8	3 16	32.0	15 14	1107	842	7 44	265	2, 3, 3, 3, 6, 5, 3, 3	28	1	87.4	
4	20 20	437	346	10 14	91	1 56	29.2	6.0	20 15	23.2	20 12	891	811	2 27	80	3, 2, 2, 2, 2, 2, 3, 1	17	0	87.5	
5	20 10	451	347	10 5	104	12 54	23.4	1.0	21 44	22.4	20 43	903	846	2 21	57	2, 2, 1, 3, 3, 3, 2, 3	19	0	87.6	
6 d	20 53	475	331	10 41	144	13 5	25.0	2.6	23 35	27.6	17 15	914	755	23 45	159	3, 2, 2, 2, 3, 3, 3, 4	22	1	87.3	
7	17 33	490	340	9 24	150	13 24	25.0	6.3	18 6	18.7	18 2	969	776	0 0	193	4, 1, 1, 3, 3, 4, 4, 1	21	1	87.1	
8	19 23	419	327	9 31	92	1 44	23.5	8.0	5 19	15.5	15 23	897	776	2 16	121	4, 4, 3, 2, 3, 2, 1, 2	21	0	87.0	
9 d	16 39	593	225	18 50	368	18 51	79.0	7.4	19 25	86.4	18 54	1019	678	19 53	341	3, 3, 3, 5, 4, 4, 7, 4	33	1	87.0	
10	18 40	447	335	0 35	112	13 29	22.1	7.7	0 11	14.4	17 42	924	815	0 31	109	3, 1, 2, 2, 2, 3, 2, 1	16	0	86.9	
11 d	16 42	480	341	9 40	139	2 28	20.9	2.4	23 28	18.5	16 30	972	796	23 33	176	3, 2, 2, 3, 3, 3, 3, 4	23	1	86.7	
12	17 2	462	341	0 1	121	13 12	25.2	2.6	0 11	22.6	16 55	931	786	0 17	145	3, 3, 3, 1, 2, 3, 3, 3	22	0	86.0	
13	17 56	436	350	0 13	86	13 28	23.3	7.4	5 48	15.9	16 35	916	803	0 21	113	3, 2, 1, 2, 2, 2, 2, 1	15	0	85.8	
14	18 2	427	337	10 14	90	13 40	24.3	6.9	7 38	17.4	18 38	896	839	24 0	57	1, 2, 2, 2, 2, 2, 1, 2	14	0	85.6	
15 q	20 40	416	346	10 15	70	13 26	21.7	6.1	6 39	15.6	16 10	882	839	0 3	43	2, 1, 2, 1, 2, 2, 1, 0	11	0	85.3	
16 q	19 57	425	349	11 7	76	13 30	23.4	5.9	6 54	17.5	7 35	879	863	15 10	16	1, 1, 2, 1, 1, 1, 1, 0	8	0	85.1	
17 q	21 4	423	362	9 38	61	13 49	25.5	6.3	7 8	19.2	17 10	876	851	10 44	25	1, 0, 0, 2, 1, 2, 1, 1	8	0	85.0	
18	17 45	635	358	10 4	277	17 18	39.1	5.9	23 50	33.2	17 56	1064	849	10 25	215	0, 0, 1, 2, 3, 5, 5, 3	19	1	85.0	
19	15 55	477	331	11 22	146	12 42	25.9	4.3	23 51	21.6	16 34	987	855	0 7	132	2, 0, 1, 1, 3, 4, 3, 3	17	1	84.8	
20	16 49	435	339	9 41	96	12 50	26.5	0.8	2 11	25.7	18 11	909	794	5 16	115	2, 3, 2, 2, 2, 3, 2, 1	17	0	84.7	
21	18 53	435	345	9 38	90	13 53	25.6	3.5	23 56	22.1	15 25	897	850	0 47	47	2, 1, 1, 2, 3, 1, 1, 3	14	0	84.0	
22	19 2	485	361	10 44	124	13 5	28.2	3.9	7 9	24.3	18 8	953	845	12 41	108	2, 1, 1, 2, 2, 3, 4, 2	17	1	84.1	
23	18 57	424	340	10 30	84	13 4	24.2	5.8	6 5	18.4	17 15	890	834	1 33	56	2, 2, 1, 2, 2, 2, 2, 1	14	0	84.0	
24 q	20 14	414	344	10 52	70	13 38	22.4	7.3	7 42	15.1	6 47	880	853	12 53	27	1, 0, 1, 2, 2, 1, 1, 0	8	0	83.9	
25	20 20	439	356	10 6	83	13 40	24.7	6.8	22 50	17.9	22 53	899	849	12 56	50	0, 0, 1, 1, 1, 2, 2, 3	10	0	83.7	
26 d	18 36	476	280	22 37	196	13 55	27.8	2.6	23 23	30.4	19 44	917	671	22 22	246	2, 2, 1, 2, 3, 2, 3, 5	20	1	83.9	
27	15 20	439	331	0 59	108	15 2	22.6	1.7	0 33	24.3	16 21	888	750	0 58	138	4, 3, 2, 1, 2, 3, 2, 2	19	1	83.9	
28	17 8	430	330	3 47	100	13 10	23.1	5.0	7 22	18.1	19 48	882	815	4 16	67	3, 3, 2, 2, 2, 1, 2, 2	17	0	83.4	
29	19 10	421	345	10 5	76	13 6	26.6	7.5	5 52	19.1	13 36	890	814	2 5	76	3, 1, 1, 2, 3, 2, 1, 1	14	0	83.0	
30 q	19 29	423	363	9 40	60	12 43	24.4	8.2	20 26	16.2	20 32	881	842	24 0	39	1, 0, 1, 1, 1, 1, 2, 2	9	0	83.0	
31	21 32	433	354	10 57	79	13 13	24.8	3.0	23 51	27.8	17 24	893	830	23 57	63	2, 0, 1, 2, 2, 2, 2, 3	14	0	82.9	
Mean	--	464	336	--	128	--	27.4	3.7	--	23.7	--	924	808	--	116	--	--	0.39	--	85.3



**TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

36 LERWICK (H)

14,000 γ (0.14 C.G.S. unit) +

SEPTEMBER 1940

	Hour G.M.T.																								Mean
	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	
1 d	374	307	327	384	398	406	384	364	367	363	362	361	453	487	537	455	408	398	395	396	399	396	396	394	396
2	394	394	392	389	385	383	378	368	356	357	342	363	377	401	414	403	426	436	454	410	407	399	403	395	393
3	265	338	401	398	394	368	365	372	362	354	344	357	363	370	399	397	434	435	410	412	388	349	380	391	377
4	379	332	380	390	400	391	391	379	346	318	335	355	366	377	395	398	401	392	401	409	407	396	371	361	378
5	379	389	371	362	376	389	380	372	359	353	354	361	381	400	393	401	413	407	420	414	400	401	404	398	387
6	396	398	387	392	394	393	392	389	370	353	347	359	357	385	396	401	401	403	409	418	415	414	390	394	390
7 d	382	370	327	329	267	340	342	340	319	326	334	361	375	383	384	429	448	412	410	413	402	383	390	341	367
8	375	386	391	385	373	385	392	386	372	345	334	349	371	397	385	423	460	432	400	399	396	396	396	400	389
9	400	352	357	345	394	397	385	380	363	340	338	361	385	388	395	405	412	438	442	405	384	384	357	375	383
10 q	381	384	384	384	385	389	393	388	377	366	355	354	364	377	386	388	387	388	395	401	406	406	401	400	385
11	396	396	396	396	395	394	392	388	379	364	352	352	366	384	394	397	399	392	398	409	409	409	408	403	390
12 q	400	398	399	397	398	399	399	392	380	368	368	374	378	385	385	391	397	406	411	409	408	410	405	402	394
13	405	403	404	403	403	400	394	384	371	359	358	365	382	397	416	408	415	410	417	418	418	417	414	415	399
14	414	411	401	402	417	414	403	390	380	370	370	375	387	395	399	429	417	436	478	440	407	412	403	394	406
15	394	393	393	395	384	379	391	382	355	357	365	371	385	376	409	397	404	412	418	403	401	403	403	401	390
16	400	400	399	395	395	392	383	375	369	360	360	363	383	391	432	405	402	412	398	396	392	394	397	397	391
17 q	396	396	395	395	394	393	387	377	365	354	353	362	374	381	388	389	402	407	413	417	413	412	412	410	391
18	409	407	406	405	401	398	394	385	372	361	352	349	360	368	380	391	398	407	414	418	415	412	414	417	393
19 q	411	407	406	406	404	404	398	386	372	361	354	360	369	377	385	384	397	408	410	409	409	409	408	412	394
20	411	411	410	409	407	405	402	397	382	369	360	357	368	391	400	439	398	413	414	424	417	409	410	410	401
21	406	404	409	406	408	405	402	390	375	363	351	357	360	367	357	370	391	405	407	404	404	405	405	402	390
22	402	398	400	398	395	395	391	385	370	360	357	362	361	378	379	403	399	405	417	413	405	405	400	398	391
23 q	400	396	395	396	396	396	393	385	374	363	361	360	363	371	379	387	393	401	406	407	406	407	405	405	389
24	401	404	399	397	404	400	398	392	381	366	358	358	365	373	383	394	395	402	410	414	415	402	397	396	392
25	394	395	409	406	402	385	403	399	387	376	370	360	368	369	393	398	418	430	409	394	400	404	381	384	393
26 d	397	397	397	399	397	397	396	392	381	365	353	349	350	357	378	399	399	533	636	217	374	395	370	232	386
27 d	179	-171	166	221	295	335	363	369	356	346	360	363	369	380	399	429	429	446	411	404	383	363	208	285	320
28 d	225	309	344	301	242	267	283	352	336	353	377	403	379	411	440	451	452	476	395	377	375	380	373	380	362
29	371	340	367	386	389	384	378	381	373	363	363	363	372	376	378	384	386	384	384	393	396	381	393	393	378
30	395	390	392	392	395	397	395	389	374	357	349	349	363	369	378	390	397	406	403	395	378	386	396	396	385
Mean	378	364	380	382	383	386	385	381	367	357	355	361	373	385	398	405	409	418	419	401	401	398	390	386	386

Corrections to be applied to all values: H, -6γ; D, -4.1'; V, -9γ.

**MAGNETIC DECLINATION (WEST)**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

37 LERWICK (D)

12° +

SEPTEMBER 1940

	Hour G.M.T.																								Mean
	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	
1 d	3.0	-1.6	-0.9	5.5	11.9	8.4	9.9	11.1	9.9	13.9	17.9	22.3	25.9	26.8	25.7	19.7	19.6	15.3	14.2	12.5	12.2	14.1	14.7	14.6	13.6
2	14.0	13.0	12.2	10.3	9.0	8.1	7.1	6.9	10.8	13.3	17.2	23.3	26.3	26.6	23.2	19.3	19.2	19.7	15.0	14.7	16.5	14.6	15.0	11.9	15.3
3	3.5	3.1	10.3	10.1	9.1	15.9	19.1	13.2	11.0	13.9	16.3	21.8	23.2	22.5	22.2	19.0	17.2	9.9	14.0	14.5	10.1	6.0	9.6	9.7	13.5
4	11.8	23.3	11.7	10.0	9.7	7.7	6.7	6.3	9.3	14.6	14.1	16.3	23.6	24.5	21.5	17.5	14.2	13.3	13.5	13.9	9.4	5.6	8.1	11.8	13.3
5	15.0	10.3	13.4	14.2	13.1	9.3	7.5	7.1	10.5	14.5	17.1	20.0	23.2	23.2	19.8	15.2	13.6	13.2	12.8	11.3	8.8	13.6	13.9	12.3	13.9
6	14.1	14.1	14.5	14.6	11.0	10.0	9.9	10.7	12.1	14.7	17.0	19.7	21.2	21.6	20.6	18.5	15.5	14.3	14.2	14.1	13.9	7.3	9.1	16.6	14.6
7 d	9.2	0.9	-5.0	6.8	12.8	12.5	17.0	15.0	11.1	13.5	14.3	17.0	19.4	24.0	21.6	15.6	14.2	14.7	14.5	15.0	14.3	14.5	5.1	9.4	12.8
8	9.9	12.1	10.6	6.8	9.8	10.3	9.5	9.2	11.8	14.9	19.7	20.9	21.4	24.3	22.0	17.5	14.0	13.1	12.9	14.3	14.3	13.9	14.3	14.1	14.2
9	8.1	2.0	6.1	14.2	10.0	9.5	7.2	6.5	8.9	14.0	17.0	19.4	21.3	21.3	20.4	17.3	15.2	13.5	12.5	12.0	10.9	5.9	11.0	7.6	12.2
10 q	14.8	14.1	11.6	12.5	11.7	11.6	9.7	8.4	8.7	9.9	13.0	16.7	18.9	19.4	18.0	15.7	13.6	13.1	13.1	13.6	13.8	12.7	12.4	11.3	13.3
11	12.6	13.1	13.0	12.4	11.8	11.0	10.1	9.6	10.0	12.9	16.6	21.2	24.3	24.5	24.2	21.2	20.4	16.6	15.3	15.1	14.9	14.2	14.1	13.8	15.5
12 q	12.9	13.6	12.0	11.0	11.6	11.0	10.6	10.4	11.5	13.9	15.4	18.9	20.6	22.2	20.4	17.7	16.2	15.3	15.1	14.1	13.7	14.7	13.3	13.5	14.6
13	12.9	13.0	12.4	11.9	11.1	10.3	9.5	9.1	10.4	13.5	16.3	19.4	21.0	20.3	20.1	17.7	17.5	17.7	18.8	17.5	16.7	15.2	14.1	13.9	15.0
14	13.1	11.9	14.2	12.2	11.0	9.2	8.1	8.0	9.2	11.5	14.9	19.1	22.2	21.8	20.0	19.7	18.0	17.2	18.9	12.7	16.2	16.3	15.8	9.2	14.6
15	7.0	10.5	10.7	9.7	7.0	13.2	9.0	10.0	11.7	11.7	14.4	17.8	21.2	19.4	19.0	16.3	14.4	10.9	7.8	11.9	14.2	13.8	14.1	13.0	12.9
16	12.2	12.0	12.1	11.5	10.4	10.1	10.3	8.5	8.7	10.9	14.5	17.9	22.8	24.5	26.5	24.2	17.2	16.0	12.7	12.7	13.3	13.1	13.0	13.1	14.5
17 q	13.1	12.9	12.5	12.1	11.5	10.2	8.9	8.1	9.0	11.9	14.5	16.6	19.0	19.2	18.2	17.1	17.2	17.1	17.2	17.0	16.3	13.8	10.7	12.9	14.0
18	12.5	12.3	12.0	11.6	11.1	10.5	9.2	8.0	7.4	9.0	11.9	16.1	20.1	21.1	20.3	19.1	17.1	16.4	16.2	16.2	13.3	12.5	13.2	12.2	13.7
19 q	11.2	12.6	12.1	11.1	11.0	10.5	8.5	8.1	7.8	10.2	12.3	15.0	18.2	19.4	19.7	18.6	17.6	16.2	15.7	15.0	14.5	14.1	13.6	13.1	13.6
20	13.1	12.7	12.4	12.1	11.1	11.5	10.4	9.6	9.2	11.3	16.5	19.8	24.0	27.6	26.6	29.4	25.5	20.7	16.5	16.1	14.2	11.3	12.1	12.6	16.1
21	12.1	11.9	10.0	11.1	10.1	9.1	9.0	6.0	7.8	10.2	15.8	20.5	24.5	24.5	25.5	22.8	17.3	11.6	13.2	13.6	14.1	13.9	13.1	13.0	14.2
22	12.1	12.1	12.2	11.7	11.1	11.1	9.6	8.9	9.6	12.1	16.5	18.8	21.0	23.2	21.2	19.4	19.2	17.0	12.3	14.0	14.6	13.0	13.3	12.9	14.5
23 q	12.1	11.6	12.1	11.8	11.5	11.0	10.3	9.5	9.6	11.1	13.3	16.7	20.1	19.7	18.6	16.5	15.2	14.9	14.6	14.1	14.1	14.1	13.9	13.6	13.7
24	13.0	11.7	10.4	10.5	10.4	10.5	10.0	8.7	8.6	10.0	12.6	15.6	18.0	19.0	18.8	18.1	16.2	15.1	14.3	14.2	16.4	15.5	11.2	9.4	13.3
25	7.7	6.9	7.8	7.0	8.7	9.0	12.9	7.4	8.7	11.3	15.2	19.3	23.6	22.4	24.2	21.6	20.0	13.9	15.0	11.3	12.0	9.9	4.3	12.2	13.0
26 d	10.8	11.2	11.8	12.4	11.9	11.1	10.1	8.9	9.0	10.7	12.5	15.2	18.4	19.2	20.0	18.7	15.4	-1.4	3.8	8.1	9.8	14.0	10.6	13.3	11.9
27 d	8.2	-0.5	-23.0	-9.4	1.8	7.2	8.5	8.0	7.1	7.4	9.6	13.7	14.7	15.2	13.3	14.0	15.0	9.2	1.6	10.9	16.0	6.9	10.1	4.2	7.1
28 d	5.9	3.5	4.4	12.2	17.2	20.4	14.9	14.7	12.5	11.0	11.4	14.4	18.2	18.4	18.4	18.4	15.5	10.4	17.1	2.3	6.2	8.8	6.3	8.9	12.1
29	10.7	10.4	9.7	10.2	10.4	11.2	10.0	9.3	9.4	11.4	14.4	15.9	18.9	19.3	16.2	16.0	14.1	12.5	11.4	11.5	12.7	11.1	12.7	13.8	12.6
30	14.5	15.1	13.4	12.3	11.4	10.4	9.4	8.2	8.1	9.1	12.4	15.8	19.3	19.8	18.2	15.9	14.1	13.1	9.4	12.4	4.1	9.2	12.3	12.7	12.5
Mean	11.0	10.3	9.2	10.3	10.7	10.7	11.0	9.1	9.6	11.9	14.8	18.2	21.1	21.8	20.8	18.6	16.6	14.0	13.5	13.2	13.1	12.1	11.8	12.0	13.5



**TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT**  
Mean values for periods of sixty minutes ending at exact hours G.M.T.

35

38	LERWICK (V)				46,000γ (0.46 C.G.S. unit) +																				SEPTEMBER 1940																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	Hour G.M.T.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					

Corrections to be applied to all values: H, -6γ; D, -4.1'; V, -9γ.

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

39 LERWICK		TERRESTRIAL MAGNETIC ELEMENTS										SEPTEMBER 1940							
Horizontal force						Declination			Vertical force				3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +			
Maximum 14,000γ +		Minimum 14,000γ +		Range	Maximum 12° +		Minimum 12° +		Range	Maximum 46,000γ +		Minimum 46,000γ +					Range		
	h. m.	γ	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	γ	h. m.	γ			°A.		
1 d	14 37	563	238	1 54	325	14 22	32.9	-7.5	1 40	40.4	14 25	1025	646	2 9	379	5,5,3,3,5,4,3,1	29	1	83.1
2	18 23	477	335	10 19	142	12 47	27.5	5.8	6 18	21.7	18 50	956	835	24 0	121	0,1,2,2,3,3,3,3	17	0	83.4
3	16 44	468	134	0 55	334	14 17	26.4	-13.3	0 54	39.7	17 9	959	687	1 0	272	6,3,3,3,3,4,3,3	28	1	83.6
4	21 23	425	309	1 23	116	1 23	28.0	-0.3	21 17	28.3	11 30	927	732	1 33	195	4,2,3,3,2,3,3,4	24	1	84.0
5	16 0	434	344	8 57	90	13 15	24.7	3.6	20 14	21.1	16 23	913	799	0 24	114	3,3,2,2,2,3,3,1	19	0	84.4
6	21 40	426	342	10 21	84	11 58	22.5	3.0	21 35	19.5	17 9	887	829	23 5	58	2,2,1,2,3,2,1,3	16	0	84.9
7 d	16 4	480	216	4 27	264	13 46	24.6	-9.4	2 16	34.0	15 56	977	624	4 45	353	4,5,5,3,3,4,2,4	30	1	84.3
8	16 18	469	316	11 5	153	13 22	26.5	3.9	0 20	22.6	17 24	964	718	0 5	246	5,2,2,3,3,3,3,3	24	1	84.1
9	18 5	466	315	3 13	151	19 58	26.6	-3.1	1 31	29.7	17 48	952	760	2 57	192	4,4,2,3,2,3,4,3	25	1	83.4
10 q	21 15	413	352	11 15	61	13 20	20.0	7.5	7 34	12.5	6 23	885	812	0 1	73	3,1,1,0,1,1,1,1	9	0	82.7
11	21 14	412	345	11 39	67	13 33	25.3	8.6	8 4	16.7	17 35	914	865	12 18	49	1,0,0,1,2,2,2,1	9	0	82.3
12 q	21 54	414	363	10 26	51	13 40	22.6	9.3	7 24	13.3	15 29	886	871	2 30	15	1,1,1,2,2,1,1,1	10	0	81.9
13	16 30	427	357	10 7	70	12 36	21.5	8.6	7 25	12.9	2 4	881	861	12 20	20	0,0,1,1,2,2,1,0	7	0	82.0
14	18 47	562	366	9 51	196	18 58	27.3	3.6	23 50	23.7	19 5	980	828	4 18	152	2,2,1,2,2,3,5,3	20	1	82.1
15	14 56	437	344	8 46	93	12 40	22.5	2.0	18 13	20.5	17 14	922	867	12 3	55	2,3,2,2,3,2,3,1	18	0	82.3
16	14 21	457	353	11 9	104	15 26	28.7	5.9	7 30	22.8	16 7	955	861	12 58	94	0,1,1,2,4,3,2,0	13	1	82.2
17 q	19 41	420	351	10 53	69	13 4	19.5	7.4	7 47	12.1	6 36	882	859	12 51	23	0,0,1,2,0,1,1,2	7	0	82.1
18	23 0	430	345	10 50	85	13 2	21.8	6.5	8 4	15.3	21 5	879	857	12 30	22	0,0,1,1,1,1,2,2	8	0	82.4
19 q	23 31	414	353	10 35	61	14 27	20.8	7.7	7 50	13.1	6 55	878	857	12 6	21	1,0,1,1,1,2,0,0	6	0	82.5
20	15 1	458	348	12 6	110	14 57	32.4	5.6	8 8	26.8	16 49	933	849	12 54	84	0,1,2,2,4,3,2,3	17	1	82.5
21	5 50	415	331	10 41	84	12 47	28.9	3.3	7 56	25.6	16 52	903	855	11 7	48	2,2,2,3,3,3,2,1	18	0	82.3
22	19 5	425	347	9 54	78	13 19	23.9	7.7	7 46	16.2	16 8	894	864	13 10	30	0,0,1,2,3,2,2,1	11	0	82.1
23 q	18 39	412	357	11 34	55	13 30	20.4	8.9	8 2	11.5	8 13	881	866	11 59	15	1,0,0,1,0,1,0,0	3	0	82.2
24	20 25	418	354	11 2	64	13 45	19.6	8.0	23 55	11.6	23 19	896	868	4 49	28	0,0,0,1,0,1,1,3	6	0	82.2
25	17 55	476	336	11 40	140	14 25	26.9	-5.0	22 29	31.9	17 53	965	796	22 16	169	2,3,3,3,3,4,4,4	26	1	82.3
26 d	18 24	758	-69	19 45	827	18 9	45.2	-41.2	19 42	86.4	17 51	1034	642	19 50	392	2,0,0,1,1,6,8,6	24	2	82.3
27 d	17 45	501	-729	1 6	1230	1 14	34.2	-40.3	2 30	74.5	17 19	992	507	3 14	485	9,6,3,2,3,4,3,6	36	2	82.6
28 d	17 10	532	152	0 34	380	18 51	41.8	-8.4	19 22	50.2	17 5	1017	620	0 55	397	5,5,4,4,3,4,5,3	33	1	82.6
29	20 35	440	325	1 35	115	20 47	20.2	5.8	20 34	14.4	15 8	916	787	1 42	129	3,2,1,2,3,2,3,2	18	0	82.0
30	17 37	415	342	20 38	73	12 50	21.7	-13.3	20 45	35.0	18 42	928	832	21 9	96	1,0,1,0,2,1,4,3	12	1	81.8
Mean	- -	461	272	- -	189	- -	26.2	-0.6	- -	26.8	- -	933	788	- -	144	-	-	0.53	82.8



**TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT**  
 Mean values for periods of sixty minutes ending at exact hours, G.M.T.

40 LERWICK (H)

14,000γ (0.14 C.G.S. unit) +

OCTOBER 1940

		Hour G.M.T.																								Mean
		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	
1 d	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
	383	357	360	370	365	395	395	392	374	353	343	348	360	400	395	435	580	636	501	-12	363	383	378	373	384	
	372	373	375	381	381	383	375	367	362	351	346	349	366	378	385	390	404	417	398	384	382	384	377	380	377	
	385	389	389	386	396	392	375	378	354	327	327	333	352	346	376	397	382	404	417	379	385	389	397	391	377	
	368	371	342	322	377	389	388	382	377	367	364	357	359	363	370	381	388	388	395	396	399	394	394	396	376	
5	397	369	369	354	380	398	398	393	386	372	360	357	372	385	384	388	392	398	402	398	402	400	402	400	386	
6	400	395	398	395	400	399	399	389	378	372	376	366	381	379	374	401	404	388	389	396	398	388	342	344	385	
	304	341	376	382	394	402	374	330	276	311	365	375	367	386	501	552	590	708	678	466	210	257	174	138	386	
	-8	6	239	239	193	199	239	253	317	350	366	378	387	394	426	473	491	504	597	576	408	397	373	361	340	
	372	389	382	381	386	386	392	390	387	377	360	362	363	369	378	387	392	395	397	400	396	388	387	393	384	
	395	393	392	393	395	398	398	398	394	386	381	375	369	354	360	373	382	398	404	399	380	361	365	365	384	
11	381	391	391	381	391	399	399	403	389	380	370	364	360	361	382	395	396	399	400	401	400	396	386	375	387	
	378	371	390	392	398	399	403	401	395	381	380	373	362	373	385	391	407	403	406	408	409	404	398	394	392	
	392	389	391	389	399	401	404	399	389	373	363	362	370	375	391	397	398	399	402	403	403	403	401	397	392	
	399	397	398	398	400	401	401	398	387	373	366	363	364	374	386	396	402	404	405	407	409	404	401	399	393	
	405	406	407	412	410	412	401	401	402	369	352	362	365	373	389	392	404	396	392	394	398	397	389	395	393	
16	396	398	401	400	400	405	403	402	382	371	364	362	369	380	388	398	404	408	408	377	386	394	394	396	391	
	397	392	392	388	391	392	396	397	394	384	373	368	372	376	389	390	396	401	406	408	406	407	408	406	393	
	403	391	396	396	401	402	402	378	382	385	373	368	373	384	382	395	399	416	411	406	410	403	397	404	394	
	393	394	390	385	389	400	398	381	353	334	357	363	361	372	385	389	398	399	403	410	409	402	398	400	386	
	391	393	394	400	390	391	387	385	380	368	365	372	373	387	392	394	398	398	403	400	403	409	396	393	390	
21	392	393	388	398	403	394	394	382	382	382	377	358	372	386	402	414	392	404	399	402	414	406	412	401	394	
	391	382	385	397	394	386	373	393	387	376	371	368	360	372	386	389	393	394	398	398	396	397	398	394	387	
	393	393	394	395	398	400	398	396	387	375	368	367	372	377	389	390	392	394	396	397	397	397	398	399	390	
	398	397	397	399	399	399	399	396	391	379	373	370	376	386	389	392	398	398	400	401	402	403	403	403	394	
	402	402	402	403	403	405	403	401	394	387	379	381	375	388	403	414	423	429	431	436	495	432	415	415	409	
26 d	416	398	399	395	402	407	409	409	408	411	391	385	389	399	405	393	486	502	408	355	307	262	369	375	395	
	375	370	386	380	359	371	382	384	381	377	372	377	381	400	403	389	389	381	377	375	380	371	365	368	379	
	354	338	373	383	385	388	395	385	379	377	376	381	383	381	385	386	389	394	390	386	379	379	390	394	381	
	397	396	390	384	395	397	401	396	390	382	382	377	380	387	390	391	392	396	397	394	396	399	402	401	392	
	399	405	388	403	402	408	408	406	395	384	380	382	385	383	391	394	399	403	405	405	405	400	399	400	397	
31	392	394	400	407	409	409	409	403	388	377	377	378	380	393	397	390	391	388	396	401	402	402	402	402	395	
Mean	375	373	383	383	387	391	390	386	379	371	368	367	371	379	392	402	415	424	420	392	391	387	384	382	387	

Corrections to be applied to all values: H, -6γ; D, -4.1'; V, -11γ.

**MAGNETIC DECLINATION (WEST)**  
 Mean values for periods of sixty minutes ending at exact hours, G.M.T.

41 LERWICK (D)

12° +

OCTOBER 1940

		Hour G.M.T.																								Mean
		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	
1	d	15.6	3.7	-1.3	1.6	7.7	13.4	8.5	10.2	11.4	15.1	16.6	21.2	24.6	24.3	29.1	28.1	24.8	16.5	17.4	-7.6	3.8	13.2	13.3	13.1	13.5
2		13.2	12.8	12.2	11.3	11.0	10.0	9.4	8.8	8.6	11.2	13.9	17.4	19.4	20.2	19.4	17.7	12.3	8.6	10.2	8.7	10.2	3.8	6.9	9.4	11.9
3		12.1	12.6	12.5	10.7	15.5	16.0	19.5	15.5	14.3	18.3	19.5	21.2	21.1	21.5	21.3	18.7	14.2	12.3	-6.0	5.1	11.3	13.1	9.4	6.1	14.0
4		10.0	8.0	9.6	5.1	8.3	7.4	8.2	8.4	9.3	11.2	13.1	15.5	17.2	18.1	17.2	15.7	13.7	9.4	12.2	13.3	14.4	12.8	12.6	12.6	11.8
5		12.3	11.1	11.4	14.9	12.4	9.2	10.5	11.6	11.1	13.3	15.4	19.1	21.2	21.8	22.1	18.2	15.2	13.9	13.2	13.0	13.2	12.8	12.8	12.7	14.3
6		12.0	12.0	11.9	12.5	11.1	10.7	10.3	10.7	12.1	12.6	18.0	20.6	24.4	26.1	22.9	20.5	18.3	11.2	13.4	14.0	12.3	-2.0	3.4	6.9	13.6
7	d	6.6	5.0	7.4	4.1	8.3	20.4	23.1	13.6	21.4	22.2	20.3	21.9	23.5	24.0	17.9	22.9	29.4	34.3	40.8	11.6	11.9	-9.9	-3.9	-3.0	15.6
8	d	-13.7	-28.7	-37.4	-14.9	7.3	6.1	11.1	19.7	12.4	11.3	17.0	20.4	22.9	24.2	23.1	26.0	21.3	19.4	30.8	29.6	10.5	8.4	7.4	17.9	10.5
9		3.6	9.5	10.3	9.7	10.3	10.4	10.2	9.8	10.1	11.6	13.0	16.2	18.8	19.1	18.3	17.3	14.9	15.0	14.6	15.1	12.4	10.6	9.1	10.2	12.5
10		12.0	11.6	11.6	11.7	11.3	11.3	12.1	12.2	11.7	12.0	14.0	16.1	19.9	19.0	17.3	16.2	13.9	12.2	13.9	14.5	5.2	1.3	2.2	3.1	11.9
11		7.2	8.1	10.6	13.4	13.2	8.9	9.2	9.3	9.3	11.3	13.6	15.3	17.9	18.9	20.2	20.2	19.0	16.0	15.4	14.4	12.7	10.2	8.1	10.0	13.0
12		-5.4	2.1	4.2	9.1	6.8	7.3	8.3	8.3	8.3	9.4	12.0	15.7	16.3	18.1	18.2	18.3	16.2	16.9	16.0	16.1	16.0	8.8	4.4	9.5	10.9
13	q	9.4	10.9	10.3	10.8	9.5	9.4	9.3	8.9	8.5	9.9	11.7	14.9	18.0	17.2	16.5	15.3	14.7	13.4	13.4	13.1	12.6	12.6	11.3	12.0	12.2
14	q	12.2	12.2	12.3	12.0	11.8	11.0	10.3	9.0	8.0	8.6	11.3	14.6	16.9	18.0	18.0	16.7	14.8	14.3	14.5	13.9	13.4	11.5	10.1	10.1	12.7
15		11.3	12.4	12.0	11.2	10.6	10.5	11.8	11.0	9.8	9.4	12.3	16.2	19.6	20.1	18.9	16.3	14.6	13.9	6.2	9.9	10.5	9.3	8.2	8.4	12.3
16		10.4	14.1	13.0	12.0	11.4	10.7	11.8	12.7	10.2	11.6	13.2	14.7	19.5	20.9	20.0	20.6	16.7	19.2	3.1	8.4	9.8	12.0	12.1	12.2	13.3
17		12.5	12.0	10.9	10.0	10.1	9.4	9.8	9.3	8.3	8.8	10.6	13.2	16.1	17.9	18.6	16.9	15.5	15.1	15.2	15.1	14.2	13.6	11.3	2.1	12.4
18		5.6	7.4	10.3	11.2	10.7	10.4	11.2	12.1	8.8	9.4	11.8	14.3	17.2	19.1	19.3	17.1	17.1	17.0	18.0	17.1	11.8	8.6	5.6	8.1	12.5
19		8.7	10.6	9.4	11.8	10.8	11.0	10.1	10.8	12.6	12.1	14.7	18.0	21.8	19.0	17.5	16.8	15.5	13.2	14.7	12.7	14.1	13.6	6.0	10.7	13.2
20		10.5	10.7	12.2	8.3	9.3	8.1	10.1	10.3	9.5	11.3	14.3	16.6	18.0	18.0	17.0	15.9	14.8	12.7	15.0	16.1	14.6	12.9	8.5	1.8	12.4
21		9.7	10.6	9.1	12.2	11.4	11.1	10.2	12.2	13.0	14.5	17.3	19.9	17.8	17.2	18.8	19.3	18.0	11.1	14.1	11.9	14.1	7.4	5.1	4.1	12.9
22		8.8	8.3	10.1	12.0	9.1	10.8	13.2	13.7	14.1	12.8	15.0	18.5	16.4	16.4	16.3	15.6	14.9	14.4	14.1	14.2	12.0	11.0	11.8	11.7	13.1
23	q	11.8	11.3	11.6	11.7	11.8	11.7	11.3	10.3	10.1	10.4	12.3	14.2	15.1	15.2	14.9	14.2	13.9	13.6	13.2	12.5	12.4	12.2	12.1	12.1	12.5
24	q	12.2	12.2	12.2	12.2	12.2	11.9	11.6	11.2	10.3	10.7	12.2	14.1	15.5	16.4	15.5	14.9	14.4	13.4	13.0	12.6	12.2	12.2	12.2	12.2	12.8
25	d	12.2	12.2	12.1	12.3	12.4	12.2	11.6	10.4	9.3	10.7	12.4	17.0	17.7	19.0	19.1	19.1	19.6	19.8	19.4	19.7	20.1	6.1	9.1	10.3	14.3
26	d	10.3	11.3	10.6	10.3	10.8	10.5	10.9	10.7	11.1	13.7	14.2	15.8	17.4	20.2	22.2	16.6	19.1	21.7	8.9	-11.5	2.2	-6.0	-1.4	8.4	10.7
27		13.2	10.1	12.2	13.2	14.3	12.7	10.1	10.5	11.4	13.0	15.1	15.2	17.2	16.5	16.0	12.1	6.5	12.4	13.2	6.2	4.3	7.4	6.1	3.4	11.3
28		11.1	15.3	11.9	9.7	10.9	11.8	12.4	12.3	13.9	14.6	14.0	15.3	18.1	16.7	15.7	14.9	12.2	13.8	14.2	11.7	-2.8	7.8	8.5	10.4	12.3
29		11.8	12.0	12.0	17.9	9.0	8.9	9.5	10.4	11.1	11.8	13.5	14.4	15.9	15.9	14.7	13.5	13.3	13.1	12.6	11.6	12.2	12.2	12.2	12.2	12.6
30	q	11.9	12.2	12.8	12.9	12.2	11.6	11.1	11.1	11.8	12.6	14.7	16.2	17.3	16.0	15.4	15.0	15.0	14.5	13.7	13.3	13.5	12.1	10.8	10.4	13.3
31		14.6	14.0	11.2	8.2	8.4	9.4	10.4	11.5	11.7	12.7	16.2	19.0	17.4	19.1	19.1	16.0	18.5	15.2	12.2	12.8	12.5	11.4	11.4	11.3	13.5
Mean		9.5	9.3	9.0	10.0	10.6	10.8	11.2	11.2	11.1	12.2	14.3	16.9	18.7	19.2	18.7	17.6	16.2	15.1	14.2	11.9	11.2	8.7	8.3	9.0	12.7



TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

37

42 LERWICK (V)

46,000γ (0.46 C.G.S. unit) +

OCTOBER 1940

	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	Mean
	0-1	1-2																							
1 d	807	772	795	803	807	797	841	862	872	882	896	908	915	929	946	957	1042	1054	895	871	833	899	897	892	882
2	890	888	891	890	897	897	898	895	892	890	891	900	906	916	926	929	963	989	964	940	916	877	863	860	907
3	872	874	871	854	821	814	832	850	873	889	905	915	918	917	907	925	931	951	918	887	890	886	871	859	885
4	845	809	790	730	786	814	858	873	879	885	884	884	885	886	889	891	900	906	899	896	890	886	879	867	863
5	845	841	837	833	815	831	849	859	867	873	879	878	878	883	900	909	900	895	895	896	889	885	879	877	871
6	874	874	871	874	876	879	880	882	881	880	875	879	876	888	902	910	944	957	929	910	899	854	813	768	882
7 d	681	757	787	788	773	756	759	809	843	838	862	884	908	945	996	1029	1052	1020	941	982	891	767	682	655	850
8 d	703	568	473	467	613	721	755	779	856	902	903	910	921	923	924	974	1007	1011	1054	1046	981	951	910	843	841
9	807	884	891	888	885	883	885	890	893	898	899	896	893	890	891	898	902	900	897	900	909	912	908	899	892
10	892	891	888	886	884	883	882	882	883	884	887	892	900	904	900	897	893	891	895	904	895	878	870	854	888
11	841	860	873	880	863	873	880	882	887	888	889	890	892	892	899	905	912	911	905	897	896	897	876	840	885
12	783	798	821	838	858	870	872	875	878	882	881	882	886	881	878	879	884	886	885	885	886	901	896	879	869
13 q	871	866	869	876	881	880	879	883	886	890	890	887	885	883	880	882	883	883	882	881	881	881	883	885	881
14 q	883	885	885	883	882	880	881	882	884	885	883	879	878	878	880	881	883	881	879	880	879	884	887	885	882
15	883	882	881	878	876	872	869	866	865	875	876	874	877	883	885	887	886	894	904	898	890	879	870	871	880
16	871	870	865	873	877	877	876	871	878	881	879	875	876	885	895	903	928	940	935	924	921	903	891	884	891
17	882	885	885	884	881	882	882	882	883	881	883	883	879	879	884	887	886	883	880	879	880	879	879	862	881
18	851	858	869	878	879	878	875	878	876	873	870	871	872	874	873	878	878	877	890	900	904	911	880	874	878
19	864	865	868	847	848	863	871	877	882	884	887	889	898	905	895	893	901	905	900	904	884	813	853	874	878
20	877	864	849	847	862	869	874	874	875	877	876	874	877	877	882	885	885	889	890	895	891	887	890	892	877
21	888	882	881	877	876	878	877	881	879	881	876	883	874	875	883	890	905	910	901	900	829	788	815	839	874
22	862	870	878	876	870	855	858	873	371	877	879	890	904	892	882	884	884	884	885	889	890	889	885	884	880
23 q	883	881	880	879	879	880	882	886	888	884	883	883	881	880	881	880	880	881	881	882	882	881	881	880	881
24 q	879	879	879	878	879	880	882	885	888	889	887	887	884	881	881	882	882	882	883	882	882	881	881	880	882
25 d	879	878	876	875	875	876	877	879	878	876	876	876	879	874	871	870	867	866	869	881	940	961	939	919	886
26 d	901	897	889	884	878	874	872	873	873	870	879	880	881	884	910	920	1014	1033	939	871	857	720	780	826	884
27	830	800	803	824	826	840	860	879	886	890	896	908	917	920	912	922	929	909	910	907	890	877	850	849	876
28	839	819	816	849	865	870	870	875	878	879	884	882	887	896	899	903	901	899	899	901	887	869	874	879	876
29	880	881	879	862	833	854	861	869	873	876	879	886	891	892	891	893	888	885	885	887	886	885	883	882	878
30 q	882	872	875	860	868	865	866	871	873	874	876	880	885	886	885	884	883	880	878	877	877	881	879	868	876
31	862	848	859	866	869	869	870	875	881	884	883	883	883	888	899	906	913	914	903	888	882	882	881	880	881
Mean	852	848	848	846	851	857	863	870	877	881	884	887	890	893	898	904	916	918	909	901	891	876	869	861	879

Corrections to be applied to all values: H, -6γ; D, -4.1'; V, -11γ.

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

43 LERWICK

OCTOBER 1940

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +			
	Horizontal force			Declination			Vertical force												
	Maximum 14,000γ +	Minimum 14,000γ +	Range	Maximum 12° +	Minimum 12° +	Range	Maximum 46,000γ +	Minimum 46,000γ +	Range										
	h. m.	γ	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ				°A.		
1 d	17 56	840	-282	19 37	1122	18 12	36.8	-53.8	19 37	90.6	19 28	1114	636	19 52	478	4,4,3,2,4,7,9,1	34	2	82.0
2	17 7	424	258	11 8	166	14 4	21.0	0.7	21 44	20.3	17 20	997	853	22 55	144	1,1,2,2,2,3,3,3	17	1	82.0
3	18 20	455	318	10 39	137	13 18	23.0	-23.6	18 17	46.6	17 51	978	802	4 47	176	1,3,3,2,3,3,5,3	23	1	82.2
4	20 45	402	233	3 3	169	2 52	19.0	0.7	3 21	18.3	17 22	910	703	3 18	207	4,5,2,0,1,2,2,2	18	1	82.2
5	0 29	415	338	3 39	77	14 27	24.2	8.3	5 47	15.9	15 7	912	808	4 10	104	3,3,2,1,2,2,0,0	13	0	82.2
6	16 4	421	319	23 18	102	13 43	27.4	-14.4	21 34	41.8	16 57	978	732	24 0	246	1,0,1,2,3,3,3,5	18	1	82.1
7 d	17 39	854	-130	20 29	984	18 5	58.2	-45.9	24 0	104.1	17 30	1091	551	23 54	540	5,3,4,4,5,6,8,6	41	2	82.1
8 d	18 25	680	-115	0 48	795	18 52	46.3	-57.5	2 13	103.8	18 24	1092	395	2 38	697	6,6,5,3,3,4,6,6	39	2	81.5
9	19 13	406	337	0 36	69	12 58	20.0	-10.8	0 2	30.8	21 28	916	752	0 8	164	5,1,2,2,1,1,2,2	16	1	81.5
10	18 42	408	345	13 33	63	12 40	20.8	-1.6	21 10	22.4	19 44	910	848	23 28	62	0,1,1,2,2,2,3,3	14	0	81.5
11	7 50	405	353	13 20	52	14 10	22.1	2.4	24 0	19.7	16 30	914	772	24 0	142	3,2,1,1,2,1,1,4	15	0	81.7
12	16 32	418	350	1 13	68	15 26	19.2	-7.5	0 29	26.7	21 45	915	767	0 6	148	3,3,1,2,2,2,1,4	18	0	81.6
13 q	6 26	412	358	11 48	54	12 47	19.1	7.1	7 56	12.0	9 33	892	863	2 10	29	1,1,1,0,1,1,0,1	6	0	81.8
14 q	20 6	414	360	10 53	54	13 58	19.3	7.6	9 14	11.7	22 20	888	876	12 55	12	0,0,0,1,1,1,1,1	5	0	82.0
15	5 10	419	343	10 24	76	13 27	21.4	4.2	18 30	17.2	18 10	909	860	8 8	49	1,1,2,3,2,3,2,2	16	0	82.0
16	18 39	435	357	11 2	78	17 25	23.5	-12.4	18 37	35.9	18 6	969	861	2 3	108	2,0,2,1,1,3,4,2	15	1	82.2
17	22 48	425	366	12 5	59	14 16	20.7	-2.2	23 29	22.9	15 43	889	857	23 33	32	1,1,1,1,2,1,1,3	11	0	82.3
18	17 47	426	361	11 18	65	14 5	23.7	-0.1	21 48	23.8	21 42	935	844	0 42	91	2,2,2,1,2,2,3,3	17	1	82.2
19	19 59	439	321	9 9	118	12 49	23.9	0.3	20 55	23.6	19 36	910	799	21 37	111	2,2,3,3,2,2,4,3	21	1	82.1
20	21 38	415	357	10 12	58	12 37	19.0	-4.7	23 20	23.7	23 19	900	845	3 25	55	2,2,1,2,1,1,2,4	15	0	82.2
21	20 27	458	339	11 17	119	20 50	24.2	-4.5	21 37	28.7	17 44	921	756	21 26	165	2,1,2,3,2,3,5,4	22	1	82.2
22	7 27	415	344	12 6	71	13 0	22.0	6.0	1 42	16.0	12 8	906	848	5 41	58	2,2,3,2,2,1,1,1	14	0	82.0
23 q	6 11	401	365	10 50	36	12 54	16.1	9.6	8 33	6.5	9 5	889	878	3 18	11	0,0,0,1,0,1,0,0	2	0	81.6
24 q	22 21	404	368	11 13	36	13 53	17.5	9.8	9 20	7.7	9 53	889	878	4 0	11	0,0,1,1,1,1,0,0	4	0	81.4
25 d	20 49	580	359	22 1	221	20 38	24.0	-2.1	22 0	26.1	20 51	1018	860	16 47	158	0,0,0,1,2,2,5,5	15	1	80.8
26 d	16 30	577	172	21 16	405	16 21	38.3	-24.8	21 43	63.1	16 49	1068	696	21 52	372	2,1,2,2,3,5,5,5	25	1	80.5
27	13 48	423	343	22 24	80	13 22	19.9	-3.6	19 44	23.5	16 2	946	781	1 50	165	3,3,2,2,2,3,3,3	21	1	80.0
28	20 34	403	314	1 25	89	12 21	19.1	-15.5	20 24	34.6	20 13	911	791	2 3	120	3,2,1,2,2,2,4,2	18	1	79.6
29	6 42	406	372	3 32	34	3 38	22.0	6.4	4 48	15.6	15 19	894	827	4 15	67	0,3,1,2,1,1,1,0	9	0	79.4
30 q	6 7	412	377	2 47	35	12 13	17.9	7.9	23 36	10.0	13 25	888	855	3 27	33	3,2,1,1,1,1,0,2	11	0	79.4
31	4 37	413	370	9 43	43	11 40	20.1	6.5	3 48	13.6	16 57	921	845	1 12	76	3,1,1,1,1,2,1,0	10	0	79.6
Mean	- -	465	286	- -	179	- -	24.2	-6.7	- -	30.9	- -	944	788	- -	156	-	-	0.61	81.5



**TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

44 LERWICK (H)

14,000γ (0.14 C.G.S. unit) +

NOVEMBER 1940

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
1	401	406	402	402	407	422	402	392	381	385	377	373	365	373	381	394	389	389	385	395	398	400	400	397	392
2	396	394	393	389	397	403	402	380	379	383	379	369	378	383	384	387	391	394	397	398	399	401	395	392	390
3	384	381	375	379	382	394	410	406	383	364	350	352	361	376	384	380	382	389	380	387	384	380	380	381	380
4	373	372	386	392	395	391	411	406	397	377	369	367	386	388	392	439	509	599	506	380	347	333	339	280	397
5	347	367	371	333	358	402	387	375	371	365	360	362	371	377	388	385	389	391	391	394	410	392	392	389	378
6	391	381	367	385	391	392	398	401	394	381	377	369	370	372	383	389	393	402	400	405	403	408	396	398	389
7	400	397	403	404	406	405	415	402	391	388	381	366	364	375	376	388	394	397	398	398	400	406	400	403	394
8 q	397	405	397	397	403	403	405	403	401	390	385	382	381	383	390	397	397	398	398	399	402	402	400	402	397
9	400	401	399	402	410	404	399	401	380	363	355	354	364	388	406	422	415	407	397	399	394	387	385	381	392
10 q	385	386	389	389	397	401	400	393	384	373	369	373	380	385	389	392	396	399	402	403	404	403	403	401	391
11 q	401	401	402	404	407	409	410	405	399	389	381	381	385	391	396	397	401	404	405	405	405	406	403	394	399
12 d	394	397	394	397	400	402	402	405	406	377	338	371	395	388	395	408	410	413	424	435	396	170	206	199	372
13 d	178	330	43	101	193	173	255	333	381	383	373	370	380	403	420	400	422	402	397	394	396	390	388	383	329
14	368	384	380	380	384	382	380	377	375	370	361	365	370	378	391	392	395	384	383	387	390	377	359	386	379
15	384	377	371	386	401	391	388	376	386	381	377	375	380	384	389	397	393	393	393	403	396	392	387	386	387
16	403	384	389	393	400	392	396	394	392	384	379	377	381	392	401	418	398	402	421	395	403	403	367	377	393
17	389	385	386	388	391	394	392	392	388	380	374	375	378	382	395	409	373	397	418	429	386	386	421	384	391
18 q	375	385	387	389	390	390	390	390	388	377	370	369	369	376	385	390	391	397	398	399	400	400	390	390	387
19 q	391	392	394	398	403	403	405	406	398	389	394	399	397	400	399	402	407	407	409	412	413	411	406	404	402
20	405	404	406	407	410	409	410	412	407	400	397	396	398	397	400	400	397	404	403	402	389	380	389	320	398
21	351	359	360	392	402	403	418	403	357	338	342	369	383	380	383	380	386	389	392	395	389	389	344	185	370
22 d	312	325	358	387	391	346	362	331	367	364	359	360	380	384	381	384	386	389	392	403	448	415	380	359	373
23	382	370	367	378	385	379	330	319	339	342	373	376	386	377	374	380	382	384	382	381	377	379	379	374	371
24	382	380	380	383	383	385	381	390	391	380	377	378	384	387	394	397	394	397	395	393	392	390	381	391	387
25 d	389	389	397	390	394	397	402	400	400	355	381	400	401	394	553	459	526	385	441	368	365	359	364	318	401
26	358	363	320	367	351	366	378	364	344	365	367	382	383	380	394	394	374	390	392	392	391	392	393	392	375
27	388	392	386	390	394	396	395	393	386	388	385	385	382	378	378	391	385	393	387	384	389	391	392	395	388
28	397	394	394	397	402	403	402	399	396	387	383	383	382	389	392	394	395	398	398	396	392	403	399	379	394
29 d	392	397	398	402	406	371	407	403	388	355	387	382	397	453	416	415	405	392	394	393	387	395	343	334	392
30	367	348	343	352	374	387	389	388	387	368	357	369	368	377	389	370	389	393	387	387	390	393	390	403	378
Mean	376	382	371	378	387	387	391	388	385	375	372	374	380	386	397	398	402	403	402	397	395	384	379	366	386

Corrections to be applied to all values: H, -6γ; D, -4.1'; V, -11γ.

**MAGNETIC DECLINATION (WEST)**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

45 LERWICK (D)

12° +

NOVEMBER 1940

	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
1	12.1	11.9	10.1	10.8	10.2	10.6	14.0	17.3	15.9	15.6	15.6	22.3	20.1	20.2	16.1	16.2	15.1	14.1	11.3	10.4	12.0	11.2	10.7	11.3	14.0
2	12.2	12.4	12.2	12.8	11.0	10.2	11.0	15.4	17.2	15.2	15.3	16.4	17.2	17.7	15.9	14.3	12.9	12.4	12.2	12.1	11.6	10.7	7.9	6.1	13.0
3	6.2	6.2	10.0	11.1	11.4	14.3	10.7	11.4	13.1	13.6	13.9	16.0	18.7	21.1	24.4	22.1	18.2	15.5	14.7	11.3	8.0	6.3	6.1	8.4	13.0
4	9.8	8.0	10.6	10.1	10.8	14.4	19.9	13.6	14.1	11.3	13.1	15.2	21.1	24.1	24.9	27.9	25.9	24.4	13.7	8.1	-0.2	-3.8	-0.6	2.2	13.3
5	-1.5	6.3	10.1	14.3	18.2	10.3	10.2	12.1	12.0	12.7	13.3	15.4	16.2	13.0	15.1	14.9	12.2	12.5	11.6	10.5	1.6	8.4	9.6	10.4	11.2
6	11.5	14.1	14.9	13.0	10.1	11.1	11.0	10.2	10.3	9.6	12.9	15.3	17.4	17.0	16.2	15.4	13.2	9.8	12.7	5.2	10.0	9.6	8.4	11.3	12.1
7	12.9	13.4	12.6	9.1	8.1	9.4	9.4	12.2	14.0	11.7	14.3	16.6	16.3	18.5	17.0	14.7	13.1	12.2	12.2	11.2	11.6	8.4	10.6	11.1	12.5
8 q	11.1	7.8	8.1	9.0	9.8	10.2	9.7	10.1	9.9	12.1	14.1	15.1	16.8	17.0	16.4	15.4	15.5	15.3	14.6	12.6	11.9	11.2	10.7	10.2	12.3
9	9.4	10.8	10.1	10.7	7.8	9.2	14.8	13.5	12.0	11.4	13.9	16.3	17.8	20.8	19.1	18.4	27.1	19.4	14.3	10.9	13.0	10.2	5.3	5.1	13.4
10 q	7.2	9.7	10.6	12.1	11.8	11.4	11.0	10.7	10.2	11.0	12.7	13.9	14.6	14.7	14.0	13.0	12.5	12.6	12.6	12.2	12.1	12.0	11.4	11.2	11.9
11 q	11.5	12.5	12.8	12.3	11.8	12.0	11.2	10.7	10.4	10.9	12.2	14.0	15.2	14.9	14.1	13.6	13.5	13.1	12.6	12.2	11.7	12.2	10.9	6.1	12.2
12 d	10.8	7.1	9.7	11.1	11.4	11.1	10.8	10.2	10.3	9.9	17.7	22.3	22.0	21.8	21.3	19.2	21.1	21.0	17.9	10.4	9.4	2.2	-5.6	-12.2	12.1
13 d	-22.9	-14.3	-28.7	-19.3	-15.4	9.2	7.3	10.0	4.3	7.6	14.0	15.0	18.1	22.0	23.8	23.0	20.9	19.0	16.0	14.1	12.7	9.9	9.8	9.2	6.9
14	7.1	8.5	9.3	5.8	8.7	8.2	9.8	11.8	11.2	12.2	13.8	14.4	17.1	14.6	15.2	14.0	14.9	14.1	11.4	12.2	11.2	4.5	9.3	4.8	11.0
15	8.0	8.5	12.9	9.8	9.1	10.0	9.4	10.6	8.7	10.2	12.7	15.2	14.2	15.8	14.1	15.4	16.1	15.1	14.1	11.9	11.4	2.9	6.8	5.5	11.2
16	-1.9	8.0	11.8	11.7	9.3	12.0	11.4	11.2	10.8	10.4	12.3	12.6	13.3	14.2	15.5	17.0	11.8	11.8	9.6	7.2	5.2	-0.3	-1.0	4.6	9.5
17	9.9	12.2	11.4	11.8	11.1	10.9	10.4	10.4	9.8	9.8	10.7	12.1	13.2	14.0	15.3	17.3	16.1	23.5	18.0	1.8	9.0	6.4	4.5	-1.1	11.2
18 q	6.2	6.4	8.2	10.4	11.0	10.8	10.7	10.6	10.1	10.2	11.0	12.5	12.8	13.4	13.2	13.1	12.7	12.5	12.1	11.3	11.3	8.7	7.4	10.9	10.7
19 q	9.7	9.4	10.2	10.8	11.5	11.4	11.2	11.3	11.1	10.0	11.9	15.1	14.3	15.0	14.1	12.9	13.8	13.8	13.5	12.7	11.8	11.4	11.2	11.2	12.1
20	11.1	11.2	11.4	11.6	11.7	11.6	11.2	11.0	10.8	11.1	12.4	13.6	14.7	15.0	14.9	15.8	15.3	13.2	12.3	13.3	11.4	2.7	6.8	-6.3	11.2
21	-8.9	5.0	12.8	13.0	10.5	9.2	8.9	11.0	13.8	11.4	13.3	14.3	18.9	16.0	14.3	13.5	12.3	12.6	12.1	11.5	9.9	-1.5	1.4	7.4	10.1
22 d	-2.3	-2.8	0.0	4.5	4.2	17.3	18.1	17.3	21.9	12.7	14.0	19.7	15.7	16.0	14.6	12.3	11.4	11.2	11.7	11.9	7.4	-5.9	8.6	6.2	10.2
23	8.6	14.2	7.0	4.4	8.4	14.1	17.6	18.0	14.2	14.1	15.0	16.4	18.1	16.7	14.3	12.1	11.0	11.1	11.1	9.7	1.1	8.4	8.4	8.6	11.8
24	10.8	10.2	9.8	10.2	10.5	10.3	9.9	9.7	9.4	10.6	12.4	14.4	15.7	14.9	15.3	15.0	13.6	13.2	12.3	13.0	11.0	-0.4	2.0	8.5	10.9
25 d	11.0	10.8	7.2	8.9	9.4	9.5	10.6	10.7	11.3	10.2	17.5	20.2	23.4	23.0	30.3	16.3	15.8	17.5	12.7	3.7	7.5	4.5	-12.6	-1.4	11.6
26	2.7	8.5	21.8	15.1	17.0	16.9	20.0	18.5	14.7	16.7	14.9	16.1	15.9	14.0	12.0	13.5	9.4	4.9	11.9	11.8	10.3	9.4	9.8	10.4	13.2
27	11.3	11.0	9.4	9.0	9.1	9.9	10.4	10.5	11.2	11.0	11.9	14.5	15.5	14.6	16.6	15.1	9.1	6.5	3.5	5.4	7.7	12.0	9.4	10.2	10.6
28	10.4	11.3	11.8	11.2	10.4	9.3	10.4	10.5	10.7	10.7	12.3	14.5	14.6	14.5	13.0	11.8	12.5	12.4	12.0	11.2	9.7	8.7	0.2	4.1	10.8
29 d	4.7	9.0	10.4	8.2	7.0	15.5	16.9	14.4	15.8	20.0	19.4	18.2	19.1	15.3	16.3	17.8	8.4	-2.4	12.5	6.7	7.0	3.0	0.8	-0.7	11.0
30	9.2	9.1	13.4	13.7	12.5	13.3	11.7	11.2	11.3	12.2	14.3	16.2	15.5	12.2	12.1	10.8	12.1	11.2	10.9	7.7	7.2	10.0	7.5	8.6	11.4
Mean	6.6	8.5	9.4	9.6	9.6	11.5	12.0	12.2	12.0	11.9	13.8	15.8	16.8	16.7	16.6	15.7	14.6	13.5	12.6	10.1	9.2	6.4	5.9	6.1	11.5



TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

39

46 LERWICK (V)

46,000γ (0.46 C.G.S. unit) +

NOVEMBER 1940

	Hour G.M.T.																								Mean
	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	
1	880	875	875	876	876	868	868	868	869	869	873	877	888	899	911	909	909	906	912	898	886	882	881	881	885
2	880	878	877	880	874	875	876	880	873	870	873	880	883	890	889	890	890	887	885	882	880	877	881	874	880
3	864	856	853	844	844	840	847	838	845	873	880	891	894	900	906	913	917	924	944	942	932	909	892	876	884
4	862	834	846	854	860	862	837	852	866	880	882	882	887	903	930	984	1056	1038	1030	977	915	877	823	738	895
5	718	805	840	827	792	822	861	874	885	886	891	901	914	920	909	902	904	903	907	902	886	880	882	879	870
6	869	858	853	843	861	870	872	875	880	886	888	890	890	890	887	891	891	890	889	890	883	874	880	876	878
7	872	871	862	863	862	861	863	872	871	876	882	892	901	896	892	890	886	885	887	889	887	884	884	881	880
8 q	881	865	859	860	864	865	869	871	876	880	881	882	878	878	880	882	890	891	892	891	890	888	886	884	878
9	879	876	874	869	860	854	850	853	870	875	882	893	905	914	928	930	951	945	916	916	901	905	897	882	893
10 q	876	877	880	884	881	882	883	887	891	892	890	890	887	886	887	887	886	884	882	883	883	885	884	885	885
11 q	885	883	882	881	880	880	880	881	882	885	884	881	881	882	883	884	882	881	881	880	880	880	883	886	882
12 d	868	864	877	881	881	880	879	876	874	882	889	874	882	896	907	920	942	929	960	986	947	734	738	766	881
13 d	737	764	860	789	674	638	657	785	859	884	889	901	908	914	932	949	948	942	915	902	894	892	887	886	850
14	877	868	849	865	882	884	882	883	882	887	892	893	902	908	901	897	896	917	920	905	897	902	868	870	889
15	883	886	868	859	874	881	876	881	885	884	883	885	886	888	892	895	899	902	897	891	903	905	900	896	887
16	902	898	894	893	886	889	887	886	885	887	888	889	888	888	889	893	953	981	927	937	966	926	890	877	904
17	879	892	899	899	898	896	895	893	892	891	892	890	888	889	891	908	924	917	938	986	940	909	857	865	901
18 q	891	893	898	896	897	896	895	893	892	893	893	894	896	895	894	894	893	892	892	892	892	892	890	894	894
19 q	890	890	892	892	890	889	888	886	885	884	879	877	879	882	885	887	887	887	887	887	886	885	884	883	886
20	883	883	883	883	882	883	881	881	881	882	882	882	882	883	887	891	891	890	890	892	904	902	882	885	883
21	820	844	836	864	877	884	880	880	890	886	885	890	914	929	911	901	894	893	893	896	904	899	847	721	877
22 d	757	751	778	797	807	770	770	806	827	870	927	947	940	900	896	895	893	892	891	899	952	947	900	842	861
23	855	844	816	831	851	857	867	870	891	948	960	942	948	941	921	912	904	901	909	921	925	908	898	892	896
24	886	889	892	890	889	889	891	892	892	892	891	891	980	888	890	891	892	892	894	902	904	913	899	897	893
25 d	898	895	882	884	885	885	884	884	885	905	893	901	913	949	1034	1057	1047	992	1012	982	921	854	788	768	917
26	809	844	788	766	820	819	838	863	881	904	897	899	904	910	916	914	937	924	900	893	895	895	894	893	875
27	891	873	866	877	881	881	881	883	885	884	883	887	898	919	914	908	910	906	904	901	893	874	855	884	889
28	888	890	889	891	881	878	879	880	882	885	886	886	889	891	894	899	893	890	889	888	890	883	871	875	886
29 d	856	858	871	875	867	859	834	856	870	876	872	886	906	991	995	997	1014	1010	987	964	905	832	746	761	895
30	823	853	844	866	877	880	887	890	890	897	903	903	902	912	917	931	920	914	917	910	902	894	885	862	891
Mean	859	862	863	863	862	861	862	871	878	886	890	893	897	904	909	913	920	917	915	913	905	886	869	856	885

Corrections to be applied to all values: H, -6γ; D, -4.1'; V, -11γ.

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

47 LERWICK

NOVEMBER 1940

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +				
	Horizontal force			Declination			Vertical force													
	Maximum 14,000γ +	Minimum 14,000γ +	Range	Maximum 12° +	Minimum 12° +	Range	Maximum 46,000γ +	Minimum 46,000γ +	Range											
	h. m.	γ	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ									
1	5 36	425	356	12 18	69	11 50	23.6	8.0	19 20	15.6	18 20	916	859	7 52	57	2, 2, 3, 2, 2, 2, 2, 0	15	0	80.0	
2	6 8	409	363	11 19	46	13 15	18.2	4.2	23 50	14.0	14 5	890	868	9 5	22	1, 2, 2, 1, 1, 1, 0, 2	10	0	80.2	
3	6 9	417	345	10 28	72	14 35	25.4	3.0	0 57	22.4	18 42	958	833	6 0	125	2, 2, 3, 2, 3, 2, 3, 3	20	0	80.1	
4	17 28	691	208	23 34	483	17 13	38.7	-8.0	21 14	46.7	16 50	1090	625	23 46	465	3, 3, 3, 2, 3, 6, 6, 6	32	1	80.0	
5	20 23	420	300	3 57	120	4 26	21.0	-6.2	20 19	27.2	13 14	925	676	0 0	249	5, 4, 3, 2, 2, 2, 3, 2	23	1	79.7	
6	21 12	423	357	2 24	66	12 45	18.1	2.2	19 22	15.9	19 15	893	836	3 22	57	2, 2, 2, 1, 1, 2, 3, 2	15	0	79.1	
7	6 47	421	348	11 46	73	13 43	19.5	5.6	21 38	13.9	12 26	905	856	4 52	49	2, 1, 2, 3, 2, 1, 1, 2	14	0	78.7	
8 q	1 17	409	379	12 8	30	13 20	17.4	5.5	1 50	11.9	18 53	891	853	2 35	38	2, 1, 1, 1, 1, 1, 2, 1	10	0	77.6	
9	15 42	432	348	11 16	84	16 36	31.8	1.5	23 13	30.3	16 50	969	845	7 2	124	1, 2, 2, 2, 3, 3, 3, 3	19	1	76.7	
10 q	22 47	407	368	10 28	39	13 6	14.9	6.2	0 42	8.7	9 16	892	875	0 16	17	2, 1, 1, 1, 0, 0, 0, 0	5	0	76.6	
11 q	6 15	412	380	11 25	32	12 42	15.9	4.4	23 25	11.5	24 0	892	877	6 12	15	1, 0, 1, 0, 0, 0, 0, 2	4	0	77.5	
12 d	19 26	469	-71	21 34	540	16 18	30.6	-25.6	21 39	56.2	19 26	1026	516	21 48	510	3, 1, 1, 3, 2, 3, 4, 7	24	1	77.8	
13 d	16 30	444	-187	2 39	631	5 1	37.5	-50.4	4 1	87.9	2 47	959	533	5 5	426	7, 7, 6, 3, 3, 3, 2, 1	32	2	78.0	
14	16 54	403	310	22 36	93	22 25	28.0	-3.5	22 57	31.5	17 56	926	829	22 48	97	3, 3, 2, 2, 3, 2, 2, 4	21	1	78.0	
15	21 20	425	367	2 35	58	11 16	19.1	-7.3	21 19	26.4	21 4	918	848	3 15	70	2, 2, 2, 2, 1, 2, 2, 4	17	1	77.8	
16	18 9	482	360	22 11	122	17 51	22.8	-11.6	0 26	34.4	18 8	1013	873	23 22	140	4, 2, 0, 1, 2, 4, 4, 4	21	1	77.5	
17	22 26	463	351	16 20	112	19 9	26.5	-18.5	19 38	45.0	19 28	1048	822	22 39	226	2, 1, 1, 1, 2, 4, 5, 4	20	1	77.4	
18 q	21 56	405	363	0 7	42	11 22	14.2	-1.3	0 3	15.5	22 35	902	874	0 0	28	3, 0, 2, 1, 1, 0, 1, 2	10	0	77.8	
19 q	19 15	419	385	9 20	34	13 29	16.9	8.6	0 44	8.3	0 0	893	876	11 21	17	1, 1, 1, 2, 2, 1, 1, 1	10	0	78.0	
20	6 48	417	231	23 47	186	16 6	17.1	-16.4	23 59	33.5	20 50	913	747	23 51	166	0, 0, 1, 1, 1, 2, 2, 5	12	1	78.0	
21	7 0	432	70	23 42	362	23 31	21.1	-17.3	0 10	38.4	13 25	934	645	23 40	289	5, 2, 4, 3, 2, 1, 2, 6	25	1	78.4	
22 d	20 38	500	173	0 0	327	8 18	25.9	-17.5	21 1	43.4	21 3	988	719	6 3	269	3, 4, 4, 4, 3, 1, 5, 5	29	1	78.3	
23	12 31	410	299	7 27	111	6 50	23.5	-3.6	20 32	27.1	9 59	980	793	2 16	187	3, 3, 3, 4, 3, 1, 3, 2	22	1	78.4	
24	21 53	405	373	22 40	32	12 48	16.9	-9.0	21 53	25.9	21 32	923	882	0 44	41	1, 0, 2, 0, 1, 1, 1, 4	10	0	78.8	
25 d	14 40	789	295	23 28	494	14 58	41.7	-27.9	22 7	69.6	14 54	1128	741	23 48	387	2, 1, 1, 4, 7, 6, 5, 5	31	2	78.6	
26	17 28	410	287	2 21	123	2 45	29.1	-6.3	0 5	35.4	16 35	946	720	3 3	226	5, 4, 3, 3, 3, 3, 2, 1	24	1	79.0	
27	20 50	418	363	21 38	55	14 0	18.9	-2.8	20 52	21.7	13 56	922	843	21 35	79	2, 1, 1, 1, 2, 3, 4, 3	17	1	79.7	
28	21 50	438	367	23 33	71	11 54	15.8	-4.0	22 8	19.8	15 22	899	857	22 14	42	1, 1, 1, 1, 1, 1, 1, 3	10	0	78.9	
29 d	13 12	516	235	22 16	281	13 7	29.3	-26.1	22 27	55.4	16 53	1057	701	22 34	356	3, 3, 3, 3, 5, 5, 4, 6	32	1	77.8	
30	23 30	418	322	2 16	96	12 20	17.8	-4.1	20 2	21.9	15 40	943	788	0 0	155	3, 3, 1, 2, 2, 3, 3, 3	20	1	77.1	
Mean	- -	451	288	- -	163	- -	23.2	-7.3	- -	30.5	- -	951	787	- -	164	-	-	-	0.67	78.4



**TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

48 LERWICK (H)

14,000γ (0.14 C.G.S. unit) +

DECEMBER 1940

		Hour G.M.T.																								Mean
		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	
1		386	388	386	383	380	397	401	401	386	387	382	368	385	388	385	380	390	392	374	389	381	338	367	373	383
2		361	375	376	368	392	397	400	395	388	387	349	347	375	386	393	390	391	401	390	388	389	375	391	375	382
3		370	384	376	390	399	391	392	391	390	386	377	367	374	385	376	373	385	391	391	382	383	399	376	390	384
4		391	389	388	390	405	403	393	394	398	391	383	380	382	393	392	382	380	389	390	395	392	394	395	392	391
5		405	387	389	385	385	393	403	397	397	391	391	395	399	399	398	394	396	394	393	391	393	394	392	396	394
6	q	394	391	393	393	396	404	402	399	396	385	386	387	391	393	395	396	397	396	398	398	394	389	393	394	394
7	q	392	388	387	396	399	400	396	395	394	388	385	387	388	392	395	396	399	400	401	400	399	399	398	399	395
8	q	400	399	400	402	404	405	405	403	402	400	397	396	396	399	401	402	404	402	404	403	403	402	399	399	401
9		401	403	405	402	400	405	423	428	408	409	404	397	391	378	384	399	402	402	398	393	393	393	390	392	400
10		390	389	387	389	394	393	391	396	399	396	396	393	402	408	411	414	418	400	398	407	402	393	393	392	398
11		391	390	391	388	388	388	389	390	385	388	394	396	396	402	403	404	407	404	399	402	402	383	371	391	393
12		391	394	390	388	390	394	391	389	385	392	395	392	392	391	397	391	392	400	403	396	399	400	402	396	394
13		382	355	389	386	392	393	393	391	390	366	379	392	394	396	397	400	402	403	403	402	410	402	395	396	392
14		406	391	392	393	394	395	397	397	399	396	394	384	373	386	401	404	401	372	389	385	390	389	386	386	392
15		390	384	385	387	389	392	392	393	393	393	392	388	390	396	387	396	402	396	394	386	393	397	401	376	391
16		390	392	389	389	391	394	396	396	393	373	381	387	386	387	390	394	400	403	397	397	400	402	396	392	392
17		391	395	392	395	397	399	400	397	395	392	391	388	384	372	386	389	393	393	385	388	397	388	402	383	391
18	q	388	394	388	393	393	399	401	400	396	394	390	386	386	395	397	401	401	396	392	400	401	401	399	397	395
19	q	396	397	395	396	399	401	404	401	398	393	391	389	392	402	409	411	413	410	409	409	410	401	388	385	400
20	d	399	397	396	397	401	100	405	408	408	394	343	335	373	395	404	423	563	469	405	395	394	345	345	331	397
21	d	332	322	292	290	285	373	385	390	379	377	368	350	373	381	382	391	391	394	384	389	411	390	384	377	366
22	d	372	348	362	375	390	392	397	385	372	353	357	365	346	384	395	396	383	388	387	384	383	385	390	386	378
23		377	378	391	392	395	399	400	398	398	390	381	379	365	386	382	375	365	381	389	415	381	367	365	354	383
24		376	379	384	389	390	390	393	396	392	382	384	382	383	381	388	396	396	390	393	396	386	382	381	389	387
25		390	396	393	391	401	407	407	378	379	387	380	372	378	376	386	387	373	386	387	389	390	385	398	390	388
26		392	391	389	399	402	396	400	397	395	362	351	362	367	383	390	393	395	397	391	388	390	387	389	391	387
27		396	388	387	388	400	409	408	403	392	393	391	391	386	370	386	378	392	393	393	392	391	389	395	394	392
28		393	391	388	393	394	400	403	402	388	373	391	390	391	392	400	403	408	406	404	400	393	388	345	394	393
29		370	353	371	364	337	358	388	388	393	390	383	381	388	391	390	381	384	384	414	393	391	379	358	389	380
30	d	385	385	380	385	379	399	418	374	315	377	386	382	379	371	388	393	388	395	375	371	398	400	405	393	384
31	d	373	285	337	391	412	409	404	396	394	394	389	382	383	393	408	406	392	412	440	396	386	386	385	386	389
Mean		386	381	383	386	389	396	399	396	390	386	383	380	383	389	393	395	400	398	396	394	394	388	386	386	390

387 at 0-1h. January 1, 1941

Corrections to be applied to all values: H, -6γ; D, -4.1'; V, -12γ.

**MAGNETIC DECLINATION (WEST)**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

49 LERWICK (D)

12° +

DECEMBER 1940

	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
1	8.4	10.4	11.4	12.5	12.1	11.2	11.5	12.2	12.2	12.6	13.9	14.0	14.4	15.0	15.0	15.0	12.7	12.3	6.1	4.8	7.8	1.2	1.4	3.9	10.5
2	8.4	2.3	2.3	10.1	9.0	10.3	11.0	13.1	12.2	13.3	12.1	15.2	15.7	14.9	16.1	8.2	12.3	14.3	4.1	8.2	11.2	0.7	-5.9	0.4	9.1
3	8.9	11.9	14.2	10.2	10.6	11.2	11.8	11.3	11.5	14.2	15.9	16.1	16.3	16.5	15.0	14.4	10.0	6.8	9.3	8.1	2.1	-9.7	6.4	10.6	10.6
4	11.2	10.8	10.9	14.4	9.2	10.2	12.7	15.1	15.3	14.9	15.4	16.5	14.8	15.0	15.5	15.6	12.0	6.7	4.6	6.4	11.1	10.8	10.7	10.0	12.1
5	6.2	8.3	10.9	9.6	10.2	11.8	12.0	11.2	13.0	12.1	12.8	13.6	14.4	14.3	14.0	14.4	15.1	12.7	14.2	10.9	11.0	10.3	8.3	9.4	11.7
6 q	7.7	10.1	10.5	11.3	11.2	9.0	10.4	10.5	11.2	12.2	13.5	14.4	14.6	14.4	13.6	13.1	12.9	12.2	12.1	11.5	6.0	8.5	10.2	10.8	11.3
7 q	11.0	12.4	14.6	11.4	10.6	10.5	10.7	10.8	10.6	11.7	11.9	13.2	13.5	13.5	12.7	12.1	11.6	11.3	11.1	11.1	11.0	10.8	10.4	11.0	11.6
8 q	11.3	11.5	11.5	11.3	11.1	11.0	10.8	10.7	10.6	11.2	12.1	13.0	13.1	13.0	12.7	12.5	12.6	12.5	12.2	11.6	11.5	11.6	11.1	10.8	11.7
9	11.2	11.6	11.3	10.4	10.5	11.2	11.7	12.2	14.9	15.2	16.5	16.1	17.9	20.0	17.3	14.3	13.8	13.3	12.4	11.4	10.6	10.5	5.2	5.0	12.7
10	6.3	7.4	7.4	9.9	9.6	8.0	10.2	10.5	10.5	12.1	13.7	14.3	14.7	15.7	14.5	15.1	20.2	21.0	14.7	14.9	11.0	9.8	11.7	11.3	12.3
11	9.4	8.7	9.7	8.1	8.6	8.5	8.7	9.7	9.5	11.0	13.2	15.0	14.9	14.8	13.5	12.3	13.1	13.9	12.4	13.0	11.9	1.5	1.4	7.2	10.4
12	4.1	0.5	4.9	8.4	8.6	9.3	10.1	10.0	11.2	10.1	12.0	13.5	15.5	15.2	15.0	13.2	14.6	16.7	14.8	14.1	11.5	12.1	11.6	10.5	11.1
13	8.4	4.8	0.8	4.9	8.5	9.5	10.6	10.7	10.9	10.5	12.2	14.4	14.4	14.0	12.8	13.7	14.0	11.1	12.9	12.4	6.7	7.3	10.1	10.5	10.3
14	7.7	7.6	8.2	9.2	9.3	8.3	8.3	9.1	10.9	11.1	13.3	15.0	14.4	15.5	14.2	12.2	15.4	9.0	5.9	11.0	6.6	5.9	6.2	8.9	10.1
15	6.3	9.7	9.7	11.2	11.0	10.7	10.1	10.1	10.2	10.7	11.4	12.6	14.0	15.4	15.2	15.1	14.6	14.6	4.0	13.6	8.7	8.3	4.4	-2.4	10.4
16	3.3	7.6	10.2	11.1	10.3	9.3	9.3	9.6	10.1	11.0	14.0	13.5	14.5	15.6	14.5	14.0	12.8	13.7	12.5	10.8	10.6	8.9	7.8	9.5	11.0
17	9.6	9.7	11.2	11.1	11.6	10.9	10.4	10.2	10.1	10.7	11.6	12.3	14.6	14.2	15.4	13.3	13.0	11.6	11.4	9.2	9.8	6.7	0.1	6.0	10.6
18 q	6.5	0.5	8.7	10.3	9.6	10.2	10.2	9.8	9.7	10.9	12.0	14.6	12.3	13.4	12.5	11.7	11.5	11.9	10.1	10.6	10.2	10.0	9.8	9.5	10.3
19 q	9.5	9.7	8.6	10.9	10.7	10.8	10.5	10.1	10.6	12.4	12.9	13.1	12.4	13.1	13.2	12.3	11.7	11.0	11.1	11.1	10.8	10.3	6.7	7.5	10.9
20 d	7.6	2.9	8.0	9.6	11.7	13.6	15.8	13.7	12.0	13.4	12.6	15.1	19.6	10.1	14.1	16.8	10.0	-1.3	7.2	9.5	-0.6	-6.1	-7.0	-7.2	8.4
21 d	1.3	8.3	9.1	6.1	17.0	21.0	12.9	10.6	9.5	10.2	14.0	12.5	12.0	16.0	17.6	13.6	9.0	12.3	5.0	4.7	0.9	3.4	4.1	3.9	9.8
22 d	9.5	12.9	13.9	5.9	7.6	9.1	14.2	15.0	21.1	15.8	15.2	14.7	11.1	12.6	16.2	4.4	10.8	10.7	9.3	7.9	7.5	7.9	8.4	7.9	11.2
23	9.3	11.4	9.0	8.6	9.5	10.5	11.1	11.1	10.9	13.0	12.6	12.1	13.9	12.5	13.4	9.4	9.7	9.1	11.2	-7.0	1.4	1.1	6.3	8.6	9.1
24	4.6	6.9	7.9	9.6	10.5	12.0	11.6	13.0	12.0	12.0	13.2	14.1	13.4	14.6	12.9	12.2	12.6	11.0	12.2	11.4	6.6	0.4	4.1	6.1	10.2
25	8.7	11.5	11.6	11.1	9.5	10.2	11.8	14.0	14.9	12.8	12.4	14.2	14.6	17.2	15.7	14.6	10.1	14.0	10.7	11.2	8.6	10.7	3.6	8.0	11.7
26	9.7	10.0	11.4	13.8	10.2	11.4	13.2	12.1	12.2	11.4	13.8	15.1	15.6	14.2	13.3	12.1	11.2	11.1	11.2	-0.6	2.2	6.3	8.8	8.6	10.8
27	9.5	9.8	11.4	13.9	8.3	7.0	10.1	12.9	12.8	9.8	9.7	12.5	14.9	17.0	16.4	9.9	12.7	11.1	10.4	9.3	8.1	7.7	5.1	9.5	10.8
28	10.2	9.6	7.8	10.6	11.4	11.1	11.0	11.0	11.0	12.9	11.6	13.4	14.0	13.5	15.4	13.2	12.4	12.3	11.5	11.1	6.0	-17.9	1.1	2.7	9.5
29	0.8	4.3	8.0	7.7	11.4	12.4	12.2	11.7	11.1	11.8	12.1	12.2	12.5	14.3	13.5	11.6	14.0	13.4	1.3	9.8	6.9	-1.0	7.6	2.6	9.3
30 d	8.0	9.9	9.8	10.9	15.0	17.0	18.9	19.9	20.0	22.0	20.3	16.9	16.2	18.0	16.6	11.2	3.2	7.1	-1.3	-1.2	11.1	10.9	10.7	8.3	12.5
31 d	9.0	9.0	6.7	3.5	4.1	10.7	11.7	11.1	12.2	11.5	11.9	11.6	13.6	14.8	17.5	18.6	16.2	12.2	20.5	12.2	10.2	9.5	8.1	8.8	11.5
Mean	7.9	8.5	9.4	9.9	10.3	10.9	11.5	11.7	12.1	12.4	13.2	14.0	14.4	14.8	14.7	12.9	12.4	11.6	9.8	9.1	8.0	5.4	6.1	7.0	10.8



TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

41

50	LERWICK (V)													46,000γ (0.46 C.G.S. unit) +													DECEMBER 1940				
	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					
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ			
1	867	878	883	875	878	876	885	886	887	888	887	897	898	899	906	906	904	906	923	916	908	873	847	856	889						
2	821	806	808	818	842	872	882	886	884	881	903	911	902	901	914	953	938	925	928	913	900	889	848	842	882						
3	859	859	847	865	874	882	885	887	886	881	884	897	904	902	919	930	921	914	904	909	901	864	866	875	888						
4	881	883	883	873	866	874	881	881	880	883	885	888	897	897	908	924	940	935	914	902	893	889	888	886	893						
5	870	878	879	877	871	860	855	872	878	885	887	887	887	888	894	897	902	911	920	925	910	902	895	882	888						
6 q	881	885	881	881	879	875	878	881	881	881	879	879	883	885	887	890	889	892	892	892	894	893	892	887	885						
7 q	885	883	876	874	878	879	883	886	885	887	885	885	885	885	885	885	885	885	886	886	886	886	886	885	884						
8 q	883	883	882	881	879	879	879	881	881	880	881	882	882	881	883	882	882	882	882	883	884	884	885	885	882						
9	884	882	879	880	879	872	856	854	863	867	877	885	892	903	902	896	892	890	890	892	891	891	901	900	884						
10	883	886	884	884	886	883	882	879	878	878	878	881	881	882	882	883	894	930	918	921	930	909	903	901	892						
11	896	894	889	886	885	884	884	880	882	881	881	880	884	886	881	881	887	885	891	895	892	893	910	895	881	887					
12	876	875	887	889	888	885	884	882	880	878	880	884	886	892	893	904	906	896	898	908	905	898	896	899	890						
13	897	864	869	874	880	884	884	884	883	893	889	888	889	892	895	896	894	894	892	894	895	895	896	897	888						
14	896	894	894	890	889	887	884	882	878	879	884	889	901	902	896	897	906	966	986	964	941	928	913	867	905						
15	873	886	889	891	892	890	888	885	882	880	882	885	886	886	895	894	892	900	914	911	916	903	889	835	889						
16	851	873	879	878	875	878	884	884	880	883	878	883	886	888	889	890	889	892	900	901	895	894	894	893	885						
17	893	889	890	889	889	888	885	884	881	876	875	880	887	899	902	902	901	902	904	902	893	887	854	868	888						
18 q	867	869	882	883	884	885	885	885	883	879	878	880	884	880	884	885	888	891	894	887	885	883	880	880	883						
19 q	880	870	876	883	883	884	882	883	881	880	879	880	882	879	879	881	880	883	882	883	883	885	901	889	882						
20 d	852	845	855	864	868	860	845	858	870	876	894	903	912	974	915	954	1012	946	958	933	887	792	766	818	886						
21 d	810	797	802	790	725	714	821	884	904	904	908	926	924	906	920	938	937	924	934	915	894	867	878	872	871						
22 d	852	814	783	820	835	850	860	876	881	886	891	896	916	938	915	957	936	919	913	904	899	892	888	885	884						
23	858	838	860	871	874	875	877	878	877	880	887	890	902	906	914	936	950	934	911	917	884	885	851	805	886						
24	847	852	861	869	872	875	879	883	887	891	889	888	893	897	897	893	890	891	889	888	896	903	889	885	883						
25	878	873	875	870	869	870	868	881	877	879	886	897	901	901	904	913	932	934	923	906	897	875	859	874	889						
26	878	878	879	865	855	865	870	875	877	890	896	896	901	900	897	895	891	890	899	940	901	891	889	883	888						
27	872	875	879	870	861	864	867	868	874	877	882	885	892	903	905	923	909	897	891	888	886	885	880	875	884						
28	878	878	877	875	878	876	876	876	882	883	879	884	888	889	895	891	888	885	884	884	888	887	890	905	884						
29	874	819	858	857	837	824	839	862	877	885	894	905	897	896	900	914	926	942	943	909	907	918	880	866	885						
30 d	878	875	878	880	870	837	843	863	885	867	882	896	906	918	920	938	936	936	941	920	896	890	883	879	892						
31 d	858	779	784	833	846	865	876	886	885	885	885	885	885	886	890	898	932	986	1022	969	927	902	889	880	889						
Mean	870	863	866	869	867	867	872	878	881	882	885	980	894	898	899	907	911	912	914	908	899	889	880	875	887						

877 at 0-1h. January 1, 1941

Corrections to be applied to all values: H, -6γ; D, -4.1'; V, -12γ.

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

51 LERWICK		TERRESTRIAL MAGNETIC ELEMENTS												DECEMBER 1940					
Horizontal force							Declination			Vertical force			3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +			
Maximum 14,000γ +		Minimum 14,000γ +		Range	Maximum 12° +		Minimum 12° +		Range	Maximum 46,000γ +		Minimum 46,000γ +					Range		
	h. m.	γ	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ			°A.			
1	7 18	405	304	21 44	101	13 15	16.4	-3.9	22 4	20.3	18 36	930	839	22 10	91	2, 2, 2, 2, 1, 3, 4	18	1	77.8
2	14 47	415	319	11 11	96	15 54	20.5	-14.5	22 54	35.0	15 57	981	780	1 4	201	3, 3, 2, 3, 3, 4, 3, 4	25	1	78.6
3	21 20	420	352	11 26	68	11 21	22.0	-17.1	21 17	39.1	15 3	933	839	2 36	94	3, 2, 1, 3, 2, 4, 3, 4	22	1	78.5
4	18 0	411	371	12 14	40	15 51	17.3	-5.5	19 1	22.8	16 18	950	862	3 59	88	1, 2, 1, 1, 2, 4, 4, 1	16	0	78.4
5	0 44	422	379	3 53	43	18 30	18.9	2.1	0 41	16.8	18 57	929	845	6 9	84	3, 2, 2, 1, 1, 1, 3, 2	15	0	78.1
6 q	5 15	405	384	9 46	21	13 10	15.1	4.3	20 45	10.8	20 34	899	875	4 58	24	2, 1, 0, 1, 1, 1, 2, 1	9	0	77.6
7 q	5 10	402	380	2 12	22	2 33	16.0	9.6	8 21	6.4	22 22	887	869	3 3	18	2, 1, 1, 0, 0, 0, 0, 0	4	0	77.2
8 q	5 30	405	393	10 41	12	11 34	13.2	9.8	19 56	3.4	22 25	886	878	4 40	8	0, 0, 0, 0, 0, 0, 1, 0	1	0	76.6
9	7 7	435	373	13 10	63	13 56	20.8	-0.6	22 51	21.4	22 50	917	850	6 55	67	0, 1, 2, 2, 2, 1, 1, 3	12	0	76.4
10	16 13	443	384	0 22	59	17 36	24.0	4.2	5 30	19.8	20 30	940	875	16 14	65	1, 2, 1, 2, 1, 3, 3, 2	15	0	76.2
11	16 57	410	335	22 17	75	17 24	16.5	-10.0	21 36	26.5	21 33	925	876	24 0	49	1, 0, 1, 2, 0, 2, 2, 4	12	0	75.8
12	15 17	408	371	15 38	37	17 53	18.6	-2.5	1 37	21.1	15 55	923	866	1 14	57	3, 1, 2, 1, 1, 3, 2, 2	15	0	75.1
13	20 32	420	331	1 29	89	11 40	16.4	-3.9	2 0	20.3	0 50	904	847	1 37	57	3, 2, 1, 3, 1, 2, 3, 2	17	0	74.9
14	0 32	422	361	17 58	61	18 55	20.6	0.4	18 21	20.2	18 4	1006	856	23 40	150	3, 1, 1, 2, 2, 4, 4, 3	20	1	75.6
15	22 45	418	341	23 30	77	14 8	17.0	-8.7	23 39	25.7	18 7	923	819	23 21	104	2, 1, 1, 1, 3, 3, 3, 4	18	1	76.4
16	17 23	415	364	9 26	51	14 2	17.5	-3.8	0 0	21.3	19 13	906	838	0 0	68	3, 2, 1, 2, 1, 1, 2, 1	13	0	77.0
17	22 11	425	364	13 21	61	14 42	16.9	-5.6	22 7	22.5	18 53	906	847	22 35	59	1, 1, 0, 1, 2, 1, 2, 3	11	0	77.9
18 q	0 43	404	376	12 1	28	11 20	15.0	-4.2	1 18	19.2	18 29	897	850	0 53	47	3, 2, 1, 1, 1, 1, 1, 0	10	0	78.0
19 q	15 39	414	381	24 0	33	14 8	14.0	1.4	22 11	12.6	22 23	911	865	1 32	46	2, 1, 0, 1, 1, 0, 0, 2	7	0	77.9
20 d	16 52	859	256	21 28	603	17 45	31.4	-26.3	17 12	57.7	16 15	1088	723	22 36	365	3, 3, 3, 4, 4, 7, 5, 5	34	2	77.2
21 d	20 41	474	221	3 50	253	4 48	25.5	-20.7	20 38	46.2	16 16	951	668	4 57	283	4, 5, 5, 3, 3, 3, 4, 2	29	1	77.0
22 d	14 36	415	303	12 34	112	8 31	23.0	-6.0	15 25	29.0	15 37	969	761	2 6	208	4, 3, 3, 3, 4, 4, 2, 2	25	1	77.0
23	19 50	461	343	23 30	118	12 24	17.2	-23.3	19 33	40.5	16 53	959	779	23 12	180	3, 1, 1, 2, 2, 3, 5, 4	21	1	77.0
24	15 59	402	369	20 50	33	13 15	16.4	-10.4	21 4	26.8	21 6	913	831	0 0	82	2, 2, 2, 1, 1, 1, 4, 4	17	0	77.0
25	6 5	414	362	11 5	52	17 40	19.1	0.6	22 21	18.5	17 57	959	853	21 59	106	2, 2, 3, 2, 2, 3, 3, 3	20	1	76.9
26	20 26	425	342	9 51	83	12 34	16.4	-17.3	19 40	33.7	19 40	962	851	4 37	111	1, 2, 1, 3, 2, 0, 4, 2	15	1	76.8
27	5 48	413	353	13 9	60	14 12	18.6	1.8	22 34	16.8	15 45	930	860	4 56	70	3, 2, 3, 2, 3, 2, 1, 2	17	0	77.0
28	23 26	431	332	22 25	99	14 24	16.9	-29.8	21 33	46.7	22 38	919	873	3 12	46	2, 1, 2, 2, 2, 0, 4, 5	18	1	76.8
29	18 42	433	317	4 51	116	16 40	18.6	-9.8	18 36	28.4	18 19	970	793	1 34	177	4, 3, 3, 2, 1, 3, 4, 3	23	1	77.0
30 d	6 6	434	285	8 9	149	8 8	25.5	-15.5	18 58	41.0	18 43	960	826	5 40	134	1, 3, 5, 3, 2, 3, 4, 2	23	1	76.7
31 d	18 38	464	200	1 44	264	17 56	24.5	0.4	2 10	24.1	18 46	1044	757	1 36	287	5, 3, 2, 2, 3, 4, 4, 2	25	1	75.7
Mean	- -	436	340	- -	96	- -	19.0	-6.6	- -	25.6	- -	941	831	- -	110	-	-	0.52	77.0



## ALL DAYS

Departures from the mean of the 24 hourly values (uncorrected for non-cyclic change)

52 LERWICK													1940											
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											
HORIZONTAL FORCE																								
Jan.	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Feb.	-12.1	-12.2	-10.6	-7.2	-3.9	+0.6	+1.6	+1.2	-4.0	-7.6	-10.1	-10.6	-8.1	-4.5	+2.6	+10.2	+35.3	+27.6	+14.0	+15.6	+2.9	-1.8	-7.3	-11.6
Mar.	-7.5	-5.7	-5.9	-4.2	+0.3	+3.6	+4.9	+4.4	-0.2	-6.0	-12.2	-12.0	-6.6	-0.4	+5.2	+9.5	+9.3	+14.0	+9.1	+7.1	+2.7	-1.2	-1.6	-6.6
Apr.	-52.0	-88.8	-66.0	-55.2	-26.7	-8.4	+12.3	+11.3	+5.1	-5.2	-11.2	+1.7	+14.5	+37.2	+40.8	+68.4	+72.0	+59.4	+44.9	+44.1	+21.6	-18.7	-29.7	-71.4
May	-20.9	-19.8	-30.4	-39.9	-23.4	-0.1	-2.4	-2.3	-6.3	-15.9	-22.3	-21.8	-11.8	-0.2	+15.8	+26.7	+35.6	+41.5	+49.6	+40.6	+20.9	+5.8	-4.7	-14.3
June	-9.0	-3.5	-3.3	-6.6	-12.6	-11.1	-13.0	-16.4	-26.5	-35.5	-34.9	-25.9	-16.8	-6.3	+6.9	+17.8	+30.2	+40.1	+45.6	+38.1	+26.8	+13.8	+4.4	-2.3
July	-16.3	-24.3	-20.2	-20.6	-19.1	-15.3	-12.3	-17.9	-26.1	-34.6	-37.3	-28.9	-18.4	+9.9	+23.9	+39.3	+43.8	+50.5	+57.1	+41.7	+26.5	+11.7	-3.5	-9.6
Aug.	-12.0	-9.7	-9.5	-6.5	-8.9	-7.5	-13.8	-15.7	-23.7	-34.5	-38.9	-34.8	-18.9	+1.8	+14.1	+25.2	+35.2	+42.4	+41.2	+35.3	+24.4	+16.2	+5.7	-7.1
Sept.	+1.3	+0.2	-2.9	-2.3	-0.8	-5.0	-9.0	-16.3	-27.4	-39.9	-41.0	-31.7	-16.9	-2.3	+13.0	+21.6	+30.7	+35.5	+33.1	+26.4	+18.9	+10.0	+2.4	+2.4
Oct.	-8.3	-21.4	-5.8	-3.9	-3.0	+0.1	-1.1	-5.0	-18.5	-29.0	-31.4	-24.9	-12.8	-0.6	+12.0	+18.6	+23.3	+31.8	+33.6	+15.3	+15.1	+12.1	+3.7	+0.1
Nov.	-12.6	-13.8	-4.2	-3.6	-0.5	+3.3	+3.2	-1.0	-8.5	-16.4	-19.6	-20.0	-16.3	-7.7	+5.0	+14.7	+27.4	+36.7	+32.6	+4.7	+4.1	+0.3	-3.0	-4.8
Dec.	-9.5	-4.1	-14.4	-7.1	+1.3	+0.9	+5.2	+2.4	-1.1	-10.8	-13.7	-11.2	-5.6	+0.8	+11.0	+12.7	+16.6	+17.0	+16.6	+11.5	+8.9	-1.2	-6.5	-19.7
	-3.9	-9.3	-7.2	-3.9	-0.5	+6.1	+9.3	+5.8	+0.2	-3.5	-7.4	-9.6	-6.5	-1.2	+3.4	+4.9	+10.1	+8.1	+5.8	+4.3	+4.4	-2.1	-3.7	-3.6
Year	-13.6	-17.7	-15.0	-13.4	-8.1	-2.7	-1.3	-4.1	-11.4	-19.9	-23.3	-19.1	-10.3	+2.2	+12.8	+22.5	+30.8	+33.7	+31.9	+23.7	+14.8	+3.7	-3.7	-12.4
Winter	-8.3	-7.8	-9.5	-5.6	-0.7	+2.8	+5.3	+3.5	-1.3	-7.0	-10.9	-10.9	-6.7	-1.3	+5.5	+9.3	+17.8	+16.7	+11.4	+9.6	+4.7	-1.6	-4.8	-10.4
Equinox	-23.5	-35.9	-26.6	-25.7	-13.4	-1.3	+3.0	+0.7	-7.1	-16.6	-21.1	-16.3	-6.6	+7.2	+18.4	+32.1	+39.6	+42.3	+40.2	+26.2	+15.4	-0.1	-8.4	-22.6
Summer	-9.0	-9.3	-9.0	-9.0	-10.3	-9.7	-12.0	-16.6	-25.9	-36.1	-38.0	-30.3	-17.7	-0.8	+14.5	+26.0	+35.0	+42.1	+44.3	+35.4	+24.1	+12.9	+2.3	-4.1

DECLINATION																									
Jan.	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
Feb.	-1.87	-2.30	-2.44	-2.75	-2.03	-1.18	-0.01	+0.25	+0.50	+1.18	+2.28	+3.39	+4.63	+4.85	+5.01	+4.24	+3.68	+2.26	+1.30	+0.87	+0.16	-2.39	-2.37	-3.02	-2.11
Mar.	-3.20	-3.08	-3.28	-3.46	-2.90	-2.42	-1.55	-0.50	+0.20	+1.12	+2.53	+4.06	+4.85	+5.01	+4.24	+3.68	+2.26	+1.30	+0.87	+0.16	-2.39	-2.37	-3.02	-2.11	
Apr.	-5.23	-2.89	-4.72	-7.23	-5.47	-2.62	-2.67	-2.93	-3.13	-1.69	-1.63	+1.87	+5.76	+7.46	+6.85	+6.73	+6.54	+7.66	+5.77	+2.56	+0.33	-2.88	-3.53	-4.91	
May	-1.68	-3.61	-4.63	-4.77	-4.37	-3.09	-3.62	-3.93	-3.85	-2.63	+0.04	+3.31	+6.79	+8.40	+7.91	+6.23	+4.68	+2.96	+2.07	+1.37	+0.20	-1.80	-1.60	-3.68	
June	-2.35	-2.33	-4.02	-4.19	-4.48	-5.47	-6.07	-5.78	-4.53	-1.81	+1.18	+4.27	+6.75	+7.62	+6.68	+5.11	+3.88	+2.87	+2.25	+1.70	-0.27	-0.11	-0.05	-0.85	
July	-0.85	-2.40	-3.52	-2.89	-4.88	-5.37	-6.53	-6.70	-5.72	-3.44	-0.01	+2.92	+6.45	+6.28	+5.92	+5.26	+4.32	+3.96	+2.90	+2.28	+1.66	+0.86	+0.28	-0.78	
Aug.	-1.25	-1.40	-2.33	-3.45	-4.51	-5.72	-6.78	-6.49	-5.84	-4.13	-1.38	-2.08	+5.28	+6.90	+7.48	+6.50	+4.90	+3.71	+2.81	+2.28	+1.41	+0.94	+0.22	-1.23	
Sept.	-2.16	-1.78	-2.76	-4.07	-4.81	-5.45	-5.28	-4.90	-4.11	-2.33	+0.60	+3.90	+6.76	+8.08	+7.02	+5.29	+3.17	+2.22	+1.79	+0.48	+0.54	+0.49	-0.38	-2.31	
Oct.	-2.53	-3.25	-4.35	-3.22	-2.90	-2.85	-2.60	-4.46	-3.92	-1.64	+1.25	+4.60	+7.58	+8.25	+7.24	+5.02	+3.08	+0.44	-0.12	-0.35	-0.52	-1.46	-1.74	-1.55	
Nov.	-3.24	-3.42	-3.69	-2.74	-2.06	-1.92	-1.51	-1.52	-1.62	-0.51	+1.60	+4.16	+6.00	+6.46	+6.03	+4.92	+3.50	+2.38	+1.50	-0.79	-1.49	-3.97	-4.42	-3.65	
Dec.	-4.94	-2.99	-2.15	-1.97	-1.93	-0.09	+0.45	+0.66	+0.47	+0.33	+2.22	+4.25	+5.24	+5.19	+5.10	+4.19	+3.04	+1.91	+1.06	-1.40	-2.37	-5.11	-5.68	-5.48	
	-2.89	-2.31	-1.35	-0.83	-0.49	+0.14	+0.72	+0.95	+1.33	+1.65	+2.46	+3.27	+3.70	+4.02	+3.93	+2.16	+1.69	+0.84	-0.91	-1.63	-2.73	-5.32	-4.68	-3.72	
Year	-2.68	-2.65	-3.27	-3.46	-3.40	-3.00	-2.95	-2.95	-2.52	-1.16	+0.93	+3.51	+5.82	+6.52	+6.05	+4.79	+3.59	+2.72	+1.58	+0.40	-0.79	-1.98	-2.29	-2.79	
Winter	-3.23	-2.67	-2.31	-2.25	-1.84	-0.89	-0.10	+0.34	+0.63	+1.07	+2.37	+3.74	+4.61	+4.77	+4.35	+3.11	+2.25	+1.61	0.00	-1.18	-2.73	-3.97	-4.08	-3.61	
Equinox	-3.17	-3.29	-4.35	-4.49	-3.70	-2.62	-2.60	-3.21	-3.13	-1.62	+0.31	+3.49	+6.53	+7.57	+7.01	+5.73	+4.45	+3.36	+2.31	+0.70	-0.47	-2.53	-2.82	-3.45	
Summer	-1.65	-1.98	-3.16	-3.65	-4.67	-5.50	-6.17	-5.97	-5.05	-2.93	+0.10	+3.29	+6.31	+7.22	+6.77	+5.54	+4.07	+3.19	+2.44	+1.69	+0.83	+0.55	+0.02	-1.29	

VERTICAL FORCE																								
Jan.	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Feb.	-13.6	-16.1	-19.2	-19.7	-19.3	-16.5	-13.5	-11.1	-8.0	-5.3	-3.2	-1.4	+0.7	+5.4	+16.2	+18.7	+20.3	+20.5	+26.4	+23.1	+14.3	+9.0	-0.3	-8.4
Mar.	-25.1	-25.4	-21.0	-14.4	-13.1	-12.2	-12.0	-9.8	-6.8	-5.2	-3.3	-1.1	+2.1	+7.5	+16.8	+20.6	+26.6	+23.8	+21.8	+17.6	+14.3	+10.1	-0.1	-11.7
Apr.	-42.9	-34.1	-40.3	-18.1	-24.2	-35.9	-15.3	+0.9	+6.4	+13.2	+16.3	+16.4	+17.0	+19.8	+31.0	+33.1	+13.7	+16.6	+18.2	+19.3	+10.2	+2.9	-1.5	-22.7
May	-11.5	-25.4	-30.0	-37.1	-39.8	-21.9	-12.2	-5.7	-0.7	+5.8	+8.9	+7.6	+7.4	+12.3	+17.9	+25.3	+29.1	+30.8	+30.8	+21.0	+14.3	-2.0	-12.2	-12.7
June	-24.9	-28.2	-24.0	-20.0	-22.5	-17.0	-10.0	-3.1	-0.6	0.0	-1.0	-0.4	+4.1	+11.3	+16.3	+21.8	+26.0	+28.8	+27.4	+23.7	+15.3	+1.7	-7.6	-17.1
July	-22.8	-33.4	-32.4	-33.1	-30.1	-20.9	-10.9	-0.6	+3.2	+4.6	+4.5	+2.9	+5.7	+6.7	+16.2	+24.8	+30.5	+33.6	+27.1	+19.4	+17.5	+7.1	-5.7	-13.9
Aug.	-18.7	-25.3	-26.5	-20.2	-16.4	-10.7	-4.1	-2.7	-1.2	0.0	+0.2	-3.1	-0.2	+5.7	+11.4	+16.0	+22.3	+24.8	+22.4	+17.8	+14.8	+9.3	-1.9	-13.7
Sept.	-20.9	-20.5	-23.2	-16.3	-11.0	-7.9	-5.3	-4.6	-4.4	-3.0	-2.8	-4.5	-1.5	+4.6	+15.1	+21.8	+27.0	+28.2	+25.8	+17.7	+10.1	+0.3	-8.8	-15.9
Oct.	-26.0	-35.0	-34.3	-28.3	-20.2	-13.0	-9.3	-3.6	+0.7	+2.5	+4.1	+5.4	+4.8	+11.1	+19.9	+28.6	+35.2	+38.4	+24.1	+15.2	+9.8	+1.4	-14.0	-17.5
Nov.	-27.0	-30.4	-31.2	-32.8	-27.7	-22.0	-15.3	-8.2	-1.6	+2.4	+5.1	+7.9	+11.2	+14.3	+18.9	+25.6	+37.5	+39.6	+30.0	+22.5	+11.8	-3.1	-10.3	-17.2
Dec.	-26.9	-23.6	-22.7	-22.9	-23.7	-24.9	-23.5	-14.9	-7.6	+0.9	+4.2	+7.1	+11.9	+18.9	+23.4	+27.9	+34.5	+31.3	+29.4	+27.3	+19.3	+0.7	-16.7	-29.4
	-16.3	-23.4	-20.5	-17.7	-19.3	-19.1	-14.1	-8.1	-5.7	-4.6	-1.3	+3.5	+7.4	+11.3	+12.3	+20.9	+23.9	+25.3	+27.3	+21.7	+12.3	+2.4	-6.9	-11.3
Year	-23.1	-26.7	-27.1	-23.4	-22.3	-18.5	-12.1	-6.0	-2.2	+0.9	+2.6	+3.4	+5.9	+10.7	+17.9	+23.8	+27.2	+28.5	+25.9	+20.5	+13.7	+3.3	-7.2	-16.0
Winter	-20.5	-22.1	-20.9	-18.7	-18.9	-18.2	-15.8	-11.0	-7.0	-3.5	-0.9	+2.0	+5.5	+10.8	+17.2	+22.0	+26.3	+25.2	+26.2	+22.4	+15.1	+5.5	-6.0	-15.2
Equinox	-26.9	-31.2	-33.9	-29.1	-28.0	-23.2	-13.0	-4.1	+1.2	+6.0	+8.6	+9.3	+10.1	+14.4	+21.9	+28.1	+28.9	+31.3	+25.8	+19.5	+11.5	-0.2	-9.5	-17.5
Summer	-21.8	-26.9	-26.5	-22.4	-20.0	-14.1	-7.6	-2.7	-0.7	+0.4	+0.2	-1.3	+2.0	+7.1	+14.7	+21.1	+26.5	+28.9						



## INTERNATIONAL QUIET DAYS

Departures from the mean of the 24 hourly values (uncorrected for non-cyclic change)

53 LERWICK

1940

	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	
	HORIZONTAL FORCE																								
	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	
Jan.	+1.1	-1.5	+0.3	+0.3	+0.9	+1.0	+1.7	+2.5	-1.9	-5.7	-10.5	-11.9	-7.1	-1.5	+2.3	+0.1	+3.3	+4.8	+5.3	+6.1	+4.1	+2.3	+2.9	+1.1	
Feb.	+0.6	-0.3	-0.6	-0.5	+1.0	+3.7	+5.2	+4.3	+0.6	-5.5	-11.2	-12.7	-10.0	-5.9	-1.4	+2.5	+2.4	+2.1	+4.8	+4.7	+3.8	+4.9	+4.8	+2.7	
Mar.	+4.9	+4.3	+3.8	+3.3	+3.7	+5.1	+4.3	+1.3	-7.0	-17.7	-25.5	-26.3	-21.1	-14.7	-6.8	+1.3	+4.3	+7.7	+10.9	+13.9	+14.2	+13.3	+12.3	+10.5	
Apr.	+8.2	+8.1	+6.7	+7.8	+8.5	+9.9	+9.6	+4.7	-7.5	-23.6	-38.7	-42.9	-35.2	-23.9	-11.3	+2.4	+10.3	+12.1	+19.2	+17.3	+16.1	+15.2	+13.7	+13.3	
May	+3.0	+1.2	-0.9	-0.6	+1.4	-0.4	-4.8	-12.6	-19.7	-27.2	-29.4	-27.4	-16.2	-6.0	-1.5	+6.2	+14.4	+21.2	+19.8	+21.0	+18.7	+15.4	+13.6	+10.8	
June	+2.5	-2.7	-2.5	-1.7	+0.1	+0.8	-3.3	-10.5	-18.1	-28.1	-33.5	-34.9	-26.1	-15.1	-1.9	+9.3	+16.5	+24.4	+28.1	+29.3	+24.5	+19.7	+13.5	+9.7	
July	+1.7	-0.7	-1.2	+0.1	-1.5	-4.5	-7.9	-12.3	-21.4	-30.9	-35.5	-32.7	-25.3	-7.9	+3.6	+19.1	+21.1	+24.9	+26.7	+24.7	+20.8	+17.1	+12.1	+9.9	
Aug.	+10.4	+6.4	+4.6	+3.8	+3.6	+2.6	-1.6	-11.4	-24.6	-35.2	-37.6	-30.6	-21.8	-9.0	+4.4	+10.0	+11.6	+13.8	+17.2	+20.0	+19.6	+15.2	+14.2	+14.4	
Sept.	+7.0	+5.6	+5.1	+5.0	+4.8	+5.6	+3.4	-5.0	-17.1	-28.2	-32.4	-28.6	-21.0	-12.4	-6.1	-2.8	+4.6	+11.4	+16.4	+18.0	+17.7	+18.2	+15.6	+15.2	
Oct.	+3.2	+3.2	+0.6	+3.8	+6.6	+8.7	+9.0	+6.0	-3.2	-16.2	-23.0	-24.2	-19.6	-14.0	-3.8	+0.8	+4.8	+6.5	+8.6	+9.6	+10.2	+8.4	+7.4	+6.6	
Nov.	-5.4	-1.3	-1.4	+0.3	+4.8	+6.1	+6.8	+4.3	-1.2	-11.5	-15.4	-14.3	-12.8	-8.1	-3.4	+0.5	+3.2	+5.9	+7.2	+8.5	+9.6	+9.3	+5.2	+3.1	
Dec.	-3.0	-3.3	-4.4	-1.1	+1.1	+4.8	+4.5	+2.5	+0.2	-5.1	-7.2	-8.1	-6.4	-0.9	+2.4	+4.1	+5.7	+3.8	+3.7	+4.9	+4.4	+1.3	-1.6	-2.3	
Year	+2.9	+1.6	+0.8	+1.7	+2.9	+3.6	+2.2	-2.2	-10.1	-19.6	-25.0	-24.5	-18.5	-9.9	-2.0	+4.5	+8.5	+11.5	+14.0	+14.8	+13.6	+11.7	+9.5	+7.9	
Winter	-1.7	-1.6	-1.5	-0.3	+1.9	+3.9	+4.5	+3.4	-0.6	-6.9	-11.1	-11.7	-9.1	-4.1	0.0	+1.8	+3.7	+4.1	+5.3	+6.1	+5.5	+4.5	+2.8	+1.1	
Equinox	+5.8	+5.3	+4.1	+5.0	+5.9	+7.3	+6.6	+1.7	-8.7	-21.4	-29.9	-30.5	-24.2	-16.3	-7.0	+0.4	+6.0	+9.4	+13.8	+14.7	+14.5	+13.8	+12.3	+11.4	
Summer	+4.4	+1.1	0.0	+0.4	+0.9	-0.4	-4.4	-11.7	-20.9	-30.3	-34.0	-31.4	-22.3	-9.5	+1.1	+11.1	+15.9	+21.1	+22.9	+23.7	+20.9	+16.9	+13.3	+11.2	

	DECLINATION																							
Jan.	-0.72	-0.45	-0.28	-0.64	-0.82	-0.95	-0.86	-1.60	-1.24	-0.01	+0.82	+1.98	+2.50	+2.49	+1.56	+0.62	+0.94	+0.51	+0.28	+0.32	-0.20	-0.95	-1.46	-1.84
Feb.	-0.88	-0.79	-0.56	-1.41	-1.71	-2.64	-2.03	-1.39	-0.66	+0.07	+1.82	+2.55	+2.64	+1.97	+1.62	+1.43	+1.25	+0.58	+0.41	+0.51	+0.34	-0.25	-0.82	-2.05
Mar.	-1.06	-1.22	-1.56	-2.00	-2.50	-2.63	-2.96	-3.62	-4.08	-3.52	-1.12	+1.94	+5.06	+5.82	+5.18	+3.66	+1.76	+1.15	+1.10	+0.80	+0.70	+0.30	-0.12	-1.08
Apr.	+0.12	-0.58	-0.75	-1.48	-1.96	-3.02	-4.52	-5.86	-6.25	-4.90	-2.50	+1.24	+5.52	+7.60	+6.41	+4.56	+2.50	+0.70	+0.48	+0.66	+0.79	+0.74	+0.34	+0.16
May	-0.91	-0.82	-2.73	-2.84	-4.20	-5.31	-6.20	-6.16	-4.87	-2.28	+0.47	+3.54	+6.11	+6.52	+5.59	+4.38	+3.20	+2.25	+1.30	+1.10	+1.01	+0.54	+0.49	-0.18
June	-0.85	-1.02	-0.91	-2.04	-3.96	-5.45	-6.34	-6.28	-5.61	-3.72	-0.65	+3.16	+6.23	+7.10	+6.61	+5.08	+3.12	+1.63	+1.36	+1.10	+0.73	+0.70	-0.03	+0.04
July	-0.61	-0.63	-1.28	-3.71	-4.95	-6.19	-7.19	-7.03	-5.72	-4.21	-1.73	+1.91	+5.37	+6.15	+6.26	+5.21	+3.71	+2.89	+2.83	+2.23	+2.06	+2.35	+1.83	+0.45
Aug.	-0.87	-1.51	-2.29	-3.41	-4.33	-5.69	-6.67	-6.67	-5.31	-3.09	+0.11	+3.91	+7.35	+8.61	+7.47	+5.41	+2.73	+1.27	+1.09	+0.99	+0.05	+0.29	+0.55	+0.01
Sept.	-1.02	-0.88	-1.79	-2.14	-2.38	-2.98	-4.24	-4.94	-4.53	-2.44	-0.14	+2.94	+5.52	+6.14	+5.13	+3.28	+2.12	+1.48	+1.30	+0.92	+0.63	+0.04	-1.06	-0.96
Oct.	-1.20	-0.95	-0.86	-0.79	-1.20	-1.59	-1.98	-2.61	-2.96	-2.27	-0.26	+2.09	+3.86	+3.85	+3.36	+2.51	+1.86	+1.13	+0.86	+0.37	+0.12	-0.59	-1.40	-1.35
Nov.	-2.68	-2.67	-1.84	-0.91	-0.64	-0.67	-1.06	-1.15	-1.48	-0.99	+0.56	+2.29	+2.92	+3.17	+2.54	+1.77	+1.78	+1.63	+1.26	+0.37	-0.06	-0.73	-1.50	-1.91
Dec.	-1.97	-2.33	-0.38	-0.13	-0.53	-0.87	-0.65	-0.79	-0.62	+0.51	+1.31	+2.49	+2.01	+2.31	+1.78	+1.17	+0.89	+0.61	+0.15	+0.01	-1.26	-0.93	-1.53	-1.25
Year	-1.05	-1.15	-1.27	-1.79	-2.43	-3.17	-3.73	-4.01	-3.61	-2.24	-0.11	+2.50	+4.59	+5.14	+4.46	+3.26	+2.15	+1.32	+1.03	+0.78	+0.41	+0.13	-0.39	-0.83
Winter	-1.56	-1.56	-0.77	-0.77	-0.93	-1.28	-1.15	-1.23	-1.00	-0.11	+1.13	+2.33	+2.52	+2.49	+1.87	+1.25	+1.21	+0.83	+0.53	+0.30	-0.29	-0.71	-1.33	-1.76
Equinox	-0.79	-0.91	-1.24	-1.60	-2.01	-2.55	-3.43	-4.26	-4.45	-3.28	-1.01	+2.05	+4.99	+5.85	+5.02	+3.50	+2.06	+1.11	+0.93	+0.69	+0.56	+0.12	-0.56	-0.81
Summer	-0.81	-0.99	-1.80	-3.00	-4.36	-5.66	-6.60	-6.53	-5.38	-3.33	-0.45	+3.13	+6.27	+7.09	+6.48	+5.02	+3.19	+2.01	+1.65	+1.35	+0.96	+0.97	+0.71	+0.08

	VERTICAL FORCE																							
	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$
Jan.	-1.6	+0.5	+0.7	+1.2	+0.7	-0.1	-1.8	-2.7	-2.7	-2.4	-2.1	-2.3	-3.4	-1.7	-0.1	+3.0	+2.7	+1.9	+2.2	+2.5	+3.7	+3.2	+0.9	-2.3
Feb.	-8.1	-2.3	-1.0	-3.7	-7.5	-5.7	-3.3	-2.5	-1.0	-0.3	+0.3	+0.5	+0.7	+0.9	+0.6	+1.1	+4.1	+5.7	+4.7	+4.3	+5.0	+4.3	+3.9	-0.7
March	+1.4	+1.4	+1.9	+2.4	+1.8	0.0	+0.2	+0.8	+1.5	+0.4	-1.0	-4.0	-4.0	-1.6	+0.3	+1.4	+2.0	-0.6	-1.0	-0.6	-1.1	-1.0	-0.6	0.0
Apr.	-0.2	+0.8	+1.9	+3.4	+3.4	+3.2	+3.2	+3.0	+0.5	-0.6	-1.8	-7.4	-10.0	-6.6	-3.7	-1.8	+3.2	+5.8	+4.0	+3.2	+1.5	-1.4	-1.8	-1.8
May	+1.5	-1.2	-1.5	+0.9	+0.9	+2.6	+2.9	+2.1	+0.1	-2.8	-4.9	-9.3	-9.9	-6.0	-2.5	+1.1	+4.9	+6.2	+6.3	+4.1	+4.5	+2.6	-1.1	-1.5
June	-8.9	-3.7	+0.4	-0.5	+0.9	+1.5	+0.3	-1.5	-3.6	-5.7	-7.1	-7.5	-8.1	-5.3	-3.2	+2.9	+7.7	+9.7	+8.7	+7.5	+8.2	+4.5	+2.1	+0.7
July	+0.1	+0.2	-0.6	+0.1	+2.4	+2.0	+0.1	-1.4	-2.2	-3.3	-7.0	-9.2	-11.7	-11.6	-5.0	+0.7	+7.6	+10.4	+8.3	+7.0	+6.2	+4.1	+2.6	+0.2
Aug.	-7.4	-6.5	-1.8	+2.7	+5.7	+4.4	+5.1	+6.3	+2.4	+0.1	-3.2	-7.9	-10.0	-6.7	-3.4	+1.1	+5.3	+5.2	+2.5	+2.1	+3.0	+2.5	+0.8	-2.3
Sept.	-9.0	-3.8	-0.7	+1.6	+3.2	+4.4	+4.6	+4.2	+2.7	+1.6	-0.6	-5.8	-6.4	-5.2	-2.7	-0.2	+1.0	+1.2	+2.0	+2.8	+3.3	+2.0	+0.6	-0.8
Oct.	-0.9	-3.9	-2.8	-5.3	-2.7	-3.9	-3.3	-0.5	+2.4	+4.5	+3.9	+2.7	+2.1	+1.1	+1.0	+1.3	+1.7	+0.9	+0.1	-0.1	-0.2	+1.1	+1.7	-0.9
Nov.	-0.4	-3.4	-2.8	-2.4	-2.6	-2.6	-2.0	-1.4	+0.2	+1.8	+0.4	-0.2	-0.8	-0.4	+0.8	+1.8	+2.6	+2.0	+1.8	+1.6	+1.2	+1.0	+2.4	+1.4
Dec.	-3.8	-5.1	-3.6	-2.6	-2.4	-2.7	-1.6	+0.2	-0.8	-1.7	-2.6	-1.8	+0.2	-1.1	+0.6	+1.6	+1.8	+3.5	+4.2	+3.2	+3.4	+3.1	+5.8	+2.2
Year	-3.1	-2.3	-0.8	-0.2	+0.3	+0.3	+0.4	+0.5	0.0	-0.7	-2.1	-4.3	-5.1	-3.7	-1.4	+1.2	+3.7	+4.3	+3.7	+3.1	+3.2	+2.2	+1.4	-0.5
Winter	-3.5	-2.6	-1.7	-1.9	-2.9	-2.8	-2.2	-1.6	-1.1	-0.7	-1.0	-0.9	-0.8	-0.6	+0.5	+1.9	+2.8	+3.3	+3.2	+2.9	+3.3	+2.9	+3.3	+0.1
Equinox	-2.2	-1.4	-0.1	+0.5	+1.4	+0.9	+1.2	+1.9	+1.8	+1.5	+0.1	-3.6	-4.6	-3.1	-1.3	+0.2	+2.0	+1.8	+1.3	+1.3	+0.9	+0.2	0.0	-0.9
Summer	-3.7	-2.8	-0.9	+0.8	+2.5	+2.6	+2.1	+1.4	-0.8	-2.9	-5.5	-8.5	-9.9	-7.4	-3.5	+1.5	+6.4	+7.9	+6.5	+5.2	+5.5	+3.4	+1.1	-0.7



## DIURNAL INEQUALITIES OF THE TERRESTRIAL MAGNETIC ELEMENTS

## INTERNATIONAL DISTURBED DAYS

Departures from the mean of the 24 hourly values (uncorrected for non-cyclic change)

54 LERWICK

1940

	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
HORIZONTAL FORCE																								
	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$
Jan.	-38.8	-29.9	-28.2	-28.2	-21.6	-13.1	-11.2	-15.2	-24.8	-28.9	-31.0	-31.2	-23.6	-24.3	+8.4	+48.2	+195.6	+131.1	+41.0	+59.6	-2.8	-17.1	-49.4	-64.6
Feb.	-27.6	-5.8	-12.4	-21.2	-10.8	-3.8	+0.4	+2.8	-7.4	-13.4	-21.6	-18.2	-4.0	+9.8	+31.2	+30.4	+28.6	+49.0	+11.6	+0.6	-5.0	-4.8	+3.6	-12.0
Mar.	-227.8	-425.5	-301.2	-296.9	-158.5	-84.0	+25.1	+30.7	+33.6	+23.1	+18.8	+116.9	+170.4	+262.1	+231.6	+362.1	+337.9	+218.4	+109.9	+105.9	+43.4	-130.9	-125.8	-339.3
Apr.	-128.1	-123.9	-192.2	-244.9	-122.5	-12.7	-18.9	+9.9	+27.6	+34.1	+38.1	+48.1	+59.5	+74.9	+90.4	+104.9	+119.3	+135.5	+172.5	+128.3	+35.2	-39.1	-80.1	-115.9
May	+9.0	-2.4	-7.3	-17.8	-58.2	-49.4	-35.0	-19.0	-35.7	-60.0	-49.6	-11.6	+5.0	+6.4	+34.5	+46.0	+54.6	+63.4	+89.4	+60.8	+33.1	+2.2	-21.2	-37.2
June	-63.6	-92.7	-65.6	-97.3	-93.1	-67.2	-31.1	-32.1	-40.6	-45.7	-37.8	-6.7	+0.2	+103.5	+126.0	+169.5	+129.3	+119.6	+141.1	+61.5	+14.4	-29.1	-77.2	-85.3
July	-68.8	-33.3	-7.4	-20.3	-28.6	-20.5	-27.8	-19.9	-30.6	-43.9	-54.6	-37.5	+11.0	+66.7	+59.8	+51.7	+71.2	+78.3	+58.6	+33.3	+10.4	+3.3	-14.6	-42.5
Aug.	+4.3	+1.4	-4.9	-2.8	-7.8	-12.3	-17.2	-24.6	-37.5	-52.0	-51.7	-29.2	+0.5	+27.4	+53.7	+43.2	+75.6	+55.1	+40.2	+27.0	+4.9	-19.0	-44.5	-29.8
Sept.	-54.8	-123.9	-54.0	-39.4	-46.4	-17.3	-12.6	-2.8	-14.4	-15.7	-9.0	+1.2	+19.0	+37.3	+61.4	+66.4	+61.0	+86.7	+83.2	-4.8	+20.4	+17.1	-18.8	-39.8
Oct.	-83.5	-82.0	-27.6	-25.1	-31.4	-21.2	-18.9	-25.8	-29.0	-20.5	-14.0	-9.4	-7.3	+10.6	+43.2	+70.5	+131.2	+173.0	+140.1	-18.6	-26.2	-36.7	-41.0	-50.4
Nov.	-40.5	-5.8	-55.4	-38.1	-16.6	-35.6	-7.9	+1.0	+15.0	-6.7	-5.8	+3.2	+17.1	+31.0	+59.6	+39.7	+56.4	+22.8	+36.1	+25.2	+25.0	-27.7	-37.2	-54.8
Dec.	-10.7	-35.5	-29.6	-15.3	-9.5	+11.7	+18.9	+7.7	-9.4	-3.9	-14.3	-20.1	-12.1	+1.9	+12.4	+18.9	+40.5	+28.7	+15.3	+4.1	+11.4	-1.7	-1.1	-8.3
Year	-60.9	-79.9	-65.5	-70.6	-50.4	-27.1	-11.3	-7.3	-12.8	-19.5	-19.4	+0.5	+19.6	+50.6	+67.7	+88.1	+108.4	+96.8	+78.3	+40.2	+13.7	-23.6	-42.3	-73.3
Winter	-29.4	-19.3	-31.4	-25.7	-14.6	-10.2	+0.1	-0.9	-6.7	-13.2	-18.2	-16.6	-5.7	+4.6	+27.9	+34.3	+80.3	+57.9	+26.0	+22.4	+7.1	-12.8	-21.0	-34.9
Equinox	-123.5	-188.8	-143.7	-151.6	-89.7	-33.8	-6.3	+3.0	+4.5	+5.3	+8.5	+39.2	-60.4	+96.2	+106.7	+151.0	+162.3	+153.4	+126.4	+52.7	+18.2	-47.4	-66.4	-136.3
Summer	-29.8	-31.7	-21.3	-34.5	-46.9	-37.3	-27.8	-23.9	-36.1	-50.4	-48.4	-21.3	+4.2	+51.0	+68.5	+79.1	+82.7	+79.1	+82.3	+45.7	+15.7	-10.7	-39.4	-48.7

DECLINATION																								
	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$
Jan.	-1.30	-1.74	-1.82	-1.30	-1.70	+0.87	+2.54	+3.34	+2.58	+2.20	+3.06	+4.40	+5.62	+7.30	+6.28	+0.94	+2.32	+0.93	-3.90	-2.66	-11.82	-4.10	-6.12	-5.92
Feb.	-5.28	-6.74	-5.15	-5.44	-4.42	-3.36	-1.30	+1.42	+2.25	+3.20	+4.40	+6.10	+6.52	+6.62	+5.89	+5.08	+3.08	-3.50	-2.34	-0.20	-3.37	-3.64	-2.98	+0.16
March	-19.69	-0.57	-13.69	-24.13	-18.25	-3.92	-5.81	-4.01	-4.77	-2.47	-14.39	-8.03	+4.47	+8.53	+7.39	+13.85	+23.19	+34.36	+29.69	+13.77	+4.95	+0.25	-3.89	-16.83
April	-1.26	-10.54	-13.97	-13.02	-9.46	-0.46	+1.04	+1.16	-0.35	-0.86	+2.56	+6.06	+8.80	+9.28	+9.97	+10.00	+8.82	+6.68	+8.70	+6.02	-1.35	-7.88	-5.22	-14.72
May	-1.48	-0.43	-3.64	-5.89	-3.02	-4.51	-6.24	-7.25	-5.42	-0.91	+2.28	+5.07	+6.38	+8.55	+7.00	+6.21	+3.70	+2.73	+1.98	+3.97	-2.20	-2.31	-1.82	-2.75
June	-4.62	-8.60	-8.72	-0.88	-4.38	-4.25	-6.02	-8.18	-5.62	-4.30	+2.24	+3.36	+10.82	+3.22	+3.14	+4.20	+7.84	+9.59	+6.88	+4.54	+2.32	-1.06	+0.36	-1.88
July	-3.21	-1.29	-2.05	-3.13	-5.63	-4.77	-5.09	-5.49	-5.25	-3.79	-1.81	+1.43	+4.61	+6.09	+7.57	+8.37	+5.55	+4.57	+2.59	+2.75	+2.31	+1.23	-2.89	-2.67
Aug.	-0.32	-2.29	-2.68	-3.54	-3.96	-2.91	-1.80	-1.76	-1.60	-1.37	-0.06	+1.62	+3.42	+5.75	+4.90	+4.46	+3.66	+3.19	+5.62	-0.88	+0.04	-0.09	-2.20	-7.20
Sept.	-4.08	-8.81	-14.04	-6.01	-0.38	+0.41	+0.58	+0.03	-1.58	-0.21	+1.64	+5.01	+7.82	+9.21	+8.30	+5.77	+4.44	-1.87	-1.26	-1.75	+0.20	+0.15	-2.14	-1.43
Oct.	-6.74	-12.23	-14.65	-10.26	-3.63	-0.41	+0.10	-0.01	+0.19	+1.66	+3.17	+6.33	+8.28	+9.41	+9.35	+9.60	+9.91	+9.41	+10.52	-4.57	-3.23	-10.58	-8.03	-3.59
Nov.	-10.10	-8.40	-10.64	-7.68	-7.04	+2.16	+2.38	+2.16	+2.36	+1.72	+6.16	+8.72	+9.30	+9.26	+10.90	+7.36	+5.16	+2.90	+3.80	-1.00	-1.56	-7.62	-10.16	-10.14
Dec.	-3.59	-2.07	-1.17	-3.47	+0.41	+3.62	+4.03	+3.39	+4.29	+3.91	+4.13	+3.49	+3.83	+3.63	+5.73	+2.25	-0.83	-2.46	-2.53	-4.05	-4.85	-5.55	-5.81	-6.33
Year	-5.14	-5.31	-7.69	-7.06	-5.12	-1.46	-1.30	-1.27	-1.08	-0.10	+1.11	+3.63	+6.66	+7.24	+7.20	+6.51	+6.40	+5.54	+4.98	+1.33	-1.30	-3.43	-4.24	-6.11
Winter	-5.06	-4.74	-4.69	-4.47	-3.19	+0.82	+1.91	+2.58	+2.87	+2.76	+4.44	+5.68	+6.32	+6.70	+7.20	+3.91	+2.43	-0.53	-1.24	-1.98	-4.65	-5.23	-6.27	-5.56
Equinox	-7.94	-8.04	-14.09	-13.35	-7.93	-1.09	-1.02	-0.71	-1.63	-0.47	-1.75	+2.34	+7.34	+9.11	+8.75	+9.81	+11.59	+12.15	+11.91	+3.37	+0.14	-4.51	-4.82	-9.14
Summer	-2.41	-3.15	-4.27	-3.36	-4.25	-4.11	-4.79	-5.67	-4.47	-2.59	+0.66	+2.87	+6.31	+5.90	+5.65	+5.81	+5.19	+5.02	+4.27	+2.59	+0.62	-0.56	-1.64	-3.63

	VERTICAL FORCE																							
	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$
Jan.	-29.7	-27.7	-21.3	-21.5	-25.3	-25.7	-26.9	-23.3	-18.3	-12.1	-7.9	-6.3	-3.5	+5.5	+43.7	+42.5	+37.3	+30.3	+47.3	+65.7	+2.7	+10.7	-4.7	-31.5
Feb.	-62.6	-48.9	-32.4	-24.7	-28.7	-31.2	-19.3	-21.3	-11.0	-5.5	-2.8	+2.1	+10.8	+26.9	+53.4	+57.9	+63.1	+54.4	+46.7	+17.5	-2.6	+0.7	-18.4	-24.1
Mar.	-171.1	-54.2	-67.7	+20.0	-47.6	-147.5	-54.0	+11.8	+30.5	+60.8	+79.9	+74.6	+80.7	+87.2	+124.5	+115.6	-40.0	-61.9	-38.2	-19.0	-31.5	-8.2	+48.5	+6.8
Apr.	+13.7	-49.7	-104.4	-171.7	-187.5	-83.7	-48.1	-18.3	+10.0	+36.9	+52.7	+57.5	+60.7	+68.3	+72.4	+79.3	+82.5	+85.9	+93.1	+48.9	+28.0	-35.9	-62.5	-28.1
May	-3.2	-20.7	-41.5	-46.8	-70.5	-67.9	-54.8	-26.3	-11.7	+4.4	+10.1	+19.3	+38.2	+53.3	+45.1	+43.8	+53.1	+59.7	+55.2	+48.3	+22.1	+10.8	-42.7	-55.7
June	-50.2	-79.5	-80.5	-117.8	-115.3	-85.1	-45.6	-3.1	+11.9	+22.8	+29.5	+33.1	+46.8	+34.9	+54.5	+78.0	+82.1	+92.3	+59.2	+37.1	+39.1	+10.4	-16.1	-38.5
July	-45.1	-63.6	-50.1	-39.0	-46.8	-33.5	-17.6	-10.6	-3.3	-1.4	+8.9	+3.0	+21.3	+43.8	+58.9	+48.4	+58.6	+53.7	+38.8	+20.4	+16.9	+7.4	-19.9	-49.2
Aug.	-15.6	-25.7	-28.8	-25.6	-18.4	-17.7	-18.0	-17.4	-11.8	-7.3	-0.4	+5.6	+27.6	+38.9	+65.2	+60.0	+52.4	+45.5	+29.8	+16.2	-0.8	-24.7	-61.6	-67.4
Sept.	-58.5	-102.9	-133.0	-120.1	-88.5	-65.3	-34.1	-11.9	+7.2	+20.7	+32.9	+46.3	+44.7	+62.1	+82.2	+90.1	+95.3	+99.3	+38.5	+15.5	+29.0	+24.7	-31.7	-42.5
Oct.	-74.4	-94.2	-104.7	-105.2	-79.4	-63.8	-47.8	-28.2	-4.3	+5.0	+14.6	+23.0	+32.2	+42.4	+60.7	+81.4	+127.8	+128.2	+71.0	+61.6	+31.7	-9.0	-27.0	-41.6
Nov.	-57.4	-54.3	-27.0	-35.5	-57.8	-74.3	-75.8	-39.3	-17.6	+2.7	+13.4	+21.1	+29.2	+49.3	+72.2	+82.9	+88.2	+72.3	+72.4	+65.9	+43.2	-28.9	-68.8	-76.1
Dec.	-34.2	-62.3	-63.8	-46.8	-55.4	-59.1	-35.2	-10.8	+0.8	-0.7	+7.8	+17.0	+24.4	+40.1	+27.8	+52.8	+66.4	+57.9	+69.4	+44.0	+16.4	-15.7	-23.4	-17.4
Year	-49.0	-57.0	-62.9	-61.2	-68.4	-62.9	-39.8	-16.6	-1.5	+10.5	+19.9	+24.7	+34.4	+46.1	+63.4	+69.4	+63.9	+59.8	+48.6	+35.2	+16.2	-6.6	-27.4	-38.8
Winter	-46.0	-48.3	-36.1	-32.1	-41.8	-47.6	-39.3	-23.7	-11.5	-3.9	+2.6	+8.5	+15.2	+30.5	+49.3	+59.0	+63.7	+53.7	+58.9	+48.3	+14.9	-8.3	-28.8	-37.3
Equinox	-72.6	-75.3	-102.5	-94.3	-100.7	-90.1	-46.0	-11.7	+10.9	+30.9	+45.0	+50.3	+54.6	+65.0	+84.9	+91.6	+66.4	+62.9	+41.1	+26.7	+14.3	-7.1	-18.2	-26.3
Summer	-28.5	-47.4	-50.2	-57.5	-62.7	-51.1	-34.0	-14.3	-3.7	+4.6	+12.0	+15.3	+33.5	+42.7	+55.9	+57.5	+61.5	+62.8	+45.7	+30.5	+19.3	-4.4	-35.1	-52.7



RANGE OF MEAN DIURNAL INEQUALITIES FOR THE  
MONTHS, YEAR AND SEASONS OF 1940

The ranges are derived from the diurnal inequalities  
printed in Tables 52 to 54

AVERAGE DEPARTURE

Arithmetical averages of diurnal inequalities in  
Tables 52 to 54 taken regardless of sign

55 LERWICK 1940										56 LERWICK 1940									
	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
	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$		$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$
Jan.	47.5	8.27	46.1	18.0	4.34	7.1	260.2	19.12	97.2	Jan.	9.3	2.33	13.0	3.3	1.00	1.9	40.3	3.56	23.8
Feb.	26.2	8.47	52.0	17.9	5.28	13.8	76.6	13.36	125.7	Feb.	5.8	2.52	13.4	4.0	1.27	3.0	14.0	3.73	27.8
Mar.	160.8	14.89	76.0	40.5	9.90	6.4	787.6	58.49	295.6	Mar.	36.1	4.29	19.6	9.9	2.29	1.3	174.2	11.70	61.7
Apr.	89.5	12.87	70.6	62.1	13.85	15.8	417.4	24.72	280.6	Apr.	19.7	3.62	17.6	15.3	2.65	3.1	89.9	6.59	65.8
May	81.1	13.69	57.0	50.6	12.72	16.2	149.4	15.80	130.2	May	18.6	3.53	14.7	12.2	3.04	3.4	33.7	3.99	37.7
June	94.4	13.15	67.0	64.2	13.44	18.6	266.8	19.54	210.1	June	25.4	3.59	17.0	14.9	3.07	4.6	72.1	4.88	52.6
July	81.3	14.26	51.3	62.2	13.45	22.1	147.1	14.00	122.5	July	20.1	3.71	12.1	15.1	3.60	4.3	37.5	3.92	31.7
Aug.	76.5	13.53	51.4	57.6	15.28	16.3	127.6	12.95	132.6	Aug.	16.3	3.36	12.5	14.3	3.32	4.1	27.8	2.72	28.4
Sept.	65.0	12.71	73.4	50.6	11.08	13.6	210.6	23.25	232.3	Sept.	13.8	3.12	16.8	12.8	2.46	2.9	37.8	3.63	57.4
Oct.	56.7	10.88	72.4	34.4	6.82	9.8	256.5	25.17	233.4	Oct.	11.0	3.05	18.9	8.7	1.67	2.0	47.4	6.49	56.6
Nov.	36.7	10.92	63.9	25.0	5.85	6.0	115.0	21.54	164.3	Nov.	8.7	2.84	19.7	6.2	1.52	1.6	27.7	6.19	51.1
Dec.	19.7	9.34	50.7	13.8	4.82	10.9	76.0	12.06	133.2	Dec.	5.2	2.24	14.0	3.6	1.10	2.5	14.3	3.56	35.4
Year	57.0	9.98	55.6	39.8	9.15	9.4	188.3	14.93	137.8	Year	14.7	2.99	15.4	9.3	2.15	2.0	47.0	4.22	41.0
Winter	28.7	8.85	48.4	17.8	4.28	6.8	115.2	13.47	112.0	Winter	7.2	2.40	14.9	4.1	1.20	2.0	21.7	3.97	33.7
Equinox	78.2	12.06	65.2	45.2	10.30	6.6	351.1	26.24	194.1	Equinox	18.8	3.45	18.1	11.5	2.24	1.4	82.3	6.37	53.7
Summer	82.3	13.39	55.8	57.7	13.69	17.8	133.1	11.98	125.5	Summer	19.8	3.50	13.8	13.7	3.24	3.9	42.4	3.74	36.8

NON-CYCLIC CHANGE

57 LERWICK 1940									
	All days			Quiet days			Disturbed days		
	H	D	V	H	D	V	H	D	V
	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$
Jan.	-1.6	-0.63	-2.1	-0.8	-1.41	-5.4	-26.2	-2.57	-16.9
Feb.	+1.6	+0.65	+2.4	+1.9	-1.55	+2.1	+18.4	+7.04	+18.8
Mar.	-13.8	+0.07	-3.0	+5.3	-0.42	-1.7	-71.4	+2.06	+80.8
Apr.	+13.8	-0.37	+2.5	+3.6	+0.47	-1.9	+67.1	-2.77	+16.7
May	+0.7	+0.19	+0.8	+5.7	+0.37	-4.6	-55.2	-3.06	-60.1
June	-0.5	+0.05	-0.3	+3.1	-0.09	+6.7	-25.2	+5.18	-8.9
July	+0.3	-0.08	0.0	+5.0	+0.56	-1.7	+29.2	+0.99	+4.2
Aug.	-0.5	-0.39	-0.8	+2.5	-0.30	+0.5	-31.1	-5.62	-54.7
Sept.	+0.1	+0.36	+0.1	+7.3	+0.48	+10.2	-7.6	+1.22	-1.1
Oct.	+0.4	-0.08	+1.3	+2.8	+0.43	-2.4	-0.4	+0.32	+20.2
Nov.	-0.2	-0.11	-0.5	+7.4	+1.92	+0.7	+3.3	-0.94	-13.7
Dec.	-0.3	-0.01	+0.5	+2.3	+0.75	+1.2	-2.2	+0.94	+1.5
Year	0.0	-0.03	+0.1	+3.9	+0.10	+0.3	-8.4	+0.23	-1.1
Winter	-0.1	-0.03	+0.1	+2.7	-0.07	-0.3	-1.7	+1.12	-2.6
Equinox	+0.1	-0.01	+0.2	+4.7	+0.24	+1.1	-3.1	+0.21	+29.1
Summer	0.0	-0.06	-0.1	+4.1	+0.13	+0.2	-20.6	-0.63	-29.9

MEAN MONTHLY AND ANNUAL VALUES OF TERRESTRIAL MAGNETIC ELEMENTS

For all, a, quiet, q, and disturbed, d, days for H, D and V and for all days for N, W, I and T

58 LERWICK										1940			
	Horizontal force			Declination (west)			Vertical force			North component all days	West component all days	Inclination (north) all days	Total force all days
	a	q	d	a	q	d	a	q	d				
	14,000γ +			12° +			46,000γ +						
	γ	γ	γ	′	′	′	γ	γ	γ	γ	γ	° ′	γ
Jan.	390	391	409	15.8	15.9	16.1	854	852	859	14062	3057	72 55.6	49013
Feb.	389	396	384	15.0	15.5	14.6	849	845	861	14061	3053	72 55.6	49008
Mar.	363	395	271	13.2	15.3	8.4	847	847	853	14038	3040	72 57.3	48999
Apr.	371	385	301	12.5	13.3	9.5	853	864	830	14046	3039	72 56.9	49006
May	390	394	382	12.5	12.8	12.9	854	861	849	14065	3043	72 55.6	49013
June	393	399	389	12.0	12.1	12.1	856	860	837	14068	3042	72 55.5	49016
July	393	396	395	11.0	11.1	11.3	859	862	861	14069	3038	72 55.5	49019
Aug.	390	389	396	10.6	10.2	10.9	862	859	869	14066	3035	72 55.8	49021
Sept.	380	385	360	9.4	9.7	7.1	864	865	845	14058	3028	72 56.5	49020
Oct.	381	387	377	8.6	8.6	8.8	868	869	858	14060	3025	72 56.5	49024
Nov.	380	389	367	7.4	7.7	6.3	874	874	870	14060	3020	72 56.7	49029
Dec.	384	391	377	6.7	7.1	6.6	875	871	872	14064	3018	72 56.4	49031
Year	384	391	367	11.2	11.6	10.4	860	861	855	14060	3036	72 56.1	49017

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



59 LERWICK

Night commencing		Night commencing		Night commencing	
JANUARY		MARCH (contd.)		SEPTEMBER (contd.)	
1 a-cb	.. Fine until 20h. Thin Cirrus cloud later	7 ca	.. Variable cloud	24	△ Cloudy. Diffuse surface seen through gaps
2 c	.. Very cloudy. Overcast after 20h.	8 a	△ Cloud decreasing. Diffuse surface first seen at 20h. 15m. Segments of rayed arch at 21h. 15m., still visible at 22h. 20m.	25 c	.. Mainly overcast
3 a	△ Fine. Moderate aurora from 17h. 40m. Rayed arcs and bands from 20h. to 21h.	9	△ Cloudy. Extensive faint glow from 20h. 50m.	27 a	△ Glow from 20h. 20m., becoming brighter at 22h. Some pulsating and flaming aurora 23h. 15m. Cloudy, fine after 21h.
4 c	.. Overcast, apart from small breaks before 19h.	10 c	.. Mainly overcast	28 c	.. Mainly overcast
5	△ Very cloudy. Glow through breaks in cloud after 21h. 30m.	11 ca	.. Mainly overcast until 21h., then clearing slightly	29 b-c	.. Overcast from 19h. onwards
9 c	.. Mainly overcast	12 a	△ Fine. Moderate display, mostly of faint rays and pulsating surfaces. Bright rayed band at 22h. 5m. and flaming aurora at 22h. 26m.	OCTOBER	
10	△ Bright rayed arch at 17h. 10m. Aurora obscured by cloud after 18h.	13 a	△ Mainly fine. Quiet arch from 21h. 30m.	1 a	△ Fine. Moderate aurora from dusk. Corona with some red coloration at 19h. 23m. Flaming and pulsating aurora from 19h. 30m. Little activity after 21h.
12	△ Very cloudy. Glow seen through break at 21h. 30m.	14 cb	.. Very cloudy. Moonlight	2	△ Cloudy. Bundles of rays at 19h. 15m. Glow from 20h. onwards
13 a-c	.. Cloud increasing at 20h.	15 c	.. Very cloudy	5	△ Faint glow from 21h. 30m. Cloudy, becoming fine 21h.
14 ca	.. Variable cloud	16	△ Faint glow in NW from 19h. 30m. until cloud increased at 20h. 45m.	6	△ Glow from 19h. 45m. Arch formed at 21h. 25m., rayed at times.
15 ca	.. Variable cloud	20 c	.. Overcast, apart from few breaks in late evening	7 a	△ Cloudy until 20h., then fine
16	△ Fine until 20h., then cloudy. Arch and faint glow seen at 18h., later obscured by cloud	26 c	.. Slight break in cloud at 21h., otherwise overcast	8 a	△ Mainly fine. Moderate aurora from 18h. 30m. Bright green and red curtains 23h. 20m.
18	△ Bright moonlight. Active display 17h. to 18h., then obscured by cloud	27 a	△ Glow from 20h. 30m., obscured by cloud at times. Some rays at 21h. 30m.	9 c-b	.. Overcast until 21h., then fine. Moonlight
19 b	.. Mainly fine. Bright moonlight	28	△ Glow at 20h. 15m., largely obscured by cloud	11 cb	.. Variable cloud. Bright moon
20 cb-b	.. Cloud decreasing 19h. Bright moonlight	31	△ Bright glow seen occasionally through gaps in cloud	12 cb	.. Variable cloud. Bright moon
21 b	.. Very fine. Bright moonlight	APRIL		19 b-c	.. Cloudy until 21h., then overcast. Moonlight
22 b	.. Very fine. Bright moonlight	2	△ Fine. Moderate display from 20h. 35m. South of zenith at times	21	△ Glow from 20h., partly obscured by cloud
23 b-c	.. Fine until 21h., then overcast. Bright moonlight	4	△ Glow seen occasionally through gaps in cloud after 21h. 20m.	22 ca-c	.. Cloudy until 19h., then overcast
24 b	△ Moderate display 20h. to 21h. Full moon. Fine until 21h., then cloudy	5 a	.. Very fine	23 a	.. Fine
25 cb	.. Very cloudy. Bright moon	8 ca	.. Cloudy	24 ca	.. Variable cloud
27 ca-cb	.. Variable cloud. Moon in late evening	9 a	.. Fine	25 a	△ Moderate display. Greatest activity at 20h. 25m., with bright rayed band and a red glow. Fine
28 c	.. Mainly overcast	11 ca	.. Cloudy	26 a	△ Active aurora most of evening, chiefly bundles of rays. Fine
31	.. Overcast all evening, but possibly glow through thinner parts	13 ca	.. Cloudy	27	△ Diffuse surface developing into a moderate arch at 21h. Cloudy in early evening, then fine.
FEBRUARY		15 ca	.. Cloudy	28	△ Moderate glow through cloud gaps from 20h. 20m.
8	△ Overcast until 21h. Glow above cloud after 23h. 15m.	16 cb	.. Cloudy. Moonlight	29 ca-a	.. Cloudy, becoming fine at 21h.
9 b-cb	.. Haze. Cloud increasing, overcast by 20h.	17 b	.. Very fine. Moonlight	31	△ Overcast until 20h., then clearing. Diffuse surface seen in NW after 20h. 45m.
10	△ Cloudy. Glow seen above and behind cloud from 18h. 15m.	18 b	.. Fine. Moonlight	NOVEMBER	
11	△ Fair early and late, overcast 19h. to 22h. Diffuse arch at 23h. 30m.	19 c	.. Very cloudy	1	△ Diffuse surface most of evening. Mainly fine
12	△ Low glow all evening, largely obscured by cloud	20 cb	.. Cloudy. Bright moonlight	2	△ Cloudy. Faint glow through gaps in cloud from 20h. 45m.
13	△ Faint glow most of evening. Cloudy	21 b	△ Fine. Rayed arch low in North at 22h. 25m. Full moon	3 a	△ Quiet aurora from 17h. 50m. Some rays at 18h. 30m. Fine
14 cb-ca	.. Variable cloud. Moon setting in late evening	22 cb	.. Very cloudy. Moonlight	4 a	△ Moderate arch at 18h., rayed at NE end. Quiet aurora all evening. Fine
15 b	.. Variable cloud. Possibly faint glow at 20h. 55m., but difficult to tell owing to moonlight	23 a-b	.. Very fine. Moon rising at 22h.	5 b	△ Diffuse surface all evening, first seen at 17h. 40m. Cloudy. Moonlight
16 c	.. Mainly overcast	24 a	△ Faint glow after dusk	6 a	△ Faint glow from 20h. 30m. Fine
17 cb	.. Very cloudy. Bright moonlight	28 a	.. Fine	7 b	△ Diffuse surface behind cloud from 20h. Haze
18 cb	.. Cloudy. Bright moon	29 c	.. Mainly overcast	8 b-cb	.. Cloud increasing. Moonlight
19 b	.. Very fine. Bright moon	30 a	.. Mainly fine	11 cb	.. Cirrus cloud and moonlight until 20h., then overcast
22 b	△ Overcast until 22h. Moderate glow from 22h. 15m. Moon	AUGUST		13 b	△ Overcast apart from few gaps before 19h. Full moon. Some activity through gaps at 17h. 30m.
24 b	△ Fine. Moderate glow all evening. Moonlight	SEPTEMBER		14 cb	.. Bright moonlight. Cloudy
26 b	.. Very cloudy until 20h., then overcast	2	△ Diffuse surface in NW at 23h., up to 45°. Very cloudy	15 b-cb	.. Cloud increasing. Bright moon
27 a	△ Mainly fine. Glow seen at 23h.	4 c	.. Mainly overcast		
28 a	△ Fine. Moderate glow 20h. 40m. to 22h. 30m.	5 ca	.. Cloudy		
29 a	.. Very fine	6 ca	.. Very cloudy		
MARCH		7 ca	.. Cloudy		
1 ca	.. Very cloudy	8 ca-a	.. Variable cloud, fine intervals		
4 a	△ Mainly fine. Faint glow at 22h. 45m., low in NW	10 b	△ Diffuse surface masked by cloud seen from 20h. 25m. onwards. Moonlight		
5 ca	.. Cloudy, fine intervals	11 c	.. Very cloudy		
6 a	△ Overcast until 21h., then clearing rapidly. Rayed arch at 23h. 5m., becoming homogeneous by 23h. 15m.	13 cb-b	.. Cloudy until 21h., then fine. Bright moonlight		
		15 b	.. Very fine. Full moon		
		16 c	.. Small gaps in cloud until 20h., otherwise overcast		
		20 cb	.. Very cloudy. Moonlight		
		21 a-b-cb	.. Fine, becoming overcast 22h. Moon after 20h. 40m.		



59 LERWICK (contd.)

1940

Night commencing		Night commencing		Night commencing	
	NOVEMBER (contd.)		DECEMBER (contd.)		DECEMBER (contd.)
17 cb ..	Mainly overcast	3 b-a △	Diffuse surface observed after moon set at 20h. Cloudy	24 △	Moderate diffuse surface most of evening. Cloudy
19 c ..	Cloudy	4 cb ..	Cloudy, fine intervals. Moonlight	25 a △	Cloudy, becoming fine 20h. Moderate glow at 21h. Some weak rays at 22h.
20 cb ..	Overcast until 21h., then clearing	6 cb ..	Cloudy. Moonlight	26 a △	Diffuse surface all evening, obscured by cloud at first. Some rays at 20h. 30m.
21 △	Extensive glow from 21h. Cloudy	7 cb-b ..	Cloudy until 19h., then fine. Moonlight	27 △	Cloud. Faint diffuse surface from 20h. 50m.
23 △	Diffuse surface from 19h. 40m. Cloud	9 cb ..	Very cloudy. Bright moonlight	28 △	Overcast but strong auroral light seen through thinnest parts of cloud
24 a ..	Mainly fine	10 cb-b ..	Cloudy, becoming fine. Bright moon	29 c ..	Overcast apart from a few gaps in early evening
26 c ..	Overcast, apart from slight clearance at 19h.	11 b △	Rayed arch 22h. 5m. to 22h. 20m. Very cloudy. Moonlight	30 △	Glow at 17h. 40m. A double arch at 19h. 20m. Overcast from 20h.
27 △	Cloudy. Moderate glow all evening from 18h. 20m.	12 cb ..	Overcast most of evening. Moonlight	31 △	Glow at 17h., becoming a diffuse surface with some rays at 17h. 15m. Diffuse surface persisted all evening. Arch seen through breaks in cloud from 18h. 25m. to 20h. 30m.
29 △	Slight activity seen through cloud gaps 21h. 15m. to 21h. 45m. Otherwise overcast	15 c ..	Few gaps at 19h., otherwise overcast		
	DECEMBER	16 cb-b ..	Variable cloud. Moonlight		
1 △	Faint glow above cloud NNW	17 cb ..	Cloud. Moonlight		
2 △	Faint diffuse surface all evening. Cloudy	18 b ..	Mainly fine. Moonlight		
		19 b ..	Fine, apart from haze		
		21 c ..	Some gaps before 19h., then overcast		
		22 △	Very cloudy. Diffuse surface seen at 19h. 40m. and 22h.		
		23 ..	Completely overcast, but possibly auroral light behind the cloud		

In the interests of brevity there have been omitted from Table 59 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:-

- a = Conditions favourable for seeing aurora
- b = Unfavourable for faint aurora (moonlight, mist, Cs, etc.) but not such as to mask bright aurora
- c = Cloudy, but aurora not seen in clear intervals
- ca, cb = Have been used for "Cloudy, with conditions a or b in the intervals"
- Changing conditions have been indicated by a hyphen, e.g., a-c



For brevity, stations which figure frequently in the above table are represented by their initials, namely A - Aberdeen, B - Baltasound, D - Deerness, E - Eskdalemuir, G.C. - Gordon Castle, K - Kirkwall.



**ABERDEEN**



## ABERDEEN OBSERVATORY

Latitude    ..    ..    ..    ..    57°10' N.  
Longitude    ..    ..    ..    ..    2°06' W.  
G.M.T. of Local Mean Noon    12h. 8m.

Heights of instruments	above M.S.L.	above ground
	m.	m.
Barometer .. .. .	26·0	..
Thermometer bulbs, north-wall screen	..	12·5
Rain-gauge site .. .. .	24·1	..
Beckley rain-gauge rim .. .. .	..	0·6
Sunshine recorder .. .. .	..	20·7
Pressure-tube anemograph .. .. .	37	13
Robinson cup anemograph .. .. .	36	23

### INTRODUCTION

A description of the site and instruments is given in the *Observatories' Year Book* for 1938, and no noteworthy changes have occurred.

### REVIEW OF THE METEOROLOGICAL RESULTS

The outstanding features of the year were the very high sunshine total in June and the heavy rains of July and November.

The mean temperature for the year was 281·1°A. exactly equal to the normal. The extremes recorded in the north-wall screen were 298·0°A. on June 5 and 264·8°A. on January 21. The lowest reading of the grass minimum thermometer was 260·4°A. on January 29.

The total rainfall for the year was 886 mm.; 138 mm. more than the normal. Rainfall in July and November was 195 and 184 mm. respectively.

The sunshine total 1305 hours was a little more than normal.

The highest wind speed recorded in a gust was 28 m./sec. on March 4 and April 14 and 15.

The results of the harmonic analysis of the diurnal inequalities of pressure are set out in the accompanying table. Average values of the various coefficients for the period 1871-1926 computed by Dr. A. Crichton Mitchell\* are given for comparison. Dr. Mitchell gave the phase angles in local apparent time and in volumes of the *Observatories' Year Book* earlier than 1935 they were so quoted; the angles have now been converted to local mean time.

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\* MITCHELL, A. CRICHTON: Diurnal variation of pressure and temperature at Aberdeen 1871-1926. *Quart. J.R. met. Soc., London*, 55, 1929, p. 197.



HARMONIC COMPONENTS OF THE DIURNAL INEQUALITY OF ATMOSPHERIC PRESSURE  
ABERDEEN, LONGITUDE 2° 06' W.

Values of  $c_n, a_n$  in the series  $\sum c_n \sin(15nt + a_n)$ ,  $t$  being local mean time reckoned  
in hours from midnight

	$c_1$		$a_1$		$c_2$		$a_2$		$c_3$		$a_3$		$c_4$		$a_4$	
	1940	1871-1926	1940	1871-1926	1940	1871-1926	1940	1871-1926	1940	1871-1926	1940	1871-1926	1940	1871-1926	1940	1871-1926
	mb.	mb.	°	°	mb.	mb.	°	°	mb.	mb.	°	°	mb.	mb.	°	°
January	0.23	0.09	170	169	0.22	0.23	143	146	0.10	0.13	1	348	0.07	0.05	238	211
February	0.17	0.16	223	173	0.25	0.27	139	143	0.12	0.10	336	346	0.03	0.03	84	84
March	0.54	0.16	160	156	0.28	0.29	140	147	0.07	0.05	327	330	0.04	0.03	44	27
April	0.30	0.15	328	155	0.18	0.28	141	151	0.03	0.02	326	188	0.05	0.04	11	359
May	0.11	0.10	217	136	0.22	0.24	144	145	0.06	0.06	153	166	0.03	0.02	334	333
June	0.16	0.06	40	104	0.20	0.22	135	141	0.06	0.07	151	155	0.00	0.01	-	331
July	0.14	0.09	200	135	0.20	0.21	137	142	0.03	0.07	116	155	0.01	0.01	294	339
August	0.37	0.11	51	161	0.23	0.23	147	144	0.02	0.04	143	165	0.02	0.03	357	333
September	0.47	0.12	174	147	0.26	0.29	151	151	0.04	0.03	334	346	0.06	0.05	357	345
October	0.26	0.15	235	187	0.31	0.27	145	156	0.10	0.07	342	0	0.03	0.03	345	34
November	0.28	0.13	162	201	0.17	0.23	137	159	0.11	0.10	333	4	0.04	0.01	162	186
December	0.08	0.16	179	169	0.18	0.21	125	147	0.11	0.12	5	357	0.08	0.05	178	205
Arithmetic mean	0.26				0.23				0.07				0.04			
Year	0.12	0.12	174	162	0.22	0.25	141	148	0.04	0.03	349	359	0.01	0.01	346	338
Winter	0.17	0.13	179	178	0.20	0.23	137	149	0.11	0.11	348	353	0.04	0.03	187	194
Equinox	0.22	0.14	189	162	0.26	0.28	144	151	0.06	0.03	334	345	0.04	0.04	10	6
Summer	0.08	0.09	65	139	0.21	0.22	141	143	0.04	0.06	145	159	0.02	0.02	337	334

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



## PRESSURE AT STATION LEVEL

Maximum, minimum and daily mean values in millibars for each day 0h. to 24h., G.M.T.  
The initial 9 or 10 of the values is omitted, i.e. 1005.61 is printed 05.61

61 ABERDEEN:  $h_b$  (height of barometer cistern above M.S.L.) = 26.0 m.

1940

	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE		
	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean
	<i>millibars</i>																	
1	18.6	14.9	17.5	04.3	99.3	00.9	37.8	35.2	36.5	03.7	83.6	92.6	12.7	09.6	11.0	20.5	17.9	18.9
2	18.1	12.8	15.8	12.6	04.3	09.4	35.2	28.8	32.9	05.7	90.0	02.3	13.5	11.9	12.7	22.6	20.5	21.5
3	12.8	09.2	10.9	12.4	03.6	08.5	28.8	18.7	24.1	02.2	90.4	95.7	13.3	11.9	12.6	24.1	21.8	23.2
4	09.2	07.5	08.2	03.6	99.3	00.6	18.7	12.2	15.5	05.0	90.2	94.6	18.4	12.5	15.1	23.4	22.1	22.8
5	08.8	07.3	08.1	09.7	02.0	06.4	24.6	18.6	21.5	24.1	05.0	18.7	18.4	13.4	16.6	23.1	21.2	22.3
6	09.7	08.3	09.0	10.8	09.4	10.1	24.7	21.5	23.5	23.4	14.0	18.9	17.5	15.7	16.7	23.5	21.8	22.4
7	11.5	08.9	10.0	09.4	04.2	06.2	21.5	11.5	16.8	14.0	04.8	07.8	16.0	12.1	13.5	23.4	19.7	21.6
8	27.0	11.5	18.6	15.5	08.2	12.0	11.5	08.1	09.1	23.7	07.7	17.7	18.6	14.4	17.3	19.7	15.5	16.9
9	31.5	27.0	30.0	17.4	15.4	16.5	13.8	08.9	11.1	27.2	23.3	24.3	20.8	16.9	19.3	15.7	10.2	12.7
10	31.0	28.9	29.6	17.2	12.3	14.4	13.3	02.3	07.9	31.0	27.2	29.6	22.4	16.2	18.8	10.2	07.4	08.6
11	33.3	29.4	31.7	18.7	14.1	16.2	02.3	92.1	97.2	28.9	13.8	21.2	25.2	22.4	24.1	09.8	04.7	07.9
12	34.0	30.2	31.7	29.6	18.7	26.4	92.1	84.0	86.5	16.4	13.2	15.0	27.0	22.4	25.2	05.5	02.9	03.7
13	34.0	30.7	32.9	27.8	20.1	24.2	88.8	83.9	86.0	15.4	04.6	09.5	22.7	08.1	15.2	14.7	05.3	09.3
14	30.7	15.6	23.8	20.1	16.9	17.9	96.4	88.7	92.9	04.6	78.0	92.8	08.1	97.0	00.9	17.0	14.7	16.2
15	15.6	09.9	11.4	17.8	15.4	17.1	05.4	87.9	95.2	81.9	75.8	79.1	10.0	01.0	05.5	22.1	14.2	16.3
16	24.0	08.6	17.2	15.4	03.0	09.5	13.9	05.4	11.2	85.6	81.5	83.5	16.3	10.0	13.7	28.4	22.1	25.8
17	24.0	09.5	16.0	05.7	00.7	03.0	10.1	01.2	04.5	97.8	85.5	92.1	18.7	15.9	16.7	28.4	26.9	27.7
18	09.5	02.4	04.9	06.2	03.1	05.1	01.2	88.8	94.9	05.5	97.8	02.2	22.6	18.7	20.4	27.1	24.5	25.7
19	12.4	02.9	06.1	11.2	02.8	06.8	88.9	83.2	84.7	08.9	03.5	05.5	25.5	22.6	24.4	25.1	22.9	24.1
20	20.8	12.4	17.7	11.1	02.8	06.7	97.0	87.2	90.5	17.7	08.9	13.6	25.2	16.4	22.6	26.6	23.3	25.5
21	20.6	15.8	18.3	05.6	03.6	04.7	03.3	97.0	00.4	20.2	16.2	17.6	17.0	12.9	15.2	23.3	99.2	12.5
22	15.8	13.2	14.4	05.3	91.5	00.2	03.5	02.1	02.7	21.8	18.6	20.5	16.6	10.5	13.7	99.2	93.1	94.5
23	14.4	10.1	12.8	94.7	89.6	92.2	02.6	00.5	01.9	18.6	08.2	13.2	10.6	08.4	09.0	00.8	96.1	98.8
24	14.5	07.3	09.1	13.3	91.3	02.4	00.5	97.6	98.6	08.2	02.4	05.1	08.6	05.8	07.2	99.7	88.6	92.2
25	20.3	14.5	18.5	13.7	07.2	10.8	98.0	96.6	97.4	06.9	02.3	04.3	08.5	06.4	07.6	92.5	88.3	89.3
26	18.6	12.7	15.1	07.2	92.7	00.1	97.3	95.2	96.3	07.2	05.6	06.3	06.4	03.3	04.7	08.9	92.5	00.8
27	18.9	13.9	17.2	97.1	88.0	90.8	06.7	96.3	02.3	14.6	07.1	10.3	04.1	01.8	03.2	21.3	08.9	15.6
28	19.2	17.1	18.4	21.3	97.1	08.2	12.0	04.1	08.6	17.6	14.6	16.6	10.0	04.1	06.7	21.7	17.4	20.1
29	20.6	18.9	19.7	36.9	21.3	30.7	11.1	00.0	04.1	16.3	11.4	13.4	13.5	10.0	12.0	19.7	13.7	15.4
30	19.1	07.5	13.6				09.3	02.2	06.3	11.6	10.4	11.0	18.5	12.1	14.0	26.7	19.7	25.0
31	07.5	00.5	02.9				03.4	97.4	99.5				20.0	17.8	18.8			
Mean	19.55	13.53	16.48	12.81	04.76	08.89	08.83	01.85	05.18	12.19	03.19	07.84	16.35	11.68	14.02	17.49	11.90	14.59

	JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER		
	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean
	millibars																	
1	24.9	15.7	20.3	25.7	24.5	25.1	18.1	15.3	17.0	22.1	19.3	20.5	97.5	89.2	95.4	23.9	13.6	18.4
2	15.7	00.9	08.0	26.1	24.4	25.4	18.4	13.0	15.2	22.0	18.9	20.5	96.7	78.3	89.8	21.6	13.5	18.4
3	01.4	98.4	00.3	25.2	16.7	21.3	18.9	14.8	17.4	18.9	10.5	14.9	92.5	83.9	89.1	19.9	10.1	13.2
4	01.2	99.4	00.4	16.7	12.5	13.8	14.8	08.4	10.8	10.5	95.6	04.5	01.7	92.2	95.5	10.5	97.4	02.7
5	02.6	00.6	01.5	12.7	09.0	11.1	16.9	08.4	12.0	98.6	87.0	95.0	03.3	98.6	01.4	01.0	65.7	89.5
6	02.6	98.4	01.0	09.3	08.2	08.8	17.1	05.2	12.3	92.5	81.9	88.2	12.3	98.5	03.9	69.4	54.4	62.4
7	98.4	95.8	96.9	09.3	02.8	06.6	05.4	98.2	01.4	00.1	92.5	97.0	16.1	12.3	14.8	98.9	69.4	85.3
8	09.0	98.3	04.3	05.0	01.7	03.5	08.7	98.0	02.4	98.4	91.5	93.9	13.4	04.4	10.9	11.0	98.9	96.4
9	90.1	01.5	05.7	05.1	95.7	00.3	11.5	99.8	08.1	94.0	64.3	76.7	04.4	87.8	95.2	03.1	91.0	95.4
10	12.8	05.9	10.5	99.0	89.7	92.6	14.9	99.1	05.4	95.6	66.4	81.2	88.4	82.9	84.6	91.1	84.1	86.4
11	11.4	03.1	06.4	17.1	99.0	08.8	20.2	14.8	18.4	12.3	95.6	07.2	88.7	56.7	79.1	06.1	86.2	95.2
12	10.8	04.5	08.5	19.5	17.1	18.7	16.0	96.8	04.7	14.1	11.9	13.0	70.7	51.7	58.6	20.0	06.1	15.7
13	10.9	07.7	08.4	18.2	10.0	13.6	96.8	89.6	92.3	13.2	11.6	12.4	80.0	70.7	77.0	20.2	12.7	17.4
14	08.6	07.6	08.1	12.0	04.9	08.4	91.7	89.8	90.6	12.9	05.9	08.9	85.1	76.7	79.9	12.7	00.9	05.6
15	07.8	06.1	06.8	20.4	12.0	16.3	96.2	88.5	91.4	07.9	06.0	06.8	87.7	84.5	86.5	10.3	05.7	08.9
16	06.4	04.7	05.3	22.9	20.1	21.1	97.5	85.6	94.2	14.1	06.7	10.4	84.5	76.4	78.4	22.9	03.9	09.0
17	04.9	99.9	02.1	22.7	17.3	20.6	85.8	79.0	81.1	14.2	08.8	11.1	83.6	78.6	80.4	32.8	22.9	30.4
18	99.9	97.5	98.1	17.3	13.7	15.4	00.4	84.3	94.5	14.5	09.4	12.1	96.9	83.6	90.3	30.0	15.4	20.8
19	99.1	97.4	98.0	17.2	13.8	15.7	99.6	85.1	91.1	15.5	13.5	14.6	97.2	86.3	94.5	32.3	23.5	28.6
20	98.0	97.0	97.6	15.5	95.8	01.8	97.2	82.1	87.8	13.6	09.0	11.4	91.1	68.9	79.7	34.9	32.1	33.7
21	02.8	97.9	00.8	98.1	87.3	92.5	06.0	97.2	02.6	09.3	05.5	07.0	04.7	76.2	93.0	33.9	32.0	32.7
22	09.6	01.9	06.5	10.8	98.1	07.1	06.3	95.5	02.5	17.8	09.3	13.7	14.4	04.7	11.2	34.2	32.0	33.1
23	09.6	05.7	08.3	14.6	07.1	11.1	03.2	94.5	98.4	23.4	17.6	21.0	12.1	08.0	09.6	35.6	33.3	34.7
24	05.8	01.5	02.8	14.6	09.6	11.6	20.0	02.6	11.6	23.0	15.9	18.9	17.6	08.1	12.3	35.0	31.6	33.2
25	07.9	02.5	05.9	13.8	11.1	11.9	23.0	20.0	21.4	16.4	15.3	15.8	16.8	07.8	11.4	31.6	29.0	30.0
26	13.2	06.9	09.5	15.2	11.3	12.9	24.4	15.3	21.6	16.0	14.3	15.2	08.7	99.1	05.4	29.2	27.0	27.7
27	20.9	13.2	17.1	25.3	15.2	20.4	15.3	07.7	10.7	20.3	14.6	17.5	24.4	99.5	11.7	30.6	27.7	29.3
28	20.6	18.4	19.5	26.2	10.8	20.7	25.4	14.0	19.6	20.8	17.1	19.6	29.3	24.4	27.6	28.7	13.5	21.9
29	18.8	15.2	16.9	25.5	10.9	18.4	27.0	25.4	26.2	17.1	05.4	11.4	31.9	28.7	30.4	13.5	05.6	09.4
30	18.6	15.0	16.9	25.5	18.6	21.9	26.2	22.1	23.8	05.4	88.2	98.5	29.0	23.9	26.7	05.6	01.4	02.2
31	25.5	18.5	22.2	19.2	09.1	14.4				89.2	85.9	87.2				02.2	99.7	00.9
Mean	09.32	04.42	06.92	16.31	08.97	12.64	10.76	01.67	06.22	11.09	03.08	07.30	02.69	91.42	97.47	17.83	07.75	12.85
								Annual		12.96	05.39	09.23						



62 ABERDEEN:  $h_b = 26$  m.

Monthly and annual means of hourly values in millibars at exact hours, G.M.T.

53

1940

	Hour G.M.T.																								Mean	
	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23		24
	millibars																									
Jan.	16.86	16.70	16.59	16.55	16.35	16.10	16.07	16.19	16.44	16.59	16.71	16.74	16.56	16.35	16.33	16.33	16.45	16.48	16.45	16.54	16.62	16.66	16.64	16.50	16.40	16.48
Feb.	08.38	08.23	08.24	08.16	08.14	08.13	08.18	08.33	08.67	08.92	09.11	09.28	09.26	09.13	09.00	08.90	08.94	09.07	09.32	09.44	09.47	09.47	09.50	09.49	09.63	08.89
Mar.	06.12	05.86	05.56	05.20	04.96	04.81	04.71	04.79	04.88	05.01	05.15	05.23	05.20	05.19	05.09	04.94	04.98	05.09	05.30	05.45	05.49	05.43	05.34	05.19	05.04	05.18
Apr.	07.68	07.70	07.73	07.68	07.66	07.74	07.95	07.99	08.12	08.23	08.30	08.23	08.12	08.03	07.83	07.67	07.54	07.44	07.55	07.64	07.81	07.75	07.75	07.82	07.94	07.84
May	13.97	13.88	13.76	13.59	13.54	13.64	13.73	13.97	14.06	14.12	14.18	14.19	14.17	14.18	14.14	14.07	13.98	13.91	13.94	14.07	14.21	14.34	14.36	14.31	14.20	14.02
June	14.73	14.66	14.59	14.44	14.43	14.48	14.57	14.64	14.68	14.67	14.70	14.65	14.58	14.55	14.49	14.37	14.36	14.25	14.33	14.47	14.55	14.81	14.96	15.00	14.96	14.59
July	07.04	06.96	06.74	06.62	06.55	06.60	06.61	06.75	06.92	07.02	07.08	07.07	07.09	07.04	07.00	06.95	06.88	06.89	06.87	06.94	07.04	07.15	07.14	07.12	07.05	06.92
Aug.	13.26	13.18	13.07	12.94	12.82	12.79	12.81	12.85	12.88	12.88	12.80	12.77	12.63	12.51	12.30	12.20	12.05	12.03	12.06	12.09	12.33	12.60	12.78	12.82	12.89	12.95
Sept.	06.21	06.11	05.95	05.71	05.46	05.38	05.52	05.73	05.87	06.01	06.16	06.22	06.35	06.32	06.28	06.31	06.30	06.46	06.60	06.80	06.93	06.88	06.80	06.68	06.44	06.22
Oct.	07.79	07.64	07.50	07.28	07.13	07.09	07.06	07.30	07.56	07.71	07.90	07.88	07.70	07.49	07.34	07.09	06.97	06.99	07.09	07.17	07.12	07.11	06.96	06.79	06.73	07.30
Nov.	97.08	96.95	97.02	96.90	96.80	96.76	96.72	96.79	96.93	97.14	97.47	97.59	97.56	97.45	97.45	97.56	97.58	97.80	98.08	98.11	98.17	98.23	98.25	98.26	98.24	97.47
Dec.	13.35	13.24	13.15	13.10	12.86	12.73	12.72	12.77	12.80	12.97	13.22	13.24	13.02	12.76	12.62	12.63	12.71	12.75	12.73	12.63	12.63	12.66	12.71	12.74	12.65	12.85
Annual	09.41	09.30	09.19	09.05	08.92	08.89	08.92	09.05	09.18	09.30	09.43	09.44	09.37	09.26	09.18	09.10	09.09	09.13	09.22	09.33	09.41	09.47	09.46	09.43	09.38	09.23

The initial 9 or 10 of the value is omitted, i.e. 1001.42 is printed 01.42

63 ABERDEEN:  $h_b = 26$  m.

Monthly and annual means of hourly values in millibars at exact hours, G.M.T.

1940

	Hour G.M.T.																								Mean	
	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24	
	millibars																									
Jan.	20.16	20.01	19.90	19.85	19.66	19.41	19.39	19.50	19.75	19.90	20.02	20.04	19.85	19.64	19.61	19.61	19.74	19.78	19.74	19.84	19.92	19.96	19.94	19.80	19.70	19.78
Feb.	11.65	11.49	11.50	11.42	11.40	11.39	11.44	11.60	11.93	12.18	12.37	12.53	12.50	12.38	12.25	12.15	12.19	12.32	12.57	12.70	12.72	12.73	12.76	12.76	12.90	12.15
Mar.	09.35	09.10	08.80	08.44	08.20	08.05	07.95	08.02	08.11	08.24	08.36	08.44	08.41	08.40	08.29	08.14	08.18	08.30	08.52	08.67	08.72	08.66	08.57	08.42	08.27	08.41
Apr.	10.90	10.93	10.96	10.91	10.89	10.97	11.18	11.22	11.34	11.45	11.51	11.43	11.32	11.23	11.03	10.87	10.74	10.64	10.76	10.85	11.03	10.97	10.97	11.05	11.16	11.05
May	17.17	17.09	16.97	16.80	16.75	16.85	16.93	17.16	17.25	17.29	17.36	17.36	17.34	17.35	17.31	17.24	17.16	17.08	17.11	17.26	17.40	17.54	17.56	17.51	17.40	17.21
June	17.90	17.84	17.77	17.62	17.61	17.66	17.73	17.79	17.82	17.81	17.83	17.78	17.71	17.67	17.61	17.50	17.49	17.37	17.46	17.61	17.70	17.97	18.12	18.17	18.13	17.74
July	10.18	10.10	09.89	09.77	09.70	09.74	09.75	09.88	10.05	10.15	10.21	10.19	10.21	10.16	10.12	10.06	10.00	10.01	09.99	10.07	10.17	10.29	10.28	10.27	10.19	10.05
Aug.	16.42	16.35	16.24	16.11	15.97	15.99	16.02	16.05	16.04	15.95	15.91	15.76	15.64	15.42	15.32	15.17	15.14	15.18	15.21	15.46	15.75	15.93	15.98	16.05	16.11	15.79
Sept.	09.38	09.28	09.12	08.89	08.63	08.55	08.69	08.90	09.03	09.16	09.31	09.35	09.48	09.45	09.41	09.44	09.44	09.60	09.74	09.95	10.09	10.04	09.97	09.85	09.61	09.37
Oct.	10.97	10.83	10.69	10.47	10.32	10.27	10.25	10.48	10.75	10.89	11.07	11.05	10.87	10.66	10.50	10.26	10.13	10.16	10.26	10.35	10.30	10.29	10.14	09.98	09.91	10.48
Nov.	00.27	00.14	00.20	00.09	99.99	99.94	99.91	99.98	00.12	00.32	00.65	00.77	00.74	00.62	00.62	00.73	00.75	00.98	01.26	01.29	01.36	01.42	01.44	01.45	01.43	00.65
Dec.	16.60	16.50	16.41	16.35	16.12	15.99	15.98	16.02	16.05	16.22	16.47	16.49	16.27	16.01	15.86	15.87	15.96	16.00	15.98	15.88	15.88	15.92	15.97	15.99	15.90	16.10
Annual	12.62	12.51	12.40	12.26	12.14	12.10	12.13	12.25	12.38	12.49	12.62	12.63	12.56	12.44	12.36	12.28	12.27	12.31	12.41	12.52	12.61	12.67	12.67	12.63	12.59	12.43

The initial 9 or 10 of the value is omitted, i.e. 1001.42 is printed 01.42

The monthly and annual values of pressure reduced to mean sea level are computed from the corresponding monthly and annual means of pressure at station level and of temperature. See General Introduction to the Meteorological Tables, 1938.

64 ABERDEEN: North-wall screen on tower:  $h_t = 12.5$  m.

Monthly and annual means of readings in degrees Absolute at exact hours, G.M.T.

1940

	Hour G.M.T.																									
	0	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
	degrees														Absolute											
Jan.	74.11	73.85	73.83	73.70	73.58	73.35	73.31	73.48	73.42	73.56	73.75	74.35	74.92	75.21	75.34	75.30	75.04	74.81	74.71	74.56	74.56	74.45	74.36	74.36	74.18	74.25
Feb.	75.53	75.52	75.41	75.34	75.30	75.36	75.40	75.39	75.35	75.64	75.97	76.39	76.69	76.88	76.98	77.01	76.81	76.47	76.23	76.05	75.96	75.83	75.67	75.53	75.47	75.95
Mar.	76.64	76.56	76.47	76.38	76.34	76.27	76.14	76.48	77.00	77.80	78.55	78.86	79.34	79.38	79.38	79.50	79.32	78.96	78.31	77.89	77.51	77.33	77.15	77.09	76.90	77.70
Apr.	78.18	77.92	77.86	77.78	77.69	77.60	77.71	78.19	78.83	79.42	79.72	80.28	80.56	80.74	80.81	80.88	80.66	80.30	79.93	79.59	79.13	78.93	78.69	78.49	78.13	79.16
May	81.85	81.59	81.47	81.31	81.09	81.40	82.24	83.11	83.99	84.71	84.68	85.15	85.21	85.39	85.10	84.95	84.66	84.89	84.55	83.86	83.35	82.93	82.61	82.36	82.04	83.44
June	84.92	84.56	84.08	83.89	83.77	84.64	85.66	86.71	87.38	87.83	88.37	88.70	89.19	89.32	89.15	88.87	88.81	89.15	88.68	87.85	87.25	86.37	85.79	85.46	84.93	86.93
July	85.18	85.04	84.85	84.63	84.62	84.81	85.24	85.91	86.36	86.81	87.19	87.35	87.49	87.65	87.56	87.65	87.44	87.17	87.04	86.65	86.36	85.95	85.62	85.42	85.24	86.25
Aug.	85.14	84.82	84.67	84.45	84.29	84.20	84.60	85.23	85.91	86.66	87.38	87.95	88.43	88.77	89.06	89.46	89.40	88.93	88.46	87.70	86.81	86.28	85.85	85.44	85.07	86.66
Sept.	82.94	82.65	82.60	82.36	82.33	82.26	82.28	82.68	83.39	84.34	85.06	85.74	86.08	86.33	86.45	86.21	86.09	85.73	85.12	84.44	83.93	83.55	83.36	83.10	82.87	84.12
Oct.	81.78	81.69	81.71	81.70	81.68	81.67	81.65	81.70	81.91	82.39	82.87	83.24	83.37	83.46	83.50	83.48	83.27	82.97	82.67	82.45	82.22	81.98	81.93	81.87	81.74	82.38
Nov.	78.86	78.85	78.79	78.69	78.60	78.46	78.62	78.62	78.46	78.54	78.74	79.13	79.57	80.40	80.36	80.18	79.87	79.49	79.29	79.19	78.94	78.77	78.73	78.83	78.74	79.14
Dec.	77.21	77.09	77.05	76.91	76.98	77.03	76.99	77.22	77.42	77.50	77.56	77.82	78.07	78.27	78.34	78.03	77.75	77.53	77.47	77.36	77.25	77.32	77.20	77.07	76.95	77.43
Annual	80.21	80.03	79.92	79.77	79.69	79.78	80.00	80.39	80.81	81.30	81.70	82.13	82.46	82.67	82.68	82.64	82.44	82.22	81.89	81.48	81.12	80.82	80.60	80.43	80.20	81.13



## TEMPERATURE

Maximum, minimum and daily mean values in degrees Absolute for each day 0h. to 24h., G.M.T.  
The initial 2 or 3 of the values is omitted, i.e. 275.0° is printed 75.0°. Add 0.16° to obtain temperature  
in degrees Kelvin where  $T(^{\circ}\text{K.}) = t(^{\circ}\text{C.}) + 273.16$

65 ABERDEEN: North-wall screen on tower:  $h_t$  (height of thermometer bulb above ground) = 12.5 m.

1940

	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE		
	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean
	<i>degrees Absolute</i>																	
1	75.0	67.9	72.0	75.0	74.0	74.5	79.2	70.4	74.6	82.1	75.8	79.6	80.1	78.9	79.6	92.7	84.7	88.0
2	75.0	68.2	72.3	74.9	73.6	74.2	79.7	71.9	75.5	79.5	75.2	77.5	81.3	78.2	80.1	90.4	86.0	87.8
3	77.2	74.3	75.8	74.5	72.9	73.7	83.2	74.0	79.6	79.3	77.2	78.1	82.5	76.0	79.8	91.9	85.0	89.1
4	77.1	73.8	75.4	75.7	74.0	75.1	83.0	73.9	78.8	81.9	76.6	79.3	82.7	77.0	80.5	96.3	86.0	91.2
5	76.0	72.0	74.2	77.0	75.4	76.1	76.6	72.6	74.5	79.1	76.1	77.6	89.1	77.0	83.0	98.0	85.2	91.4
6	78.6	68.9	73.5	78.1	76.6	77.4	77.7	72.7	74.8	80.6	76.4	78.5	85.4	78.1	82.1	92.2	83.4	87.5
7	79.9	78.3	79.3	78.2	77.2	77.8	78.5	74.0	76.4	86.0	79.3	81.8	88.2	80.1	84.5	87.9	83.0	85.0
8	79.9	77.4	78.8	81.1	73.8	77.5	83.3	76.3	79.7	81.5	77.4	79.6	85.1	82.3	83.5	90.0	85.2	86.7
9	79.7	76.5	78.3	77.5	73.4	75.7	79.9	76.6	78.2	80.8	75.0	77.9	86.8	82.1	84.0	87.7	82.8	84.3
10	77.1	74.7	75.8	77.0	72.8	74.5	82.5	76.6	79.2	83.4	74.4	78.9	86.1	80.0	83.6	93.0	83.3	87.2
11	78.2	73.1	75.7	75.5	72.7	74.3	81.4	75.9	79.1	85.0	74.0	80.4	86.2	78.3	82.1	91.2	85.3	87.4
12	76.3	71.7	74.0	73.1	70.0	71.7	76.4	74.0	75.7	83.2	79.2	80.7	83.6	80.0	81.6	90.0	84.8	87.7
13	80.2	75.1	78.1	76.3	72.2	74.7	76.7	72.8	74.9	84.9	78.4	81.1	89.0	80.3	84.1	90.9	81.3	86.7
14	80.8	76.8	78.7	76.0	74.0	75.0	77.0	71.9	74.2	83.0	75.0	79.9	88.4	81.6	84.7	89.7	80.9	86.4
15	79.5	70.1	75.4	75.6	71.5	73.7	78.4	74.3	76.0	79.7	73.0	76.2	86.3	78.8	81.9	91.7	84.7	87.9
16	72.0	67.3	70.4	75.4	68.7	72.8	80.0	75.0	77.6	81.4	73.9	77.9	85.3	80.2	82.5	88.9	81.2	85.6
17	72.7	65.0	69.9	75.5	72.3	74.7	78.3	77.8	78.0	82.0	77.0	78.7	86.4	77.5	82.3	87.8	80.8	84.9
18	74.5	69.1	71.8	76.2	71.4	73.8	82.6	77.8	79.7	82.2	75.7	78.9	87.7	81.7	84.6	93.0	81.0	87.0
19	73.0	66.4	70.4	75.7	70.4	73.3	82.4	75.8	79.9	80.1	75.6	78.3	89.5	80.7	85.7	93.0	84.2	88.6
20	72.7	71.2	72.2	79.4	75.3	76.8	82.0	76.1	78.7	80.6	77.0	78.7	88.4	79.6	84.7	89.7	83.2	86.3
21	72.0	64.8	68.4	81.8	78.6	80.2	85.5	77.9	81.3	79.4	76.9	77.8	84.0	81.4	82.6	92.0	80.8	87.1
22	73.1	68.9	71.4	82.5	78.3	80.4	81.6	76.2	78.9	78.5	77.0	77.8	85.0	81.2	83.1	88.2	83.2	85.3
23	72.1	67.8	70.1	82.0	77.0	80.1	80.0	77.5	78.5	81.0	77.7	79.2	86.8	81.2	83.7	87.7	80.3	84.6
24	76.9	71.0	74.5	79.8	75.7	77.4	83.0	78.0	80.2	81.0	79.0	79.9	85.5	82.2	84.0	90.3	80.9	86.2
25	76.9	71.5	74.4	79.6	76.4	78.1	82.7	77.8	80.1	87.2	78.9	82.9	91.1	82.3	86.5	91.1	82.7	87.1
26	77.7	76.2	77.0	80.6	76.8	78.5	80.9	75.4	78.6	85.3	78.2	80.6	89.9	82.8	85.0	88.4	82.2	85.1
27	77.3	74.7	76.1	84.7	77.0	80.0	77.9	70.2	74.6	81.1	79.1	80.0	91.1	82.9	86.9	87.2	78.9	84.0
28	75.7	74.3	75.2	77.0	73.9	75.4	77.5	70.1	74.3	80.2	78.3	79.1	90.2	81.1	85.8	89.0	83.9	86.4
29	75.6	72.7	74.9	77.3	72.3	75.0	77.2	72.0	75.4	79.8	78.1	78.9	84.5	80.9	82.7	91.9	85.4	88.2
30	75.1	72.2	73.9				82.9	74.6	79.1	79.8	78.7	79.1	90.0	81.9	86.0	90.6	82.6	87.0
31	74.6	73.0	73.8				86.1	79.8	82.5				89.0	81.0	85.3			
Mean	76.2	71.8	74.2	77.7	74.1	75.9	80.5	74.8	77.7	81.7	76.8	79.2	86.6	80.2	83.4	90.7	83.1	86.9

	JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER		
	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean
	degrees Absolute																	
1	93.0	84.8	88.6	90.9	84.9	88.1	90.2	83.0	86.7	87.0	82.0	84.3	84.2	78.0	81.1	82.6	77.3	80.7
2	90.1	86.0	87.7	90.0	85.9	87.8	89.9	85.2	87.7	84.9	81.3	83.5	81.8	76.9	79.3	80.4	75.0	78.4
3	88.0	82.8	85.3	92.5	85.8	88.9	92.0	83.4	87.7	84.0	81.3	82.9	81.3	76.0	78.8	78.8	74.5	77.3
4	86.0	81.9	83.7	96.2	83.1	90.8	92.0	86.2	89.1	84.0	81.2	82.7	81.2	73.7	76.7	82.1	75.8	79.2
5	86.9	82.2	84.5	89.3	84.9	87.4	92.1	83.1	88.0	87.4	81.2	83.8	81.9	72.1	76.1	77.9	75.6	76.6
6	88.0	82.2	86.3	90.0	84.2	87.9	91.4	81.9	86.6	84.9	78.1	82.6	81.4	77.1	79.8	77.0	73.7	75.5
7	88.3	84.2	86.1	90.3	83.9	87.3	88.9	84.0	87.4	85.9	78.1	81.6	80.0	75.6	77.9	77.8	74.6	76.0
8	89.9	83.8	86.5	90.8	84.5	87.5	84.5	80.4	82.5	86.0	80.7	83.3	81.7	76.6	78.6	77.1	74.8	76.1
9	89.4	82.9	86.3	93.2	84.9	88.2	87.1	78.8	82.7	85.1	80.9	83.6	82.5	81.4	82.0	78.3	75.1	76.7
10	87.4	83.9	85.8	90.8	84.0	87.2	87.1	79.2	83.2	83.1	80.9	82.3	81.8	73.8	78.1	77.0	73.8	75.2
11	87.2	83.4	85.5	85.9	81.6	83.6	83.1	78.8	81.0	84.7	79.9	82.0	81.3	73.5	77.5	76.9	73.2	75.1
12	87.9	85.0	86.3	89.2	81.1	85.5	91.7	81.9	86.7	84.7	80.2	82.9	81.3	78.7	80.1	77.0	73.2	75.0
13	87.0	84.0	85.4	95.6	84.9	89.1	86.0	78.2	82.7	85.1	82.5	83.7	80.2	77.2	78.7	78.9	75.9	77.7
14	85.7	84.2	84.9	90.9	82.8	86.7	85.1	76.5	81.4	84.0	82.9	83.5	79.0	76.2	78.0	78.7	76.5	78.0
15	91.0	85.4	87.9	88.2	82.0	85.8	84.2	78.8	81.2	85.1	83.8	84.5	78.1	72.9	75.4	82.0	76.7	79.4
16	90.1	84.5	86.7	94.8	83.0	88.8	85.1	76.1	82.0	86.3	83.7	85.0	82.0	73.0	80.5	84.0	77.5	81.5
17	86.9	84.4	85.7	95.9	84.0	90.3	87.4	82.8	85.0	84.2	83.0	83.7	82.2	79.5	81.3	78.3	76.0	77.3
18	88.9	84.2	86.1	89.3	83.8	87.0	87.9	81.0	84.7	84.3	82.9	83.5	81.9	77.8	79.8	82.6	76.8	78.6
19	88.7	84.4	86.4	86.5	81.0	84.2	88.0	80.9	84.8	84.4	82.9	83.8	80.6	76.5	78.7	78.7	76.9	78.1
20	89.3	83.7	86.1	91.8	80.6	85.8	85.9	81.1	83.2	84.2	83.1	83.9	83.1	78.9	80.8	79.5	76.7	78.8
21	87.4	84.4	85.7	86.5	82.9	84.6	86.1	79.6	82.7	84.2	82.3	83.4	81.9	75.8	79.6	78.4	77.9	78.2
22	88.1	83.5	85.3	86.0	82.2	83.8	85.9	79.0	83.4	82.9	81.3	82.1	81.1	73.6	77.3	78.6	77.2	78.0
23	86.3	83.3	85.1	85.1	81.2	82.6	88.0	81.0	83.9	82.4	79.4	81.3	82.5	79.0	81.3	78.9	76.1	77.7
24	89.1	83.8	86.1	91.4	80.3	86.3	85.1	81.0	82.6	82.1	77.3	79.4	85.0	79.0	81.2	78.6	76.0	77.3
25	89.1	83.2	85.8	92.6	85.5	89.1	85.4	80.0	82.7	81.5	77.3	79.2	84.9	81.3	83.4	77.4	75.2	76.3
26	86.9	84.2	85.4	88.8	81.2	85.5	88.4	82.4	85.0	80.9	74.5	77.7	84.2	83.2	83.7	80.3	75.7	78.7
27	88.0	82.4	85.1	87.9	80.1	83.7	88.0	81.9	85.9	81.1	76.4	78.8	83.4	75.3	77.9	79.5	77.2	78.4
28	88.6	82.0	85.5	86.3	79.2	83.4	83.2	79.8	81.7	81.9	77.8	80.0	78.3	75.3	76.8	81.9	75.5	78.2
29	90.8	84.8	88.1	86.0	82.0	84.6	83.8	76.0	81.1	81.1	79.6	80.6	78.6	75.1	76.8	82.1	77.2	80.0
30	93.2	88.1	90.3	94.4	81.5	86.8	85.2	73.7	80.4	82.4	80.0	81.1	79.2	75.2	77.0	77.4	71.9	74.7
31	93.2	86.5	89.1	93.1	84.2	88.2				84.7	80.9	83.0				73.2	69.2	71.8
Mean	88.7	84.0	86.3	90.3	82.9	86.7	87.3	80.5	84.1	84.0	80.6	82.4	81.6	76.6	79.1	79.1	75.4	77.4
								Annual		83.7	78.4	81.1						



## MEAN RELATIVE HUMIDITY AND VAPOUR PRESSURE FOR EACH DAY

55

Mean percentages from readings at exact hours 0h. to 24h., G.M.T.; vapour pressure from daily mean temperature and relative humidity

66 ABERDEEN: North-wall screen on tower:  $h_t = 12.5$  m.

1940

	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.
	%	mb.	%	mb.	%	mb.	%	mb.	%	mb.	%	mb.	%	mb.	%	mb.	%	mb.	%	mb.	%	mb.	%	mb.
1	79.0	4.5	80.1	5.5	79.6	5.5	82.8	8.1	88.9	8.7	85.1	14.5	70.0	12.4	82.4	14.1	62.0	9.7	82.1	11.0	79.5	8.6	90.5	9.5
2	79.6	4.6	68.9	4.6	73.2	5.4	79.0	6.7	87.5	8.8	77.7	13.1	83.2	13.9	85.6	14.4	68.0	11.4	89.5	11.4	87.1	8.3	76.1	6.8
3	74.0	5.5	73.0	4.7	71.3	7.0	84.6	7.4	89.5	8.8	76.3	13.9	79.4	11.4	79.1	14.3	78.7	13.2	81.4	9.9	82.8	7.6	88.8	7.4
4	82.3	6.0	91.8	6.5	66.5	6.1	81.3	7.8	88.1	9.1	67.9	14.2	82.0	10.5	69.7	14.2	78.6	14.4	90.6	10.9	83.9	6.7	85.4	8.1
5	76.1	5.1	88.4	6.7	72.8	5.0	74.2	6.3	75.6	9.3	66.7	14.1	82.1	11.1	85.5	14.0	72.6	12.4	79.5	10.3	89.1	6.8	73.6	5.8
6	89.2	5.7	96.7	8.1	77.3	5.4	81.1	7.3	68.4	7.9	83.7	13.8	86.3	13.2	70.9	12.0	70.9	11.0	80.5	9.6	86.9	8.6	82.6	6.0
7	95.5	9.1	96.5	8.3	68.7	5.4	75.0	8.5	73.9	10.0	92.8	13.0	87.5	13.2	67.4	11.0	59.1	9.7	69.3	7.7	77.1	6.7	83.3	6.3
8	97.0	9.0	93.3	7.9	81.9	8.0	71.4	7.0	81.8	10.4	90.4	14.2	81.0	12.5	70.1	11.6	69.7	8.3	72.7	9.1	87.2	7.9	80.2	6.1
9	92.9	8.3	86.4	6.4	74.1	6.6	73.4	6.4	80.4	10.5	96.5	12.9	85.2	13.0	84.5	14.6	68.5	8.2	90.7	11.6	89.0	10.2	79.6	6.3
10	85.7	6.4	71.5	4.9	83.1	7.9	65.6	6.1	59.8	7.6	87.6	14.2	80.1	11.8	86.3	14.0	73.7	9.2	78.6	9.2	79.2	7.0	75.8	5.4
11	87.1	6.5	72.9	4.9	88.7	8.4	69.9	7.2	61.3	7.1	76.5	12.6	96.6	14.0	77.3	9.9	70.3	7.5	72.3	8.3	83.3	7.0	83.8	6.0
12	88.0	5.8	69.9	3.9	87.2	6.5	68.3	7.2	72.9	8.1	74.2	12.4	90.8	13.9	68.5	9.9	68.4	10.7	81.9	10.0	89.9	9.1	90.9	6.4
13	85.6	7.5	87.6	6.1	70.5	4.9	73.5	7.9	74.7	9.9	69.2	10.8	93.1	13.4	77.4	14.2	72.8	8.8	85.6	11.0	86.4	7.9	75.1	6.4
14	80.5	7.4	87.8	6.2	73.9	4.9	65.9	6.6	69.0	9.5	75.1	11.5	94.9	13.2	65.0	10.2	76.1	8.4	88.3	11.2	87.0	7.6	87.1	7.6
15	80.2	5.8	65.0	4.2	66.9	5.1	71.2	5.5	79.2	9.0	72.5	12.3	86.6	14.7	68.1	10.1	74.0	8.1	93.6	12.7	82.5	6.0	89.9	8.6
16	73.9	3.7	71.8	4.3	74.2	6.3	66.9	5.8	78.9	9.4	67.7	9.9	92.1	14.4	72.3	13.0	79.7	9.1	92.2	12.9	84.1	8.7	83.3	9.2
17	64.7	3.1	66.1	4.6	94.3	8.2	78.7	7.2	83.3	9.8	79.9	11.1	94.2	13.8	66.9	13.2	82.6	11.6	94.7	12.2	86.0	9.4	79.6	6.6
18	74.7	4.2	67.9	4.4	97.1	9.5	81.7	7.6	72.5	9.9	76.0	12.1	91.5	13.8	69.3	11.1	64.8	8.9	84.3	10.7	90.8	9.0	80.8	7.4
19	73.5	3.7	86.3	5.4	92.4	9.2	85.6	7.6	57.7	8.5	73.9	13.1	90.8	14.0	74.4	9.9	76.7	10.6	88.1	11.4	83.4	7.6	75.7	6.7
20	85.9	4.9	89.7	7.2	84.1	7.7	72.6	6.6	56.2	7.7	68.3	10.4	75.0	11.3	78.4	11.6	84.2	10.5	80.7	10.5	78.0	8.3	72.0	6.6
21	80.9	3.5	85.6	8.7	69.2	7.6	78.1	6.7	90.2	10.8	69.0	11.1	84.9	12.5	72.6	9.9	72.3	8.7	83.8	10.6	77.7	7.6	66.0	5.8
22	79.6	4.3	84.2	8.7	88.7	8.2	79.6	6.9	88.0	10.9	74.4	10.6	79.3	11.3	75.7	9.8	85.3	10.8	81.4	9.4	78.5	6.5	66.7	5.8
23	71.6	3.5	77.6	7.8	96.6	8.7	79.8	7.6	92.5	11.9	76.9	10.5	80.1	11.3	72.5	8.7	75.2	9.8	69.2	7.6	77.8	8.5	81.1	6.9
24	89.7	6.1	82.0	6.9	88.0	8.9	89.2	8.9	90.1	11.8	67.2	10.2	85.2	12.8	70.7	10.8	78.5	9.4	80.0	7.7	75.4	8.2	87.1	7.2
25	81.8	5.5	82.5	7.3	84.6	8.5	84.8	10.3	74.8	11.6	51.9	8.3	85.2	12.6	65.6	12.0	77.6	9.3	78.7	7.5	80.9	10.2	82.2	6.4
26	68.0	5.5	81.4	7.4	80.5	7.3	92.1	9.7	86.8	12.2	57.6	8.1	82.8	11.9	82.6	12.0	69.4	9.7	84.3	7.2	80.6	10.4	81.5	7.5
27	72.8	5.6	86.9	8.7	75.1	5.1	96.3	9.8	81.0	12.9	66.4	8.7	71.8	10.1	73.8	9.5	67.4	10.0	86.5	8.0	76.0	6.6	84.8	7.6
28	71.3	5.1	74.3	5.4	76.6	5.1	96.0	9.0	82.3	12.2	80.6	12.4	73.4	10.6	82.1	10.4	71.9	8.1	84.0	8.4	79.5	6.4	75.1	6.6
29	68.6	4.8	72.4	5.1	84.3	6.1	92.1	8.6	95.0	11.4	76.3	13.2	77.5	13.3	77.3	10.6	75.5	8.2	59.5	6.2	83.9	6.7	88.4	8.9
30	76.7	5.1			73.1	6.9	96.1	9.1	80.9	12.1	65.0	10.4	73.0	14.4	77.6	12.2	80.7	8.3	84.9	9.2	85.2	6.9	89.4	6.2
31	84.0	5.4			67.4	8.0			73.2	10.5			71.3	13.0	78.9	13.6			83.8	10.3			87.8	4.9
Mean*	80.3	5.5	80.6	6.2	79.4	6.9	79.6	7.6	78.5	9.9	74.8	11.9	83.4	12.7	75.1	11.8	73.5	9.8	82.3	9.8	83.0	7.9	81.4	6.9

\* Mean of the column

## RELATIVE HUMIDITY

Monthly and annual means of values at exact hours, G.M.T.

67 ABERDEEN:  $h_t = 12.5$  m.

1940

	Hour G. M. T.																											
	0	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*		
														per cent.														
Jan.	79.0	80.1	80.6	81.7	82.3	82.9	83.8	83.2	82.3	81.5	81.0	80.0	77.8	76.6	78.5	77.6	79.4	81.2	81.4	81.7	79.7	79.0	78.2	78.1	79.0	80.3		
Feb.	83.1	81.6	82.1	82.3	82.7	82.7	82.5	82.6	82.5	80.7	79.7	78.8	78.6	76.9	77.1	76.4	77.6	78.6	79.7	80.4	81.1	82.1	82.5	83.1	83.3	80.6		
Mar.	82.6	82.0	82.5	83.8	84.3	84.8	84.6	83.7	82.5	80.6	77.6	75.8	72.9	73.5	73.2	71.3	72.3	74.7	79.1	80.1	79.9	81.1	81.3	81.5	82.4	79.4		
Apr.	83.8	84.9	84.4	84.0	83.7	84.0	84.5	83.4	80.3	78.3	77.5	75.0	73.7	73.4	74.7	73.8	73.9	74.9	77.2	78.8	81.2	81.1	81.4	81.4	84.1	79.6		
May	85.2	86.2	86.6	86.4	87.4	87.1	84.3	81.5	77.5	74.4	73.5	70.8	70.2	70.0	71.2	72.1	72.8	72.0	73.8	76.3	78.8	80.6	82.1	83.8	85.3	78.5		
June	81.9	83.0	84.0	84.1	84.5	82.4	79.8	76.2	73.2	71.3	69.2	68.4	66.5	66.2	67.5	68.4	69.2	65.8	69.1	71.8	73.8	77.5	80.2	80.9	81.7	74.8		
July	89.1	89.1	88.8	88.8	88.5	87.9	86.8	84.0	81.5	79.3	77.5	76.5	76.9	77.3	77.9	76.7	78.3	81.7	82.3	84.9	85.7	87.0	87.5	88.2	89.0	83.4		
Aug.	80.1	82.0	82.2	83.5	84.1	83.3	82.3	80.2	78.4	74.5	71.7	70.2	70.2	68.5	67.5	65.8	65.4	66.4	68.0	70.5	74.1	76.7	78.5	79.2	79.8	75.1		
Sept.	78.3	78.8	79.3	80.0	80.0	79.9	79.5	79.4	76.6	72.2	69.4	66.2	64.6	63.7	63.5	65.4	66.2	67.5	70.7	72.5	76.2	77.0	78.5	78.6	78.5	73.5		
Oct.	86.1	85.1	84.9	84.8	84.8	85.2	84.8	84.5	84.4	82.9	81.0	79.1	78.9	78.4	77.8	77.4	77.4	78.9	81.0	81.6	82.7	84.3	85.1	85.0	86.1	82.3		
Nov.	84.7	84.6	83.5	84.2	84.5	84.6	85.1	85.0	84.3	83.5	82.3	80.9	79.6	77.1	77.4	78.7	80.5	81.7	83.4	83.7	85.6	85.7	85.1	85.2	85.0	83.0		
Dec.	81.7	82.2	82.1	83.4	82.2	81.3	82.2	81.9	81.4	80.8	81.5	81.1	81.0	80.0	79.0	80.4	80.6	81.2	80.5	81.9	82.1	81.8	81.7	82.3	81.8	81.4		
Annual	83.0	83.3	83.4	83.9	84.1	83.9	83.4	82.1	80.4	78.3	76.8	75.2	74.2	73.5	73.8	73.7	74.5	75.4	77.2	78.7	80.1	81.2	81.8	82.3	83.0	79.3		

## VAPOUR PRESSURE

Monthly and annual means of values at exact hours, G.M.T., computed from corresponding mean values of temperature and relative humidity

68 ABERDEEN:  $h_t = 12.5$  m.

1940

	Hour G.M.T.																							
--	-------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--



## RAINFALL

Amount in millimetres, duration in hours and maximum rate of fall for each day 0h. to 24h., G.M.T.

69 ABERDEEN:  $h_r$  (height of receiving surface above M.S.L.) = height of station above M.S.L. + height of receiving surface above ground = 24.1 m. + 0.6 m.

1940

	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE		
	Amount	Dura- tion	Max. rate	Amount	Dura- tion	Max. rate	Amount	Dura- tion	Max. rate	Amount	Dura- tion	Max. rate	Amount	Dura- tion	Max. rate	Amount	Dura- tion	Max. rate
	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.
1	...	...	...	1.8	5.4	*	...	...	...	20.7	9.8	12	...	...	...	2.4	5.0	3
2	0.5	0.6	*	...	...	...	...	...	...	0.6	1.3	...	...	...	...	...	...	...
3	...	...	...	2.8	3.3	*	...	...	...	7.4	5.4	6	...	...	...	...	...	...
4	0.3	0.7	...	9.9	15.8	4	0.4	1.0	...	0.8	1.1	3	...	...	...	...	...	...
5	...	...	...	1.8	7.7	...	0.7	0.9	...	2.4	1.8	4	14.9	4.3	22	...	...	...
6	...	...	...	0.2	2.0	...	...	...	...	0.8	1.6	...	3.9	1.5	5	...	...	...
7	10.0	13.3	4	6.4	12.4	2	...	...	...	0.2	0.3	...	...	...	...	...	...	...
8	8.8	6.1	8	4.0	8.3	2	2.2	1.6	3	1.1	1.3	2	...	...	...	...	...	...
9	...	...	...	...	...	...	...	...	...	0.4	0.2	2	...	...	...	7.3	1.7	34
10	...	...	...	0.5	1.1	*	0.1	1.0	...	...	...	...	...	...	...	0.2	1.2	...
11	...	...	...	1.3	2.0	*	6.1	11.2	2	...	...	...	...	...	...	...	...	...
12	...	...	...	0.4	0.4	*	10.3	17.0	3	0.1	0.1	...	0.5	2.0	1	...	...	...
13	...	...	...	3.0	3.9	8	...	...	...	1.4	1.3	6	0.3	2.4	...	...	...	...
14	...	...	...	4.0	5.6	2	...	...	...	0.8	1.4	4	...	...	...	...	...	...
15	5.2	4.9	4	...	...	...	0.8	0.5	*	2.6	3.1	3	0.9	1.7	3	...	...	...
16	1.8	2.4	*	...	...	...	0.1	0.2	...	3.9	2.7	4	...	...	...	...	...	...
17	...	...	...	...	...	...	1.8	7.0	...	10.2	4.1	15	...	...	...	...	...	...
18	0.1	0.4	*	...	...	...	3.8	2.7	4	...	...	...	...	...	...	...	...	...
19	...	...	...	0.6	1.9	...	12.0	7.1	7	...	...	...	...	...	...	...	...	...
20	0.4	1.7	*	0.8	2.2	1	0.6	2.7	...	0.1	0.1	...	3.9	2.2	5	...	...	...
21	...	...	...	...	...	...	0.8	0.8	2	2.2	4.3	1	5.8	4.6	6	2.0	2.6	2
22	0.1	0.2	...	0.1	0.6	...	3.7	3.4	14	0.1	0.4	...	...	...	...	1.9	3.4	2
23	...	...	...	...	...	...	0.1	0.5	...	...	...	...	0.1	1.0	...	0.5	1.1	3
24	1.3	3.2	*	0.1	0.6	...	0.5	0.5	2	2.4	4.4	3	...	...	...	...	...	...
25	...	...	...	...	...	...	2.5	2.0	4	0.1	0.3	...	...	...	...	...	...	...
26	...	...	...	...	...	...	0.3	0.4	2	...	...	...	...	...	...	1.2	0.4	14
27	0.5	2.3	...	2.3	4.2	1	2.8	3.9	*	0.2	2.0	...	1.7	2.5	4	0.8	0.2	7
28	0.1	0.4	...	4.0	7.2	2	2.2	2.2	*	0.3	3.0	...	...	...	...	...	...	...
29	0.1	0.5	...	0.1	0.5	...	4.5	8.4	2	1.5	8.7	...	...	...	...	...	...	...
30	2.6	5.4	*	...	...	...	...	...	...	1.4	4.0	7	2.8	3.4	5	...	...	...
31	5.5	9.2	*	...	...	...	...	...	...	...	...	...	1.8	2.9	1	...	...	...
Total	37.3	51.3	-	44.1	85.1	-	56.3	75.0	-	61.7	62.7	-	36.6	28.5	-	16.3	15.6	-

\* Out of action on account of frost

	JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER		
	Amount	Dura- tion	Max. rate	Amount	Dura- tion	Max. rate	Amount	Dura- tion	Max. rate	Amount	Dura- tion	Max. rate	Amount	Dura- tion	Max. rate	Amount	Dura- tion	Max. rate
	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.
1	...	...	...	...	...	...	...	...	...	...	...	...	0.9	1.7	1	5.9	4.0	5
2	5.9	5.9	40	...	...	...	...	...	...	...	...	...	17.3	8.5	18	2.7	2.5	2
3	10.4	7.3	10	...	...	...	...	...	...	0.3	0.5	...	0.7	1.1	...	4.0	5.4	5
4	6.3	5.0	12	...	...	...	...	...	...	4.4	4.2	4	...	...	...	2.1	3.1	3
5	1.4	0.8	3	7.5	4.1	8	0.5	0.6	2	11.9	4.8	6	18.7	3.9	120	4.8	3.1	7
6	0.1	0.4	...	...	...	...	...	...	...	0.1	0.3	...	40.3	17.9	16	1.1	2.8	...
7	13.1	1.5	48	...	...	...	...	...	...	...	...	...	0.1	0.3	...	6.2	5.3	9
8	7.7	1.2	69	1.0	0.6	6	...	...	...	...	...	...	1.7	4.7	1	4.8	4.4	7
9	1.0	1.1	2	2.3	3.3	1	2.5	2.2	4	15.7	12.0	22	7.9	11.5	8	...	...	...
10	17.1	6.3	13	5.1	4.1	20	0.8	1.0	7	1.4	3.4	1	1.8	2.1	7	...	...	...
11	61.0	16.0	89	1.0	7.0	...	...	...	...	...	...	...	6.9	8.1	7	5.1	2.4	14
12	0.4	0.5	1	...	...	...	0.8	1.5	2	...	...	...	8.9	10.2	8	...	...	...
13	11.1	7.7	3	...	...	...	2.2	0.6	18	...	...	...	4.2	5.6	11	0.1	0.4	...
14	1.5	3.6	...	...	...	...	0.4	0.3	2	...	...	...	10.1	7.2	12	16.2	8.8	12
15	0.9	2.1	2	0.1	0.2	...	1.4	1.1	3	0.2	0.3	...	...	...	...	0.1	1.0	...
16	...	...	...	...	...	...	9.9	4.5	21	...	...	...	13.7	8.4	28	4.1	1.9	18
17	19.7	10.4	8	...	...	...	21.6	8.2	42	7.2	11.1	8	7.2	5.7	27	...	...	...
18	2.4	5.9	3	0.3	0.5	1	...	...	...	...	...	...	21.4	11.3	112	1.7	2.0	4
19	4.2	4.2	6	0.3	0.2	3	4.3	1.2	11	...	...	...	2.1	2.0	2	...	...	...
20	6.2	5.8	32	3.2	5.4	6	5.3	2.9	54	...	...	...	2.7	3.9	8	...	...	...
21	6.0	7.8	21	2.1	2.4	34	...	...	...	3.6	4.7	3	8.4	4.7	16	...	...	...
22	3.6	3.5	2	1.9	3.4	6	3.7	4.5	2	11.0	12.6	37	...	...	...	...	...	...
23	...	...	...	2.0	4.1	3	0.2	0.7	...	3.0	1.2	15	...	...	...	...	...	...
24	5.7	3.3	12	...	...	...	3.8	4.9	6	2.6	2.2	13	...	...	...	0.1	0.2	...
25	4.4	2.2	7	...	...	...	...	...	...	0.6	1.2	...	...	...	...	...	...	...
26	3.8	5.4	2	9.4	4.6	31	...	...	...	0.3	0.4	...	...	...	...	...	...	...
27	...	...	...	0.9	0.3	29	0.4	0.6	...	0.1	0.2	...	2.0	1.8	4	0.8	1.1	3
28	0.4	0.6	7	5.9	3.5	36	0.6	1.2	2	1.1	1.3	2	6.8	4.0	8	0.1	0.3	...
29	0.2	0.4	1	0.5	0.3	3	...	...	...	...	...	...	...	...	...	3.2	5.0	2
30	0.8	1.7	...	0.2	0.7	...	...	...	...	17.4	10.5	12	...	...	...	6.3	9.9	1
31	...	...	...	1.1	0.4	11	...	...	...	1.0	0.6	3	...	...	...	0.6	1.1	...
Total	195.3	110.6	-	44.8	45.1	-	58.4	36.0	-	81.9	71.5	-	183.8	124.6	-	70.0	64.7	-



# RAINFALL

57

Monthly and annual totals of amounts in sixty-minute periods between exact hours, G.M.T.

70 ABERDEEN:  $h_r = 24.1 \text{ m.} + 0.6 \text{ m.}$

1940

	Hour G.M.T.																								0-24
	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	
	<i>millimetres</i>																								
Jan.	0.3	0.3	2.7	1.1	4.3	1.7	0.9	0.4	0.6	2.3	2.8	1.5	1.9	1.7	0.9	2.8	2.0	2.1	1.8	1.9	0.7	0.7	1.1	0.8	37.3
Feb.	1.9	2.3	2.4	1.6	2.8	1.9	1.4	1.3	0.7	1.7	1.2	2.6	3.1	1.9	1.0	1.3	1.3	0.7	1.1	0.8	1.5	3.8	2.7	3.1	44.1
Mar.	3.1	2.4	1.9	2.1	1.3	2.3	1.8	2.0	1.1	1.0	2.4	1.2	2.0	2.4	2.4	1.7	2.8	4.8	2.6	2.4	4.1	4.4	3.1	1.0	56.3
Apr.	4.8	3.1	0.7	0.6	1.5	1.7	2.5	3.7	7.1	6.9	3.1	2.3	2.4	2.8	2.4	2.5	4.5	2.0	2.2	2.0	1.1	0.3	0.3	1.2	61.7
May	4.0	1.8	3.2	1.8	1.0	0.1	...	...	...	...	...	...	1.3	0.9	0.3	0.6	0.5	0.6	0.5	1.0	2.1	7.7	5.1	4.0	36.6
June	0.6	0.8	1.0	0.7	0.1	0.2	0.1	0.2	0.4	0.2	0.8	...	0.1	...	3.4	0.3	3.9	0.5	0.9	...	...	0.3	0.7	1.1	16.3
July	6.6	3.8	3.0	7.5	27.9	13.0	9.6	11.6	1.9	3.5	9.3	8.4	7.6	8.6	7.3	2.2	11.2	3.7	12.5	7.1	11.2	7.9	4.0	5.9	195.3
Aug.	1.8	0.5	0.6	1.3	4.1	4.0	3.5	3.1	0.3	2.1	0.9	1.4	1.7	5.6	2.1	1.5	0.6	4.1	2.2	0.7	0.1	1.6	0.4	0.6	44.8
Sept.	2.1	1.6	1.1	3.6	8.0	3.0	6.9	2.6	1.0	1.0	0.8	0.3	0.3	1.5	1.4	1.8	0.2	0.2	0.4	1.4	3.8	5.3	8.3	1.8	58.4
Oct.	3.0	1.6	1.6	2.2	4.5	3.3	3.2	2.0	2.0	3.2	3.4	4.4	3.4	2.2	3.5	1.7	0.6	1.1	2.7	6.6	8.2	6.7	6.0	4.8	81.9
Nov.	3.8	7.0	7.3	9.1	10.0	8.1	13.0	10.2	7.8	4.8	3.5	5.1	2.7	3.4	11.9	6.9	8.4	8.9	6.7	9.2	12.8	9.7	9.9	3.6	183.8
Dec.	2.1	1.0	0.6	0.6	0.2	1.7	4.6	1.9	3.5	2.0	2.4	3.5	8.0	4.6	9.1	4.2	1.0	3.2	3.0	1.4	1.3	4.8	2.4	2.9	70.0
Annual	34.1	26.2	26.1	32.2	65.7	41.0	47.5	39.0	26.4	28.7	30.6	30.8	34.5	35.6	45.7	27.5	37.0	31.9	36.6	34.5	46.9	53.2	44.0	30.8	886.5

# RAINFALL

Monthly and annual totals of durations in sixty-minute periods between exact hours, G.M.T.

71 ABERDEEN:  $h_r = 24.1 \text{ m.} + 0.6 \text{ m.}$

1940

	Hour G.M.T.																								0-24
	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	
	<i>hours</i>																								
Jan.	0.9	0.7	1.9	1.6	1.5	2.7	2.7	1.1	1.1	2.7	2.4	2.2	3.2	4.0	1.9	2.1	2.8	2.6	3.1	3.4	0.9	1.3	2.4	2.1	51.3
Feb.	3.8	3.6	4.5	3.5	4.0	4.3	4.5	2.3	2.2	3.0	3.2	4.3	4.5	2.3	4.1	4.6	2.6	1.8	3.6	3.0	2.0	4.6	4.6	4.2	85.1
Mar.	2.8	2.0	3.6	3.8	2.3	2.8	1.9	2.1	2.5	2.3	2.7	3.0	3.1	3.6	3.5	3.0	3.8	4.9	4.2	3.1	3.4	4.2	4.1	2.3	75.0
Apr.	5.1	3.9	2.7	2.8	1.9	1.8	3.0	2.5	2.6	3.1	1.9	1.4	1.2	4.3	3.0	1.5	3.1	1.3	1.9	2.6	2.9	2.4	2.5	3.3	62.7
May	2.0	1.9	2.5	3.0	2.6	1.0	...	...	...	...	...	0.2	1.0	1.7	0.6	0.7	1.0	1.5	0.6	1.7	1.3	1.2	2.0	2.0	28.5
June	1.0	2.0	1.9	1.0	0.6	0.3	0.1	0.6	1.4	0.9	0.2	...	0.3	...	1.0	0.4	0.5	0.4	0.2	...	...	0.6	1.0	1.2	15.6
July	5.0	4.1	4.2	4.7	5.9	6.3	4.9	4.2	3.5	2.6	3.8	4.6	3.0	3.7	3.6	2.1	4.1	3.8	6.9	8.0	4.6	5.1	5.1	6.8	110.6
Aug.	3.6	2.2	2.5	2.7	3.8	5.3	4.4	2.8	0.4	1.4	1.1	0.9	1.5	1.6	1.6	1.5	1.5	1.3	0.7	0.2	0.2	1.7	0.7	1.5	45.1
Sept.	1.5	0.5	1.0	1.4	2.6	1.9	4.2	1.7	0.8	0.6	1.4	0.5	0.8	0.8	1.6	1.5	0.2	0.6	0.7	2.0	3.1	3.1	2.4	1.1	36.0
Oct.	2.8	1.9	1.3	2.4	3.6	2.5	3.3	1.9	2.6	2.9	4.0	3.9	3.5	2.6	2.4	1.7	1.6	2.2	3.4	3.9	4.9	4.8	4.3	3.1	71.5
Nov.	3.2	2.9	5.0	6.6	7.2	6.3	7.9	7.5	7.1	5.0	3.2	3.9	2.8	2.9	5.6	5.4	5.2	5.2	5.6	6.4	6.4	5.3	4.9	3.1	124.6
Dec.	2.3	1.0	1.3	2.1	0.4	2.9	3.6	3.0	4.5	2.5	3.9	3.1	4.6	4.0	5.1	5.0	2.3	2.1	2.5	1.6	1.1	2.1	2.1	1.6	64.7
Annual	34.0	26.7	32.4	35.6	36.4	38.1	40.5	29.7	28.7	27.0	27.8	28.0	29.5	31.5	34.0	29.5	28.7	27.7	33.4	35.9	30.8	36.4	36.1	32.3	770.7

# NOTES ON RAINFALL

72 ABERDEEN:

1940

## Dry periods

The following definitions are adopted by the British Rainfall Organization

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. of rain or more

"Absolute drought": No occasions

"Partial drought": No occasions

"Dry spells": No occasions

## Wet periods

The following definitions are adopted by the British Rainfall Organization

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. of rain or more

"Rain spells": No occasions

"Wet spells": No occasions

## Rainfall duration

Hours	0.1-1.0	1.1-2.0	2.1-6.0	6.1-12.0	>12.0
Number of days	60	38	81	30	8

## Continuous or heavy falls

78 mm. fell in 26 hr. on July 10 11; of this total 25 mm. fell in 1 hr. 6 min. between 4h.0m. and 5h.6m. on the 11th, thus constituting a "Noteworthy fall", - within this fall 10 mm. fell in 10 min.

59 mm. fell in 24 hr. on November 5-6

29 mm. fell in 14 hr. on September 16-17

25 mm. fell in 24 hr. on November 17-18

## Rate of rainfall (Jardi recorder)

The highest instantaneous rate of rainfall was 120 mm./hr. on November 5.



## DURATION OF BRIGHT SUNSHINE AND PERCENTAGE OF POSSIBLE FOR EACH DAY

73 ABERDEEN:  $h_s$  (height of recorder above ground) = 20.7 m.

1940

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
	Per cent. of pos- sible	Per cent. of pos- sible	Per cent. of pos- sible	Per cent. of pos- sible	Per cent. of pos- sible	Per cent. of pos- sible	Per cent. of pos- sible	Per cent. of pos- sible	Per cent. of pos- sible	Per cent. of pos- sible	Per cent. of pos- sible	Per cent. of pos- sible
1	hr. %	hr. %	hr. %	hr. %	hr. %	hr. %	hr. %	hr. %	hr. %	hr. %	hr. %	hr. %
2	3.0 45	...	9.1 87	2.0 15	...	0.4 2	0.5 3	9.4 58	5.7 41	0.7 6	4.0 44	...
3	...	...	8.1 76	6.9 52	11.7 75	12.0 69	0.4 2	6.6 41	1.6 12	4.7 41	1.1 12	5.6 80
4	0.1 1	...	0.5 5	0.4 3	10.6 68	10.1 58	2.1 12	12.3 76	7.8 57	...	5.3 60	...
5	0.1 1	...	3.0 28	2.3 17	12.4 79	12.6 72	2.3 13	13.4 84	5.1 37	...	6.1 69	...
6	3.9 57	...	6.6 61	4.5 34	10.0 64	14.5 83	4.5 26	1.3 8	5.1 37	5.4 49	...	0.3 4
7	1.4 21	...	5.4 49	0.1 1	8.5 54	13.3 76	9.8 56	2.3 14	1.6 12	4.0 36	...	3.1 45
8	...	...	3.8 34	3.6 26	1.5 9	0.4 2	4.7 27	3.2 20	0.3 2	7.7 70	0.3 3	2.2 32
9	...	3.9 44	...	3.0 22	3.4 21	10.9 62	5.6 32	7.9 50	9.1 68	2.1 19	0.5 6	0.5 7
10	...	...	2.3 21	1.6 12	0.8 5	0.9 5	0.9 5	4.0 26	5.9 44	...	...	...
11	...	7.1 79	1.6 14	11.4 83	9.9 61	6.8 38	0.9 5	0.3 2	6.8 52	...	1.7 20	1.9 28
12	0.5 7	0.5 5	...	0.9 6	9.0 56	10.8 61	...	2.4 15	7.8 60	8.2 77	0.5 6	4.0 60
13	3.2 45	0.5 5	...	7.2 51	6.0 37	4.1 23	3.6 21	7.8 51	6.1 47	6.0 57	...	0.1 1
14	...	1.8 20	0.5 4	2.3 16	0.6 4	11.4 64	...	4.1 26	4.1 32	1.2 11	0.7 9	1.0 15
15	1.7 24	...	9.1 78	0.6 4	6.4 39	15.8 89	...	7.6 50	7.7 60	...	...	...
16	2.4 33	3.9 42	8.1 69	2.7 19	2.0 12	12.5 70	8.5 49	3.1 20	3.5 27	...	6.0 75	...
17	0.4 5	2.5 27	1.5 13	4.8 34	12.3 75	12.1 68	5.3 31	3.6 24	5.2 41	3.5 34	...	...
18	0.2 3	...	...	3.0 21	12.4 75	9.6 54	...	10.1 67	1.7 13	...	...	3.9 59
19	0.2 3	0.7 7	...	9.3 64	14.5 87	12.6 71	0.7 4	0.4 3	9.4 75	...	...	...
20	5.4 72	0.9 9	...	...	14.7 88	10.7 60	1.8 11	7.1 48	5.5 44	...	1.3 17	...
21	...	...	4.4 36	5.6 38	12.2 73	11.5 65	3.1 18	2.1 14	4.5 36	...	0.4 5	...
22	2.7 36	...	7.4 61	...	3.8 23	4.9 28	...	4.1 28	7.7 63	...	5.0 66	...
23	4.4 58	0.3 3	...	...	...	4.4 25	3.4 20	5.7 39	0.4 3	...	5.6 74	...
24	2.9 38	6.7 67	...	9.6 65	6.8 40	6.9 39	2.5 15	9.1 62	5.8 48	0.1 1	0.3 4	...
25	...	1.5 15	3.8 31	0.2 1	0.5 3	7.7 43	3.1 19	0.9 6	4.6 38	3.8 40	0.4 5	0.1 1
26	3.8 49	...	2.2 18	9.8 65	9.3 55	13.0 73	5.2 31	7.1 49	2.6 22	1.8 19	0.1 1	...
27	...	4.2 41	2.2 17	6.6 44	5.7 33	11.0 62	1.4 8	0.6 4	2.5 21	2.1 22	1.4 19	1.9 29
28	...	3.3 32	5.6 44	1.8 12	7.4 43	10.3 58	8.9 54	7.2 50	...	1.6 17	2.7 37	0.1 1
29	...	...	9.0 70	...	6.4 37	4.6 26	3.4 21	2.3 16	5.1 44	1.2 13	3.0 42	...
30	...	6.9 66	...	...	1.8 10	7.2 40	0.2 1	4.3 30	1.8 16	4.2 45	2.5 35	...
31	...	...	9.2 71	...	3.8 22	14.1 79	1.7 10	4.6 33	7.1 61	...	...	...
Mean	1.17	1.54	3.45	3.34	6.78	9.24	3.01	5.07	4.74	1.96	1.63	0.88
						Annual mean	3.57					

## DURATION OF BRIGHT SUNSHINE

Monthly and annual totals between exact hours, local apparent time

74 ABERDEEN:  $h_s$  = 20.7 m.

1940

	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	per cent. of possible
Jan.	—	—	—	—	...	0.3	3.1	5.7	7.7	8.7	7.2	3.6	...	...	—	—	—	—	—	36.3	16
Feb.	—	—	—	...	1.3	3.2	5.6	6.0	7.1	6.6	5.9	5.3	3.0	0.7	...	—	—	—	—	44.7	16
Mar.	—	—	...	1.6	6.8	10.8	11.1	9.9	12.6	11.1	11.4	12.1	10.9	6.8	2.0	...	—	—	—	107.1	29
Apr.	—	...	2.0	5.4	6.9	8.9	9.0	10.2	9.4	8.7	8.3	8.4	8.6	8.4	5.4	0.6	...	—	—	100.2	23
May	...	3.2	8.7	11.5	16.1	18.3	17.3	16.3	17.5	16.5	15.7	14.2	16.3	15.5	12.2	8.4	2.6	...	—	210.3	41
June	0.5	10.9	14.8	13.9	17.2	15.2	16.1	21.0	21.5	20.3	20.2	20.4	18.8	18.5	19.5	17.7	10.3	0.3	—	277.1	52
July	...	2.0	3.5	5.0	7.5	7.1	7.3	8.1	7.1	7.7	8.0	7.6	6.7	5.8	5.0	2.6	2.3	...	—	93.3	18
Aug.	...	0.6	4.8	6.8	7.8	9.5	10.6	10.6	10.4	11.6	14.8	16.2	16.3	14.9	14.1	7.8	0.4	...	—	157.2	34
Sept.	—	—	0.1	7.7	12.2	13.8	15.6	16.9	16.2	13.1	15.0	12.1	10.0	6.7	2.7	...	—	—	—	142.1	37
Oct.	—	—	—	...	1.7	5.8	6.8	9.9	9.1	7.3	7.3	5.8	4.7	2.3	...	—	—	—	—	60.7	19
Nov.	—	—	—	—	...	1.5	7.1	6.1	9.0	8.8	8.1	5.7	2.6	...	—	—	—	—	—	48.9	20
Dec.	—	—	—	—	—	...	2.2	6.0	5.9	5.4	5.2	2.5	...	—	—	—	—	—	—	27.2	13
Annual	0.5	16.7	33.9	51.9	77.5	94.4	111.8	126.7	133.5	125.8	127.1	113.9	97.9	79.6	60.9	37.1	15.6	0.3	—	1305.1	29



## WIND

59

Mean speed and highest instantaneous speed recorded each day (0h. to 24h., G.M.T.) by the pressure-tube anemograph

75 ABERDEEN:  $h_a$  (height of anemograph above M.S.L.) = height of ground above M.S.L. + height of anemograph above ground  
= 24 m. + 13 m.

1940

	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	Mean	Max. gust	Mean	Max. gust	Mean	Max. gust	Mean	Max. gust	Mean	Max. gust	Mean	Max. gust	Mean	Max. gust	Mean	Max. gust	Mean	Max. gust	Mean	Max. gust	Mean	Max. gust	Mean	Max. gust
	<i>metres per second</i>																							
1	1.2	5	6.9	17	1.8	8	5.6	23	3.5	11	0.9	5	1.4	7	2.7	9	2.6	11	1.3	5	1.7	7	2.2	10
2	1.8	7	5.9	14	1.2	7	4.5	19	2.4	13	1.7	8	1.6	10	3.4	11	3.5	14	1.4	6	3.1	14	2.5	12
3	0.9	4	7.9	21	3.5	13	6.1	19	1.6	7	2.2	11	3.1	14	3.1	14	2.1	8	1.9	9	2.9	11	1.4	7
4	1.3	8	9.4	23	8.4	28	5.8	18	2.1	7	3.1	13	1.4	6	2.0	12	2.5	12	2.1	10	1.6	6	3.1	13
5	1.0	4	4.9	15	7.2	21	3.3	15	3.4	12	2.3	13	1.7	6	1.7	7	2.0	13	3.8	18	1.4	11	5.9	22
6	1.5	11	4.3	11	4.0	12	6.0	18	3.6	12	1.4	5	2.6	9	1.5	9	2.2	11	4.5	22	3.3	12	4.8	15
7	4.9	14	4.7	11	2.9	12	5.5	18	2.3	9	2.8	10	1.6	8	2.5	10	4.0	15	2.4	10	3.1	11	6.4	23
8	1.2	5	2.2	9	2.5	11	5.1	15	2.9	11	1.4	7	1.3	11	2.7	12	5.4	16	3.9	20	2.0	9	6.1	22
9	3.2	14	3.5	11	2.0	12	3.5	10	2.9	12	1.0	5	3.5	16	3.1	17	3.9	17	5.7	23	5.3	16	2.0	12
10	4.5	13	3.0	12	3.0	10	3.3	10	5.2	14	1.2	8	1.5	9	4.3	19	4.9	19	5.4	20	2.1	11	1.6	8
11	0.6	5	3.7	14	1.3	8	2.6	13	3.9	13	2.9	12	3.6	15	9.1	22	4.7	17	2.6	5	3.2	17	4.4	12
12	0.7	*	4.6	13	3.6	15	5.2	17	3.1	15	2.9	11	2.2	9	2.4	9	3.2	14	4.2	14	5.6	15	1.9	6
13	0.6	3	5.6	13	3.5	13	2.9	14	2.4	10	2.1	9	3.8	10	2.1	12	2.3	12	4.3	14	4.9	12	7.1	22
14	1.8	11	3.6	11	3.6	10	5.5	28	3.8	17	2.7	10	4.7	13	3.5	13	3.0	12	1.9	9	6.8	17	8.8	24
15	5.1	17	2.5	8	7.4	26	10.5	28	2.0	9	4.1	14	2.8	11	2.0	4	5.6	19	4.2	13	1.7	8	6.4	19
16	5.6	17	2.3	11	3.8	14	8.8	22	2.9	10	3.8	12	1.4	7	1.8	11	3.4	13	3.6	12	4.3	21	6.3	23
17	4.8	15	2.2	8	6.5	17	3.3	10	2.2	7	2.5	7	2.3	10	1.9	10	3.0	19	2.1	8	5.8	25	3.5	14
18	1.9	9	1.9	8	3.7	12	1.7	8	4.0	11	1.6	6	3.2	11	2.9	11	7.2	23	2.9	7	4.0	15	5.0	17
19	1.8	8	2.3	13	3.4	15	2.8	10	4.1	13	1.7	8	1.5	8	3.4	15	3.5	13	3.3	13	3.1	17	4.1	12
20	1.3	7	5.7	17	2.3	13	2.2	7	3.7	12	4.8	13	2.8	11	3.4	14	3.3	15	6.2	13	6.9	23	2.8	9
21	2.8	9	5.1	16	2.4	10	3.5	15	3.1	11	2.5	11	1.9	9	6.9	25	2.2	8	4.8	13	4.2	22	4.1	11
22	3.6	9	4.1	16	1.3	7	4.6	11	1.8	8	3.7	11	2.9	11	6.5	20	2.5	12	4.8	13	2.1	15	3.1	10
23	1.0	5	4.7	15	1.3	5	3.8	9	2.1	7	4.2	14	1.9	6	6.6	23	3.8	14	4.6	14	5.4	22	1.6	5
24	1.4	10	3.1	13	3.0	11	2.6	7	2.5	10	4.8	17	1.4	9	4.3	19	6.7	18	2.5	10	3.1	14	2.4	7
25	1.3	5	3.4	11	1.4	5	2.9	11	3.0	13	5.1	15	1.9	9	2.9	12	6.1	17	2.0	10	6.1	21	3.0	8
26	6.9	21	5.8	20	5.7	22	1.3	6	1.9	8	5.3	20	1.3	5	1.1	8	3.0	13	2.7	9	6.1	21	4.9	13
27	8.9	19	3.5	13	10.4	26	2.0	8	2.8	12	2.7	8	2.8	11	2.3	10	6.3	19	1.9	9	6.3	17	3.0	10
28	9.3	21	4.9	14	5.9	17	4.2	10	1.2	7	5.7	19	4.0	13	2.9	13	6.0	20	1.5	10	5.4	19	2.7	10
29	8.1	21	3.1	11	3.6	15	4.5	10	1.9	7	4.7	18	2.5	9	4.7	17	2.3	8	8.0	25	1.8	8	2.0	11
30	8.1	21			4.0	16	3.9	11	2.8	13	2.9	8	3.5	13	2.5	12	1.4	4	10.4	27	1.1	5	2.8	11
31	8.6	19			4.7	17			2.6	10			2.1	10	3.4	19			4.9	20			3.3	9

\* Record defective

## WIND

Monthly and annual means of mean wind speed between exact hours, G.M.T.

76 ABERDEEN:  $h_a$  = 24 m. + 13 m.

1940

	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
	metres per second																								
Jan.	3.1	3.2	3.0	3.2	3.3	3.4	3.3	3.4	3.4	3.4	3.7	3.7	3.8	3.8	3.7	3.6	3.3	3.2	3.3	3.5	3.5	3.4	3.4	3.5	3.4
Feb.	4.3	4.3	4.2	4.4	4.5	4.7	4.6	4.6	4.6	4.5	4.5	4.5	4.6	4.4	4.3	4.4	4.0	3.8	3.9	4.0	4.2	4.0	3.9	3.9	4.3
Mar.	3.1	3.2	3.3	3.1	2.9	3.0	2.8	3.1	3.6	4.2	4.4	4.8	5.1	5.2	5.2	5.2	4.6	3.9	3.8	3.7	3.6	3.4	3.4	3.4	3.8
Apr.	3.9	3.8	3.9	4.1	4.0	3.9	4.1	4.5	4.8	4.8	4.8	4.9	4.9	4.8	4.5	4.4	4.6	4.4	3.9	3.7	3.6	3.7	4.0	3.9	4.3
May	1.9	2.0	2.2	2.0	2.0	2.0	2.3	2.6	3.0	3.4	3.6	4.0	4.1	4.1	3.9	4.0	3.7	3.2	2.9	2.5	2.3	2.1	2.1	1.9	2.8
June	2.1	2.0	2.1	2.0	1.9	2.0	2.4	2.8	3.0	3.4	3.7	4.1	4.3	4.4	4.3	4.1	3.7	3.5	3.3	2.8	2.4	2.3	2.2	2.1	3.0
July	1.5	1.7	1.8	1.8	1.8	2.0	2.4	2.7	2.8	3.0	3.4	3.3	3.1	3.2	3.2	3.0	2.8	2.3	2.4	2.2	2.0	1.8	1.8	1.7	2.4
Aug.	2.3	2.2	2.3	2.4	2.3	2.4	2.7	2.8	3.2	3.7	4.0	3.9	4.5	4.8	4.8	5.0	5.0	4.5	3.8	3.2	2.8	2.7	2.5	2.5	3.3
Sept.	3.2	3.2	3.0	3.1	3.0	3.0	3.4	3.8	4.4	4.8	4.7	5.0	4.9	5.1	4.8	4.3	3.9	3.6	3.4	3.3	3.0	3.1	3.0	3.0	3.8
Oct.	3.2	3.0	3.1	3.2	3.4	3.4	3.6	3.9	4.0	4.2	4.5	4.7	4.6	4.6	4.5	4.1	3.8	3.5	3.3	3.5	3.4	3.4	3.3	3.2	3.7
Nov.	3.3	3.8	3.8	3.7	3.8	4.0	4.1	4.0	3.7	4.1	3.9	3.8	4.5	4.2	4.1	3.9	3.7	3.7	3.6	3.6	3.6	3.7	3.5	3.4	3.8
Dec.	4.0	4.1	3.9	3.8	3.7	3.8	3.9	4.1	4.2	4.1	4.4	4.2	4.1	4.1	4.1	3.8	3.3	3.6	3.6	3.7	3.4	3.6	3.6	3.6	3.8
Annual	3.0	3.0	3.0	3.1	3.0	3.1	3.3	3.5	3.7	3.9	4.1	4.2	4.4	4.4	4.3	4.1	3.9	3.6	3.4	3.3	3.2	3.1	3.1	3.0	3.5

## DISTRIBUTION OF WIND SPEED, EXTREME VELOCITIES AS RECORDED BY PRESSURE-TUBE ANEMOGRAPH

77 ABERDEEN:  $h_a$  = 24 m. + 13 m.

1940

	DISTRIBUTION OF WIND SPEED								EXTREME VELOCITIES					
	More than 17·1 m./sec.		10·8 to 17·1 m./sec.		5·5 to 10·7 m./sec.	1·6 to 5·4 m./sec.	Less than 1·6 m./sec.	No record	Highest hourly wind			Highest gust		
	Dates of occurrence	Duration	No. of days	Duration	Duration	Duration	Duration	Duration	Veer from N.	Speed	Hour ended	Speed	Date	
		hr.		hr.	hr.	hr.	hr.	hr.	°	m./sec.	day h.	m./sec.	day h. m.	
Jan.	—	0	2	3	177	273	291	0	130	11	27 6	21	28 3 5	
Feb.	—	0	1	6	194	431	65	0	150	12	4 8	23	4 8 45	
Mar.	—	0	3	19	170	378	177	0	340	13	27 13	28	4 10 30	
Apr.	—	0	5	20	147	467	86	0	320	14	15 8	28	15 7 35	
May	—	0	0	0	55	506	183	0	200	8	14 12	17	14 10 55	
June	—	0	0	0	82	433	205	0	320	9	26 12	20	26 13 10	
July	—	0	0	0	31	439	274	0	180	7	9 17	16	9 16 50	
Aug.	—	0	2	8	121	414	201	0	330	13	11 7	25	21 15 40	
Sept.	—	0	1	5	155	441	119	0	290	11	18 8	23	18 4 55	
Oct.	—	0	3	13	137	437	157	0	180	13	30 17	27	30 20 55	
Nov.	—	0	3	5	171	394	150	0	330	12	21 10	25	17 15 40	
Dec.	—	0	3	16	136	471	121	0	180	13	14 9	24	14 8 20	
Year	—	0	23	95	1576	5084	2029	0	320	14	Apr. 15 8	28	Mar. 4 10 30	



78 ABERDEEN

1940

	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	30 cm. 122 cm.		30 cm. 122 cm.		30 cm. 122 cm.		30 cm. 122 cm.		30 cm. 122 cm.		30 cm. 122 cm.		30 cm. 122 cm.		30 cm. 122 cm.		30 cm. 122 cm.		30 cm. 122 cm.		30 cm. 122 cm.		30 cm. 122 cm.	
	degrees Absolute																							
1	75.5	78.3	74.0	76.2	75.7	76.3	78.1	77.9	80.1	79.8	85.6	83.0	87.3	85.1	88.4	86.3	86.3	86.0	83.7	84.5	81.5	82.7	77.7	80.0
2	75.3	78.2	74.1	76.2	75.5	76.3	78.1	77.9	80.1	79.9	86.1	83.0	87.6	85.1	88.6	86.3	86.5	86.0	84.0	84.4	81.0	82.7	78.1	80.0
3	75.1	78.0	74.0	76.2	74.9	76.3	78.3	77.9	81.0	79.9	86.9	83.1	87.3	85.1	88.6	86.4	86.5	86.0	84.1	84.3	80.9	82.7	78.0	80.0
4	75.0	78.0	73.8	76.1	75.3	76.2	78.0	77.9	81.9	80.0	87.2	83.3	87.0	85.1	88.7	86.5	86.9	85.9	84.0	84.2	80.3	82.5	77.8	79.9
5	75.0	78.0	73.8	76.0	75.7	76.3	78.3	77.9	82.1	80.0	87.5	83.5	87.0	85.1	88.9	86.5	87.0	85.9	84.0	84.2	79.9	82.2	77.8	79.7
6	74.8	77.8	73.9	76.0	75.4	76.3	78.3	78.0	82.4	80.0	87.7	83.7	87.1	85.2	88.9	86.6	86.9	85.9	84.0	84.2	79.1	82.1	77.4	79.7
7	74.8	77.8	73.9	76.0	75.2	76.3	78.5	78.0	82.3	80.1	88.0	83.9	87.5	85.2	88.7	86.7	86.9	86.0	83.3	84.1	79.8	81.8	77.1	79.5
8	74.7	77.7	73.8	75.9	75.4	76.3	79.0	78.1	82.8	80.3	87.5	84.0	87.6	85.3	88.6	86.7	86.1	86.0	83.0	84.1	79.1	81.8	77.0	79.5
9	74.8	77.4	74.8	75.8	76.1	76.3	79.0	78.2	83.0	80.4	87.8	84.0	87.7	85.3	88.2	86.7	85.7	85.9	83.0	84.1	79.3	81.4	77.0	79.2
10	74.9	77.3	74.3	75.9	76.3	76.4	78.9	78.3	83.0	80.6	87.5	84.3	87.2	85.4	88.1	86.9	85.7	86.0	83.0	84.0	79.9	81.3	76.7	79.1
11	74.9	77.3	74.2	75.9	76.8	76.4	78.9	78.3	83.0	80.8	88.1	84.3	87.0	85.5	88.0	86.9	85.1	86.0	82.8	84.0	79.5	81.3	76.3	79.1
12	74.8	77.2	74.2	75.8	77.0	76.5	79.1	78.4	83.0	80.8	88.0	84.5	86.8	85.6	87.0	86.8	84.8	85.8	82.6	83.9	79.1	81.2	76.0	79.0
13	74.8	77.0	74.3	75.9	76.7	76.6	79.8	78.7	83.1	81.0	87.7	84.6	87.1	85.7	87.2	86.8	85.2	85.8	82.7	83.8	79.6	81.1	75.8	78.9
14	74.7	77.1	74.2	75.9	76.2	76.7	79.8	78.7	83.2	81.0	87.3	84.7	87.0	85.7	88.0	86.8	84.7	85.5	82.8	83.7	79.3	81.1	76.0	78.9
15	74.9	77.0	74.2	75.9	76.0	76.9	79.3	78.9	83.0	81.2	87.7	84.9	87.0	85.8	87.4	86.7	84.4	85.4	83.0	83.7	79.1	81.1	76.2	78.8
16	74.9	77.0	74.2	75.9	75.9	76.9	78.8	78.9	83.0	81.3	87.8	84.9	87.4	85.6	87.1	86.7	83.9	85.3	83.3	83.6	78.5	80.9	77.0	78.5
17	74.8	77.0	74.1	75.8	76.1	76.9	78.8	78.8	83.2	81.5	87.4	85.0	88.0	85.8	87.3	86.6	84.1	85.2	83.7	83.6	78.9	80.9	77.2	78.4
18	74.9	77.0	74.2	76.0	76.7	76.9	79.0	78.9	83.8	81.4	87.6	85.0	87.4	85.9	87.9	86.5	84.4	85.1	83.5	83.5	79.1	80.8	76.9	78.4
19	74.8	77.0	74.0	75.9	77.3	76.8	79.1	78.9	84.0	81.7	88.0	85.1	87.5	85.8	87.6	86.5	84.4	85.0	83.5	83.5	79.1	80.7	77.0	78.4
20	74.8	76.9	74.0	75.9	77.9	77.0	79.3	78.9	84.1	81.8	88.6	85.0	87.7	85.9	87.1	86.5	84.5	85.0	83.5	83.6	79.0	80.5	77.0	78.4
21	74.7	76.9	74.1	75.8	78.0	77.0	79.7	78.9	84.3	81.7	88.1	85.0	87.5	85.9	87.0	86.5	84.3	85.0	83.4	83.7	79.0	80.4	77.0	78.4
22	74.5	76.9	74.4	75.7	78.0	77.0	79.3	78.9	84.2	81.9	87.7	85.2	87.5	86.0	86.7	86.5	84.0	85.0	83.2	83.8	78.9	80.4	77.0	78.3
23	74.5	76.9	75.4	75.9	78.1	77.2	79.0	79.0	84.3	82.0	87.4	85.2	87.6	86.0	86.4	86.5	84.0	85.0	83.0	83.8	78.2	80.4	77.0	78.2
24	74.2	76.8	75.6	75.7	78.3	77.5	79.9	79.0	84.9	82.0	87.0	85.2	87.7	86.1	85.9	86.4	84.1	84.8	82.5	83.6	78.8	80.2	77.0	78.2
25	74.2	76.8	75.6	75.8	78.5	77.5	80.0	79.0	84.7	82.2	87.0	85.3	87.7	86.1	86.2	86.3	84.0	84.7	82.1	83.6	78.7	80.2	77.0	78.2
26	74.1	76.7	75.8	76.0	78.7	77.6	81.0	79.0	84.9	82.3	86.8	85.2	87.8	86.1	86.8	86.1	83.8	84.7	81.7	83.5	79.2	80.1	76.9	78.2
27	74.0	76.7	76.0	76.0	78.4	77.8	81.4	79.2	85.3	82.5	86.6	85.2	87.9	86.1	86.7	86.1	84.1	84.6	81.3	83.3	79.7	80.2	77.0	78.3
28	74.0	76.5	76.6	76.1	77.8	77.8	81.4	79.2	85.7	82.5	86.6	85.2	87.9	86.1	86.2	86.1	84.1	84.5	81.2	83.2	79.0	80.2	77.0	78.3
29	74.0	76.4	76.1	76.3	77.0	77.8	81.0	79.3	86.0	82.7	86.8	85.2	87.5	86.1	86.0	86.1	83.8	84.5	81.3	83.1	78.5	80.2	77.0	78.3
30	74.0	76.4			77.0	78.0	80.3	79.5	86.0	82.7	87.0	85.2	87.8	86.3	86.0	86.0	83.4	84.5	81.1	83.0	78.1	80.1	77.3	78.3
31	74.1	76.3			77.7	77.9			85.6	83.0			88.1	86.3	86.1	86.0			81.2	83.0			76.9	78.3
Mean	74.7	77.2	74.5	75.9	76.8	76.9	79.3	78.6	83.5	81.3	87.4	84.5	87.5	85.7	87.4	86.5	85.0	85.4	82.9	83.8	79.3	81.1	77.0	78.9
												Year		81.3 81.3										

## MINIMUM TEMPERATURE "ON THE GRASS" DURING THE INTERVAL 18h. TO 7h., G.M.T.

79 ABERDEEN

1940

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	
	degrees Absolute												
1	65.7	72.4	65.3	76.2	75.9	81.1	80.9	79.1	78.5	80.4	73.2	71.0	
2	65.1	72.6	65.9	72.9	71.3	81.9	80.6	80.0	82.5	77.4	72.4	74.8	
3	70.7	71.6	69.1	74.8	72.9	80.9	83.4	84.3	77.4	78.3	76.7	69.8	
4	72.4	72.4	69.4	73.2	75.1	81.2	80.4	77.2	83.6	79.7	69.4	73.6	
5	66.8	73.6	70.7	74.6	73.1	78.9	77.7	82.7	84.1	77.1	67.7	73.3	
6	65.8	75.1	70.7	72.9	74.7	80.2	78.1	81.6	74.7	80.2	74.7	71.9	
7	67.9	76.6	70.3	78.3	74.7	82.6	84.2	76.8	84.3	72.4	71.9	*	
8	76.8	76.2	73.6	76.1	80.8	83.6	79.1	79.7	77.4	75.4	73.8	73.2	
9	74.7	70.2	72.4	72.6	78.1	78.9	78.8	80.0	75.7	76.4	78.5	71.9	
10	73.1	71.9	74.4	71.9	79.1	82.8	80.8	84.4	79.8	80.2	75.4	69.3	
11	66.9	71.3	75.5	68.6	75.6	81.4	82.5	81.2	76.2	75.2	68.1	67.3	
12	65.8	66.8	74.3	76.2	78.7	80.1	83.2	76.3	79.2	76.8	76.8	71.6	
13	68.1	68.8	72.1	76.7	78.3	75.3	83.0	81.4	76.2	79.8	76.8	70.0	
14	71.8	73.1	69.5	74.6	77.5	76.3	83.5	76.6	72.0	80.3	75.6	76.7	
15	68.8	70.3	70.2	72.1	72.0	80.3	84.2	77.2	75.4	81.4	71.7	72.0	
16	67.2	65.1	72.4	72.6	76.8	82.4	82.4	77.6	70.6	83.0	69.0	80.2	
17	61.3	73.4	75.8	75.8	72.9	77.5	83.7	78.9	(83.0)	82.7	75.6	72.7	
18	65.8	68.1	77.0	71.9	79.5	76.1	83.6	83.0	80.8	81.8	77.9	74.3	
19	60.4	67.6	76.9	71.8	74.7	80.9	81.4	81.5	74.2	81.3	73.6	73.6	
20	67.8	73.1	72.1	74.8	72.8	83.5	80.8	76.2	77.0	82.9	75.3	71.4	
21	61.8	76.3	72.8	72.4	79.8	75.4	82.4	82.5	75.2	81.8	75.6	75.2	
22	67.2	76.7	71.3	75.3	78.8	82.1	82.4	80.9	74.1	79.6	68.5	75.9	
23	64.1	77.0	77.3	75.1	82.0	80.1	81.7	80.1	77.2	79.5	76.9	73.8	
24	63.2	70.1	74.7	76.2	80.3	74.2	80.1	77.9	79.1	75.4	76.2	75.9	
25	70.4	73.3	73.1	78.1	76.4	79.2	80.7	82.8	76.6	74.4	76.9	73.3	
26	68.8	74.2	75.3	73.3	79.8	79.8	82.4	79.3	80.2	72.6	81.7	70.2	
27	75.2	76.0	72.7	78.6	80.9	72.1	80.3	75.1	82.1	73.0	75.4	75.2	
28	73.2	73.0	68.1	78.7	79.8	79.2	77.4	75.6	78.2	74.4	73.1	70.9	
29	73.1	70.5	66.5	77.5	79.6	83.8	82.9	80.2	79.5	77.0	73.3	76.2	
30	71.7		69.7	77.9	81.4	75.3	85.9	77.9	71.2	78.3	69.8	75.2	
31	71.4		78.2		74.2		83.6	82.5		80.6		66.9	
Mean	68.5	72.3	72.2	74.7	77.0	79.6	81.7	79.7	77.9	78.4	74.1	72.9	
	Year						75.8						



**ESKDALEMUIR**



## ESKDALEMUIR OBSERVATORY

Latitude    ..    ..    ..    ..    55°19' N.  
Longitude    ..    ..    ..    ..    3°12' W.  
G.M.T. of Local Mean Noon    12h.13m.

Heights of instruments	above M.S.L.	above ground
	m.	m.
Barometer .. .. .	237.3	..
Thermometer bulbs .. ..	..	0.9
Rain-gauge .. .. .	242.0	..
Beckley rain-gauge rim	..	0.4
Sunshine recorder .. ..	..	1.5
Pressure-tube anemograph	250	15

### INTRODUCTION

No changes of site or in the meteorological instruments occurred except that in September 1940 the Beckley self-registering rain-gauge was replaced by a Dines tilting syphon rain recorder. Reference should be made to the 1938 volume for details.

### NOTES ON THE METEOROLOGICAL SUMMARIES

The extreme temperatures recorded during the year were 299.7°A. (80.1°F.) on June 6 and 256.0°A. (1.4°F.) on January 23. January 23 with a mean temperature of 264.1°A. (16.0°F.) was the coldest day of the year, and June 6 with 291.4°A. (65.1°F.) was the hottest. There were 18 ice days, i.e. days with maximum temperature below 273°A.; 12 of these occurred in January, 5 in February and 1 in December.

The total rainfall for the year, 1,388.6 mm. (54.6 in.), was slightly below normal. Snow fell on 41 days.

The total duration of bright sunshine, 1,293.9 hr., was well above the normal.

The highest gust of wind during the year was 38.6 m./sec. (86 m.p.h.), and was recorded during rainfall on November 21; the highest hourly speed, 22.5 m./sec. (50 m.p.h.), also occurred on November 21.

The results of the harmonic analysis of the diurnal inequalities of pressure are set out in the accompanying table. For purposes of comparison the corresponding data derived from the mean inequalities for the period 1911-20 by Dr. A. Crichton Mitchell\* are also given.

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\* MITCHELL, A. CRICHTON: On the diurnal variation of atmospheric pressure at Eskdalemuir and Castle O'er, Dumfriesshire. *Quart. J.R. met. Soc.*, London, 50, 1924, p.127.



HARMONIC COEFFICIENTS OF THE DIURNAL INEQUALITY OF ATMOSPHERIC PRESSURE  
ESKDALEMUIR, LONGITUDE 3°12'W.

Values of  $c_n$ ,  $a_n$  in the series  $\sum c_n \sin(15nt + a_n)$ ,  $t$  being local mean time reckoned  
in hours from midnight

	$c_1$		$a_1$		$c_2$		$a_2$		$c_3$		$a_3$		$c_4$		$a_4$	
	1940	1911-1920	1940	1911-1920	1940	1911-1920	1940	1911-1920	1940	1911-1920	1940	1911-1920	1940	1911-1920	1940	1911-1920
	mb.	mb.	°	°	mb.	mb.	°	°	mb.	mb.	°	°	mb.	mb.	°	°
January	0.14	0.09	110	346	0.24	0.23	150	152	0.14	0.13	334	345	0.09	0.05	237	214
February	0.22	0.12	208	215	0.21	0.27	153	138	0.09	0.08	348	341	0.10	0.04	88	68
March	0.30	0.13	135	185	0.26	0.30	147	145	0.05	0.05	338	335	0.06	0.05	30	25
April	0.13	0.21	33	92	0.34	0.30	152	155	0.05	0.02	143	156	0.05	0.05	316	356
May	0.26	0.23	39	53	0.29	0.27	166	147	0.06	0.07	147	160	0.04	0.03	321	330
June	0.34	0.15	43	54	0.22	0.23	147	146	0.07	0.08	163	161	0.01	0.02	315	326
July	0.15	0.17	144	69	0.21	0.21	147	141	0.09	0.08	153	156	0.02	0.02	246	300
August	0.05	0.11	52	115	0.24	0.24	139	148	0.03	0.06	199	157	0.05	0.05	346	331
September	0.28	0.12	173	88	0.28	0.31	154	152	0.03	0.01	9	111	0.05	0.05	10	345
October	0.12	0.11	24	76	0.32	0.31	147	159	0.10	0.06	27	8	0.02	0.04	347	33
November	0.12	0.13	263	183	0.45	0.24	137	168	0.13	0.10	178	9	0.01	0.01	256	146
December	0.20	0.14	76	97	0.34	0.21	142	147	0.14	0.12	348	4	0.04	0.07	182	213
Arithmetic mean	0.19	0.14			0.28	0.26			0.08	0.07			0.04	0.04		
Year	0.08	0.09	96	91	0.28	0.26	148	150	0.03	0.02	4	42	0.02	0.02	319	342
Winter	0.06	0.04	151	165	0.31	0.24	143	151	0.12	0.11	347	355	0.03	0.02	207	189
Equinox	0.11	0.11	127	104	0.30	0.31	150	153	0.04	0.02	26	4	0.04	0.04	0	9
Summer	0.16	0.15	55	67	0.24	0.24	151	146	0.06	0.07	164	159	0.03	0.03	319	324

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

### ATMOSPHERIC ELECTRICITY

The disposition of the instruments and the arrangement of the tables recording the results remain substantially the same as described in the 1938 volume. The Wulf quartz-thread electrometer (N.3040) was calibrated in November. No material change had taken place since the previous calibration in October 1939.

### TERRESTRIAL MAGNETISM

Reference should be made to the 1938 volume for notes on the instruments and tables.

### NOTES ON THE RESULTS

Comparing mean values on all days of 1940 with those for 1939 it is noted that  $H$  increased by  $1\gamma$ ,  $D(\text{west})$  decreased by  $9.4'$  and  $V$  increased by  $31\gamma$ . The changes in the deduced quantities  $N$ ,  $W$ ,  $I$  and  $T$  are  $+12\gamma$ ,  $-44\gamma$ ,  $+0.7'$ ,  $+30\gamma$ . If these changes are compared with those for previous years the discontinuities introduced on January 1, 1934 in  $H$  and  $V$  and the components derived from them must be kept in mind.

The ranges between the extreme values recorded during 1939 were  $H$ ,  $2284\gamma$ ;  $D$ ,  $3^\circ 51.3'$ ;  $V$ ,  $1,678\gamma$ . The range of  $3^\circ 51.3'$  in declination is equivalent to a range of about  $1,110\gamma$  in the component of force perpendicular to the magnetic meridian.

Table I summarizes the magnetic character figures assigned locally and the international mean character figures. At the assembly of the International Association of Terrestrial Magnetism and Electricity at Washington in September 1939, a new measure of magnetic disturbance, the  $K$  index, was agreed upon. Measurements of  $K$  are now given in this volume replacing the former measure  $(HR_H + VR_V)10^{-4}$  in accordance with the International Association of Terrestrial Magnetism and Electricity circular letter dated January 20, 1940. The  $K$  index is fully described in *Terrestrial magnetism and atmospheric electricity*.\*

\* BARTELS, J., HECK, N.H., AND JOHNSTON, H.F.; The three-hour-range index measuring geomagnetic activity. *Terr. Magn. atmos. Elect.*, Baltimore. 44, 1939, p.411.



Briefly a figure is allotted, on a scale 0-9, to each 3-hr. interval. The figure is a measure of the range of magnetic force during that period, measured from a curved line which represents the normal quiet-day variation. The figures are first allotted from the H magnetogram and then increased, if necessary, by inspection of the D and V curves, so that the most disturbed component determines the final figure. The scale of ranges in  $\gamma$  corresponding to the figures 0-9 varies from observatory to observatory. The lower limit of each number for Eskdalemuir is

$K$	0	1	2	3	4	5	6	7	8	9
Range in $\gamma$	0	8	15	30	60	105	180	300	500	750

Table I has been slightly changed in form from previous years owing to the omission of  $(HR_H + VR_V)10^{-4}$ .  $K$  figures and their sums have been given for each day in the main tables but as it is considered that monthly means of  $K$  figures are not a good measure of activity they are not included.

TABLE I

	Magnetic character figures			Mean character figures	
	0 days	1 days	2 days	Eskdalemuir	International
January	11	18	2	0.71	0.84
February	14	15	0	0.52	0.71
March	14	10	7	0.77	0.81
April	14	11	5	0.70	0.69
May	10	20	1	0.71	0.68
June	13	15	2	0.63	0.72
July	15	15	1	0.55	0.62
August	11	20	0	0.65	0.63
September	11	17	2	0.70	0.70
October	14	14	3	0.65	0.71
November	12	16	2	0.67	0.79
December	17	13	1	0.48	0.78
Year					
1940	156	184	26	0.65	0.72
1939	167	172	26	0.61	0.77
1938	183	135	47	0.63	0.76
1937	116	205	44	0.81	0.73
1936	144	198	24	0.67	0.65
1935	130	212	23	0.71	0.67
1934	167	178	20	0.60	0.56
1933	156	175	34	0.67	0.64
1932	126	208	32	0.74	0.71
1931	137	208	20	0.68	0.66
1930	94	230	41	0.85	0.83

The values of mean absolute daily range for the months and seasons are brought together in Table II where for convenience of comparison the ranges of declination in angle have been converted to units of force of the component perpendicular to the magnetic meridian.

The frequency distribution of absolute daily ranges recorded in 1940 is shown in Table III which contains also the percentage distribution for 1940 and for the period 1916-26.



TABLE II — ABSOLUTE DAILY RANGE AND MEAN MONTHLY VALUES

	Mean absolute daily range						Mean daily range expressed as percentage of yearly mean					
	1940			Mean 1916-26			1940			Mean 1916-26		
	H	D	V	N	W	V	H	D	V	N	W	V
	γ	γ	γ	γ	γ	γ	%	%	%	%	%	%
January	103	104	65	69	73	39	84	101	86	80	88	81
February	71	82	46	69	76	38	58	80	61	80	92	80
March	322	203	205	95	94	57	264	197	270	110	113	119
April	137	107	93	98	88	54	112	104	122	114	106	113
May	108	89	63	102	88	59	89	86	83	119	106	123
June	142	100	80	92	85	46	116	97	105	107	102	96
July	108	84	54	86	82	43	89	82	71	100	99	90
August	106	87	54	98	88	55	87	84	71	114	106	115
September	102	98	74	100	92	63	84	95	97	116	111	131
October	92	100	69	94	93	57	75	97	91	109	112	119
November	91	99	66	62	66	34	75	96	87	72	80	71
December	78	87	48	60	64	33	64	84	63	70	77	69
Winter	86	93	56	65	70	36	70	90	74	76	84	75
Equinox	163	127	110	97	92	58	134	123	145	113	111	121
Summer	116	90	63	95	86	51	95	87	83	110	104	106
Year	122	103	76	86	83	48	..	..	..	..	..	..

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

TABLE III — FREQUENCY DISTRIBUTION OF ABSOLUTE DAILY RANGE

Range	Number of cases, 1940			Percentage distribution					
	H	D	V	H 1940	N 1916-26	D 1940	W 1916-26	V 1940	V 1916-26
γ				%	%	%	%	%	%
0 — 9	0	0	5	0.0	0.0	0.0	0.0	1.4	6.3
10 — 19	2	2	37	0.5	1.7	0.5	0.9	10.1	20.2
20 — 29	4	5	54	1.1	4.9	1.4	4.5	14.8	24.8
30 — 39	14	12	73	3.8	7.8	3.3	7.5	19.9	14.3
40 — 49	19	9	45	5.2	9.9	2.5	10.6	12.3	8.1
50 — 59	43	30	26	11.7	12.2	8.2	12.0	7.1	4.8
60 — 69	49	45	26	13.4	12.9	12.3	13.1	7.1	4.2
70 — 79	36	58	19	9.8	10.3	15.8	12.4	5.2	3.1
80 — 89	43	56	14	11.7	8.1	15.3	8.6	3.8	2.3
90 — 99	28	39	8	7.6	6.5	10.7	7.5	2.2	2.1
100 — 109	18	22	7	4.9	5.3	6.0	4.7	1.9	1.1
110 — 119	15	15	3	4.1	4.0	4.1	3.5	0.8	1.2
120 — 129	18	12	8	4.9	3.5	3.3	2.7	2.2	0.8
130 — 139	15	10	6	4.1	2.6	2.7	2.2	1.6	0.8
140 — 149	9	8	3	2.5	1.7	2.2	2.2	0.8	0.3
150 — 159	7	11	4	1.9	1.3	3.0	1.2	1.1	0.7
160 — 169	8	5	0	2.2	1.2	1.4	0.9	0.0	0.5
170 — 179	4	4	0	1.1	0.8	1.1	1.0	0.0	0.4
180 — 189	3	2	3	0.8	0.6	0.5	0.7	0.8	0.5
190 — 199	3	1	3	0.8	0.5	0.3	0.6	0.8	0.3
200 +	28	20	22	7.6	4.4	5.5	3.1	6.0	3.1
Days omitted	0	0	0	..	..	..	..	..	..



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 in Table IV, along with the 1940 values expressed as a percentage of the average values. The units employed are  $1\gamma$  for force and  $1'$  for declination.

TABLE IV - AVERAGE RANGE OF DIURNAL INEQUALITY 1916-26,  
WITH 1940 VALUE AS PERCENTAGE

		All days			International quiet days			International disturbed days		
		V	H	D	V	H	D	V	H	D
Year	1916-26	$21\cdot9$	$35\cdot6$	$8\cdot26$	$12\cdot0$	$33\cdot4$	$8\cdot10$	$64\cdot5$	$47\cdot5$	$11\cdot28$
	1940(%)	147	123	110	115	111	107	154	171	112
Winter	1916-26	$15\cdot9$	$18\cdot3$	$6\cdot31$	$5\cdot0$	$15\cdot3$	$4\cdot48$	$53\cdot9$	$28\cdot9$	$10\cdot82$
	1940(%)	172	113	118	122	114	87	154	103	101
Equinox	1916-26	$27\cdot2$	$39\cdot0$	$9\cdot57$	$13\cdot0$	$38\cdot4$	$9\cdot10$	$81\cdot0$	$53\cdot3$	$13\cdot82$
	1940(%)	158	140	111	97	113	113	194	302	128
Summer	1916-26	$26\cdot5$	$56\cdot1$	$11\cdot33$	$19\cdot9$	$47\cdot7$	$11\cdot18$	$68\cdot1$	$82\cdot6$	$12\cdot66$
	1940(%)	131	119	112	120	108	112	117	121	102

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

*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 adapted in consultation with representative mine surveyors, are: less than  $5'$ , between  $5'$  and  $15'$ , between  $15'$  and  $30'$ , and greater than  $30'$ . The range is less than  $5'$  in about 85 per cent. of the hourly periods. 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  $144\gamma$  in the component of horizontal force perpendicular to the magnetic meridian.

Number of cases per month, 1940

Range interval	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
5-15'	111	91	107	72	67	71	69	56	89	93	116	115	1057
15-30'	22	7	37	13	4	11	3	4	9	16	24	12	162
>30'	4	0	44	8	2	5	0	0	3	3	2	1	72

Hourly distribution, 1940

Range interval	Hour (G.M.T.) ending at																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
5-15'	70	64	43	44	42	41	30	24	24	23	29	37	33	21	26	28	52	49	54	58	64	73	63	65
15-30'	7	3	9	5	5	3	3	2	0	2	2	1	2	4	6	5	7	12	14	14	21	13	11	11
>30'	4	6	2	4	5	2	1	1	2	2	2	2	1	1	1	1	4	5	6	7	3	3	4	3

*Principal disturbances.*— Particulars of the principal magnetic disturbances recorded during the year are given in Table V. 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.



TABLE V - PRINCIPAL MAGNETIC DISTURBANCES RECORDED AT ESKDALEMUIR, 1940

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.	$\gamma$	d. h. m.	$\gamma$	d. h. m.	$\gamma$	d. h. m.		d. h. m.		d. h. m.	$\gamma$	d. h. m.	$\gamma$	d. h. m.	$\gamma$
1*	Jan. 3 14 40	Jan. 4 1	847	3 16 35	411	3 21 2	436	48.2	3 16 34	-9.3	3 21 5	57.5	1366	3 16 0	1001	4 0 44	365
2	Jan. 4 11	Jan. 5 7	595	4 20 57	428	4 11 50	167	11.2	4 12 22	-16.0	4 20 54	27.2	1075	4 15 34	983	5 4 59	92
3*	Jan. 10 10 19	Jan. 11 1	559	10 17 51	420	10 15 3	139	19.2	10 14 42	-13.0	10 20 52	32.2	1135	10 17 59	997	10 11 17	138
4*	Jan. 11 17 58	Jan. 12 23	595	11 20 11	430	12 21 35	165	9.4	12 12 17	-28.9	11 20 6	38.3	1085	11 19 59	979	12 4 10	106
5	Jan. 18 14	Jan. 18 24	811	18 17 10	347	18 18 27	464	18.5	18 15 30	-41.6	18 18 34	60.1	1297	18 17 10	1011	18 23 46	286
6	Jan. 31 13	Feb. 2 2	618	1 17 33	412	1 19 53	206	13.3	2 0 2	-22.5	1 17 25	35.8	1068	1 19 36	960	2 0 25	108
7	Feb. 24 22	Feb. 25 22	545	25 13 50	429	25 18 3	116	20.6	25 13 55	-16.1	25 4 22	36.7	1123	25 16 12	979	25 6 52	144
8	Mar. 12 16	Mar. 13 4	581	12 22 53	424	12 20 43	157	10.3	12 19 7	-19.1	12 22 46	29.4	1116	12 20 18	936	12 22 31	180
9	Mar. 19 13	Mar. 21 1	577	20 23 42	417	20 11 42	160	16.9	19 16 37	-15.1	20 18 39	32.0	1105	19 18 12	954	20 3 55	151
10*	Mar. 23 6 16	Mar. 28 5	1546	24 18 15	447	24 21 14	1993	131.2	25 1 26	-100.1	25 3 26	231.3	1528	25 0 30	150	24 18 21	1678
11	Mar. 29 12	Apr. 1 23	1671	29 17 8	613	30 4 8	2284	106.7	29 17 11	-75.8	30 4 5	182.5	1384	29 16 24	562	30 4 58	822
12	Apr. 2 19	Apr. 3 23	732	2 19 10	103	3 1 55	629	20.6	3 6 0	-45.1	3 3 39	65.7	1149	3 20 24	657	3 3 9	492
13	Apr. 21 20	Apr. 22 19	587	22 16 56	433	22 7 58	154	14.3	22 14 24	-10.0	22 0 1	24.3	1057	22 17 20	983	22 5 0	74
14*	Apr. 25 2 2	Apr. 26 4	609	25 17 56	24	26 0 32	585	37.2	25 3 33	-38.1	25 21 18	75.3	1161	25 19 40	693	26 0 33	468
15*	May 23 17 52	May 25 4	684	23 17 57	208	24 9 42	476	26.8	24 4 29	-19.5	23 20 23	46.3	1105	24 16 23	882	24 4 37	223
16	May 26 15	May 27 5	624	26 18 22	423	27 0 11	201	5.0	27 0 1	-24.6	27 0 50	29.6	1072	26 18 9	900	27 0 14	172
17	June 5 21	June 10 3	614	9 18 52	419	7 9 36	195	13.3	6 12 20	-18.7	6 2 27	32.0	1079	6 18 22	925	7 3 1	154
18*	June 14 8 0	June 15 20	674	14 16 57	388	14 23 15	286	13.2	15 4 32	-19.8	14 23 34	33.0	1096	15 16 56	908	15 4 52	188
19*	June 25 2 54	June 26 5	1203	25 13 51	368	25 12 59	835	38.4	25 3 22	-54.3	25 14 10	92.7	1482	25 14 9	899	25 3 40	583
20	July 3 11	July 4 7	585	3 19 53	428	3 23 56	157	7.1	3 13 43	-16.5	3 23 31	23.6	1056	3 19 44	960	3 24 0	96
21	July 13 9	July 14 8	682	13 13 48	419	13 10 14	263	16.9	13 15 0	-12.8	14 7 50	29.7	1151	13 14 1	982	14 4 12	169
22	Aug. 3 5	Aug. 3 24	670	3 14 44	405	3 15 10	265	13.1	3 16 54	-9.6	3 5 17	22.7	1132	3 15 9	1009	3 9 43	123
23	Aug. 9 6	Aug. 10 2	676	9 18 48	417	9 10 48	259	16.7	9 18 53	-20.6	9 19 27	37.3	1117	9 16 45	1014	9 6 22	103
24	Aug. 18 10	Aug. 19 1	652	18 17 4	486	18 10 4	166	12.0	18 16 52	-10.2	18 23 51	22.2	1120	18 18 6	1001	18 10 0	119
25*	Sept. 26 17 3	Sept. 27 6	660	26 17 19	408	26 19 40	252	15.7	26 23 3	-52.8	26 19 33	68.5	1222	26 18 37	812	27 1 11	410
26	Oct. 1 12	Oct. 1 21	598	1 18 10	283	1 19 30	315	11.2	1 14 20	-38.2	1 19 37	49.4	1222	1 18 15	965	1 19 41	257
27	Oct. 7 13	Oct. 9 1	613	8 23 22	373	7 20 58	240	17.5	7 18 0	-40.0	7 21 0	57.5	1282	7 18 11	852	8 2 49	430
28	Nov. 4 12	Nov. 5 7	537	5 5 6	434	4 20 43	103	12.2	4 17 18	-18.7	4 21 11	30.9	1172	4 18 26	979	4 23 56	193
29*	Nov. 12 7 5	Nov. 13 9	538	12 16 58	320	13 2 42	218	6.2	13 5 2	-36.0	13 0 13	42.2	1093	12 19 28	854	13 5 13	239
30*	Nov. 16 13 15	Nov. 16 24	588	16 18 22	445	16 16 39	143	2.0	16 17 52	-19.8	16 18 18	21.8	1090	16 20 20	1036	16 13 15	54
31*	Nov. 17 14 10	Nov. 18 1	585	17 22 26	416	17 19 29	169	4.8	17 17 23	-26.7	17 19 36	31.5	1109	17 19 32	1028	17 22 53	81
32	Nov. 20 21	Nov. 23 16	563	22 5 56	409	23 9 27	154	5.6	22 11 8	-26.8	22 21 2	32.4	1100	22 20 59	957	21 23 50	143
33	Nov. 25 9	Nov. 26 9	551	25 16 0	407	25 14 55	144	21.7	25 14 46	-31.7	25 22 5	53.4	1191	25 14 58	970	26 3 6	221
34	Nov. 29 13	Nov. 30 5	608	29 21 42	437	29 14 40	171	7.8	29 13 7	-28.7	29 21 39	36.5	1114	29 16 52	992	29 22 40	122
35	Dec. 20 9	Dec. 21 8	592	20 16 53	394	20 17 51	198	6.1	20 16 45	-40.9	20 17 8	47.0	1221	20 17 1	946	21 5 2	275

† Between 21h. 10m. and 21h. 14m.

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, 16000 $\gamma$ ; D, 13°; V, 44000 $\gamma$ .

## REMARKS ON MAGNETIC AND ALLIED PHENOMENA, 1940

The reversion towards quieter conditions from the maximum of disturbance which occurred between 1937 and 1938 was already evident in 1939, and during 1940 the process continued. In the notes which follow, the sunspot data have been extracted from an article in the *Observatory* for April 1941.

JANUARY (average character figure 0.71).— The month was a disturbed one. There were five periods worthy of note. Activity on the 3rd–4th and again on the 18th was pronounced, the respective ranges being H 436 $\gamma$ , D 57.5', V 390 $\gamma$ , and H 464 $\gamma$ , D 60.1', V 303 $\gamma$ .

January 1 was quiet. There was slight activity on the 2nd–3rd until 3d.14h.40m., at which time a sudden commencement occurred. After a few preliminary oscillations all three elements rapidly rose to their maxima, H reaching 16,847 $\gamma$  at 3d.16h.35m., D 13° 48.2' at 3d.16h.34m., and V 45,366 $\gamma$  at 3d.16h.0m. The disturbance decreased rather more gradually than it had developed and none of the components fell much below the normal value. The



minimum values and their times of occurrence were as follows:— H 16,411 $\gamma$  at 3d.21h.2m., D 12° 50.7' at 3d.21h.5m. and V 44,976 $\gamma$  at 3d.6h.26m. Quiet was restored about midnight of January 3-4, but in the course of the following 29 hours there were a few marked isolated oscillations, the most pronounced of which gave a maximum of 16,595 $\gamma$  in H at 4d.20h.57m., the minimum being 16,428 $\gamma$  at 4d.11h.50m. There were also noteworthy isolated oscillations in H and D on the 6th, 7th and 9th. In connexion with this disturbance it may be noted that a large sunspot had its central meridian passage at 5.5d.

On the 10th general activity recurred. This set in at about 10d.13h. It consisted chiefly of an increase in V and moderate oscillations in H and D. The rise in V started at about 10d.14h., and from 10d.15h. to 10d.18h. the value remained fairly steady with a maximum of 45,135 $\gamma$  at 10d.17h.59m., afterwards returning gradually to the normal value which was reached at about midnight. The oscillations in H ranged between 16,559 $\gamma$  at 10d.17h.51m. and 16,420 $\gamma$  at 10d.15h.3m., and those of D between 13° 19.2' at 10d.14h.42m. and 12° 47.0' at 10d.20h.52m.

There was disturbance of a more or less similar nature on the 11th-12th, with a sudden commencement at 11d.17h.58m. The extreme values were as follows:— H, maximum 16,595 $\gamma$  at 11d.20h.11m., minimum 16,430 $\gamma$  at 12d.21h.35m.; D 13° 9.4' at 12d.12h.17m. and 12° 31.1' at 11d.20h.6m.; and V 45,085 $\gamma$  at 11d.19h.59m. and 44,979 $\gamma$  at 12d.4h.10m. This unsettled period may be said to have finished at about midnight of the 12th-13th.

Quiet reigned from the 13th to 16th on which day slight activity reappeared. This led up to the pronounced disturbance of the 18th. The disturbance began at about 18d.14h. It consisted mainly of a rise in V and falls in H and D with some decided oscillations. The recovery was fairly uniform in all three elements and quiet was restored by about midnight. The oscillations in H gave a maximum of 16,811 $\gamma$  at 18d.17h.10m. and a minimum of 16,347 $\gamma$  at 18d.18h.27m., and those of D 13° 18.5' at 18d.15h.30m. and 12° 18.4' at 18d.18h.34m. The vertical force increased to 45,297 $\gamma$  at 18d.17h.10m. and fell off again to 44,994 $\gamma$ , i.e. about its normal value, by about midnight.

There was no outstanding feature in the traces from the 18th to 29th, but on the 29th there was a considerable rise and fall of V and D in the evening. Conditions were slightly disturbed on the 30th, increasingly so on the 31st, and there were a few pronounced oscillations in H and D on February 1. The maximum recorded in H was 16,618 $\gamma$  at 1d.17h.33m. and the minimum 16,412 $\gamma$  at 1d.19h.53m. Similar data for D were 13° 13.3' at 2d.0h.2m. and 12° 37.5' at 1d.17h.25m.; and for V, 45,068 $\gamma$  at 1d.19h.36m. and 44,960 $\gamma$  at 2d.0h.25m. The disturbance may be said to have ceased at about 2d.2h.

FEBRUARY (average character figure 0.52).— The month was quiet magnetically with 14 days marked 0 and no day marked 2. The only ranges worthy of note occurred in the disturbance of January-February mentioned above, and on the 24th-25th. They were as follows:— January 31 — February 2, H 206 $\gamma$ , D 35.8', V 108 $\gamma$ ; February 24-25, H 139 $\gamma$ , D 36.7', V 144 $\gamma$ .

Until the 20th the only outstanding features were isolated oscillations exceeding 100 $\gamma$  in H and 25' in D on the evening of the 3rd and the marked quietness of the period 14th-19th. Conditions became slightly active again in the early morning of the 20th and continued so during the ensuing few days. The culmination was reached on the 25th with some moderate oscillations in H, a pronounced increase in the daily range of D and a moderate increase of V. The oscillations of H occurred between 25d.12h. and 25d.18h. with a maximum in H of 16,545 $\gamma$  at 25d.13h.50m. and minimum of 16,429 $\gamma$  at 25d.18h.3m. The value of D rose from 12° 43.9' at 25d.4h.22m. fairly steadily to 13° 20.6' at 25d.13h.55m. The change in V was of about the same duration as that in H. It consisted of an increase to a fairly uniform value from 25d.15h. to 25d.18h. touching 45,123 $\gamma$  at 25d.16h.12m., and subsequently a steady return which brought the value back to about normal at 25d.22h. There was no very noticeable feature in the remaining few days of the month.

MARCH (average character figure 0.77).— This month was marked by two major storms and two periods of moderate disturbance. The ranges were:



	H	D	V
12th-13th	157 $\gamma$	29.4'	180 $\gamma$
19th-21st	160 $\gamma$	32.0'	151 $\gamma$
23rd-28th	over 1,993 $\gamma$	231.3'	1,678 $\gamma$
Mar. 29 - Apr. 1	2,284 $\gamma$	182.5'	822 $\gamma$

The quiet conditions of late February persisted until 8d.19h. when moderate disturbance set in and lasted till 9d.5h. Thereafter quiet reigned again until 12d.16h. at which time oscillatory decreases began in H and D and a steady increase in V. Quiet and normal values were restored however by 13d.4h. The maxima and minima were respectively: - H 16,581 $\gamma$  at 12d.22h.53m., 16,424 $\gamma$  at 12d.20h.43m., D 13° 10.3' at 12d.19h.7m., 12° 40.9' at 12d.22h.46m., V 45,116 $\gamma$  at 12d.20h.18m., 44,936 $\gamma$  at 12d.22h.31m. There was no very marked feature in the traces thence until the 19th. On this day V began to increase gradually at 19d.13h., reached a maximum of 45,105 $\gamma$  at 19d.18h.12m. and shortly before 19d.20h. began a slow decrease, reaching about normal again by 20d.6h., after a slight dip to 44,954 $\gamma$  at 20d.3h.55m. Meanwhile there were a few moderate oscillations in H giving values between 16,577 $\gamma$  at 20d.23h.42m. and 16,417 $\gamma$  at 20d.12h.50m. and a slow oscillation in D from 13° 16.9' at 19d.16h.37m. to 13° 14.5' at 20d.0h.7m. Moderate activity continued until about midnight on the 20th-21st, but the 22nd was on the whole quiet.

At 23d.6h.16m. a sudden commencement introduced a period of rapid small oscillations, and between 23d.20h. and 23d.21h. all three elements began a pronounced decrease. This took V down to 44,753 $\gamma$  at 23d.23h.17m. with a range for the day of 297 $\gamma$ . Accompanying the low value of V were one or two oscillations in H covering a range of 371 $\gamma$  and in D covering a range of 60.6'. The V component recovered fairly steadily to about normal by 24d.8h., and thence until about 24d.14h. there was nothing more than rapid oscillations in H and D. The storm then set in. The V component increased and the oscillations of H and D became more marked until about 24d.15h.30m. which brought the onset of really violent oscillation. The first violent phase lasted until 24d.18h. H reached 17,546 $\gamma$  at 24d.19h.15m. and was below 15,553 $\gamma$  between 21h.10m. and 21h.14m.; D was 14° 50.5' at 24d.18h.28m. and 11° 42.4' at 24d.21h.10m.; while V was 45,211 $\gamma$  at 24d.15h.54m. and 43,850 $\gamma$  at 24d.18h.21m. There was a decided decrease in violence from 24d.19h. to midnight, a revival until 25d.5h. and continued large oscillations in H and D till 25d.11h. The maximum and minimum of D were 15° 11.2' at 25d.1h.26m. and 11° 19.9' at 25d.3h.26m. and the maximum of V 45,528 $\gamma$  at 25d.0h.30m. A relatively quiet spell from 25d.11h. to 25d.20h. was followed by a large decrease in H and V with major oscillations in all three elements. This phase lasted until about 26d.5h. There were some moderate oscillations of decreasing amplitude on the 26th, 27th and 28th, but on the 29th another violent, though not equally violent, storm occurred. It may be noted that a large sunspot crossed the central meridian of the sun at about 26.3d.

The storm of March 29 - April 1 began with increasing V and H at about 29d.12h. Large oscillations set in shortly before 29d.16h., more especially in H. They were less rapid than in the preceding storm. A comparative lull occurred from about 29d.18h. to 29d.22h. This was followed by a period of larger and more rapid oscillations than those of the first phase, lasting until about 30d.5h. In this storm H ranged from 17,671 $\gamma$  at 29d.17h.8m. to 15,387 $\gamma$  at 30d.4h.8m., D from 14° 46.7' at 29d.17h.11m. to 11° 44.2' at 30d.4h.5m., and V from 45,384 $\gamma$  at 29d.16h.24m. to 44,562 $\gamma$  at 30d.4h.58m. The violent oscillations were superposed on an increase in all three elements during the first phase, and on a decrease in the phase following the lull. The disturbance recurred, still with considerable violence, on March 30-31 and again, with changing character in the day hours, 10h. to 18h., of the 31st. There was however a marked decrease on April 1, and quiet was temporarily restored by midnight of April 1-2.

APRIL (average character figure 0.70).— The month was rather quiet apart from two periods of marked activity. These were the 1st - 4th and the 25th - 26th, the corresponding ranges being H 629 $\gamma$ , D 65.7', V 492 $\gamma$  and H 585 $\gamma$ , D 75.3', V 468 $\gamma$ .



A brief period of quiet from midnight of April 1-2 lasted until about 2d.19h. Oscillatory decreases of all these elements, especially H and V, then set in, leading to minimum values as follows:- H 16,103 $\gamma$  at 3d.1h.55m., D 12° 14.9' at 3d.3h.39m. and V 44,657 $\gamma$  at 3d.3h.9m. The maximum of H, 16,732 $\gamma$ , occurred in an introductory single large oscillation at 2d.19h.10m.; that of D was a not very marked one, amounting to 13° 20.6' at 3d.6h.0m.; while that of V, 45,149 $\gamma$ , was not recorded until 3d.20h.24m. Relative quiet was restored at about 4d.3h.

There was some slight to moderate activity on the 15th-16th and from the 21st onwards; otherwise conditions remained mainly quiet until at 25d.2h.2m. a sudden commencement introduced fresh disturbance. The values of H and V rapidly dropped to 16,203 $\gamma$  at 25d.3h.44m. and 44,719 $\gamma$  at 25d.4h.22m. respectively, returning to about normal again by about 25d.6h.; while D, after a rise to 13° 37.2' at 25d.3h.33m., dropped somewhat below normal at about 25d.4h.40m. but was normal again by about 25d.5h.30m. This disturbance was only introductory; the main disturbance started about 25d.17h., and was mainly a decrease (with superposed oscillations) in all three elements. After increasing somewhat at 25d.18h., H experienced an oscillatory decrease culminating in a sharp drop to 16,024 $\gamma$  at 26d.0h.32m.; thereafter the recovery was equally rapid and the normal value was regained by about 26d.3h. The V component increased steadily to a moderate maximum of 45,161 $\gamma$  at 25d.19h.40m. before the principal change which reduced it to 44,693 $\gamma$  by 26d.0h.33m. Thereafter, like H, it recovered quickly and was about normal again by 6h. The disturbance in D consisted mainly of oscillations without great general increase or decrease, and the oscillations were smaller than those of the early morning. Conditions continued to be disturbed but on a decreasing scale until the 29th and thereafter were relatively quiet.

MAY (average character figure 0.71).— This month was fairly quiet, but had a higher average character figure than April owing to more frequent minor disturbances. The principal disturbed period was the 23rd-24th in which the ranges were H 476 $\gamma$ , D 46.3', V 223 $\gamma$ . There was also considerable disturbance on the 26th-27th.

Only slight activity was recorded during the first ten days. The next eleven days were less quiet, without however more than a few moderate oscillations. On the 22nd there was increased moderate disturbance, and at 23d.17h.55m. a strongly marked sudden commencement introduced a disturbance distinguished by rather large deviations in H without violent oscillations. The maximum value of H, 16,684 $\gamma$  at 23d.17h.57m., occurred in this sudden commencement. After moderate oscillations between 23d.18h. and 23d.21h. during which D fell sharply to 12° 40.5' at 23d.20h.23m. — its minimum for the period — the traces were steady until 24d.3h. Decided fairly rapid decreases then occurred in H and V while D increased. The minimum value of V, 44,882 $\gamma$  at 24d.4h.37m., and the maximum of D, 13° 26.8' at 24d.4h.29m., occurred here. Both H and D recovered sharply, but the recovery in V was gradual. A renewed decrease of H set in again immediately. It was accompanied by a less marked increase in D, and continued until after 24d.9h. when another sharp fall of H gave a minimum of 16,208 $\gamma$  at 24d.9h.42m. Thereafter a progressive rise of H and V and a decrease of D lasted until the evening, the maximum value of V, 45,105 $\gamma$ , being recorded at 24d.16h.23m. and a subsidiary maximum of H between 24d.18h. and 24d.19h. The disturbance may be said to have ceased at about 25d.4h.

The 25th showed only moderate disturbance with accentuated daily variation, but at 26d.1h.19m. a sudden commencement occurred, and there was a renewal of fairly strong disturbance in the afternoon. There was a gradual increase in V from 26d.12h. to 26d.18h. giving a maximum of 45,072 $\gamma$  at 18h.9m. followed by a more rapid decrease to the minimum of 44,900 $\gamma$  at 27d.0h.14m. and a gradual recovery to normal by about 27d.5h. The variation in H included a marked rise from about 26d.15h. to 26d.17h.30m., a moderate dip and recovery at 26d.18h., followed by a progressive fall closing with three moderate oscillations shortly after midnight, i.e. at the same time as the minimum in V. There was no residual low value of H. Changes in D were not very marked until midnight, when the minimum of V and the oscillations of H were accompanied by three moderate oscillations in D. During the next three days there was only slight activity and the end of the month was quiet.



JUNE (average character figure 0.63).— The month was in general moderately disturbed, but there was less minor activity than in May. A storm occurred on the 25th–26th in which the ranges were H 835 $\gamma$ , D 1° 32.7', V 583 $\gamma$ .

Quiet conditions or only slight disturbance prevailed until the 5th. On that date the daily variation increased and moderate disturbance set in at night. The accentuated daily range and moderate oscillation lasted until the 10th, when quiet was restored. During the disturbed period H varied from 16,614 $\gamma$  at 9d.18h.52m. to 16,419 $\gamma$  at 7d.9h.36m., D from 13° 13.3' at 6d.12h.20m. to 12° 41.3' at 6d.2h.27m. and V from 45,079 $\gamma$  at 6d.18h.22m. to 44,925 $\gamma$  at 7d.3h.1m.

The quiet spell then lasted until the 14th, when a sudden commencement at 14d.8h.0m. introduced a more definite disturbance. The chief changes in H were an oscillatory increase from about 14d.12h.30m. to the maximum, 16,674 $\gamma$ , at 14d.16h.57m., followed by a progressive fall ending with a pronounced oscillation at 14d.22h. There was a recurrence on a much smaller scale during the following day. The other two elements experienced slow increases, decreases and recovery ending at about 15d.6h., and also recurrences on the 15th, in fact the peak in V on this day was higher than on the 14th. The extreme values were D 13° 13.2' at 15d.4h.32m., and 12° 40.2' at 14d.23h.34m. and V 45,096 $\gamma$  at 15d.16h.56m., and 44,908 $\gamma$  at 15d.4h.52m. This disturbance was possibly associated with a large sunspot which crossed the sun's central meridian at 12.8d.

Activity was on a decreasing scale from the 15th to 17th and there were a few quiet days from the 18th to 20th. A sudden oscillation at 22d.10h.50m. introduced slight activity once more. Following this, on the 24th the daily range increased, and at 25d.2h.54m. there was a sudden commencement. A single marked oscillation in H, an increase and return to normal in D, and a decrease in V followed by gradual recovery occurred very shortly after the sudden commencement. The maximum D, 13° 38.4' at 25d.3h.22m., and minimum V, 44,899 $\gamma$  at 25d.3h.40m., were recorded here. Pronounced rapid oscillations of H started at about 9h. and reached their greatest violence between 13h. and 15h. The maximum and minimum of H, 17,203 $\gamma$  at 25d.13h.51m. and 16,368 $\gamma$  at 25d.12h.59m., were recorded in this period. Subsequently there were two large slow oscillations from about normal to very high values and back. The second of these terminated at 25d.20h. and subsequent disturbance was only slight. In V the principal change started with a steady rise between 25d.12h. and 25d.14h. when there was a sudden increase which gave the maximum of 45,482 $\gamma$  at 25d.14h.9m. Thereafter V remained high (with two moderate slow oscillations accompanying those of H) until towards 25d.19h., from which time there was a progressive fall leading back to normal values by about midnight. The principal oscillation in D occurred during the strong disturbance of H, and the minimum value, 12° 5.7', was recorded at 25d.14h.10m. There was also a marked oscillation shortly before 25d.19h. at the beginning of the fall in V. In general however the disturbance of D was on a much smaller scale than that of H. On the following day there was a very pronounced rapid oscillation of H giving a maximum 16,711 $\gamma$  at 26d.17h.31m. The changes in D and V were small, and otherwise disturbance was only slight. June 27 was relatively quiet, but there were marked temporary increases of H on the evenings of the 28th and 29th and a few moderate slow oscillations on the 29th and 30th. During this disturbance two groups of spots (central meridian passage of the larger group at 25.3d.) were passing across the sun's disc.

JULY (average character figure 0.55).— July was a relatively quiet month, with 15 days characterized as 0. There was however one major disturbance which gave ranges 263 $\gamma$  in H, 29.7' in D and 169 $\gamma$  in V.

The month opened fairly quiet, but on the 3rd a disturbance set in which was characterized more by increased daily range than by large short-period changes. The range of H exceeded 100 $\gamma$  every day until the 11th, the greatest values being 157 $\gamma$  (with maximum 16,585 $\gamma$  at 3d.19h.53m. and minimum 16,428 $\gamma$  at 3d.23h.56m.) and 165 $\gamma$  (maximum 16,579 $\gamma$  at 10d.15h.23m. and minimum 16,414 $\gamma$  at 10d.11h.7m.). The extremes during this period were: H 16,609 $\gamma$  at 9d.18h.21m. and 16,414 $\gamma$  at 10d.11h.7m., D 13° 7.8' at 5d.14h.55m. and 12° 42.6' at 4d.23h.28m., V 45,074 $\gamma$  at 10d.18h.22m. and 44,936 $\gamma$  at 4d.0h.27m.



The 11th and 12th were relatively quiet and the range of H decreased to 90 $\gamma$  and 70 $\gamma$  respectively, but at 13d.9h. an oscillatory disturbance set in. This was most marked in H, fairly rapid oscillations continuing until about 13d.18h. with a maximum of 16,682 $\gamma$  at 13d.13h.48m. and minimum 16,419 $\gamma$  at 13d.10h.14m. The oscillations and extremes in D were much less marked. In V the changes consisted of a more or less steady increase from normal at noon to 45,151 $\gamma$  at 13d.14h.1m. with no great change thereafter until 13d.19h., when an undulating decrease set in and restored normal values at about 14d.6h. The main disturbance may be said to have terminated at about 14d.8h. shortly after D had reached its minimum, but conditions remained slightly disturbed and the daily range more than 100 $\gamma$  until the 15th. A large sunspot (central meridian passage at 16.3d) was present during this disturbance. From the 16th until the end of the month there was only slight activity except on the 30th which showed a few moderate peaks in H.

AUGUST (average character figure 0.65).— There were no major disturbances in August, but a greater number of moderately disturbed days gave a rather larger average character figure than that of June.

There was slight disturbance on the 2nd with a rather marked oscillation in all three elements at about 2d.19h. to 2d.20h. This was followed on the 3rd by two decided oscillations in H between 3d.14h. and 3d.17h. giving a range of 265 $\gamma$ , and by a rather marked peak reaching 45,123 $\gamma$  in V with a range of 123 $\gamma$  for the day. The disturbance was not noticeable in H outside the interval 3d.13h. to 3d.19h., but in V there was a progressive rise from about 3d.11h. to a peak at 3d.15h.9m., a more or less uniform high value until about 3d.17h., and then a slow fall back to normal which was reached at about 4d.2h. A large spot crossed the sun's central meridian at 3.9d.

No really quiet day occurred between the 4th and 9th though activity was mainly slight with only a few changes of moderate amount. At about 9d.11h. however there set in a serrated rise in the H trace which lasted until about 9d.16h., and was followed between 9d.18h. and 9d.20h. by a few marked oscillations. The maximum H for the day 16,676 $\gamma$  occurred at 9d.18h.48m. in the sharp increase of the first oscillation, and the succeeding sharp fall nearly reached the day's minimum of 16,417 $\gamma$  which was actually recorded at 9d.10h.48m. There were very similar oscillations in D with a maximum of 13° 16.7' at 9d.18h.53m. and minimum 12° 39.4' at 9d.19h.27m. The changes of V resembled those of H in general trend but were less than half as large. The maximum, 45,117 $\gamma$ , was reached at 9d.16h.45m., but there was no marked minimum. The disturbance may be said to have terminated by 9d.21h. During this disturbed period there were three groups of spots on the sun, the largest of these having its central meridian passage at 12.6d.

From the 10th to 14th activity was mainly slight, and this was followed by three quiet days from the 15th to 17th. On the 18th however disturbance gave peaks reaching 16,652 $\gamma$  in H at 18d.17h.4m., 13° 12.0' in D at 18d.16h.52m. and 18d.17h.12m. and 45,120 $\gamma$  in V at 18d.18h.6m. There were no decided minima, the changes being a more or less steady rise from about 18d.10h. and fall to about 19d.1h.; the overall ranges for the day were 166 $\gamma$  in H, 22.2' in D and 119 $\gamma$  in V. Slight activity continued thereafter until the 23rd, with nothing more noticeable than single deviations in all three traces at about 22d.19h. The 24th was a very quiet day, but the remainder of the month was more or less disturbed, the disturbance being most marked on the 26th.

SEPTEMBER (average character figure 0.70).— The month was rather more disturbed than August, having two days characterized as 2, and the same number (eleven) of 0 days.

There was a considerable amount of disturbance of moderate amplitude during the first nine days including a large daily range of 151 $\gamma$  in H and 158 $\gamma$  in V on the 7th. This was followed by a quiet or only slightly disturbed period with nothing more than a few moderate deviations in the traces on the 14th, 16th, 20th and 25th. Soon after 26d.17h., however, a rapid increase of H occurred accompanied by a less rapid increase of V and decrease of D. The maximum of H, 16,660 $\gamma$ , was reached at 26d.17h.19m. and was followed by an oscillatory decrease to the minimum of 16,408 $\gamma$  at 26d.19h.40m. The general oscillation was not so marked in D as in H, but there was a very decided dip to the minimum 12° 7.2' at 26d.19h.33m. and a sharp though smaller rise to the maximum 13° 15.7' at 26d.23h.3m.



In V the principal features were a blunt peak (45,222 $\gamma$  at 26d.18h.37m.) between 26d.18h. and 26d.20h. and a dip to 44,812 $\gamma$  at 27d.1h.11m. This dip was followed by a gradual recovery, and all three elements were about normal again by 27d.6h. There was considerable disturbance between about the same hours on the succeeding night, but on the night of the 28th-29th there was only a single very marked feature, namely a sharp oscillation in H up to 16,624 $\gamma$  at 28d.18h.42m. The remaining two days of the month were only slightly disturbed.

OCTOBER (average character figure 0.65).— October had fourteen 0 days and three 2 days, so that conditions were more variable than in the period extending back to the beginning of May.

There was a disturbance of short duration on October 1 from about noon until 21h. A slow oscillatory increase in H led to a sharp peak of 16,598 $\gamma$  at 1d.18h.10m. followed about an hour later by a sharp dip to 16,283 $\gamma$  at 1d.19h.30m. There was little subsequent disturbance. In D there was a decrease from about 1d.15h., terminating in a few fairly marked oscillations with a minimum of 12° 21.8' at 1d.19h.37m., followed by recovery more or less similar to that of H. The change in V consisted of a slow increase until 1d.16h., a more rapid increase to 45,222 $\gamma$  at 1d.18h.15m. followed by a stepped decrease and a few oscillations down to 45,965 $\gamma$  at 1d.19h.41m., the recovery in this case also being rapid.

From the 2nd to 7th, apart from moderate isolated deviations in the traces at about 3d.18h., 4d.3h., and 6d.22h. there was no outstanding activity. At about 7d.13h. however there set in a disturbance which was specially marked in V. A progressive increase in this element culminated in a sharper increase to a maximum of 45,282 $\gamma$  at 7d.18h.11m. This was followed at once by a more or less uniform decrease (interrupted only by a sharp dip and recovery at about 7d.21h.) to the minimum of 44,852 $\gamma$  at 8d.2h.49m. The subsequent rise to about the normal value by 8d.9h. was without special feature. The rise was however continued beyond the normal value to a blunt peak of 45,164 $\gamma$  at 8d.19h.18m. The disturbance ended at about 9d.1h. The oscillations in H were not large or rapid, but the diurnal variation was reversed, and low values accompanied by moderate oscillation persisted with little interruption from 7d.19h. to about 8d.12h. There was an isolated peak at about 8d.3h.25m. but the maximum (16,613 $\gamma$ ) occurred in another isolated peak at 8d.23h.22m. only a short time before the end of the disturbance. The minimum (16,373 $\gamma$ ) was recorded at 7d.20h.58m. The disturbance was more marked in D than in H. In this element there was a slow oscillatory increase to the maximum of 13° 17.5' which accompanied the maximum of V at 7d.18h.0m. followed by a rather more rapid decrease until about 8d.2h. The course of this decrease was broken by a marked oscillation accompanying breaks in the run of the other two traces. This gave the minimum of the disturbance, 12° 20.0', 7d.21h.0m. Normal values were regained during the forenoon of the 8th, but the disturbance was not over until about 9d.1h.

After the 8th there was no marked activity until the night of the 25th-26th when the traces were rather serrated and there were moderate deviations towards midnight. On the 26th there was considerable, but not large, disturbance which gave ranges of 136 $\gamma$ , 38.2' and 127 $\gamma$  in H, D and V respectively. The next three days were but slightly disturbed and the month ended quietly.

NOVEMBER (average character figure 0.67).— The month may be described like June as on the whole moderately disturbed with two days characterized as 2 and twelve days as 0.

Conditions remained fairly quiet until the 4th on which day there was a range of 193 $\gamma$  in V between a maximum of 45,172 $\gamma$  at 4d.18h.26m. and a minimum of 44,979 $\gamma$  at 4d.23h.56m. The range of D reached 30.9' and that of H, 115 $\gamma$ . The oscillations were only moderate. Relative quiet then prevailed again until the 12th on which day at 7h.5m. a sudden commencement of small amplitude introduced a period of activity which became considerable on the 13th and lasted until about 13d.9h. The traces of H and D were serrated until about 12d.21h. between which time and 13d.7h. all three elements showed rather low values with a few fairly large deviations. The maximum of H (16,538 $\gamma$ ) occurred at 12d.16h.58m. more or less in the ordinary course of the daily variation, but the minimum (16,320 $\gamma$ ) was at 13d.2h.42m. during the more disturbed period. A similar remark applies to both D and V



whose maxima were respectively  $13^{\circ} 6.2'$  and  $45,093\gamma$  at 13d.5h.2m. and 12d.19h.28m., while their minima were  $12^{\circ} 24.0'$  and  $44,854\gamma$  at 13d.0h.13m. and 13d.5h.13m.

The next noteworthy disturbance was introduced by a sudden commencement at 16d.13h.15m. It lasted until about midnight giving a range of  $143\gamma$  in H, and recurred on the following afternoon and night with a less clearly defined sudden commencement at 14h.10m. but somewhat greater intensity. The maximum of H reached  $16,588\gamma$  at 16d.18h.22m. and  $16,585\gamma$  at 17d.22h.26m., and the minimum was  $16,416\gamma$  at 17d.19h.29m. The highest and lowest values of D and V occurred on the 17th, the maxima being  $13^{\circ} 4.8'$  and  $45,109\gamma$  at 7d.17h.23m. and 17d.19h.32m. respectively, and the minima  $12^{\circ} 33.3'$  and  $45,028\gamma$  at 17d.19h.36m. and 17d.22h.53m. The disturbance may be said to have terminated by about 18d.1h.

Moderate activity occurred again on the night of the 20th–21st and the succeeding two nights, the ranges exceeding  $100\gamma$  on all three days and  $30'$  on the 22nd, but there was no very outstanding feature. Marked though not strong disturbance was recorded also on the 25th–26th. It began at about 25d.8h., and its effect was greatest in D. The maximum D,  $13^{\circ} 21.7'$ , occurred in a fairly sharp peak at 25d.14h.46m., and the minimum,  $12^{\circ} 28.3'$ , at 25d.22h.5m. There was a decided peak,  $45,191\gamma$ , in V at 25d.14h.58m. followed by a subsidiary one at about 25d.16h.20m. These had their counterparts in low values of H and high values of D, and it was at 25d.14h.55m. that the minimum,  $16,407\gamma$ , of H was recorded. The maximum value of H occurred as part of the oscillation at this time. It was  $16,551\gamma$  at 25d.16h.0m. After the peaks in V this element showed a gradual and fairly continuous fall to  $44,970\gamma$  at 26d.3h.6m. followed by a steady recovery to about normal by 26d.9h. Conditions continued to be more or less disturbed during the remainder of the month, but only on the 29th did the disturbance become marked. On this day H reached  $16,608\gamma$  in a sharp oscillation at 29d.21h.42m., and its minimum was  $16,437\gamma$  at 29d.14h.40m. The maximum D was  $13^{\circ} 7.8'$  at 29d.13h.7m. and the minimum  $12^{\circ} 31.3'$  at 29d.21h.39m.; while those of V were  $45,114\gamma$  at 29d.16h.52m. and  $44,992\gamma$  at 29d.22h.40m. The main part of the disturbance lasted from about 29d.13h. to midnight.

DECEMBER (average character figure 0.48).— The month was relatively quiet, with seventeen 0 days. It also had however one 2 day.

The activity which existed at the end of November continued into December, and increased to moderate on the 2nd when the range in H reached  $107\gamma$ . There was also moderate activity on the 3rd with a range of  $28.3'$  in D. By the 5th however conditions had become quiet, and they continued so until the 9th. There was then slight general activity until the night of the 11th–12th, when a definite though not strong disturbance occurred between about 11d.20h. and 12d.4h. After two days of reduced activity there was again a definite disturbance between 14d.16h. and 15d.2h. This gave a range of  $114\gamma$  in H. There were a few moderate deviations of the traces on the 15th–16th and smaller ones early on the 18th followed by a relatively quiet period until about 19d.22h. Slight activity was then renewed and this increased on the 20th. During this day, starting at about 20d.9h. there was considerable disturbance in all three elements, with some marked oscillations. The main disturbance may be said to have lasted until 21d.7h. The maxima all occurred in sharp peaks. That of H was  $16,592\gamma$  at 20d.16h.53m., while that of D was  $13^{\circ} 6.1'$  at 20d.16h.45m., and that of V an isolated peak reaching  $45,221\gamma$  at 20d.17h.1m. The minima of H and D occurred soon after these maxima, being respectively  $16,394\gamma$  at 20d.17h.51m. and  $12^{\circ} 19.1'$  at 20d.17h.8m. The minimum of V however,  $44,946\gamma$  was recorded at the end of a long slow fall lasting till 21d.5h.2m. There were a few sharp isolated peaks and depressions during the following three days. The most marked ones gave first a high value of H,  $16,609\gamma$  at 21d.20h.42m. with a low value of D,  $12^{\circ} 32'$ , at 21d.20h.40m., second a low value of H,  $16,400\gamma$ , at 22d.12h.33m., and third a low value of D,  $12^{\circ} 30.6'$ , at 23d.19h.33m. followed by a high value of H,  $16,588\gamma$ , at 23d.19h.49m. Thereafter slight to moderate activity continued for the rest of the month, the most marked features of which were a bay in D giving a minimum of  $12^{\circ} 26.1'$  at 28d.21h.31m., a decrease of H to  $16,413\gamma$  at 30d.8h.16m. followed by a bay in D giving  $12^{\circ} 35.0'$  at 30d.18h.54m., and more or less simultaneous deviations of all three traces to  $16,440\gamma$  (decrease)  $13^{\circ} 4.0'$  (increase) and  $44,990\gamma$  (decrease) at about 31d.2h. There was also a slight definite disturbance during the afternoon and evening of the 31st, which together with the marked deviations of the early morning gave ranges of  $133\gamma$  in H and  $106\gamma$  in V on this day.



## PRESSURE AT STATION LEVEL

75

Maximum, minimum and daily mean values in millibars for each day 0h. to 24h., G.M.T.  
The initial 9 or 10 of the values is omitted, i.e. 1005'61 is printed 05'61

80 ESKDALEUIR:  $h_b$  (height of barometer cistern above M.S.L.) = 237'3 m.

1940

	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE		
	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean
	<i>millibars</i>																	
1	93'5	89'4	91'6	75'6	69'0	71'0	80'6	08'2	09'3	78'5	66'2	71'6	83'8	79'1	81'3	97'9	95'1	96'3
2	93'2	85'4	89'9	83'4	75'6	80'5	09'7	05'1	07'4	79'1	74'0	77'3	85'2	83'5	84'3	98'5	97'3	97'8
3	85'4	82'0	83'1	83'1	71'7	78'1	05'3	97'9	01'1	74'0	70'4	71'4	85'6	83'7	84'7	99'1	97'2	98'2
4	82'7	80'7	81'5	73'1	66'9	69'5	98'4	90'3	93'3	81'4	69'7	73'0	91'3	85'3	87'6	99'1	96'8	98'2
5	84'4	81'8	82'9	82'4	73'1	78'7	99'4	94'2	96'8	98'3	81'4	92'4	92'1	89'2	90'6	99'3	96'4	98'2
6	84'1	81'4	82'9	84'2	81'5	83'0	99'4	96'3	98'1	98'4	91'7	96'0	93'4	89'1	92'3	97'5	95'1	96'6
7	86'2	80'9	82'6	81'5	74'8	77'4	96'3	89'7	92'7	91'7	84'3	86'8	92'6	90'0	90'9	96'5	94'4	95'4
8	00'7	86'2	93'4	89'9	81'4	87'2	89'8	86'3	87'6	98'5	85'6	92'6	94'2	90'1	92'1	94'9	91'1	92'9
9	06'9	00'6	04'6	90'0	88'8	89'4	86'8	85'1	85'9	00'7	96'2	98'0	95'4	93'9	94'7	91'1	86'5	88'6
10	07'4	05'9	06'5	89'9	87'6	88'9	86'4	81'7	84'3	05'1	00'7	03'9	95'9	93'2	94'1	86'5	83'8	85'0
11	09'1	07'0	08'2	90'9	86'9	88'8	81'7	65'5	74'2	04'2	91'3	98'9	99'9	95'9	98'7	86'0	81'8	84'5
12	09'0	07'3	08'2	02'5	90'0	97'6	65'5	52'9	57'3	91'7	89'9	90'8	00'8	98'4	99'7	82'4	79'3	80'4
13	08'7	05'8	07'3	02'3	94'2	98'2	63'4	54'2	59'2	90'7	82'6	86'6	98'4	85'0	92'2	89'7	82'1	85'3
14	05'9	93'0	99'9	94'2	89'6	91'6	74'1	63'1	68'4	82'8	61'0	74'0	85'0	75'7	78'5	91'0	89'5	90'4
15	93'0	82'9	87'1	90'6	89'4	90'1	84'1	68'7	75'0	61'5	59'3	60'5	80'5	77'3	78'7	94'6	88'4	90'3
16	94'8	80'2	87'3	89'7	72'1	81'4	89'3	82'8	86'7	65'1	60'4	62'8	89'6	80'3	84'9	01'5	94'6	98'8
17	95'6	88'1	92'7	82'1	70'5	75'3	82'8	74'3	77'7	73'8	65'0	69'0	92'2	89'1	90'2	01'9	00'0	01'0
18	88'1	79'2	82'7	82'3	74'2	79'2	74'3	63'9	69'8	76'9	73'8	75'8	96'1	92'1	93'4	01'3	98'0	99'9
19	85'3	78'9	81'1	84'8	73'3	78'9	66'8	58'5	61'5	82'2	74'9	78'2	99'9	96'0	98'0	99'1	96'9	98'1
20	94'2	85'3	90'7	85'0	81'2	82'8	75'9	65'3	68'6	88'1	82'1	85'4	99'8	90'9	96'1	00'5	98'3	99'2
21	93'7	87'9	90'7	83'7	81'5	82'7	80'5	75'9	79'0	90'0	85'9	87'6	91'1	86'3	88'1	98'3	78'7	89'9
22	89'7	87'0	88'1	83'2	68'7	77'1	79'9	77'7	78'7	91'6	88'2	90'1	88'5	84'2	86'0	78'7	67'1	70'1
23	89'9	86'6	88'9	73'8	68'2	71'4	77'7	74'1	76'3	88'2	77'7	81'8	84'4	82'4	83'2	76'1	70'8	73'7
24	86'7	81'7	83'9	86'1	69'2	77'7	74'6	73'8	74'2	77'8	75'9	76'8	84'3	81'9	82'7	75'5	68'2	70'8
25	92'0	86'7	90'5	86'7	82'9	85'4	74'3	70'9	72'6	82'7	77'6	80'4	84'1	79'7	82'3	72'5	68'2	70'0
26	90'0	82'0	85'0	82'9	68'8	76'0	73'3	70'1	71'0	82'3	79'9	80'9	79'8	77'0	78'8	85'9	72'4	79'1
27	88'7	82'9	87'1	68'8	65'5	66'6	84'1	72'9	79'4	87'2	81'0	83'5	81'4	78'1	79'3	96'0	85'9	91'1
28	89'1	87'0	87'9	92'6	67'6	78'0	87'4	83'2	85'2	88'7	87'1	87'8	83'5	80'4	81'8	95'9	91'2	94'3
29	90'6	88'9	89'7	08'7	92'6	02'0	86'5	74'4	79'0	87'3	82'8	84'2	88'7	83'3	86'2	97'1	88'2	91'3
30	89'0	76'7	82'8				86'1	78'8	83'8	82'9	79'8	81'2	94'1	88'6	90'2	01'5	97'1	00'4
31	76'7	69'2	71'7				81'6	77'3	78'6				96'3	93'9	95'6			
Mean	93'04	87'05	90'01	86'34	77'82	82'23	84'71	77'84	81'06	86'05	79'21	82'64	90'58	86'25	88'29	92'86	87'68	90'18

	JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER			
	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	
	millibars																		
1	00'2	93'1	97'1	99'8	97'6	99'0	95'5	92'8	94'4	97'8	94'6	95'8	75'7	69'0	73'6	02'7	91'2	97'5	
2	93'1	76'5	85'5	99'9	98'8	99'3	94'7	92'6	93'5	96'3	93'2	94'9	75'3	50'6	65'8	97'4	90'6	94'9	
3	78'0	74'3	76'3	99'8	93'7	97'0	94'7	91'7	93'6	93'2	84'4	88'6	67'3	63'5	66'1	95'4	86'4	88'8	
4	77'5	75'4	76'3	93'7	89'6	91'3	91'7	86'5	88'3	84'4	73'2	79'4	78'2	65'8	70'1	87'2	75'4	81'0	
5	77'2	75'8	76'5	89'6	86'1	87'2	93'9	86'3	89'9	79'3	65'4	74'5	78'5	69'7	74'7	81'0	48'9	69'2	
6	76'1	72'9	74'4	86'2	85'2	85'7	94'2	88'0	92'2	70'5	63'7	67'1	85'1	69'5	75'4	48'9	38'0	43'7	
7	75'6	71'1	72'5	85'8	80'9	83'5	88'0	77'2	81'8	78'2	69'0	75'2	93'8	85'1	91'8	78'0	46'4	62'3	
8	85'7	75'6	81'0	83'5	80'0	82'2	84'8	76'1	79'4	76'2	66'7	71'3	91'9	77'7	86'5	87'5	78'0	83'6	
9	85'5	78'5	81'3	82'1	73'0	78'8	87'8	80'9	85'7	66'7	43'0	51'5	77'7	64'7	69'3	78'6	69'7	73'2	
10	85'8	81'5	83'9	77'4	68'5	71'6	91'9	78'3	83'5	73'8	54'4	63'4	64'7	59'4	61'9	69'7	61'1	64'1	
11	81'5	74'4	77'2	93'7	77'4	86'7	96'6	91'9	95'3	88'9	73'8	84'0	66'5	37'2	55'0	81'9	62'9	71'3	
12	81'7	75'5	78'9	96'0	93'6	95'2	94'2	77'3	84'6	89'4	86'7	88'3	51'4	33'3	39'7	94'6	81'9	89'7	
13	83'5	81'1	82'1	94'7	88'8	91'5	77'3	67'6	70'5	86'7	84'4	85'3	56'8	51'4	54'9	94'9	87'9	92'1	
14	83'3	81'7	82'8	89'8	84'6	86'9	68'7	65'7	67'5	84'7	78'6	80'7	62'6	54'8	58'7	87'9	74'9	80'1	
15	83'1	80'6	82'1	96'6	89'8	93'4	73'5	66'2	69'2	80'8	77'5	78'8	63'2	54'0	61'0	87'5	83'6	86'4	
16	80'7	78'9	79'4	01'9	96'6	99'2	73'4	61'5	69'5	86'0	80'8	83'9	54'0	48'4	49'9	01'8	83'7	89'0	
17	79'1	74'7	76'9	02'3	96'9	00'5	69'1	55'8	60'7	85'2	81'9	83'2	51'3	47'3	49'8	09'8	01'8	07'6	
18	75'2	72'7	73'8	97'1	89'4	92'8	78'8	69'1	75'7	88'9	84'7	87'1	71'2	50'9	62'2	06'8	93'6	97'8	
19	76'0	74'5	75'2	92'4	88'9	90'7	75'3	60'1	67'3	88'7	84'5	86'6	72'9	62'7	70'5	04'1	98'8	01'9	
20	77'8	74'2	75'5	91'2	73'6	81'0	74'9	56'7	65'5	84'5	79'2	81'6	70'6	48'8	59'8	06'0	03'9	04'7	
21	81'0	77'3	79'1	74'9	69'0	71'5	82'7	74'9	79'1	80'1	76'6	77'9	79'3	55'0	71'2	04'2	02'0	02'9	
22	85'3	80'2	82'6	88'1	74'9	84'2	82'8	73'5	78'5	87'7	79'8	83'3	93'8	78'7	88'8	06'1	00'7	03'4	
23	85'4	80'7	83'3	91'4	82'7	87'2	82'9	74'8	79'3	93'5	86'7	90'3	92'8	87'4	89'1	07'8	05'8	06'9	
24	80'7	78'0	79'1	91'6	89'8	90'6	95'1	82'4	88'4	92'8	89'5	90'7	97'5	88'4	92'6	07'2	05'0	06'0	
25	82'4	79'5	81'4	93'0	91'0	92'1	99'6	95'1	98'2	89'5	88'1	88'7	97'4	91'3	93'9	05'0	03'3	04'0	
26	86'6	80'8	83'0	92'9	90'8	91'8	01'0	96'0	99'4	89'8	88'5	89'2	91'3	80'9	86'7	04'8	03'6	04'2	
27	95'8	86'6	91'2	00'1	91'1	95'9	96'0	87'6	90'8	94'0	89'1	91'4	01'2	79'6	89'3	06'0	03'9	05'1	
28	96'6	95'4	96'1	01'3	89'7	97'1	00'6	90'7	94'9	94'1	91'6	93'1	05'8	01'1	04'6	05'3	94'6	00'9	
29	96'5	92'5	94'9	00'6	89'7	94'4	01'3	99'8	00'5	91'6	80'9	85'9	06'8	04'8	05'7	94'6	79'8	87'3	
30	97'1	92'1	94'8	00'9	99'0	00'1	00'6	97'8	99'1	80'9	64'6	72'9	05'1	02'7	04'2	79'8	71'5	74'0	
31	98'9	96'0	97'2	99'0	91'0	94'7				69'0	62'4	65'1				74'9	71'1	73'0	
Mean	84'61	80'07	82'30	93'14	86'83	90'09	88'05	79'83	83'87	85'26	77'98	81'60	79'32	67'79	74'09	93'46	83'87	88'61	
									Annual	88'15			81'06	84'62					



## PRESSURE AT STATION LEVEL

Monthly and annual means of hourly values in millibars at exact hours, G.M.T.

81 ESKDALEMUIR:  $h_b = 237.3$  m.

1940

Hour G.M.T.	0	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
	millibars																									
Jan.	90.49	90.37	90.35	90.37	90.20	89.95	89.80	89.83	90.05	90.23	90.33	90.28	90.09	89.76	89.60	89.61	89.65	89.73	89.75	89.91	90.07	90.11	90.06	89.98	89.83	90.01
Feb.	81.61	81.51	81.47	81.38	81.33	81.46	81.48	81.70	81.99	82.17	82.31	82.55	82.49	82.45	82.32	82.34	82.41	82.53	82.83	82.89	82.92	82.91	82.95	82.91	82.97	82.23
Mar.	81.97	81.73	81.57	81.27	81.07	80.92	80.87	80.99	81.09	81.08	81.09	81.07	81.07	80.95	80.81	80.65	80.62	80.71	80.92	81.10	81.18	81.16	81.11	81.07	80.99	81.06
Apr.	82.85	82.71	82.64	82.47	82.35	82.38	82.57	82.78	82.86	82.98	82.97	82.83	82.66	82.60	82.48	82.31	82.26	82.17	82.28	82.49	82.77	82.95	83.01	83.04	82.90	82.64
May	88.29	88.21	88.16	88.04	88.02	88.19	88.31	88.47	88.54	88.55	88.45	88.34	88.18	88.09	87.99	87.95	87.88	87.83	88.04	88.25	88.54	88.83	88.83	88.82	88.79	88.29
June	90.48	90.41	90.34	90.21	90.21	90.26	90.32	90.37	90.42	90.33	90.24	90.18	90.07	89.96	89.86	89.77	89.69	89.65	89.74	89.91	90.13	90.46	90.57	90.66	90.63	90.18
July	82.57	82.38	82.19	82.09	82.01	82.03	82.11	82.21	82.31	82.33	82.28	82.29	82.29	82.29	82.25	82.25	82.22	82.20	82.18	82.25	82.43	82.65	82.75	82.69	82.53	82.30
Aug.	90.34	90.30	90.27	90.01	89.93	89.95	90.03	90.13	90.22	90.27	90.25	90.29	90.20	90.14	90.03	89.90	89.80	89.67	89.77	89.96	90.15	90.20	90.29	90.23	90.15	90.09
Sept.	83.94	83.86	83.59	83.45	83.29	83.24	83.34	83.57	83.74	83.92	83.89	83.97	84.02	83.88	83.86	83.82	83.77	83.86	84.08	84.24	84.39	84.33	84.32	84.31	84.11	83.87
Oct.	82.37	82.23	82.05	81.87	81.68	81.58	81.63	81.77	82.03	82.12	82.11	81.94	81.70	81.48	81.21	81.09	81.00	81.03	81.19	81.21	81.29	81.39	81.39	81.40	81.45	81.60
Nov.	73.71	73.60	73.58	73.43	73.25	73.14	73.32	73.59	74.07	74.35	74.63	74.73	74.57	74.34	74.09	73.90	73.92	73.99	74.18	74.38	74.50	74.66	74.77	74.89	74.83	74.09
Dec.	89.42	89.32	89.23	89.02	88.74	88.65	88.58	88.55	88.75	88.86	89.03	89.03	88.67	88.39	88.06	87.92	87.99	88.12	88.17	88.33	88.47	88.54	88.61	88.60	88.51	88.61
Annual	84.88	84.76	84.66	84.51	84.38	84.35	84.40	84.53	84.71	84.80	84.83	84.83	84.70	84.56	84.41	84.32	84.30	84.32	84.46	84.61	84.77	84.88	84.92	84.91	84.83	84.62

The initial 9 or 10 of the value is omitted, i.e. 1001.42 is printed 01.42.

## PRESSURE REDUCED TO MEAN SEA LEVEL

Monthly and annual means of hourly values in millibars at exact hours, G.M.T.

82 ESKDALEMUIR:  $h_b = 237.3$  m.

1940

Hour G.M.T.	0	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
	millibars																									
Jan.	20.58	20.47	20.47	20.49	20.34	20.07	19.94	19.97	20.21	20.35	20.35	20.16	19.90	19.49	19.31	19.34	19.46	19.60	19.64	19.86	20.05	20.11	20.09	20.01	19.87	20.00
Feb.	11.01	10.92	10.88	10.79	10.75	10.89	10.93	11.14	11.44	11.57	11.65	11.85	11.74	11.68	11.55	11.57	11.70	11.86	12.20	12.26	12.30	12.29	12.36	12.34	12.42	11.60
Mar.	11.24	11.01	10.83	10.54	10.33	10.19	10.14	10.25	10.25	10.12	10.06	09.95	09.92	09.75	09.60	09.43	09.44	09.59	09.90	10.17	10.31	10.31	10.28	10.27	10.21	10.14
Apr.	11.98	11.86	11.78	11.60	11.49	11.52	11.70	11.82	11.79	11.82	11.71	11.49	11.25	11.14	10.99	10.81	10.83	10.79	10.98	11.33	11.72	11.97	12.07	12.14	12.04	11.52
May	17.17	17.12	17.10	16.99	16.98	17.13	17.12	17.09	17.00	16.89	16.71	16.53	16.31	16.17	16.05	16.00	15.95	15.95	16.25	16.62	17.09	17.51	17.61	17.61	17.67	16.80
June	19.15	19.13	19.13	19.06	19.07	19.02	18.87	18.68	18.53	18.34	18.14	18.01	17.84	17.65	17.50	17.43	17.37	17.36	17.53	17.82	18.26	18.80	19.07	19.26	19.31	18.37
July	10.96	10.78	10.60	10.52	10.45	10.47	10.43	10.40	10.40	10.35	10.25	10.21	10.15	10.13	10.09	10.09	10.10	10.11	10.14	10.29	10.57	10.87	11.05	11.02	10.91	10.43
Aug.	18.90	18.90	18.88	18.62	18.55	18.57	18.60	18.60	18.57	18.52	18.43	18.42	18.28	18.17	18.05	17.91	17.81	17.71	17.90	18.22	18.53	18.63	18.77	18.75	18.69	18.42
Sept.	12.58	12.51	12.24	12.14	12.00	11.96	12.08	12.24	12.29	12.31	12.18	12.22	12.22	12.04	12.04	11.99	11.99	12.14	12.47	12.73	12.94	12.90	12.92	12.97	12.78	12.34
Oct.	11.12	11.00	10.81	10.63	10.44	10.34	10.39	10.51	10.72	10.71	10.61	10.37	10.09	09.87	09.61	09.50	09.45	09.55	09.80	09.87	09.95	10.05	10.07	10.10	10.16	10.21
Nov.	02.41	02.31	02.29	02.15	01.97	01.84	02.05	02.35	02.85	03.09	03.29	03.31	03.11	02.87	02.63	02.45	02.51	02.63	02.85	03.07	03.20	03.37	03.49	03.62	03.58	02.76
Dec.	18.84	18.73	18.63	18.43	18.15	18.05	17.99	17.95	18.17	18.26	18.38	18.33	17.89	17.58	17.25	17.12	17.28	17.43	17.49	17.68	17.85	17.93	18.01	18.02	17.93	17.96
Annual	13.86	13.77	13.67	13.53	13.41	13.37	13.39	13.45	13.55	13.55	13.50	13.43	13.25	13.07	12.91	12.83	12.84	12.91	13.11	13.35	13.59	13.75	13.84	13.87	13.82	13.41

The initial 9 or 10 of the value is omitted, i.e. 1001.42 is printed 01.42.

The monthly and annual values of pressure reduced to mean sea level are computed from the corresponding monthly and annual means of pressure at station level and of temperature. See General Introduction to the Meteorological Tables, 1938.

## TEMPERATURE

Monthly and annual means of readings in degrees Absolute at exact hours, G.M.T.

83 ESKDALEMUIR: Louvered hut:  $h_t = 0.9$  m.

1940

	Hour G.M.T.																										Mean
	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24		
	degrees														Absolute												
Jan.	69.80	69.69	69.38	69.42	69.29	69.36	69.13	69.17	69.06	69.45	70.30	71.51	72.14	72.69	72.83	72.61	71.99	71.45	71.22	70.88	70.60	70.44	70.14	70.11	70.06	70.53	
Feb.	73.42	73.37	73.36	73.28	73.17	73.12	72.99	73.08	73.03	73.51	74.15	74.65	75.04	75.23	75.22	75.19	74.71	74.36	74.08	74.07	73.99	73.96	73.74	73.56	73.37	73.93	
Mar.	74.63	74.62	74.60	74.42	74.50	74.44	74.40	74.50	75.43	76.54	77.16	78.09	78.36	78.77	78.75	78.80	78.51	77.91	77.12	76.28	75.72	75.56	75.30	75.08	74.87	76.23	
Apr.	76.14	75.97	75.99	76.05	75.96	75.94	76.06	76.97	78.04	78.94	79.89	80.54	81.26	81.63	81.94	82.04	81.24	80.71	80.01	78.82	77.89	77.23	76.80	76.54	76.14	78.44	
May	79.89	79.59	79.31	79.16	79.05	79.25	80.56	82.33	83.95	85.07	85.89	86.55	87.13	87.56	87.79	87.86	87.65	87.18	86.24	84.77	83.08	81.95	81.07	80.62	80.04	83.48	
June	82.28	81.80	81.25	80.61	80.51	81.41	83.47	85.78	87.72	88.74	89.77	90.51	91.08	91.79	92.32	92.14	91.92	91.56	90.72	89.53	87.45	85.49	83.98	83.03	82.25	86.87	
July	82.81	82.57	82.55	82.29	82.10	82.24	83.34	84.61	85.69	86.37	86.81	87.39	87.98	88.04	88.07	88.01	87.59	87.29	86.90	85.99	85.05	84.39	83.74	83.31	82.88	85.21	
Aug.	83.33	82.94	82.87	82.74	82.68	82.64	83.19	84.13	85.24	86.32	86.95	87.43	88.01	88.43	88.53	88.63	88.48	88.07	87.32	86.07	85.02	84.43	84.00	83.74	83.41	85.47	
Sept.	80.87	80.77	80.68	80.30	80.07	79.91	79.86	80.51	81.71	83.29	84.27	84.63	85.13	85.61	85.39	85.44	84.95	84.41	83.32	82.47	81.83	81.67	81.36	80.76	80.65	82.46	
Oct.	79.53	79.28	79.26	79.29	79.24	79.23	79.22	79.37	79.95	80.91	81.74	82.37	82.73	82.70	82.50	82.36	81.90	81.23	80.46	80.05	80.06	80.03	79.87	79.69	79.54	80.54	
Nov.	77.60	77.55	77.49	77.38	77.35	77.47	77.25	76.97	76.97	77.40	78.27	79.00	79.37	79.40	79.20	79.09	78.72	78.31	78.01	77.89	77.82	77.84	77.68	77.65	77.52	77.99	
Dec.	75.31	75.38	75.43	75.39	75.25	75.31	75.17	75.27	75.12	75.34	75.86	76.33	76.88	77.17	77.07	76.87	76.15	75.99	75.89	75.63	75.43	75.31	75.30	75.11	75.07	75.74	
Annual	77.98	77.80	77.69	77.54	77.44	77.54	77.90	78.57	79.34	80.17	80.93	81.60	82.11	82.43	82.48	82.43	82.00	81.55	80.95	80.22	79.51	79.03	78.59	78.28	78.00	79.75	



## TEMPERATURE

77

Maximum, minimum and daily mean values in degrees Absolute for each day 0h. to 24h., G.M.T.  
The initial 2 or 3 of the values is omitted, i.e. 275°0' is printed 75°0'. Add 0°16' to obtain temperature  
in degrees Kelvin where  $T(^{\circ}\text{K.}) = t(^{\circ}\text{C.}) + 273.16$

84 ESKDALEUIR: Louvered hut:  $h_t$ (height of thermometer bulb above ground) = 0.9 m.

1940

	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE		
	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean
	degrees Absolute																	
1	73.9	64.3	68.1	73.7	72.0	72.9	79.0	68.1	72.8	82.3	75.8	79.8	81.6	77.8	79.6	92.2	83.1	86.9
2	72.8	63.8	67.8	72.6	70.4	71.5	81.0	66.4	72.3	81.9	72.0	76.6	88.7	77.7	81.7	93.7	82.6	88.2
3	75.2	68.1	73.1	73.3	70.3	71.2	81.4	65.4	75.3	83.1	75.3	77.9	89.9	77.2	82.6	96.2	79.2	89.3
4	75.0	65.7	70.4	74.8	72.9	73.8	83.0	73.1	78.8	84.2	76.8	79.6	91.2	74.1	82.9	97.8	81.6	90.4
5	73.9	65.5	70.6	74.9	73.3	74.0	77.1	68.7	73.0	79.6	71.2	76.2	92.9	76.8	85.4	99.4	80.6	91.1
6	77.4	70.6	74.0	75.9	73.9	74.8	77.1	65.2	71.7	78.8	71.9	76.2	86.1	76.8	81.5	99.7	80.4	91.4
7	78.9	74.6	76.6	76.1	74.4	75.2	76.0	63.9	70.7	83.3	77.8	79.3	84.4	76.7	80.9	98.8	80.1	91.1
8	79.7	68.9	75.6	75.8	73.3	74.6	79.0	73.8	76.8	84.1	75.3	80.0	87.2	76.0	82.9	98.0	80.0	90.1
9	75.6	68.5	72.7	74.5	70.8	72.9	80.2	75.8	78.2	82.6	71.2	76.9	87.8	73.3	81.9	97.0	79.3	88.8
10	73.1	65.0	68.8	72.9	65.9	70.0	79.3	75.8	77.8	84.2	70.2	76.9	88.9	73.2	83.0	96.1	78.8	88.9
11	74.8	65.6	70.6	73.1	67.4	70.6	79.7	77.5	78.6	83.0	69.4	77.7	88.3	73.5	82.2	92.1	79.0	86.7
12	73.3	63.6	67.2	70.9	67.8	69.4	80.0	72.7	75.3	85.0	72.6	79.9	89.2	80.1	84.4	89.4	78.8	84.4
13	76.9	64.3	69.3	75.3	67.6	72.6	73.7	67.3	72.2	84.3	72.1	78.4	88.2	78.7	83.4	92.4	74.1	84.4
14	76.1	65.9	70.5	74.6	71.8	73.4	75.6	64.2	70.6	80.6	74.4	78.1	85.9	76.3	81.3	95.0	74.5	86.2
15	77.0	71.0	74.5	72.4	66.0	70.9	78.7	70.1	75.8	80.0	72.7	75.5	83.4	76.1	80.2	95.8	78.1	86.8
16	72.8	65.0	68.4	74.0	63.8	68.7	79.9	71.7	76.5	81.8	70.9	75.8	90.1	76.3	84.1	90.2	81.1	85.4
17	69.0	59.8	66.4	73.7	70.0	72.0	80.3	76.2	78.2	81.5	70.0	75.5	92.3	73.8	84.5	93.3	81.2	86.5
18	72.1	65.0	69.3	72.9	69.3	71.6	83.9	79.2	81.3	83.9	70.4	77.5	93.2	77.6	86.2	98.0	78.7	89.4
19	71.1	69.5	70.4	74.0	70.6	72.5	80.7	74.6	78.4	81.4	75.8	78.0	91.9	74.8	84.1	97.4	80.2	89.9
20	70.0	62.9	68.2	78.3	72.5	75.7	80.6	74.7	77.7	79.9	73.7	76.5	93.6	73.9	84.4	91.1	79.3	86.4
21	69.1	56.4	64.5	79.1	76.6	77.8	81.4	76.2	79.1	78.5	75.7	77.2	90.4	79.2	84.4	93.3	80.0	85.8
22	72.0	60.0	68.3	83.0	72.3	77.9	81.5	78.2	79.7	78.6	75.0	77.0	88.3	77.1	82.9	87.8	81.7	83.9
23	74.0	56.0	64.1	80.1	76.4	78.1	80.4	78.2	79.1	85.5	74.5	78.4	87.8	79.2	82.6	90.3	77.3	84.2
24	74.9	73.0	73.9	82.0	75.6	78.1	81.3	78.0	79.1	80.8	77.2	78.9	88.7	80.6	84.1	87.8	73.5	81.6
25	75.0	73.8	74.5	78.8	75.4	76.7	85.8	76.5	80.3	85.9	76.0	80.5	89.5	80.1	85.5	88.1	80.8	83.8
26	74.2	71.6	72.9	83.0	73.9	78.2	82.0	74.1	77.3	88.6	76.2	82.4	92.1	83.5	87.0	88.8	78.4	83.7
27	73.6	71.0	72.5	81.2	77.9	80.0	78.7	71.1	74.7	90.3	78.6	83.8	88.8	83.2	85.4	88.8	76.6	83.0
28	71.4	69.6	70.8	79.7	72.9	74.9	79.2	66.4	72.9	87.8	77.8	82.9	91.9	82.0	86.0	90.7	76.7	85.0
29	71.1	70.0	70.5	76.4	71.0	73.9	76.0	66.1	71.9	81.0	77.2	79.1	91.9	79.4	86.2	91.3	80.6	86.4
30	71.8	69.1	70.3				81.3	72.7	77.5	85.3	78.2	80.8	88.5	77.0	83.1	92.9	78.2	86.1
31	72.9	70.2	71.8				81.2	78.5	79.5				87.6	78.7	83.6			
Mean	73.8	66.7	70.5	76.1	71.6	73.9	79.8	72.3	76.2	82.9	74.2	78.4	89.0	77.4	83.5	93.4	79.1	86.9

	JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER		
	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean
	degrees Absolute																	
1	88.1	81.7	85.2	96.4	83.5	89.9	88.9	81.4	84.9	83.2	78.0	80.7	82.0	78.4	80.2	80.9	78.3	80.0
2	88.1	83.4	85.2	96.7	82.4	89.9	90.0	80.2	85.3	84.7	75.1	80.8	84.9	77.2	80.0	81.1	69.8	76.9
3	89.0	82.1	85.7	97.2	79.3	88.9	89.2	79.8	84.7	83.6	74.5	80.3	81.4	74.9	78.7	80.1	72.0	77.6
4	87.8	78.2	82.8	92.9	78.2	86.4	91.3	79.2	85.7	82.2	78.9	80.8	80.5	69.7	76.3	81.1	74.3	78.8
5	89.3	78.0	83.7	90.9	81.5	86.5	90.2	82.2	85.9	86.1	79.7	82.4	79.9	69.7	76.9	79.4	73.6	75.4
6	90.7	78.0	85.1	90.1	80.2	85.0	88.6	81.9	84.8	85.8	78.0	81.9	81.3	76.6	79.0	76.4	72.8	74.7
7	90.0	74.9	83.4	89.0	80.6	85.1	88.7	82.6	85.8	84.2	74.0	79.5	80.5	72.9	77.2	77.3	72.8	74.6
8	90.7	78.2	84.9	86.8	82.9	84.7	86.3	76.5	81.7	84.7	79.8	82.5	80.7	76.1	78.6	76.2	72.3	74.0
9	88.0	82.0	85.0	88.0	85.3	87.1	86.3	70.6	80.0	84.7	80.0	82.3	80.5	77.5	79.6	77.4	74.3	75.9
10	87.0	82.8	84.4	86.9	82.7	84.9	87.7	76.7	83.7	83.7	78.9	80.3	79.1	74.8	77.3	76.3	73.7	74.9
11	87.9	82.5	85.2	88.8	79.0	84.1	84.6	73.8	79.9	84.7	75.5	79.3	80.5	74.4	77.4	75.7	71.6	73.9
12	88.6	82.5	85.1	87.9	77.1	83.5	88.9	79.7	84.4	84.3	74.8	79.0	81.1	77.0	78.7	76.8	68.9	72.8
13	91.7	83.7	87.4	90.2	82.9	86.9	84.7	78.7	81.8	86.2	74.4	80.5	80.8	73.5	76.7	75.9	69.0	73.5
14	85.4	83.3	84.2	89.3	79.5	83.7	87.1	77.8	81.9	85.1	79.7	82.3	79.7	72.2	76.1	77.9	75.1	76.2
15	93.1	83.0	87.4	88.8	77.8	83.9	86.2	75.0	80.7	85.4	80.5	83.3	76.9	67.2	72.2	81.9	74.7	79.0
16	90.3	85.2	87.5	89.5	83.2	85.7	87.2	75.0	81.4	86.6	81.6	83.9	79.3	76.4	78.0	82.4	74.4	80.3
17	86.0	83.2	85.0	92.1	83.2	87.3	87.3	81.5	84.0	85.1	80.4	83.0	80.1	74.7	78.1	77.1	69.2	73.5
18	85.6	83.4	84.7	87.0	83.1	85.6	86.2	81.4	83.1	86.0	77.3	81.6	79.5	76.7	78.5	81.9	72.9	77.9
19	90.1	81.9	85.5	89.5	83.1	85.4	86.2	81.0	83.7	83.2	80.8	82.0	79.4	75.8	77.9	77.0	71.7	74.9
20	88.8	77.4	83.7	90.1	82.5	85.0	85.7	77.6	81.9	85.0	82.4	83.6	82.4	77.9	79.5	76.6	73.3	75.3
21	89.7	78.8	84.6	86.5	82.7	83.7	86.7	74.0	79.9	84.3	76.7	81.8	83.3	75.4	79.0	76.1	71.2	74.4
22	90.4	78.1	85.1	88.2	81.4	84.2	84.2	74.3	81.3	81.8	76.1	80.1	80.5	74.1	77.7	75.6	73.8	74.5
23	89.9	74.4	83.5	87.8	75.9	83.4	85.3	79.1	81.8	81.0	75.5	79.1	81.0	79.5	80.3	76.5	73.7	75.5
24	88.7	81.5	84.8	90.1	74.3	83.7	84.4	76.0	80.4	82.0	75.5	77.8	82.2	79.3	81.0	77.0	74.7	75.9
25	91.4	81.9	86.7	88.0	84.4	85.9	85.1	74.8	80.5	81.1	76.0	78.0	83.1	80.7	81.8	76.4	73.8	74.9
26	90.6	79.9	84.1	87.9	85.0	85.9	86.2	78.4	83.0	81.1	74.7	77.4	82.3	81.4	81.9	76.8	69.0	73.6
27	88.7	78.6	84.0	88.6	76.7	84.0	86.0	80.0	84.3	81.3	74.9	77.7	82.2	73.2	76.9	79.2	72.6	76.1
28	89.5	75.0	83.8	88.0	75.0	82.8	83.9	72.8	79.9	80.8	74.1	77.9	77.3	70.9	74.6	77.1	72.1	74.6
29	86.6	83.3	85.2	90.2	78.3	84.8	84.9	69.9	77.4	79.4	70.7	75.6	78.1	69.7	73.7	81.6	76.4	79.7
30	92.3	86.1	88.1	87.4	74.8	83.0	83.6	75.9	80.0	83.8	76.4	79.6	78.6	72.4	75.5	79.4	72.9	76.7
31	96.5	83.8	90.6	90.8	86.8	88.3				83.4	80.4	82.0				72.9	70.4	71.9
Mean	89.4	80.9	85.2	89.7	80.8	85.5	86.7	77.6	82.5	83.7	77.3	80.5	80.6	75.0	78.0	78.0	72.8	75.7
	Annual									83.6	75.5	79.7						



## MEAN RELATIVE HUMIDITY AND VAPOUR PRESSURE FOR EACH DAY

Mean percentages from readings at exact hours 0h. to 24h., G.M.T.; vapour pressure from daily mean temperature and relative humidity

85 ESKDALEUIR: Louvered hut:  $h_t = 0.9$  m.

1940

	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.
	%	mb.	%	mb.	%	mb.	%	mb.	%	mb.	%	mb.	%	mb.	%	mb.	%	mb.	%	mb.	%	mb.	%	mb.
1	95.6	4.1	93.3	5.7	80.6	4.9	89.0	8.8	92.3	9.0	77.5	12.3	84.6	12.0	84.5	16.3	74.8	10.4	92.3	9.7	88.2	9.0	95.1	9.5
2	90.8	3.8	82.7	4.5	78.2	4.5	77.8	6.2	81.4	9.2	78.0	13.5	90.7	12.9	80.7	15.5	76.1	10.9	81.4	8.6	88.9	8.9	84.6	6.8
3	91.4	5.6	90.0	4.8	84.2	6.1	82.3	7.1	71.5	8.6	73.7	13.7	74.0	10.9	71.2	12.9	93.5	12.9	82.0	8.4	86.4	7.9	96.0	8.2
4	90.2	4.6	92.7	6.0	74.8	6.9	75.5	7.4	72.5	8.8	71.4	14.2	80.8	9.8	88.8	13.7	88.3	13.0	92.9	9.8	89.2	6.9	92.5	8.5
5	94.9	4.9	95.5	6.3	56.6	3.5	76.2	5.9	71.0	10.2	64.4	13.4	76.7	9.9	83.1	12.9	83.1	12.4	85.7	10.1	93.5	7.6	85.7	6.2
6	84.0	5.5	97.2	6.8	66.1	3.7	90.0	6.9	62.5	6.9	58.3	12.3	80.5	11.4	78.6	11.0	80.0	11.1	82.8	9.4	86.0	8.0	88.2	6.1
7	96.2	7.6	93.6	6.7	90.0	4.6	88.7	8.5	82.4	8.8	68.0	14.1	79.6	10.0	80.5	11.4	81.2	12.0	86.2	8.3	73.7	6.1	76.6	5.3
8	93.0	6.9	95.4	6.5	97.8	7.8	70.4	7.1	85.4	10.4	74.7	14.6	80.1	11.2	86.2	11.9	75.5	8.5	91.0	10.8	90.0	8.2	70.9	4.7
9	98.9	5.9	88.7	5.4	95.5	8.5	74.2	6.0	83.6	9.5	68.4	12.3	94.4	13.2	97.0	15.6	78.5	7.9	90.4	10.6	97.0	9.5	91.8	6.9
10	86.0	3.9	74.0	3.7	98.3	8.5	69.4	5.6	66.0	8.1	71.0	12.8	92.5	12.5	86.0	12.0	77.0	9.9	83.9	8.6	85.2	7.1	87.3	6.1
11	92.4	4.7	84.8	4.3	99.7	9.1	86.0	7.4	61.8	7.2	63.3	9.9	93.6	13.3	67.2	8.9	69.3	6.9	80.5	7.7	90.4	7.6	79.6	5.2
12	97.7	3.9	80.3	3.8	96.7	7.0	67.7	6.7	68.9	9.3	79.3	10.7	83.0	11.7	82.3	10.5	85.7	11.6	85.2	8.0	84.4	7.7	85.5	5.1
13	97.6	4.5	73.3	4.3	85.9	4.9	76.1	6.8	74.2	9.4	70.2	9.5	76.7	12.6	91.7	14.6	80.5	9.1	80.9	8.4	82.3	6.6	86.5	5.5
14	94.9	4.8	94.5	5.9	74.4	3.8	77.3	6.8	86.8	9.5	70.8	10.7	95.0	12.6	83.7	10.8	75.6	8.6	85.3	10.0	76.5	5.8	94.0	7.2
15	79.4	5.4	80.0	4.2	78.0	5.8	72.4	5.3	90.0	9.1	81.0	12.8	82.8	13.6	82.0	10.7	74.2	7.8	84.6	10.6	93.2	5.4	96.1	9.0
16	81.4	3.5	84.3	3.8	80.1	6.3	63.6	4.7	64.5	8.5	69.1	9.9	88.2	14.6	84.5	12.4	93.1	10.3	85.5	11.1	85.8	7.5	91.7	9.4
17	77.5	2.9	81.0	4.6	94.8	8.4	79.5	5.8	57.0	7.7	79.9	12.4	90.3	12.7	83.2	13.6	83.0	10.9	90.5	11.1	92.8	8.2	92.5	5.9
18	88.0	4.1	81.0	4.5	98.5	10.8	67.3	5.7	61.2	9.3	70.7	13.2	89.3	12.3	89.8	13.1	81.5	10.1	87.3	9.8	86.7	7.8	88.8	7.7
19	97.3	4.9	89.4	5.3	89.5	8.0	68.6	6.0	46.0	6.1	66.7	12.8	88.4	12.8	72.8	10.5	83.3	10.7	86.9	10.0	92.4	8.0	78.5	5.5
20	81.7	3.5	96.0	7.1	89.2	7.6	90.4	7.1	46.5	6.3	77.8	12.0	80.1	10.3	87.5	12.3	79.6	9.0	91.2	11.7	87.0	8.4	85.5	6.2
21	80.0	2.6	97.4	8.4	86.7	8.2	93.5	7.7	57.0	7.7	73.7	10.9	76.3	10.4	70.7	9.1	88.0	8.8	93.9	10.6	85.4	8.0	75.1	5.1
22	78.3	3.4	91.2	7.9	96.4	9.5	92.5	7.5	76.7	9.4	85.3	11.1	73.0	10.3	61.6	8.2	93.8	10.3	95.3	9.6	79.4	6.8	73.2	5.0
23	100.0	3.1	88.5	7.8	98.0	9.2	82.5	7.4	85.8	10.3	73.1	9.7	81.5	10.3	67.6	8.5	79.5	9.0	86.8	8.2	90.5	9.3	83.1	6.1
24	98.0	6.4	86.3	7.6	98.5	9.3	95.8	8.9	85.2	11.3	80.9	9.0	85.7	11.9	79.5	10.2	77.9	8.0	80.6	6.9	87.3	9.4	90.3	6.8
25	85.2	5.8	89.0	7.1	78.8	8.1	92.4	9.6	83.6	12.1	69.9	9.1	74.9	11.7	85.3	12.7	73.7	7.6	87.6	7.6	91.6	10.4	88.7	6.2
26	88.2	5.3	80.2	7.1	72.5	6.0	83.2	9.8	84.4	13.5	66.0	8.5	81.1	10.7	92.6	13.8	79.1	9.7	76.8	6.4	81.8	9.3	83.7	5.3
27	86.0	5.1	98.3	9.8	55.2	3.8	82.4	10.7	88.2	12.7	73.5	9.0	79.8	10.5	70.2	9.2	84.8	11.3	77.6	6.6	75.6	6.1	84.4	6.4
28	98.5	5.1	85.3	6.0	61.5	3.7	81.4	9.9	78.1	11.7	79.5	11.2	75.2	9.7	85.5	10.4	72.5	7.2	88.1	7.6	71.8	4.9	91.6	6.3
29	85.3	4.3	75.0	4.9	96.8	5.5	93.8	8.8	76.0	11.5	84.5	13.0	87.0	12.4	75.6	10.5	83.2	7.0	72.3	5.3	82.6	5.3	94.8	9.3
30	83.8	4.2			84.7	7.1	91.3	9.7	81.8	10.1	70.5	10.6	80.8	13.9	92.5	11.4	84.0	8.4	91.0	8.9	95.0	7.0	93.8	7.5
31	92.3	5.2			97.4	9.4			75.3	9.6			72.0	14.5	89.3	15.5			88.0	10.1			85.2	4.8
Mean*	89.8	4.6	87.5	5.9	85.0	6.8	81.0	7.4	74.1	9.4	73.0	11.6	82.9	11.8	81.7	11.9	81.0	9.7	85.9	9.0	86.3	7.6	86.8	6.6

\* Mean of the column.

## RELATIVE HUMIDITY

Monthly and annual means of values at exact hours, G.M.T.

86 ESKDALEUIR:  $h_t = 0.9$  m.

1940

	Hour G.M.T.																										
	0	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*	
	per cent.																										
Jan.	90.7	90.6	91.0	91.1	91.6	92.0	92.7	92.9	93.7	93.0	91.8	90.4	88.8	85.7	84.3	84.2	86.2	87.5	87.7	88.7	89.3	89.7	90.7	91.5	90.5	89.8	
Feb.	89.4	89.1	89.8	90.4	91.5	91.2	91.0	90.7	91.4	90.9	89.3	86.6	84.4	82.2	80.8	80.8	83.1	84.8	86.6	86.9	87.3	87.1	87.9	88.0	89.3	87.5	
Mar.	90.1	90.1	90.0	91.1	91.0	90.5	90.1	90.2	88.5	85.8	83.2	79.3	77.2	75.9	76.5	76.2	77.4	80.1	81.9	84.7	86.3	86.7	87.9	89.1	90.5	85.0	
Apr.	89.6	90.5	90.0	90.0	90.3	90.7	91.1	89.5	84.9	81.4	77.6	75.0	69.5	66.6	66.0	65.2	70.1	71.8	73.8	79.3	82.0	84.8	87.3	87.8	89.5	81.0	
May	85.6	88.3	87.7	88.7	88.1	87.2	85.1	79.0	72.8	68.0	65.7	63.9	62.4	60.9	57.9	58.0	59.0	60.5	65.0	71.5	77.7	80.4	82.5	83.1	85.5	74.1	
June	88.6	90.1	90.8	91.9	91.9	88.9	85.9	79.2	69.8	65.1	64.3	60.2	58.7	56.2	53.6	53.5	55.6	57.0	61.6	66.3	73.7	79.4	84.3	86.5	88.3	73.0	
July	91.3	92.1	92.5	93.3	93.0	92.3	89.5	85.9	79.7	76.7	75.9	73.0	71.7	70.9	72.4	73.2	74.6	76.3	78.0	81.8	86.3	88.0	89.3	90.7	91.5	82.9	
Aug.	88.7	90.5	89.9	88.8	89.5	89.9	88.7	87.8	84.5	79.6	77.2	73.8	71.0	70.0	71.0	69.8	70.2	73.2	77.8	81.1	84.7	86.5	87.7	88.1	88.4	81.7	
Sept.	89.2	89.7	89.1	89.9	90.1	89.8	89.1	87.6	83.7	78.6	72.8	71.4	69.7	67.0	68.3	67.4	70.0	73.5	78.5	82.3	85.1	86.0	86.8	88.9	89.3	81.0	
Oct.	89.9	90.2	90.1	90.2	90.1	89.8	91.0	91.5	89.3	86.5	82.3	79.5	76.7	76.6	77.8	78.9	80.5	83.0	86.5	88.7	87.9	88.4	88.5	89.2	89.5	85.9	
Nov.	87.6	87.2	88.0	88.4	87.2	86.9	87.2	88.2	87.6	87.2	85.5	82.8	81.6	80.1	81.7	83.8	85.5	86.6	87.8	87.8	88.4	88.0	88.5	88.5	88.2	86.3	
Dec.	89.0	87.7	87.5	87.1	87.7	86.9	87.8	87.7	88.4	86.5	87.5	85.7	85.1	83.8	84.9	84.5	86.3	86.5	86.4	86.7	86.6	87.5	87.3	88.5	88.9	86.8	
Annual	89.1	89.7	89.7	90.1	90.2	89.7	89.1	87.5	84.5	81.6	79.4	76.8	74.7	73.0	72.9	73.0	74.9	76.7	79.3	82.2	84.6	86.0	87.4	88.3	89.1	82.9	

## VAPOUR PRESSURE

Monthly and annual means of values at exact hours, G.M.T., computed from corresponding mean values of temperature and relative humidity

87 ESKDALEUIR:  $h_t = 0.9$  m.

1940

	Hour G.M.T.																											
	0	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*		
	millibars																											
Jan.	4.4	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.4	4.6	5.0	5.1	5.1	5.1	5.0	4.9	4.8	4.7	4.6	4.6	4.5	4.5	4.5	4.5	4.5	4.6	
Feb.	5.6	5.6	5.6	5.6	5.7	5.6	5.6	5.6	5.6	5.8	5.9	6.0	6.0	5.9	5.8	5.8	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.6	5.6	5.7		
Mar.	6.2	6.2	6.2	6.2	6.2	6.1	6.1	6.1	6.4	6.8	6.8	7.0	6.9	7.0	7.0	7.0	6.9	6.7	6.6	6.4	6.4	6.3	6.3	6.3	6.3	6.5		
Apr.	6.9	6.9	6.8	6.8	6.8	6.8	6.9	7.3	7.4	7.6	7.7	7.8	7.6	7.5	7.5	7.5	7.6	7.5	7.4	7.3	7.1	7.0	7.0	6.9	6.8	7.2		
May	8.5	8.6	8.4	8.4	8.3	8.3	8.9	9.3	9.5	9.6	9.8	9.9	10.1	10.1	9.7	9.8	9.8	9.8	9.9	9.9	9.6	9.2	8.9	8.7	8.6	9.3		
June	10.4	10.2	9.9	9.6	9.5	8.8	10.9	11.7	11.7	11.6	12.3	12.1	12.2	12.2	12.0	11.9	12.2	12.2	12.2	12.5	12.5	12.1	11.5	11.1	10.6	10.3		
July	11.1	11.0	11.0	10.9	10.8	10.8	11.3	11.7	11.7	11.8	12.0	12.0	12.2	12.1	12.4	12.5	12.4	12.4	12.4	12.3	12.1	11.9	11.5	11.4	11.2	11.7		
Aug.	11.1	11.1	10.9	10.7	10.8	10.8	11.0	11.6	12.0	12.2	12.3	12.1	12.1	12.3	12.5	12.4	12.3	12.5	12.7	12.2	11.9	11.7	11.5	11.4	11.2	11.8		
Sept.	9.5	9.5	9.4	9.2	9.1	8.9	8.8	9.1	9.4	9.8	9.7	9.8	9.9	9.8	9.8	9.7	9.8	9.9	9.9	9.8	9.7	9.7	9.6	9.4	9.4	9.5		
Oct.	8.7	8.6	8.6	8.6	8.6	8.5	8.6	8.8	8.9	9.2	9.3	9.4	9.3	9.2	9.2	9.3	9.2	9.1	8.9	8.9	8.8	8.9	8.8	8.7	8.7	8.9		
Nov.	7.4	7.4	7.4	7.4	7.3	7.3	7.2	7.2	7.1	7.3	7.6	7.7	7.8	7.7	7.7	7.9	7.8	7.7	7.7	7.6	7.6	7.6	7.6	7.5	7.4	7.5		
Dec.	6.4	6.4	6.4	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.6	6.7	6.9	6.9	6.9	6.8	6.6	6.6	6.5	6.4	6.3	6.3	6.3	6.3	6.3	6.5		
Annual	8.0	7.7	7.7	7.6	7.6	7.6	7.7	7.9	8.1	8.3	8.5	8.6	8.6	8.6	8.7	8.6	8.6	8.5	8.5	8.4	8.2	8.1	8.0	7.9	7.8	8.2		



# RAINFALL

79

Amount in millimetres, duration in hours and maximum rate of fall for each day 0h. to 24h., G.M.T.

88 ESKDALEMUIR:  $h_r$  (height of receiving surface above M.S.L.) = height of station above M.S.L. + height of receiving surface above ground = 242.0 m. + 0.4 m.

1940

	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE		
	Amount	Duration	Max. rate	Amount	Duration	Max. rate	Amount	Duration	Max. rate	Amount	Duration	Max. rate	Amount	Duration	Max. rate	Amount	Duration	Max. rate
	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.
1	...	...	...	0.4	1.4	...	...	...	...	16.3	14.1	25	...	...	...	0.2	0.3	...
2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3	0.1	...	...	0.2	...	...	...	...	...	4.5	7.6	2	...	...	...	...	...	...
4	...	...	...	10.0	13.4	(2)*	...	...	...	5.0	7.4	2	...	...	...	...	...	...
5	...	...	...	...	...	...	...	...	...	0.2	...	...	3.3	3.3	28	...	...	...
6	...	...	...	2.5	2.4	6	...	...	...	0.9	2.2	1	0.2	1.0	...	...	...	...
7	11.0	9.5	6	0.1	...	...	...	...	...	10.6	11.0	26	0.6	1.7	...	...	...	...
8	0.2	0.3	1	...	...	...	4.8	5.2	7	0.8	1.6	1	0.8	1.7	...	...	...	...
9	...	...	...	...	...	...	19.0	18.3	7	...	...	...	...	...	...	...	...	...
10	...	...	...	...	...	...	4.3	8.8	1	...	...	...	...	...	...	...	...	...
11	...	...	...	...	...	...	7.6	5.6	3	2.6	4.1	1	...	...	...	...	...	...
12	...	...	...	0.5	1.0	...	26.1	22.4	7	...	...	...	...	...	...	0.2	...	...
13	...	...	...	0.1	...	...	2.8	9.3	...	...	...	...	...	...	...	...	...	...
14	...	...	...	1.3	3.5	...	...	...	...	12.7	8.9	18	9.7	4.0	53	...	...	...
15	1.4	2.4	...	...	...	...	3.2	2.3	4	0.9	1.4	1	1.0	2.2	1	13.4	4.2	44
16	1.6	4.9	...	...	...	...	0.1	...	...	...	...	...	...	...	...	...	...	...
17	...	...	...	...	...	...	3.5	4.5	1	0.3	0.9	...	...	...	...	...	...	...
18	1.5	4.7	...	...	...	...	16.2	14.9	17	...	...	...	...	...	...	...	...	...
19	6.7	10.4	(1)*	...	...	...	6.9	6.7	14	0.4	1.0	...	...	...	...	...	...	...
20	5.8	6.8	(1)*	7.4	7.8	2	20.0	9.6	27	8.5	10.4	3	...	...	...	...	...	...
21	...	...	...	1.1	2.8	...	6.3	7.8	2	11.4	18.0	3	...	...	...	2.4	2.7	2
22	...	...	...	6.1	5.8	9	3.6	5.2	5	6.5	6.7	3	...	...	...	15.5	10.4	22
23	...	...	...	4.2	5.1	5	3.4	5.8	16	1.2	3.5	...	4.1	3.2	13	...	...	...
24	30.1	19.6	(3)*	8.4	4.0	17	3.8	4.3	13	18.8	12.4	21	1.5	1.6	2	0.2	...	...
25	0.1	0.7	...	2.1	3.9	2	...	...	...	0.8	3.7	...	9.8	4.1	24	1.7	1.9	17
26	7.1	6.4	(2)*	6.1	4.5	3	1.8	0.9	7	0.2	0.7	...	4.1	4.2	10	0.3	0.5	...
27	6.9	7.2	(2)*	19.5	15.0	11	...	...	...	0.2	0.3	...	0.7	1.8	4	1.1	1.6	10
28	11.4	19.6	(3)*	2.3	5.4	1	...	...	...	...	...	...	0.4	0.3	...	...	...	...
29	0.1	0.5	...	...	...	...	11.3	16.9	1	...	...	...	...	...	...	4.3	1.8	4
30	0.3	...	...	...	...	...	0.4	0.9	...	1.3	4.6	...	0.7	1.0	...	...	...	...
31	0.9	4.4	...	...	...	...	13.4	17.4	7	...	...	...	0.2	...	...	...	...	...
Total	85.2	97.4	—	72.3	76.0	—	158.5	166.8	—	104.1	120.5	—	37.1	30.1	—	39.3	23.4	—

	JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER		
	Amount	Duration	Max. rate	Amount	Duration	Max. rate	Amount	Duration	Max. rate	Amount	Duration	Max. rate	Amount	Duration	Max. rate	Amount	Duration	Max. rate
	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.
1	1.6	4.4	...	...	...	...	...	...	...	0.1	...	...	7.3	4.8	58	4.8	11.6	2
2	6.8	6.8	19	...	...	...	...	...	...	...	...	...	24.6	6.4	41	3.2	2.8	6
3	1.6	2.5	2	...	...	...	1.5	1.9	7	...	...	...	1.2	0.8	11	4.9	11.2	6
4	6.5	2.8	37	...	...	...	...	...	...	7.8	5.1	23	...	...	...	10.7	9.4	46
5	...	...	...	0.6	2.6	6	4.4	2.3	10	35.9	11.9	35	6.8	8.5	9	21.0	7.0	35
6	0.5	0.4	2	0.1	...	...	...	...	...	2.6	3.1	5	6.6	7.6	2	39.1	12.3	26
7	3.4	2.1	13	3.1	2.0	8	3.8	6.5	4	2.0	1.0	43	0.4	0.6	2	1.4	1.7	1
8	1.6	1.0	28	9.6	10.6	8	0.9	0.7	6	13.1	9.3	44	7.3	6.8	41	6.9	3.9	3
9	18.2	8.3	32	17.3	17.3	48	2.6	2.1	7	29.1	16.7	46	20.6	17.7	13	2.3	4.7	1
10	16.1	8.8	17	3.3	3.9	7	2.2	5.1	2	2.1	3.8	...	11.0	4.8	11	5.3	4.3	9
11	22.0	12.4	56	...	...	...	...	...	...	...	...	...	16.4	10.2	28	...	...	...
12	0.5	1.0	...	0.1	...	...	10.4	5.7	23	...	...	...	2.1	4.6	1	...	...	...
13	...	...	...	0.3	1.0	1	8.2	4.1	80	...	...	...	0.4	0.9	...	1.2	3.9	...
14	38.6	23.1	25	3.5	2.0	25	...	...	...	...	...	...	...	...	...	21.6	11.8	18
15	0.2	0.8	...	...	...	...	...	...	...	2.0	1.4	20	0.2	0.1	6	12.3	11.8	17
16	4.7	2.3	27	0.1	...	...	31.8	10.6	42	4.9	3.0	40	6.1	3.2	12	5.3	6.0	29
17	11.3	14.2	3	...	...	...	27.8	10.7	61	2.3	5.4	1	11.7	9.4	27	...	...	...
18	4.5	10.0	8	1.9	3.6	2	3.5	3.1	37	...	...	...	4.4	3.8	14	25.5	14.0	12
19	4.2	2.1	46	...	...	...	15.8	6.3	48	1.2	0.8	6	1.6	2.7	1	...	...	...
20	10.5	2.4	49	18.4	3.6	21	4.2	2.7	14	0.1	...	...	25.1	10.7	53	0.1	...	...
21	0.7	0.6	16	0.2	0.2	1	...	...	...	15.1	8.7	9	3.1	4.0	2	...	...	...
22	...	...	...	...	...	...	13.9	10.1	71	1.0	6.7	...	...	...	...	...	...	...
23	...	...	...	0.3	...	...	3.0	2.3	41	0.2	0.8	1	13.1	4.7	18	...	...	...
24	4.5	6.3	53	...	...	...	...	...	...	0.3	1.2	2	0.6	0.5	1	0.4	1.1	...
25	0.5	0.8	...	2.8	2.1	10	...	...	...	1.1	2.8	...	1.5	3.0	3	0.1	...	...
26	9.7	3.5	33	6.5	9.2	9	0.3	0.8	...	...	...	...	5.6	4.0	13	...	...	...
27	...	...	...	0.1	0.1	1	0.5	1.5	...	0.1	...	...	0.9	1.4	8	...	...	...
28	...	...	...	2.1	3.4	7	...	...	...	...	...	...	...	...	...	0.1	...	...
29	1.2	1.6	1	0.1	...	...	...	...	...	...	...	...	...	...	...	5.9	8.2	3
30	...	...	...	0.1	...	...	...	...	...	...	...	...	...	...	...	12.9	13.9	14
31	...	...	...	0.5	0.4	17	...	...	...	2.0	1.5	30	...	...	...	1.9	2.5	1
Total	169.4	118.2	—	71.0	62.0	—	134.8	76.5	—	150.8	94.7	—	179.2	124.9	—	186.9	142.1	—

\* Estimated



## RAINFALL

Monthly and annual totals of amounts in sixty-minute periods between exact hours, G.M.T.

89 ESKDALEMUIR:  $h_r = 242.0 \text{ m.} + 0.4 \text{ m.}$ 

1940

	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
	<i>millimetres</i>																								
Jan.	6.4	2.9	3.0	2.6	2.3	3.0	2.8	3.1	2.7	5.3	3.3	2.4	3.3	7.7	3.9	2.7	4.0	4.1	4.8	5.0	2.9	1.4	3.0	2.6	85.2
Feb.	3.7	5.2	5.2	6.8	3.2	2.7	2.6	5.6	4.4	2.5	3.1	1.2	2.2	0.6	1.1	0.9	1.2	2.3	2.0	3.0	5.2	3.5	1.5	2.6	72.3
Mar.	5.6	6.6	6.4	5.9	6.2	6.2	8.0	5.5	5.3	7.4	13.5	11.3	8.6	7.2	9.2	4.4	3.1	6.6	4.8	4.8	4.4	5.0	6.0	6.5	158.5
Apr.	4.2	6.9	6.4	5.7	7.1	7.0	6.0	5.3	9.7	5.8	6.3	3.6	2.0	1.6	0.8	2.4	2.6	4.6	4.8	4.3	2.0	1.4	1.5	2.1	104.1
May	1.1	0.5	0.3	0.0	2.3	1.5	0.5	1.2	0.1	0.2	0.2	1.1	0.5	0.6	2.9	5.0	1.6	0.6	0.9	1.6	10.8	2.3	0.8	0.5	37.1
June	0.3	0.7	1.2	2.1	5.3	1.2	1.7	1.5	1.1	0.4	1.8	2.7	0.2	0.0	1.7	8.0	3.2	2.6	0.3	0.2	0.7	0.9	0.5	1.0	39.3
July	6.6	4.7	3.3	2.2	3.2	2.2	5.2	6.3	5.5	4.1	7.1	11.4	8.7	8.2	4.8	17.1	17.9	8.1	8.1	13.3	7.8	5.1	5.2	3.3	169.4
Aug.	2.9	1.7	1.0	0.4	0.1	1.2	1.8	2.2	5.2	6.0	5.2	4.5	3.4	1.4	0.7	0.7	0.7	1.6	2.8	7.7	5.4	9.0	3.0	2.4	71.0
Sept.	3.2	6.3	6.9	3.6	9.5	9.8	7.3	6.6	8.9	1.8	5.4	8.1	6.1	3.3	6.2	2.4	5.5	8.1	8.9	1.5	4.3	6.8	2.2	2.1	134.8
Oct.	0.7	1.2	2.1	4.6	7.8	4.1	8.5	7.6	8.4	5.9	3.4	4.4	4.0	2.3	0.9	6.2	9.0	8.1	13.9	16.8	13.1	10.8	5.7	1.3	150.8
Nov.	3.8	5.2	6.2	4.6	5.7	11.3	6.5	4.8	9.7	7.2	4.8	2.5	8.3	12.9	15.3	8.2	10.1	11.5	11.9	5.2	7.4	7.4	5.2	3.5	179.2
Dec.	5.4	2.3	3.0	3.9	3.2	7.0	5.6	13.0	10.4	13.1	13.9	15.8	13.7	10.4	6.8	12.4	9.0	8.0	5.8	6.1	5.3	6.9	3.5	2.4	186.9
Annual	43.9	44.2	45.0	42.4	55.9	57.2	56.5	62.7	71.4	59.7	68.0	69.0	61.0	56.2	54.3	70.4	67.9	66.2	69.0	69.5	69.3	60.5	38.1	30.3	1388.6

## RAINFALL

Monthly and annual totals of durations in sixty-minute periods between exact hours, G.M.T.

90 ESKDALEMUIR:  $h_r = 242.0 \text{ m.} + 0.4 \text{ m.}$ 

1940

	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
	hours																								
Jan.	3.3	3.4	4.1	3.0	4.1	3.6	3.6	2.7	4.6	5.1	6.6	4.4	3.9	3.3	4.6	4.7	4.3	4.1	4.0	4.5	4.0	3.7	3.8	4.0	97.4
Feb.	2.3	4.3	5.4	6.7	5.7	4.4	3.7	3.8	3.4	2.6	2.0	1.5	2.3	1.3	1.4	2.8	3.1	3.2	2.7	3.1	3.7	2.3	2.3	2.0	76.0
Mar.	7.2	6.4	6.9	7.3	7.8	7.2	9.1	9.2	6.5	5.6	6.8	5.4	6.8	7.5	6.7	5.3	4.3	6.1	6.6	8.0	7.5	6.8	7.8	8.0	166.8
Apr.	7.6	6.6	6.4	8.2	6.7	8.5	8.6	6.3	8.3	6.0	5.8	4.3	3.6	1.3	1.5	2.1	4.7	4.1	3.4	2.5	2.8	3.2	3.8	4.2	120.5
May	2.5	0.9	0.6	0.0	1.0	0.8	0.9	1.9	0.2	0.0	0.0	1.3	1.3	0.8	1.2	2.0	1.0	1.5	1.0	1.4	2.2	3.2	2.4	2.0	30.1
June	1.0	1.0	2.0	1.5	1.0	1.0	1.0	1.6	1.4	0.4	1.3	1.0	0.3	0.0	0.4	1.2	1.0	1.1	0.7	0.2	1.2	1.3	0.2	1.6	23.4
July	7.0	5.1	4.0	4.4	4.3	2.7	3.2	3.7	5.0	4.4	3.7	3.3	3.5	3.9	4.9	8.0	8.7	7.5	6.6	7.4	5.4	4.1	3.8	3.6	118.2
Aug.	2.3	2.4	2.7	1.0	0.4	3.0	3.6	1.4	1.9	2.0	2.2	3.3	2.8	1.6	1.2	1.2	1.5	2.1	3.4	5.1	4.4	5.9	4.0	2.6	62.0
Sept.	3.2	4.5	4.3	4.3	6.1	6.7	5.9	4.0	5.0	1.8	1.8	3.2	2.0	2.0	2.6	2.1	1.2	2.1	2.4	1.2	2.1	3.8	2.0	2.2	76.5
Oct.	3.0	1.7	2.3	3.0	6.6	4.2	5.5	6.0	5.2	3.4	2.5	3.4	3.5	4.8	1.0	3.1	3.4	4.4	5.9	5.0	4.8	5.8	4.2	2.0	94.7
Nov.	3.6	5.6	5.1	4.9	3.3	3.1	4.1	4.1	4.2	3.5	4.7	2.8	4.6	4.8	6.0	4.5	8.5	7.8	7.4	6.1	6.7	8.2	6.5	4.8	124.9
Dec.	6.2	3.6	5.2	5.7	4.5	6.0	5.5	5.1	5.0	5.5	7.6	8.1	7.9	7.4	7.4	9.0	7.1	5.4	4.0	2.9	5.3	6.7	5.4	5.6	142.1
Annual	49.2	45.5	49.0	50.0	51.5	51.2	54.7	49.8	50.7	40.3	45.0	42.0	42.5	38.7	38.9	46.0	48.8	49.4	48.1	47.4	50.1	55.0	46.2	42.6	1132.6

## NOTES ON RAINFALL

91 ESKDALEMUIR

1940

## Dry Periods

The following definitions are adopted by the British Rainfall Organization

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. of rain or more

"Absolute drought": No occasions

"Partial drought": No occasions

"Dry spell": May 27-June 14

## Wet Periods

The following definitions are adopted by the British Rainfall Organization

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. of rain or more

"Rain spell": No occasions

"Wet spell": No occasions

## Rainfall Duration

Hours	0.1-1.0	1.1-2.0	2.1-6.0	6.1-12.0	>12.0
Number of days	35	21	79	49	21

There were 161 days on which no duration of rainfall was registered

The day with the greatest duration was July 14, when the duration was 23.1 hr., the amount falling being 38.6 mm.

The longest continuous fall, (18.6 hr.), occurred on September 16-17, 48.7 mm. being recorded

## Notable Falls of the Year

The greatest amount in a 60-min. period was 8.6 mm. between 14h. and 15h. on November 2, of which 5 mm. fell in 24 min.  
 Falls of 5 mm. in 1 hr. or less occurred on 16 days.

Details of the greatest continuous falls are as follows

	January 24	February 26-27	July 14	September 16-17	December 18
Amount (mm.)	28	24	31	49	25
Duration of rainfall (hr.)	16.1	16.0	16.4	18.6	14.0

## Rate of Rainfall (Jardi recorder)

The highest instantaneous rate of rainfall recorded was 80 mm./hr. at 10h. 20m. on September 13. The maximum rate exceeded 50 mm./hr. on May 14, July 11 and 24, September 13, 17 and 22 and November 1 and 20.



## DURATION OF BRIGHT SUNSHINE AND PERCENTAGE OF POSSIBLE FOR EACH DAY

81

92 ESKDALEMUIR:  $h_s$  (height of recorder above ground) = 1.5 m.

1940

	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	Dura- tion	Per cent. of pos- sible	Dura- tion	Per cent. of pos- sible	Dura- tion	Per cent. of pos- sible	Dura- tion	Per cent. of pos- sible	Dura- tion	Per cent. of pos- sible	Dura- tion	Per cent. of pos- sible	Dura- tion	Per cent. of pos- sible	Dura- tion	Per cent. of pos- sible	Dura- tion	Per cent. of pos- sible	Dura- tion	Per cent. of pos- sible	Dura- tion	Per cent. of pos- sible	Dura- tion	Per cent. of pos- sible
	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%
1	5.2	73	...	...	9.3	87	0.1	1	...	...	4.8	28	...	...	5.9	37	6.9	50	...	...	...	...	...	...
2	6.3	88	...	...	8.6	80	3.3	25	3.7	24	9.4	55	...	...	9.8	62	6.4	47	0.4	3	...	...	5.6	76
3	2.1	29	...	...	6.8	63	3.1	24	10.9	71	11.4	67	9.3	54	13.6	86	...	...	0.1	1	3.1	34	...	...
4	5.9	82	...	...	4.6	42	4.6	35	5.1	33	13.0	76	3.0	17	4.8	31	7.9	58	...	...	1.5	17	...	...
5	0.6	8	...	...	8.8	80	0.5	4	9.6	62	14.6	85	1.5	9	3.6	23	5.5	41	0.4	4	...	...	...	...
6	0.4	6	...	...	6.8	62	...	...	10.8	69	14.3	84	7.7	45	1.0	6	2.7	20	...	...	0.7	8	0.1	1
7	...	...	...	...	0.6	5	2.1	16	0.2	1	14.6	85	5.9	34	1.2	8	2.3	17	4.2	38	6.3	72	2.9	40
8	3.3	45	0.2	2	...	...	5.4	40	0.8	5	13.6	79	6.3	37	...	...	7.1	54	...	...	...	...	2.1	29
9	...	...	...	...	...	...	2.5	18	0.8	5	13.8	80	...	...	...	...	8.2	62	...	...	...	...	0.3	4
10	1.6	22	6.6	72	...	...	11.1	81	10.2	65	13.0	76	...	...	0.4	3	7.1	54	3.6	33	3.1	36	1.3	18
11	...	...	...	...	...	...	0.8	6	10.7	67	12.9	75	...	...	12.4	81	6.6	51	4.6	43	0.2	2	4.6	65
12	2.2	29	4.8	52	...	...	5.8	42	6.9	43	1.8	10	1.5	9	0.5	3	1.5	12	2.1	20	2.3	27	5.7	80
13	4.2	56	4.9	52	...	...	2.5	18	5.6	35	12.6	73	4.1	24	0.1	1	6.3	49	5.5	52	3.9	46	1.1	16
14	2.3	30	0.8	8	7.7	66	...	...	1.6	10	8.7	50	...	...	3.8	25	6.8	53	0.4	4	5.4	65	...	...
15	...	...	...	...	5.6	48	10.0	71	...	...	6.3	36	6.5	39	3.5	23	9.9	78	0.2	2	1.4	17	...	...
16	3.2	42	5.7	59	2.5	21	12.3	87	11.3	70	6.5	38	...	...	0.6	4	...	...	3.8	37	0.2	2	...	...
17	5.8	75	...	...	...	...	3.4	24	10.9	67	8.7	50	...	...	8.9	60	3.7	29	...	...	...	...	1.0	14
18	...	...	...	...	...	...	6.0	42	12.7	78	12.5	72	...	...	...	...	3.8	30	3.4	33	0.3	4	...	...
19	...	...	...	...	0.8	7	1.2	8	14.3	88	9.8	56	6.0	36	2.5	17	4.9	39	...	...	...	...	3.2	46
20	0.1	1	...	...	...	...	...	...	12.7	77	7.4	43	6.6	40	1.8	12	2.4	19	...	...	1.1	14	0.8	11
21	5.9	75	...	...	0.9	7	...	...	8.9	54	6.1	35	9.1	55	7.1	49	4.9	40	0.2	2	0.6	8	2.4	34
22	6.8	85	4.9	49	0.2	2	...	...	7.9	48	0.6	3	9.8	59	11.9	82	...	...	...	...	5.6	71	0.9	13
23	0.3	4	0.7	7	...	...	0.7	5	1.2	7	7.4	43	8.0	49	9.6	67	7.2	59	...	...	0.2	3	0.1	1
24	...	...	5.2	51	...	...	...	...	6.4	39	1.5	9	3.8	23	3.8	27	2.7	22	5.7	58	0.7	9	...	...
25	...	...	...	...	7.3	58	3.2	22	0.3	2	8.2	47	6.6	40	0.4	3	6.0	50	2.4	25	...	...	...	...
26	...	...	5.3	51	5.8	46	2.7	18	4.4	26	10.7	62	6.7	41	0.2	1	1.7	14	3.0	31	...	...	3.2	46
27	...	...	...	...	7.1	56	3.9	26	4.3	26	7.6	44	3.9	24	11.3	80	0.1	1	3.2	33	3.5	46	3.4	48
28	...	...	...	...	9.1	72	1.2	8	6.9	41	1.5	9	10.8	67	6.6	47	7.8	66	0.2	2	2.3	30	...	...
29	...	...	2.3	22	...	...	...	...	8.0	48	5.0	29	...	...	10.1	72	5.4	46	4.9	52	6.6	87	...	...
30	0.3	4	...	...	5.9	46	1.2	8	3.3	20	12.3	71	4.1	26	0.9	6	0.7	6	...	...	0.2	3	...	...
31	...	...	...	...	...	...	...	...	4.3	25	...	...	12.7	80	1.1	8	...	...	...	...	...	...	0.7	10
Mean	1.82	-	1.43	-	3.17	-	2.92	-	6.28	-	9.02	-	4.32	-	4.43	-	4.55	-	1.56	-	1.64	-	1.27	-
Annual mean													3.54	-										

## DURATION OF BRIGHT SUNSHINE

Monthly and annual totals between exact hours, local apparent time

93 ESKDALEMUIR:  $h_s$  = 1.5 m.

1940

	Hour L.A.T.																				Total	Per cent. of possible
	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			
	hours																					%
Jan.	-	-	-	-	...	1.9	5.9	9.4	10.2		10.5	10.7	6.9	1.0	...	-	-	-	-		56.5	24
Feb.	-	-	-	...	0.5	3.3	5.8	5.7	6.3		5.9	5.7	5.9	2.3	...	...	-	-	-		41.4	15
Mar.	-	-	...	2.2	8.5	11.0	10.5	12.2	10.6		10.4	9.5	9.9	8.1	4.3	1.2	...	-	-		98.4	27
Apr.	-	...	0.5	4.7	5.3	5.4	7.4	8.3	9.9		9.9	8.8	8.3	7.2	7.7	3.7	0.5	...	-		87.6	21
May	...	0.8	6.3	10.1	13.5	14.5	14.1	14.8	16.7		16.3	15.6	17.1	15.8	16.0	14.9	7.9	0.3	...		194.7	39
June	...	2.3	11.4	15.7	18.6	17.3	19.5	19.6	20.4		21.3	22.1	22.4	21.3	20.4	19.5	14.6	4.2	...		270.6	52
July	...	0.7	4.2	8.3	9.2	9.9	10.2	11.6	12.5		13.0	10.0	10.7	9.8	11.1	9.4	3.2	0.1	...		133.9	26
Aug.	-	...	1.7	7.0	7.8	9.4	10.2	11.4	13.1		12.3	11.5	12.4	13.5	13.2	10.3	3.6	...	-		137.4	30
Sept.	-	-	...	1.7	8.1	12.9	16.4	15.1	14.8		13.6	14.5	15.6	12.3	8.6	2.9	...	-	-		136.5	36
Oct.	-	-	-	...	1.0	5.5	7.5	9.1	8.2		6.3	4.9	3.8	2.0	...	...	-	-	-		48.3	15
Nov.	-	-	-	-	0.2	3.5	7.8	8.0	9.6		6.6	6.3	5.4	1.8	...	-	-	-	-		49.2	20
Dec.	-	-	-	-	-	0.1	6.3	6.4	7.0		7.1	6.8	5.7	...	-	-	-	-	-		39.4	18
Annual	...	3.8	24.1	49.7	72.7	94.8	121.7	131.7	139.4		133.4	126.6	124.3	95.3	81.4	62.0	29.8	4.6	...		1293.9	29



## WIND

Mean speed and highest instantaneous speed recorded each day (0h. to 24h., G.M.T.) by the pressure-tube anemograph

94 ESKDALEUIR:  $h_a$  (height of anemograph above M.S.L.) = height of ground above M.S.L. + height of anemograph above ground  
= 235 m. + 15 m.

1940

	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	Mean	Max. gust	Mean	Max. gust	Mean	Max. gust	Mean	Max. gust	Mean	Max. gust	Mean	Max. gust	Mean	Max. gust	Mean	Max. gust	Mean	Max. gust	Mean	Max. gust	Mean	Max. gust	Mean	Max. gust
	<i>metres per second</i>																							
1	0.7	4	4.8	11	2.3	9	12.0	26	4.6	12	3.5	12	2.3	8	1.1	6	4.7	17	0.1	2	6.5	20	9.0	17
2	0.7	5	5.1	11	0.4	4	2.6	14	4.1	12	2.8	11	4.8	15	0.8	6	3.0	15	0.6	6	8.1	28	3.2	16
3	3.0	11	6.4	19	3.4	15	5.9	22	4.3	12	1.3	7	6.1	18	1.4	8	1.8	7	0.5	5	3.2	14	2.9	13
4	1.7	10	8.0	23	6.4	24	9.0	20	2.2	9	1.7	8	2.8	13	2.7	11	4.9	17	1.8	16	2.0	8	7.9	23
5	0.2	3	1.0	5	5.6	19	3.4	16	3.5	12	0.9	7	1.1	7	1.9	11	4.1	14	9.9	23	2.3	9	9.3	31
6	0.6	4	0.1	2	1.9	9	5.2	17	3.8	14	1.1	8	2.6	10	2.8	11	5.6	16	5.9	24	4.4	19	14.3	37
7	1.2	4	2.6	13	2.6	10	9.7	22	4.9	13	1.2	8	2.4	12	3.3	11	9.5	26	4.0	17	4.7	17	7.3	23
8	0.9	9	0.3	3	5.6	14	5.1	16	0.6	5	2.5	11	3.4	15	5.1	14	3.9	15	6.8	20	4.8	11	5.8	19
9	0.4	4	2.9	9	4.1	12	2.1	10	1.1	12	2.8	12	6.1	26	7.9	16	3.8	16	8.8	26	4.9	15	3.2	14
10	0.7	7	0.9	8	2.9	11	2.7	10	3.9	15	2.6	11	3.1	10	10.0	24	6.1	21	8.6	21	6.6	20	6.2	19
11	1.2	7	1.8	11	4.0	10	4.3	17	2.9	11	2.7	13	3.5	10	6.8	22	2.4	10	2.6	11	4.6	20	4.1	12
12	0.2	3	4.8	15	4.3	21	4.3	18	3.8	14	2.5	12	6.1	14	4.4	10	5.8	17	2.1	12	7.1	21	1.3	9
13	0.1	1	4.8	13	4.8	19	4.4	19	4.4	13	2.0	10	3.8	12	4.3	13	6.4	18	3.4	13	3.9	20	4.1	13
14	0.7	13	0.6	6	1.9	8	8.2	25	5.0	18	1.4	9	0.8	7	4.2	16	5.4	17	4.6	13	4.2	15	6.9	19
15	2.1	15	0.6	5	7.4	20	9.9	23	3.7	14	1.8	13	1.2	6	3.1	10	4.2	15	4.9	16	1.5	16	10.4	26
16	7.9	23	2.5	15	3.4	13	4.6	17	5.0	14	5.3	16	0.5	6	4.8	18	1.8	9	3.6	12	4.3	18	13.3	29
17	5.2	22	3.2	16	1.9	11	4.6	14	2.7	11	3.1	11	3.1	12	5.5	16	9.0	24	4.2	13	6.5	21	1.8	8
18	5.3	14	1.7	8	6.3	19	2.7	12	2.6	11	0.8	7	3.4	11	4.2	14	7.0	22	0.7	6	5.9	18	7.2	22
19	1.2	5	2.3	10	7.7	20	4.5	11	2.5	10	1.6	12	6.2	16	3.2	13	9.2	25	3.9	13	4.2	19	4.3	15
20	2.2	9	4.2	19	7.4	24	4.3	13	2.5	12	3.3	12	4.4	15	6.6	24	7.1	24	5.2	15	9.1	30	3.6	14
21	2.3	10	8.5	19	5.1	15	5.5	13	3.1	13	3.4	14	4.4	17	9.7	24	1.4	9	1.7	12	7.7	39	4.5	18
22	3.0	11	4.2	26	5.3	12	6.4	16	4.9	13	4.6	12	4.2	13	6.0	19	4.0	16	4.7	14	4.2	15	5.3	18
23	1.0	14	8.4	21	3.4	10	7.2	22	1.6	8	4.2	14	2.7	10	6.0	20	7.8	23	6.6	17	10.7	23	3.1	11
24	5.6	16	4.4	17	5.4	12	2.4	9	2.6	12	4.5	15	3.9	16	4.9	19	3.5	13	5.5	17	10.1	25	2.7	10
25	3.4	11	2.3	9	1.4	6	2.8	10	1.7	13	7.3	20	2.6	9	6.4	17	3.4	11	3.4	11	10.1	24	0.6	6
26	7.7	18	3.7	11	3.4	18	1.5	8	1.8	11	6.1	18	1.5	11	6.3	11	3.6	12	1.1	6	13.9	27	0.8	9
27	7.9	18	5.1	16	8.2	20	1.6	11	4.8	14	2.9	13	2.8	11	2.4	10	7.3	24	1.8	7	8.5	22	1.7	9
28	10.7	21	9.5	25	5.6	20	3.4	11	2.7	12	3.6	13	3.5	14	3.5	15	3.8	16	2.1	10	3.0	12	3.9	13
29	8.5	16	5.6	17	1.9	10	3.9	11	1.3	11	4.6	13	4.8	18	5.9	21	0.6	4	5.2	15	1.4	9	5.7	15
30	7.2	15			5.6	19	5.0	15	4.6	16	1.8	8	3.8	15	3.5	11	1.2	8	8.4	21	2.3	11	3.4	14
31	7.1	14			8.9	23			4.4	12			2.2	13	8.2	23			7.4	20			4.5	15

## WIND

Monthly and annual means of mean wind speed between exact hours, G.M.T.

95 ESKDALEUIR:  $h_a$  = 235 m. + 15 m.

1940

	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
	metres per second																								
Jan.	3.4	3.4	3.1	2.9	3.1	3.1	3.0	3.0	3.2	3.2	3.3	4.0	4.0	3.9	3.7	3.4	3.4	3.3	3.2	3.0	2.8	2.6	2.8	3.2	3.2
Feb.	3.5	3.7	3.2	3.3	3.5	3.5	3.7	3.7	3.9	4.3	4.6	4.6	4.6	4.7	4.0	4.1	3.5	3.3	3.4	3.6	3.9	3.7	3.6	3.4	3.8
Mar.	3.9	4.0	4.0	3.8	4.2	4.4	4.5	4.6	4.9	5.5	5.7	6.2	6.0	6.0	5.4	5.3	5.0	4.2	3.6	3.1	2.8	3.1	3.8	3.6	4.5
Apr.	4.3	4.1	4.4	4.1	3.9	3.8	3.7	4.1	4.7	4.9	5.2	5.7	5.9	6.2	6.4	6.4	6.3	6.4	5.8	4.9	4.8	4.5	4.4	4.5	5.0
May	2.3	2.0	2.1	1.9	1.9	2.3	2.3	2.9	3.6	4.0	4.1	4.4	4.5	4.6	4.6	4.5	4.7	4.9	4.3	3.5	2.6	2.2	2.4	2.3	3.3
June	1.4	1.7	1.5	1.5	1.4	1.5	1.9	2.9	3.4	3.7	3.9	4.1	4.4	4.6	4.6	4.9	4.8	4.8	4.2	2.8	1.9	1.6	1.5	1.3	2.9
July	2.0	2.0	2.0	2.1	1.7	1.8	2.2	2.9	3.7	3.7	4.3	4.7	5.0	5.0	5.2	5.1	4.6	4.4	4.3	3.7	3.0	2.6	2.2	2.2	3.4
Aug.	3.5	3.1	3.7	3.5	3.6	3.8	3.9	4.0	4.8	5.4	5.6	5.5	5.7	5.8	5.8	5.7	5.9	6.0	5.3	4.6	4.7	4.4	4.0	3.7	4.7
Sept.	4.3	4.0	4.0	3.3	3.4	3.5	3.7	4.4	4.8	5.8	6.1	6.2	6.2	6.4	6.1	5.9	5.6	5.2	4.4	4.2	4.1	4.1	3.8	4.1	4.7
Oct.	3.5	3.5	3.6	3.5	3.7	4.0	4.2	4.5	4.6	5.0	5.5	5.5	5.5	5.2	5.0	4.7	4.1	3.5	3.3	3.5	3.5	3.8	3.8	3.7	4.2
Nov.	6.0	5.8	5.3	5.5	5.7	5.3	5.2	5.2	5.0	5.5	5.6	6.1	6.3	6.2	6.1	6.2	6.0	5.5	5.6	5.6	5.7	5.6	5.9	5.9	5.7
Dec.	4.4	4.6	4.5	5.0	4.9	4.8	5.3	5.0	5.1	5.5	5.7	6.1	6.3	6.2	6.0	5.5	5.5	5.7	5.2	5.1	4.9	5.0	4.8	4.5	5.2
Annual	3.5	3.5	3.4	3.4	3.4	3.5	3.6	3.9	4.3	4.7	5.0	5.3	5.4	5.4	5.3	5.1	4.9	4.8	4.4	4.0	3.7	3.6	3.6	3.5	4.2

## DISTRIBUTION OF WIND SPEED, EXTREME VELOCITIES AS RECORDED BY PRESSURE-TUBE ANEMOGRAPH

96 ESKDALEUIR:  $h_a$  = 235 m. + 15 m.

1940

	DISTRIBUTION OF WIND SPEED								EXTREME VELOCITIES					
	More than 17.1 m./sec.		10.8 to 17.1 m./sec.		5.5 to 10.7 m./sec.	1.6 to 5.4 m./sec.	Less than 1.6 m./sec.	No record	Highest hourly wind			Highest gust		
	Dates of occurrence	Duration	No. of days	Duration	Duration	Duration	Duration	Duration	Veer from N.	Speed	Hour ended	Speed	Date	
		hr.		hr.	hr.	hr.	hr.	hr.	°	m./sec.	day h.	m./sec.	day h. m.	
Jan.	—	0	6	20	174	203	347	0	28	15	20	23	16 8 25	
Feb.	—	0	7	31	177	251	237	0	200	16	22 23	26	22 21 50	
Mar.	—	0	8	31	240	306	167	0	240	15	31 2	24	4 12 15	
Apr.	—	0	8	53	237	311	119	0	210	17	1 12	26	20 14 10	
May	—	0	—	0	158	359	227	0	220	11	14 12	18	1 10 30	
June	—	0	—	0	142	305	273	0	250	11	25 17	20	14 14 5	
July	—	0	1	5	144	372	223	0	210	16	9 14	26	25 16 30	
Aug.	—	0	7	30	269	292	153	0	310	14	11 6	24	9 13 15	
Sept.	—	0	7	30	268	269	153	0	260	13	17 10	26	21 18 10	
Oct.	—	0	7	41	210	285	208	0	280	15	9 22	26	7 13 0	
Nov.	21, 26	4	11	85	250	276	105	0	280	23	21 8	39	9 21 55	
Dec.	6, 16	21	9	52	218	327	126	0	320	21	6 14	37	21 7 25	
Year	4	25	71	378	2487	3556	2338	0	280	23	Nov. 21 8	39	Nov. 21 7 25	



97 ESKDALEUIR

1940

	JANUARY 30 cm. 122 cm.	FEBRUARY 30 cm. 122 cm.	MARCH 30 cm. 122 cm.	APRIL 30 cm. 122 cm.	MAY 30 cm. 122 cm.	JUNE 30 cm. 122 cm.	JULY 30 cm. 122 cm.	AUGUST 30 cm. 122 cm.	SEPTEMBER 30 cm. 122 cm.	OCTOBER 30 cm. 122 cm.	NOVEMBER 30 cm. 122 cm.	DECEMBER 30 cm. 122 cm.
	<i>degrees Absolute</i>											
1	76.2	79.9	74.2	77.8	74.4	77.1	77.7	78.1	81.0	79.1	84.9	82.0
2	76.0	79.8	74.2	77.8	74.5	77.1	78.0	78.1	81.0	79.3	85.1	82.0
3	75.7	79.8	74.2	77.9	74.5	77.1	78.1	78.1	81.3	79.4	85.7	82.0
4	75.6	79.7	74.2	77.9	74.7	77.1	78.3	78.1	82.1	79.4	86.2	82.1
5	75.6	79.6	74.2	77.9	74.9	77.1	78.5	78.1	82.2	79.6	86.8	82.1
6	75.5	79.4	74.2	77.8	74.9	77.1	78.2	78.2	83.0	80.0	87.0	82.3
7	75.5	79.4	74.2	77.8	74.8	77.1	78.2	78.2	83.0	79.9	87.2	82.4
8	75.3	79.3	74.3	77.8	74.8	77.1	78.6	78.2	82.9	80.1	87.3	82.6
9	75.3	79.2	74.3	77.8	75.0	77.1	78.8	78.2	82.9	80.1	87.3	82.7
10	75.2	79.1	74.4	77.7	75.5	77.1	78.8	78.3	82.9	80.1	87.2	82.9
11	75.2	79.1	74.2	77.6	76.1	77.1	78.9	78.3	82.9	80.1	87.3	83.0
12	75.0	79.1	74.2	77.5	76.9	77.1	79.0	78.4	83.0	80.2	87.0	83.0
13	75.0	79.0	74.2	77.4	76.7	77.1	79.0	78.6	83.1	80.2	86.8	83.0
14	75.0	79.0	74.2	77.3	76.2	77.2	79.2	78.6	83.2	80.2	86.7	83.1
15	74.9	78.9	74.2	77.3	76.0	77.2	79.0	78.7	82.9	80.4	86.9	83.1
16	74.9	78.9	74.2	77.3	75.9	77.3	78.8	78.7	82.8	80.5	86.8	83.2
17	74.7	78.7	74.1	77.3	76.2	77.3	78.5	78.6	83.0	80.6	86.5	83.2
18	74.6	78.6	74.1	77.3	76.8	77.3	78.8	78.7	83.7	80.7	87.1	83.3
19	74.6	78.5	74.1	77.3	76.9	77.3	78.9	78.7	84.0	80.8	87.7	83.4
20	74.7	78.6	74.1	77.3	76.9	77.3	78.9	78.7	84.1	80.8	87.8	83.4
21	74.3	78.4	74.3	77.3	77.7	77.4	78.8	78.8	84.3	81.0	87.3	83.4
22	74.3	78.5	74.1	77.3	78.0	77.5	78.8	78.7	84.4	81.0	87.0	83.6
23	74.2	78.4	74.1	77.3	78.3	77.5	78.5	78.8	84.1	81.0	86.5	83.7
24	74.1	78.2	74.2	77.2	78.5	77.6	78.8	78.8	84.1	81.1	86.1	83.9
25	74.1	78.1	74.3	77.1	78.7	77.8	78.9	78.8	84.4	81.2	85.9	83.9
26	74.1	78.1	74.3	77.1	79.1	77.8	79.4	78.9	84.3	81.2	85.6	84.0
27	74.0	78.1	74.7	77.1	78.8	78.1	80.4	78.9	85.0	81.3	85.5	83.9
28	74.2	78.1	75.0	77.1	78.0	78.1	81.4	79.0	85.0	81.4	85.5	83.9
29	74.2	78.0	74.6	77.1	77.3	78.0	81.5	79.1	85.5	81.6	86.0	83.9
30	74.2	77.9			76.9	78.1	81.0	79.1	85.6	81.7	86.0	83.9
31	74.2	77.8			76.9	78.1			85.0	81.9		
Mean	74.9	78.8	74.3	77.5	76.5	77.4	79.0	78.5	83.4	80.5	86.6	83.1
	Year											81.0 81.3

## MINIMUM TEMPERATURE "ON THE GRASS" DURING THE INTERVAL 18h. TO 7h., G.M.T.

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1940

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
	<i>degrees Absolute</i>											
1	60.8	71.7	66.8	78.2	78.0	82.6	79.2	79.1	77.1	78.9	77.2	75.3
2	61.9	71.3	63.2	70.1	78.0	79.6	82.6	80.4	79.7	76.0	74.6	76.9
3	62.1	69.5	62.9	72.1	76.1	76.7	83.4	77.5	76.1	70.9	74.8	66.0
4	66.0	72.4	73.3	76.1	71.9	78.8	79.0	74.4	77.6	77.4	71.9	78.1
5	62.4	72.9	66.7	-	74.6	77.0	75.0	82.7	83.1	79.5	65.7	72.2
6	68.8	73.2	64.9	69.7	74.3	76.4	78.7	77.5	78.6	79.3	76.0	72.7
7	71.6	72.7	61.4	78.0	73.9	75.7	72.1	78.0	84.8	70.6	69.9	72.7
8	72.6	72.4	73.1	76.8	80.4	77.0	76.0	80.5	76.4	77.0	75.4	69.9
9	65.9	73.3	77.8	70.8	71.6	75.9	80.2	83.1	67.4	80.0	77.7	72.0
10	62.8	64.6	75.3	67.3	77.0	74.6	81.6	84.4	81.6	78.1	73.2	73.0
11	65.1	66.8	77.5	66.1	71.1	78.0	82.9	79.9	79.9	73.0	73.4	71.0
12	61.2	64.8	76.4	75.1	75.9	74.8	81.8	73.3	77.6	71.1	74.8	68.4
13	62.0	64.9	71.8	68.9	74.8	70.7	82.2	83.9	78.5	71.2	74.0	65.1
14	63.2	71.4	59.8	74.3	79.8	71.9	83.0	75.6	76.4	76.0	69.0	74.5
15	68.7	70.3	65.5	71.0	73.4	75.0	83.0	73.8	72.0	78.6	63.4	74.1
16	67.0	62.0	70.6	68.0	79.4	81.7	85.6	81.6	72.8	80.1	71.0	81.0
17	58.3	68.1	75.9	66.6	71.0	78.9	83.9	80.8	82.7	79.3	72.8	66.1
18	63.0	68.7	78.4	67.3	76.5	76.6	83.2	84.8	79.7	75.4	76.9	73.0
19	62.3	70.4	79.0	74.5	71.7	77.3	79.0	81.6	80.1	80.1	73.0	68.0
20	70.0	72.2	73.1	73.0	70.1	83.4	74.7	81.3	78.8	81.7	77.7	73.2
21	53.8	75.9	75.0	75.4	76.1	75.2	75.5	81.3	72.9	81.8	76.5	70.2
22	61.0	72.5	78.3	76.7	75.4	80.9	79.1	79.0	70.9	74.0	71.4	69.7
23	53.1	77.2	78.2	73.7	78.9	79.1	71.4	79.4	78.0	79.0	72.1	72.3
24	70.6	73.4	78.0	77.1	78.7	71.3	79.5	70.0	73.5	74.0	78.0	74.2
25	73.0	74.3	77.4	77.9	76.8	78.8	79.8	83.6	70.8	73.6	80.5	72.8
26	72.8	73.1	70.2	73.8	81.7	79.0	77.8	83.8	75.0	72.5	80.8	69.0
27	71.3	77.2	71.3	76.0	82.9	72.9	81.1	75.3	82.9	72.5	75.0	70.2
28	71.0	-	67.0	78.4	82.9	74.6	73.8	72.6	74.0	71.0	66.4	68.5
29	70.2	71.3	63.4	77.0	77.0	81.0	80.0	82.2	66.1	68.0	69.5	74.6
30	69.1		68.5	78.2	73.9	74.7	83.9	72.1	71.1	76.0	66.8	78.2
31	68.8		78.2		75.3			83.6		86.5		71.2
Mean	65.5	71.0	71.6	73.4	76.1	77.0	79.8	79.4	76.2	76.0	73.3	72.1
	Year											74.3

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

The minimum "on the grass" refers to the interval from 18h. on the previous day to 7h. on the day to which it is entered.

Add 0.16° to obtain temperature in degrees Kelvin where  $T(^{\circ}\text{K.}) = t(^{\circ}\text{C.}) + 273.16$ .



POTENTIAL GRADIENT (reduced to level surface)  
Mean values for periods of sixty minutes between exact hours, G.M.T.

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1940

	JANUARY, factor 4.98				FEBRUARY, factor 5.02				MARCH, factor 5.06			
	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.
					<i>volts per metre</i>							
1	115	170	270	305	(150)	(190)	(360)	(430)	110	135	345	470
2	160	375	285	340	(145)	(120)	315	265	340	235	205	370
3	225	Z-	445	130	395	645	420	Z+	280	500	350	275
4	310	490	115	255	(-125)	85	205	135	85	200	195	190
5	150	275	260	315	545	715	450	5	120	245	215	430
6	340	470	600	370	280	270	545	645	225	215	205	320
7	85	200	185	-60	230	Z-	485	350	295	175	195	245
8	275	280	310	-	150	265	425	515	105	(95)	Z+	Z+
9	-	350	365	550	165	185	295	260	(-45)	Z+	Z-	Z-
10	435	400	Z+	590	240	340	390	575	-20	10	230	330
11	510	485	655	540	Z+	345	105	280	250	250	90	Z-
12	Z+	640	-	-	Z+	160	125	210	-45	Z±	Z-	155
13	-	-	285	360	240	215	305	415	360	(690)	295	200
14	190	140	450	265	245	410	550	565	300	350	275	545
15	180	265	210	(760)	5	125	150	285	55	150	240	225
16	115	Z+	160	140	150	430	340	Z+	200	255	225	175
17	70	310	395	365	(725)	185	285	370	160	45	145	80
18	270	Z+	235	400	220	255	290	370	-40	460	Z-	Z±
19	135	-80	Z+	-140	395	160	295	310	-125	205	Z±	135
20	Z±	-125	220	485	145	-65	320	80	130	Z-	40	350
21	470	420	470	555	40	40	105	170	60	110	170	65
22	395	310	535	495	470	Z+	535	-20	65	Z-	215	Z-
23	(235)	340	380	500	55	215	155	Z-	385	400	275	255
24	130	0	Z-	Z-	Z-	275	190	180	215	345	-	380
25	215	140	265	395	-5	340	325	500	360	150	-	230
26	305	300	Z±	-490	245	470	310	-135	90	245	Z+	400
27	(610)	380	340	190	55	Z-	275	140	135	195	150	165
28	660	Z+	Z+	Z+	Z-	-420	(135)	115	270	205	145	175
29	Z+	Z+	585	370	85	125	170	225	85	20	Z-	-355
30	150	180	55	55					205	255	70	165
31	65	Z±	335	(405)					125	380	140	170
(a)	262	315	336	381	234	274	305	308	193	241	201	260
(b)	262	309	342	353	205	233	321	315	194	250	214	255
Mean	(a) 322		(b) 316		(a) 282		(b) 268		(a) 224		(b) 228	

  

	APRIL, factor 5.01				MAY, factor 4.96				JUNE, factor 4.99			
	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.
					<i>volts per metre</i>							
1	(215)	Z-	110	Z-	55	145	50	45	330	130	140	145
2	95	100	210	225	280	315	210	390	105	140	130	195
3	275	Z-	215	170	285	220	190	305	200	130	135	100
4	5	Z-	125	210	350	130	100	200	215	155	130	110
5	130	-55	120	190	60	95	95	Z-	190	215	(185)	(120)
6	245	115	50	210	280	155	110	280	(125)	(75)	(75)	(185)
7	325	Z-	Z±	115	90	160	145	205	(345)	(135)	-	-
8	105	Z-	140	165	345	170	140	245	-	-	90	(265)
9	80	130	110	295	160	110	165	265	275	(155)	-	-
10	230	205	115	85	115	115	150	150	-	-	-	-
11	230	255	95	275	125	140	-	-	-	-	(140)	225
12	65	205	180	140	-	-	130	275	85	140	55	290
13	155	135	110	120	160	155	100	90	105	120	145	225
14	85	Z-	120	Z-	175	85	Z-	315	125	115	100	95
15	180	260	290	260	95	225	-95	Z-	30	85	90	480
16	380	175	195	220	260	260	235	325	25	65	115	85
17	110	170	130	205	235	120	205	195	65	75	100	190
18	90	130	110	225	160	200	175	230	-	-	100	75
19	95	Z-	155	130	200	145	140	310	85	135	130	135
20	Z±	40	Z-	35	295	95	(100)	(120)	140	90	210	185
21	Z-	-150	145	80	(270)	(110)	(85)	(80)	100	85	170	75
22	-10	-15	155	105	(160)	(100)	(90)	(90)	85	-80	Z-	165
23	45	30	130	15	(75)	(125)	(100)	(165)	65	135	150	-
24	Z±	Z+	140	60	(75)	(285)	120	390	-	(115)	90	(105)
25	465	315	210	290	210	55	130	Z±	(55)	Z+	90	90
26	560	140	130	350	35	305	125	Z±	125	155	185	215
27	195	270	Z+	220	540	240	235	195	30	215	130	165
28	245	325	395	135	-	165	110	60	160	160	75	125
29	170	30	110	185	90	110	10	55	115	200	300	Z-
30	-115	350	215	220	245	215	Z-	205	195	125	165	120
31					175	175	175	235				
(a)	191	178	156	176	193	164	134	208	135	131	132	167
(b)	176	158	161	197	212	165	138	207	128	127	130	171
Mean	(a) 175		(b) 173		(a) 175		(b) 181		(a) 141		(b) 139	

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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	JULY, factor 5.02				AUGUST, factor 5.00				SEPTEMBER, factor 5.05			
	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.
					<i>volts per metre</i>							
1	55	150	75	160	545	235	300	280	-	-	150	105
2	300	215	145	220	300	275	-	-	95	145	175	300
3	115	180	170	175	-	270	300	235	(45)	(205)	(10)	(45)
4	115	85	Z±	265	230	245	175	260	(100)	(65)	195	195
5	135	175	105	200	325	65	120	245	85	185	135	210
6	75	235	125	155	150	160	115	330	140	130	125	130
7	145	Z±	Z±	105	105	175	130	Z-	150	140	100	95
8	325	130	Z-	250	185	130	120	-15	150	30	105	255
9	55	Z±	-	-	485	315	100	10	(25)	115	155	185
10	-	-	140	60	65	240	65	85	130	180	150	220
11	-20	615	-10	255	90	180	200	430	445	180	175	290
12	290	240	95	140	155	145	80	235	(45)	Z-	130	85
13	(50)	125	-	-	95	120	140	35	25	45	Z-	155
14	-	-	Z-	100	(45)	(20)	195	275	150	105	175	230
15	65	380	170	105	185	105	95	155	175	120	165	220
16	95	95	Z-	290	110	125	175	275	120	95	Z-	Z-
17	-	-20	Z-	-190	180	95	-	-	Z-	175	Z-	25
18	35	-105	45	50	-	-	-	-	90	105	Z-	110
19	145	285	150	Z+	-	130	150	185	Z-	Z-	115	(0)
20	420	225	-55	275	40	Z-	95	185	(20)	120	145	155
21	245	130	140	Z-	100	150	135	205	-	-	70	55
22	95	150	165	305	135	215	185	310	15	85	95	Z-
23	330	160	175	290	120	70	200	225	-10	25	85	145
24	110	190	205	340	465	190	180	185	130	80	95	260
25	120	225	190	475	60	75	110	260	155	210	170	210
26	215	190	270	Z+	130	110	105	195	175	120	220	(55)
27	170	90	165	185	175	265	155	325	-	-	75	410
28	375	210	155	340	200	220	180	115	120	290	160	385
29	50	85	50	150	100	150	165	205	85	180	120	(20)
30	315	145	200	255	(20)	150	-5	190	-	-	210	275
31	115	150	220	355	150	230	-	-	-	-	-	-
(a)	169	194	150	220	177	167	153	217	116	130	135	172
(b)	166	196	126	233	181	160	143	209	124	138	140	190
Mean	(a) 184		(b) 180		(a) 178		(b) 173		(a) 140		(b) 148	

	OCTOBER, factor 5.16				NOVEMBER, factor 5.15				DECEMBER, factor 5.15			
	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.
					<i>volts per metre</i>							
1	60	(25)	120	(20)	(-10)	(20)	40	Z±	145	150	255	160
2	(15)	100	125	200	260	305	Z-	130	Z-	100	225	285
3	265	215	125	95	75	165	-	320	155	220	Z-	650
4	165	125	10	Z±	195	525	290	425	375	215	10	Z+
5	50	45	255	Z-	50	Z-	320	Z±	145	135	-35	20
6	50	105	135	295	450	200	225	Z-	90	5	35	30
7	365	355	205	335	185	190	200	Z-	55	95	315	450
8	165	Z-	250	165	180	405	Z-	Z-	135	215	205	Z-
9	Z±	Z-	Z-	-65	Z-	Z-	115	425	-15	205	125	Z-
10	110	155	20	130	415	145	210	125	160	145	155	455
11	140	160	145	(70)	60	225	Z-	Z-	50	585	340	370
12	(20)	(55)	190	395	40	425	150	135	180	290	235	270
13	90	145	245	245	170	175	170	420	165	395	465	285
14	-	-	135	245	-	160	225	365	120	Z-	-100	390
15	160	125	85	140	205	260	215	650	450	215	20	260
16	135	145	130	255	Z-	360	240	230	105	70	Z-	225
17	580	235	70	305	345	250	Z±	Z-	105	440	Z+	525
18	120	280	120	130	-30	Z-	15	85	465	Z-	Z-	565
19	45	30	25	(35)	60	140	210	195	265	200	330	300
20	(20)	(55)	(75)	25	Z-	Z±	230	215	170	125	260	245
21	60	Z-	(160)	-	20	95	175	475	75	130	210	310
22	-	-	-	65	225	290	255	205	75	140	165	140
23	40	(5)	60	115	90	Z±	205	205	70	160	180	115
24	65	135	Z-	Z-	70	150	115	190	75	125	140	510
25	Z-	50	35	115	120	110	85	85	200	275	175	365
26	135	125	105	355	65	85	105	-	300	325	635	590
27	105	165	90	225	-	-	-	-	225	360	680	Z+
28	85	45	165	80	155	210	310	305	370	555	360	245
29	130	190	295	250	155	245	275	520	120	220	60	55
30	90	180	90	Z-	70	640	690	215	460	20	Z-	190
31	155	210	215	(5)	-	-	-	-	150	185	290	225
(a)	127	134	128	172	159	241	211	282	188	217	245	305
(b)	135	140	126	176	146	262	242	303	165	223	229	270
Mean	(a) 139		(b) 144		(a) 222		(b) 239		(a) 237		(b) 222	

The factor used for converting the potential at the collector to potential gradient in volts per metre in the open is given for each month.

Annual means	(a)	179	198	190	237
	(b)	174	192	187	236
	(a)	201	(b)	197	



POTENTIAL GRADIENT (reduced to level surface): DIURNAL INEQUALITIES  
The departures from the mean of the day are adjusted for non-cyclic change†

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	Hour G.M.T.																								Non-cyclic change†	No. of days used	Mean		
	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 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					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
	volts per metre																											v./m.	
	0a days only*																												
Jan.	-48	-53	-65	-45	-56	-32	-7	+1	+5	-17	+10	+36	+11	+30	+16	+24	+27	+35	+39	+35	+25	+19	+10	-3	+56	9	333		
Feb.	+30	+22	+11	+6	0	-32	-48	-39	-73	-46	-60	-41	-18	-19	-18	+38	+17	+49	+22	+35	+39	+77	+20	+39	+78	6	301		
Mar.	+43	0	-24	-68	-93	-84	-60	-46	-18	+49	-22	-21	+14	+2	-23	-52	-36	+21	+46	+99	+82	+73	+54	+66	-34	7	272		
Apr.	+29	+87	+81	+39	+29	+49	-2	-50	-35	-36	-14	-29	-18	-64	-32	-1	-18	-18	-20	+16	+5	-14	+1	+20	-113	5	252		
May	+26	+17	+19	+32	+16	+8	-17	-18	-22	-38	-38	-49	-53	-48	-24	-15	-6	-3	+27	+59	+55	+39	+14	+23	-34	11	196		
June	-7	-3	+6	-2	-1	+2	-13	-14	-7	+12	+20	+11	+5	-2	-7	+7	+4	+5	-8	+7	+6	0	-11	-9	-33	7	137		
July	+23	+8	+39	+49	+46	+23	+46	+55	+24	+1	+5	-35	-19	-50	-55	-44	-39	-38	-55	-40	-11	+16	+37	+23	+146	5	204		
Aug.	+23	+5	-3	-19	-16	-20	-31	-36	-58	-63	-59	-32	-22	-26	-13	-6	-13	-5	+27	+86	+90	+103	+51	+44	-112	9	193		
Sept.	-18	+7	-17	-21	-39	-60	-72	-69	-20	-39	-41	-36	-20	-2	+8	+10	+28	+73	+55	+65	+89	+60	+51	+6	-70	7	177		
Oct.	-12	-63	-53	-64	-78	-57	-63	-42	-30	-60	-66	-51	-48	-34	-2	+45	+79	+115	+68	+119	+108	+88	+90	+2	+47	3	176		
Nov.	-128	-153	-146	-67	-8	-8	+117	+34	+30	-54	-81	-35	0	-51	-2	+99	+106	+156	+169	+127	+52	-11	-47	-96	-103	3	296		
Dec.	-50	-45	-98	-95	-67	-82	-47	-22	-26	-32	+27	+24	-10	-6	+66	+44	+52	+35	+99	+58	+74	+59	+51	-8	-19	6	255		
Year	-1	-7	-15	-17	-21	-24	-22	-23	-22	-25	-24	-19	-16	-19	-7	+6	+9	+25	+33	+52	+51	+45	+27	+15	-	-	231		
Winter	-40	-45	-65	-48	-39	-42	-11	-10	-19	-33	-15	+5	-3	-1	+18	+42	+40	+53	+66	+52	+44	+39	+16	-6	-	-	300		
Equinox	+13	+13	-2	-28	-46	-42	-51	-54	-24	-14	-32	-32	-13	-19	-12	-7	-5	+43	+37	+72	+70	+51	+46	+27	-	-	223		
Summer	+18	+17	+13	+13	+8	+1	-11	-11	-22	-28	-25	-29	-27	-32	-23	-12	-11	-7	+6	+39	+44	+44	+22	+22	-	-	184		

1a and 2a days only\*

Jan.	-9	-41	-32	+6	-44	-106	-70	+5	+50	-9	-5	-1	-15	+23	-20	-76	+76	+156	+70	+39	+35	-51	+9	+19	-219	1	96
Feb.	-17	-65	-76	-34	-40	-12	-33	-63	-68	-73	-45	+29	+55	+49	+49	+63	+71	+140	+108	+44	-18	-59	+13	-6	-107	5	198
Mar.	-12	+77	+1	+17	-108	-39	-37	+30	-68	-14	+49	+17	+19	+67	+60	0	-39	+55	-94	-67	+62	-1	+5	+8	+383	1	131
Apr.	-2	-7	-43	+5	-38	-13	+25	+19	+18	+19	-23	-32	-19	-11	-13	-37	+1	+43	+28	+26	+42	+2	+1	+11	-4	6	143
May	+21	+17	+40	0	+1	-9	+13	-6	+28	+2	-13	-14	-17	+18	-61	+29	-56	-57	-35	-16	-19	+19	+60	+60	+100	4	129
June	-8	-6	-26	-46	-57	-34	-12	-35	-13	-35	-27	-37	-6	+1	+4	+22	+41	+43	+54	+53	+36	+37	+35	+12	-20	7	134
July	+9	-10	-34	-55	-23	-10	-16	-28	-23	-13	-25	-53	-27	-21	-8	-20	-18	+21	+38	+72	+89	+77	+33	+36	-74	6	154
Aug.	+19	+37	+7	+4	+31	+18	+26	+19	+10	+10	+2	-18	-36	-34	-47	-64	-39	-40	-21	-13	+20	+40	+40	+23	+111	10	165
Sept.	+21	+7	+28	+28	+10	+29	+56	+36	+20	-5	-32	-60	-23	-36	-31	-12	-15	-22	-4	+15	+5	-31	-2	+10	+107	5	140
Oct.	+40	+6	-37	-68	-84	-45	-25	+44	+26	-31	-60	-18	-22	+18	+19	+19	+20	+55	+47	-1	+20	+20	+19	+38	-148	3	134
Nov.	-76	-177	-115	-49	+9	-68	+116	+88	+104	-31	-100	+20	-18	+61	+108	+104	+131	+107	+36	-41	-19	-68	-71	-57	-28	3	191
Dec.	-30	-65	-47	-25	-59	-25	-19	-13	+26	+80	+75	+41	+25	+36	+5	+4	+9	+21	+37	+34	-15	-46	-37	-19	-93	6	197
Year	0	-15	-25	-19	-23	-14	+8	+2	+7	-4	-15	-15	-10	+3	-5	-2	+7	+25	+24	+19	+20	+5	+14	+13	-	-	158
Winter	-34	-86	-69	-31	-38	-35	+1	-8	+12	+1	-5	+30	+23	+44	+38	+39	+59	+86	+62	+22	-13	-55	-24	-20	-	-	189
Equinox	+14	+6	-15	-2	-36	-7	+22	+31	+15	-1	-29	-35	-19	-9	-8	-15	-3	+24	+13	+11	+27	-6	+4	+17	-	-	140
Summer	+10	+13	-6	-22	-8	-6	+5	-9	-1	-8	-14	-29	-24	-14	-27	-18	-16	-8	+9	+22	+34	+44	+41	+29	-	-	149

Winter: January, February, November, December

Equinox: March, April, September, October

Summer: May to August.

\* For explanation of 0a, 1a, 2a days see p. 90, *Observatories' Year Book, 1938*.† See p. 10, *Observatories' Year Book, 1938*.



101 ESKDALEUIR

1940

	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE	
	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient
1	0a	hr. ...	0a	hr. ...	0a	hr. ...	(2c)	hr. 9.0	1a	hr. 1.1	1a	hr. 0.1
2	0a	...	0a	...	0a	...	0a	...	0a	...	1a	0.3
3	1b	1.8	0a	...	0a	...	2c	7.6	0a	...	0a	...
4	0a	...	2b	4.3	0a	...	2b	5.5	0a	...	0a	...
5	0a	...	1b	1.1	0a	...	1b	1.3	1b	1.8	(0a)	...
6	0a	...	1b	0.7	0a	...	1a	0.7	1a	0.1	(0a)	...
7	1b	2.2	2b	3.9	0a	...	2b	3.7	1a	0.1	(0a)	...
8	0a	...	(1a)	0.1	(1b)	(0.1)	1b	0.9	0a	...	(1a)	0.1
9	0a	...	0a	...	(2c)	(11.3)	1b	0.3	0a	...	(0a)	...
10	0a	...	0a	...	2a	4.5	0a	...	0a	...	(0a)	...
11	0a	...	0a	...	2b	6.7	1b	0.9	(0a)	...	(0a)	...
12	(0a)	...	1b	0.1	2c	12.5	1a	0.2	(0a)	...	1a	0.3
13	(0a)	...	0a	...	1b	0.3	1a	0.3	0a	...	0a	...
14	0a	...	1a	0.1	0a	...	2c	6.5	2c	3.2	0a	...
15	1b	1.7	1a	0.6	1b	2.1	1b	1.0	2c	4.9	1b	2.1
16	1c	0.9	0a	...	1b	2.0	0a	...	0a	...	1a	0.1
17	0a	...	0a	...	1b	1.0	1b	1.7	0a	...	(1a)	0.1
18	1b	1.8	0a	...	1b	2.9	1a	0.1	0a	...	(0a)	...
19	2c	9.2	1a	0.1	2c	5.1	1b	1.5	0a	...	0a	...
20	2c	9.9	1a	1.7	2b	8.3	2c	12.5	(1a)	0.1	1a	1.5
21	0a	...	1a	0.7	2b	4.9	2b	7.5	(1a)	0.1	1a	1.6
22	0a	...	1a	2.5	2c	4.7	2b	3.7	(1a)	0.1	2b	6.1
23	1b	0.4	2b	3.6	1c	2.7	2b	3.3	(2b)	3.2	(1a)	0.7
24	2c	13.0	2b	4.2	1c	(2.7)	2c	8.6	(1b)	2.1	(0a)	...
25	0a	...	2b	3.9	(0a)	...	0a	...	2c	3.7	2b	3.3
26	2b	5.2	1a	2.5	1b	(0.5)	0a	...	2b	3.7	1b	0.8
27	0a	...	2b	4.2	(1a)	0.1	1b	1.0	(1a)	0.2	1a	0.7
28	(0a)	...	2b	9.3	0a	...	0a	...	(1a)	1.0	0a	...
29	(1a)	0.3	0a	...	2c	9.0	2a	3.1	1a	0.5	1b	2.3
30	1a	3.1			1b	1.1	1a	1.1	1b	0.9	0a	...
31	1b	1.6			2b	4.6			0a	...		
Total	-	51.1	-	43.6	-	(87.1)	-	82.0	-	26.8	-	20.1
No. of days used	-	31	-	29	-	31	-	30	-	31	-	30
Mean	-	1.6	-	1.5	-	2.8	-	2.7	-	0.9	-	0.7

	JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient
1	0a	hr. ...	0a	hr. ...	(0a)	hr. ...	(1a)	hr. 0.1	(2b)	hr. 3.8	1a	hr. 0.4
2	1b	1.0	(0a)	...	0a	...	(0a)	...	2c	5.6	1b	2.8
3	1a	0.5	(0a)	...	(1a)	0.5	1a	0.1	(1b)	0.6	2c	3.3
4	2c	4.8	1a	0.1	(0a)	...	2c	4.9	0a	...	2b	4.5
5	1a	0.1	0a	...	1a	0.1	2c	7.9	2c	5.9	2a	6.0
6	1b	0.6	1a	0.1	1a	0.3	0a	...	2c	7.8	2b	3.8
7	2c	3.2	1b	1.4	1a	0.7	1b	1.5	1b	1.3	1b	0.3
8	2c	4.5	1b	2.0	1b	2.5	2b	5.4	2c	5.9	2b	3.2
9	(2c)	(2.4)	1b	2.0	1a	0.7	2c	12.7	2c	11.2	2b	4.0
10	2c	4.9	2b	5.2	1a	0.1	1b	2.7	2c	5.6	2c	3.4
11	2c	6.0	1a	1.2	0a	...	(0a)	...	2c	8.6	1b	0.1
12	1b	0.4	1a	0.3	2b	4.2	(0a)	...	2b	3.9	0b	...
13	(0a)	...	1a	0.6	2c	4.1	(0a)	...	1b	1.1	0a	...
14	(2c)	(3.3)	(1b)	(1.4)	0a	...	(1a)	0.4	0a	...	2c	11.5
15	0a	...	0a	...	0a	...	2b	3.1	1b	0.4	2b	4.7
16	(1b)	2.0	1a	0.2	2c	8.0	1b	1.2	2b	3.4	2b	3.3
17	(2c)	9.9	(1a)	(0.1)	2c	8.1	1b	1.0	2c	7.2	0b	...
18	2b	3.3	(0a)	...	2c	3.7	1a	0.1	2c	6.2	2c	12.6
19	1b	1.3	(0a)	...	2c	5.8	(1a)	0.7	1b	0.8	1a	0.1
20	2b	4.1	2b	4.3	(1b)	2.3	(0a)	...	2c	8.1	0a	...
21	1b	0.4	1a	0.1	(1a)	0.1	(2b)	3.1	2b	3.6	0a	...
22	1a	0.1	0a	...	2c	7.3	(0a)	...	0a	...	0a	...
23	1a	0.3	0a	...	1b	2.3	(2a)	4.5	2b	4.5	1a	0.1
24	2b	3.4	0a	...	1a	0.6	1b	2.3	1a	0.9	1b	1.3
25	1b	0.7	0a	...	0a	...	2c	9.0	1a	2.0	0a	...
26	2c	3.6	1a	0.1	0a	...	0a	...	(2b)	(-)	0a	...
27	1a	0.1	0a	...	(1a)	0.1	1b	1.4	(1b)	(-)	0b	...
28	0a	...	1a	0.2	0a	...	1a	1.4	0a	...	1a	0.1
29	1a	1.0	0a	...	(0a)	...	0a	...	1b	0.7	1a	1.7
30	0a	...	(1a)	0.4	(0a)	...	2c	7.3	1a	0.2	2b	5.1
31	0a	...	(0a)	...			(1b)	1.1			1b	0.2
Total	-	(61.9)	-	(19.7)	-	51.5	-	71.9	-	99.3	-	72.5
No. of days used	-	31	-	31	-	30	-	31	-	28	-	31
Mean	-	(2.0)	-	0.6	-	1.7	-	2.3	-	3.5	-	2.3

Annual values: Character 0 1 2  
No. of days used 127 142 97

Duration: Total 687.5 hr.  
No. of days 364  
Mean 1.89 hr.



**TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

102 ESKDALEMUIR (H)

16,000γ (0.16 C.G.S. unit) +

JANUARY 1940

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
1	519	518	522	506	514	515	519	517	515	514	513	514	514	519	523	523	525	526	522	523	500	508	507	500	516
2	487	501	494	496	500	506	518	519	508	511	506	501	496	496	495	508	511	515	518	518	516	502	502	510	506
3 d	508	508	504	505	518	523	520	504	490	479	465	464	453	483	494	534	642	495	463	460	429	443	459	462	492
4	479	468	467	473	470	478	479	478	473	473	466	451	456	454	470	462	494	503	504	489	486	490	490	494	477
5	495	496	502	513	471	497	504	502	498	495	496	494	497	503	505	505	507	509	509	505	499	482	497	498	499
6	487	474	494	495	521	524	522	509	504	501	497	489	485	485	492	482	464	498	492	509	498	505	522	501	498
7	498	517	506	511	511	512	514	513	504	498	494	488	489	495	478	501	504	505	525	518	511	522	525	493	505
8	500	504	506	509	531	510	507	509	506	509	511	510	514	513	505	496	505	507	509	521	511	509	518	518	510
9	504	509	510	512	513	515	516	516	515	514	514	503	498	497	512	503	496	516	498	526	491	497	505	505	508
10 d	508	509	510	506	510	512	515	519	515	512	517	521	524	501	501	455	487	484	497	467	496	492	466	483	500
11 d	482	484	493	493	483	502	519	516	491	481	484	489	494	499	492	501	497	506	516	519	526	476	475	480	496
12	489	473	475	486	494	504	490	509	512	497	492	495	473	501	506	481	494	492	502	510	492	498	501	497	494
13	496	495	503	512	503	506	508	508	500	493	496	499	504	510	508	506	508	510	510	515	512	512	511	509	506
14 q	508	507	508	508	510	513	513	514	509	504	497	501	512	512	512	510	512	513	515	508	505	506	505	513	509
15	505	503	500	500	505	509	511	512	508	503	503	503	505	509	513	507	511	516	517	519	520	523	519	516	510
16	515	507	514	521	522	531	531	524	523	516	503	504	515	507	504	514	511	499	500	501	503	505	501	507	512
17	503	506	523	520	516	534	511	519	505	503	495	501	511	496	465	495	500	476	482	491	483	501	491	494	501
18 d	485	498	500	505	511	516	522	520	500	500	503	496	511	511	500	506	504	533	397	431	453	463	462	468	491
19	468	473	478	480	481	483	484	485	490	494	490	483	482	492	492	499	498	502	493	500	496	495	495	493	489
20	497	497	499	500	503	503	504	500	495	491	493	493	496	497	496	500	503	498	491	488	503	504	503	504	498
21 q	508	507	507	508	509	511	510	506	500	496	498	499	503	504	503	496	508	507	507	507	508	507	509	510	505
22	509	510	512	512	514	514	518	517	510	499	502	502	500	503	506	510	513	503	506	489	516	518	515	515	509
23	513	511	513	515	517	520	522	523	517	510	510	515	518	519	519	520	522	524	526	519	495	492	499	503	514
24	506	504	518	500	512	510	511	513	516	514	510	506	499	507	512	513	510	511	514	507	471	495	500	502	507
25	503	498	507	515	513	511	512	495	486	492	494	485	499	488	482	505	502	510	511	514	516	502	508	510	502
26 q	513	512	512	512	511	510	510	507	501	497	495	497	501	511	517	518	515	515	516	522	517	508	518	514	510
27 q	515	513	518	518	519	516	521	522	522	514	503	496	498	506	517	514	517	524	525	526	523	522	521	520	516
28 q	520	513	515	516	518	520	520	520	513	506	504	503	508	517	523	522	521	521	521	524	521	518	516	512	516
29	510	510	510	517	516	516	518	517	512	506	499	501	505	515	517	520	517	501	478	513	519	521	511	509	511
30	514	516	505	513	514	518	528	531	520	493	491	482	489	507	519	505	494	517	522	519	517	509	511	501	510
31 d	515	505	504	510	521	544	532	528	523	521	509	505	505	470	486	514	481	498	486	517	493	494	505	493	507
Mean	502	501	504	506	508	512	513	512	506	501	498	496	499	501	502	504	509	508	502	506	501	501	502	501	504

**MAGNETIC DECLINATION (WEST)**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

103 ESKDALEMUIR (D)

13° +

JANUARY 1940

	Hour G.M.T.																								Mean
	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	
1	2.2	1.5	1.6	-1.7	-1.0	-0.4	-0.3	0.7	1.5	2.8	5.1	4.9	6.3	5.6	6.3	5.9	3.7	3.2	3.7	2.6	0.4	-0.3	1.3	0.6	2.3
2	-1.9	0.9	-3.7	-5.5	-2.4	-0.4	5.2	6.3	6.8	7.0	6.1	5.9	8.4	9.9	9.6	6.1	4.5	3.0	2.5	1.9	1.9	0.7	3.0	-4.9	3.0
3 d	-1.1	-0.3	-0.3	-0.9	-3.2	2.7	7.8	9.3	9.9	9.9	9.1	9.3	10.2	10.2	12.0	12.5	24.3	16.4	4.3	4.2	-3.1	-1.7	0.4	0.0	5.9
4	-0.4	0.6	1.3	2.4	2.2	2.7	2.3	2.3	2.4	2.6	4.0	6.7	6.7	6.2	6.7	-4.8	4.7	7.1	6.3	4.3	-2.4	-2.9	1.9	2.3	2.7
5	2.8	2.8	1.4	-0.7	4.0	1.4	2.5	1.6	1.9	2.4	3.1	4.6	5.2	4.9	4.1	4.0	3.6	3.2	3.0	2.5	2.2	-0.1	1.2	-4.7	2.4
6	-0.6	-0.2	1.5	-2.2	-3.5	-2.7	1.3	2.2	2.5	2.7	3.7	4.3	8.1	8.3	6.7	6.6	-0.2	3.0	-4.1	-4.8	1.2	0.1	-2.0	-0.5	1.3
7	-0.5	4.0	1.2	2.1	3.1	3.2	3.1	3.1	2.4	3.3	4.5	5.0	4.9	6.1	1.2	3.9	3.9	3.1	-6.2	-1.3	0.9	-6.9	-4.8	-1.4	1.6
8	1.2	4.3	3.0	4.3	4.8	1.4	3.1	1.6	1.5	1.8	2.8	3.9	4.8	4.4	3.6	2.8	2.7	3.9	3.1	1.2	2.4	0.9	-2.2	1.4	2.6
9	1.4	2.4	2.2	2.4	2.4	2.5	2.0	1.3	1.2	2.1	2.8	3.5	5.0	4.8	3.8	4.6	-1.2	1.8	4.8	-8.6	0.5	-0.1	0.6	2.3	1.9
10 d	4.6	2.7	1.5	3.1	2.4	1.7	2.0	1.9	2.3	2.9	4.2	5.6	6.7	8.3	13.0	6.9	8.5	-1.3	1.9	5.9	-6.6	-2.2	-1.8	0.4	3.1
11 d	2.4	2.2	1.7	0.1	2.4	3.2	1.5	3.6	4.1	3.1	3.0	3.7	4.6	5.0	1.9	3.3	5.4	4.1	6.8	-6.8	-14.6	-3.5	1.6	-1.3	1.6
12	-5.6	-8.2	-4.9	-0.6	-0.5	-0.2	2.2	2.1	6.0	5.6	4.4	4.9	6.3	2.8	5.4	5.9	0.6	6.1	0.0	0.3	-2.1	-5.8	-2.5	0.5	0.9
13	0.8	0.3	0.9	0.6	-1.0	-0.2	0.1	0.4	0.9	2.2	3.5	5.2	6.6	5.3	2.7	2.2	2.3	2.8	3.1	1.5	1.9	1.8	0.9	0.7	1.9
14 q	1.0	1.3	1.6	1.9	2.2	2.0	1.5	0.9	1.1	1.8	2.7	4.2	4.7	5.4	3.9	3.3	3.7	3.0	2.7	2.3	1.0	-0.2	-0.3	-0.3	2.1
15	-5.9	-8.5	-6.8	-2.1	0.6	0.9	1.4	1.2	0.8	1.8	4.1	6.1	7.9	7.3	6.2	5.0	4.0	3.2	3.1	2.7	2.3	2.2	2.2	1.9	1.7
16	1.2	-1.1	-1.5	-2.3	-0.1	1.2	1.6	4.7	5.4	6.4	5.8	5.3	8.7	8.2	6.2	3.7	4.0	0.9	-8.9	-1.4	0.6	0.5	-3.2	0.1	1.9
17	1.8	2.1	2.3	-0.4	1.3	2.2	5.3	5.0	1.7	2.2	3.1	6.6	8.6	8.6	9.9	5.1	4.9	3.9	1.7	-2.1	-5.3	-0.5	-2.7	-4.9	2.5
18 d	-0.4	1.0	0.4	2.2	2.7	2.5	3.3	2.3	1.7	1.0	4.5	7.7	9.1	10.5	7.6	3.2	1.5	-1.2	-27.1	-6.5	-3.3	2.1	2.8	2.9	1.3
19	2.7	2.3	2.5	1.5	0.9	0.7	0.3	0.3	1.3	1.8	3.2	4.4	5.0	4.5	2.3	2.7	3.6	2.9	1.2	1.2	1.0	1.4	2.0	2.1	
20	1.3	0.9	1.7	1.9	1.4	1.2	0.8	0.6	0.8	1.8	3.6	4.2	4.9	4.6	3.5	2.8	3.0	2.7	-0.4	-5.2	0.5	1.7	1.5	1.9	1.7
21 q	1.9	1.9	2.0	2.1	1.8	1.4	0.9	0.5	0.3	1.3	2.5	3.8	3.9	3.1	2.5	1.5	2.3	1.4	1.3	1.6	1.4	1.6	1.6	2.0	1.9
22	2.2	2.3	2.4	2.3	1.7	2.4	1.3	0.3	0.3	1.5	4.3	6.3	7.0	7.5	5.7	5.9	4.3	4.0	-0.6	1.9	-0.2	1.9	2.5	3.1	2.9
23	2.8	2.5	2.4	2.1	1.9	1.7	1.3	1.2	0.9	1.4	3.6	4.9	5.7	6.2	4.6	4.4	3.9	3.7	3.2	4.3	1.7	0.1	-0.2	-0.2	2.7
24	0.1	-1.3	-4.0	-6.7	-2.7	-1.0	-0.9	-0.9	0.0	1.5	3.0	4.4	6.9	8.6	8.2	8.8	8.7	9.5	9.4	9.2	-5.2	1.2	1.7	0.5	2.5
25	0.9	-1.3	2.3	-5.2	-2.7	-0.6	0.0	-0.2	-0.7	-0.1	2.0	3.5	6.9	10.3	9.7	5.5	4.9	3.4	2.0	1.3	1.1	-1.3	-1.3	1.5	1.7
26 q	1.9	1.6	1.4	1.4	1.2	1.0	0.6	0.1	0.2	1.1	2.0	3.2	4.5	5.0	4.0	2.7	2.7	2.2	1.9	2.4	2.7	1.8	0.9	0.5	2.0
27 q	1.1	1.9	2.3	1.4	0.5	0.7	2.4	0.6	0.2	1.1	1.9	3.6	4.6	5.4	4.9	3.7	3.4	3.2	2.6	2.0	1.5	1.0	0.7	0.9	2.1
28 q	0.4	1.7	2.2	1.4	1.8	1.5	0.6	-0.1	0.4	1.8	3.6	4.9	5.5	5.5	4.2	2.6	2.9	3.1	3.3	2.9	2.4	1.8	0.5	0.0	2.3
29	0.8	0.3	0.2	0.8	-0.8	-0.4	-0.2	0.0	0.1	1.6	3.6	5.8	7.1	7.8	9.6	13.0	17.0	21.4	13.4	3.7	2.3	2.3	1.5	-1.8	4.5
30	-2.7	-4.3	-9.5	-4.7	-1.6	-0.3	0.0	0.4	0.5	1.8	5.0	6.2	8.5	7.6	7.6	7.1	1.4	3.7	4.0	2.2	1.2	-0.7	-0.4	-0.9	1.3
31 d	1.1	-0.4	2.2	2.9	2.8	4.3	4.4	5.0	2.3	3.4	4.6	6.3	8.3	10.3	7.5	5.6	4.3	-2.5	-3.9	-2.7	-8.6	-3.3	-1.4	-8.9	1.8
Mean	0.6	0.5	0.4	0.1	0.7	1.2	1.9	1.9	2.0	2.6	3.9	5.1	6.5	6.7	6.0	4.7	4.6	4.0	1.2	0.7	-0.7	-0.2	0.2	-0.2	2.3



TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

89

104 ESKDALEUIR (V)

44,000γ (0.44 C.G.S. unit) +

JANUARY 1940

	Hour G.M.T.																								Mean
	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	
1	999	1000	998	999	1001	1002	1001	1001	1001	1003	1006	1005	1001	1005	1004	1004	1005	1005	1006	1007	1016	1018	1013	1014	1005
2	1013	995	990	993	999	999	995	996	1000	1003	1007	1006	1007	1008	1010	1012	1012	1011	1010	1007	1006	1009	1001	996	1004
3 d	992	992	992	986	983	979	977	981	986	992	999	1002	1008	1016	1029	1187	1293	1241	1186	1112	1104	1079	1036	1020	1049
4	1004	1008	1012	1012	1014	1017	1019	1020	1022	1024	1024	1022	1028	1032	1037	1068	1038	1024	1024	1035	1050	1022	1017	1014	1024
5	1013	1012	1005	992	990	993	1001	1008	1011	1011	1011	1010	1011	1011	1011	1011	1011	1011	1011	1013	1016	1022	1019	1014	1009
6	1010	1004	993	998	984	978	1013	992	999	1004	1006	1008	1013	1025	1028	1033	1046	1032	1037	1026	1019	1014	1005	997	1011
7	998	986	991	998	1001	1001	1001	1003	1004	1004	1007	1010	1014	1021	1031	1021	1016	1016	1008	1008	1011	992	995	1006	1006
8	996	995	992	989	981	985	992	997	998	999	998	997	1002	1007	1010	1014	1009	1006	1005	1004	1003	1006	1006	997	999
9	997	1001	1002	1002	1002	1001	1002	1002	1001	1002	1003	1007	1008	1009	1010	1013	1021	1011	1012	1014	1011	1015	1011	1009	1007
10 d	1001	995	994	996	999	1002	1002	1001	1000	1002	999	997	1001	1010	1049	1100	1097	1098	1087	1082	1043	1006	1017	1018	1025
11 d	1008	1009	1012	1012	1007	1004	1003	1000	1001	1005	1008	1009	1010	1013	1017	1017	1016	1012	1013	1066	1040	1040	1032	1006	1015
12	1007	1003	996	986	984	989	992	997	997	1003	1011	1010	1014	1021	1019	1025	1030	1025	1030	1024	1026	1010	1003	1006	1009
13	1009	1011	1005	998	996	1000	1001	1000	1001	1003	1003	1003	1006	1010	1013	1013	1010	1009	1009	1008	1006	1006	1007	1007	1006
14 q	1007	1007	1006	1006	1006	1006	1005	1005	1004	1003	1004	1001	1000	1004	1008	1009	1009	1007	1007	1009	1013	1012	1012	1005	1006
15	995	994	994	995	998	1001	1002	1001	1001	1002	1002	999	997	999	1007	1009	1008	1007	1006	1004	1003	1003	1006	1007	1002
16	1005	1006	1003	997	996	995	996	995	992	995	997	992	993	1002	1007	1007	1010	1015	1023	1012	1009	1007	1006	1001	1003
17	996	995	985	983	988	988	990	992	999	1001	1006	1004	1004	1015	1032	1027	1029	1047	1040	1030	1026	1014	1007	1000	1008
18 d	995	1000	1003	1002	1002	1001	999	999	1004	1007	1004	998	998	1007	1033	1073	1187	1213	1162	1112	1063	1040	1025	1015	1039
19	1015	1015	1014	1015	1017	1019	1019	1017	1015	1016	1018	1019	1021	1022	1021	1020	1018	1017	1019	1018	1015	1015	1013	1013	1017
20	1012	1012	1011	1010	1009	1009	1010	1012	1010	1011	1013	1015	1015	1019	1021	1018	1015	1017	1022	1026	1016	1012	1012	1010	1014
21 q	1009	1009	1009	1009	1008	1008	1008	1009	1009	1009	1011	1012	1012	1013	1014	1015	1012	1013	1013	1012	1010	1009	1009	1009	1010
22	1008	1007	1006	1005	1004	1003	1003	1003	1002	1002	999	999	1005	1008	1009	1009	1010	1015	1020	1024	1018	1010	1008	1007	1008
23	1007	1007	1005	1003	1001	1000	1000	1000	1001	999	997	997	1000	1003	1004	1003	1003	1003	1003	1006	1020	1031	1031	1022	1006
24	1019	1017	1007	1000	997	997	999	999	998	997	1001	1003	1005	1006	1007	1012	1019	1021	1021	1024	1048	1030	1028	1022	1012
25	1018	1017	1003	986	990	992	994	996	997	997	1001	1002	1001	1010	1024	1017	1021	1021	1015	1011	1009	1012	1012	1008	1006
26 q	1008	1008	1008	1007	1006	1006	1005	1004	1003	1003	1002	998	997	1001	1006	1003	1001	1003	1003	1003	1004	1009	1009	1008	1004
27 q	1007	1007	1006	1006	1003	1002	998	997	997	997	1002	1002	1001	1004	1006	1008	1005	1003	1003	1003	1003	1001	1002	1001	1003
28 q	1001	1002	1003	1003	1003	1002	1001	1000	998	997	997	995	997	998	1001	1001	1000	1002	1002	1001	1002	1003	1004	1006	1001
29	1006	1006	1006	1003	1001	1003	1001	1001	1000	998	1002	1002	1001	1003	1004	1009	1019	1048	1088	1064	1039	1027	1020	1022	1016
30	1007	989	980	988	994	997	997	995	994	998	998	1004	1004	1006	1010	1019	1034	1021	1013	1012	1015	1023	1020	1022	1006
31 d	1007	1000	1002	1001	998	991	989	994	997	998	1001	1003	1006	1015	1011	1014	1042	1042	1036	1025	995	1008	1003	996	1007
Mean	1005	1004	1001	999	999	999	1000	1001	1001	1003	1004	1004	1006	1010	1016	1026	1034	1033	1030	1026	1021	1017	1012	1009	1011

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

105 ESKDALEUIR

JANUARY 1940

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 + °A					
	Horizontal force			Declination			Vertical force														
	Maximum 16,000γ +		Minimum 16,000γ +	Range	Maximum 13° +		Minimum 13° +	Range	Maximum 44,000γ +		Minimum 44,000γ +	Range									
1	h. m.	γ		γ	h. m.	γ	h. m.	γ	h. m.	γ	γ	h. m.	γ	2, 2, 2, 2, 2, 1, 3, 3	17	0	83.1				
2	17 49	534		469	23 54	65	12 7	8.1	-4.6	21 2	12.7	21 0	1023	994	2 48	29	3, 3, 2, 2, 2, 1, 1, 4	18	1	83.1	
3 d	22 28	549		457	0 30	92	22 37	11.6	-8.6	2 47	20.2	0 17	1017	983	2 11	34	1, 4, 3, 2, 4, 7, 6, 4	31	2	83.0	
4	16 35	847		411	21 2	436	16 34	48.2	-9.3	21 5	57.5	16 0	1366	976	6 26	390	2, 1, 1, 3, 3, 5, 5, 5	25	1	82.9	
5	20 57	595		428	11 50	167	12 22	11.2	-16.0	20 54	27.2	15 34	1075	1001	0 44	74	2, 4, 1, 0, 1, 1, 2, 3	14	1	82.9	
6	3 33	522		439	4 17	83	4 37	8.0	-7.1	23 43	15.1	21 50	1028	983	4 59	45	3, 3, 2, 3, 3, 4, 5, 3	26	1	82.8	
7	18 56	556		439	16 23	117	13 30	13.1	-21.8	18 51	34.9	18 39	1052	977	5 19	75	3, 1, 2, 2, 4, 2, 3, 5	22	1	82.8	
8	21 57	603		443	14 11	160	13 50	8.5	-21.2	21 50	29.7	14 41	1036	978	1 50	58	2, 3, 2, 1, 3, 2, 2, 3	18	0	82.7	
9	4 39	544		487	15 3	57	3 57	7.9	-4.4	22 6	12.3	15 30	1015	977	4 40	38	2, 0, 1, 2, 2, 3, 5, 2	17	1	82.7	
10 d	22 56											16 22	1024	991	0 1	33	2, 1, 1, 2, 4, 5, 5, 4	24	1	82.6	
11 d	19 23	572		474	16 11	98	12 42	8.6	-20.0	19 16	28.6	17 59	1135	991	2 11	144	2, 3, 3, 3, 2, 2, 5, 4	24	1	82.5	
12	17 51	559		420	15 3	139	14 42	19.2	-13.0	20 52	32.2	19 59	1085	997	7 54	88	3, 3, 4, 3, 3, 4, 4, 5	29	1	82.4	
13	20 11	595		443	22 1	152	18 40	8.7	-28.9	20 6	37.6	18 37	1037	979	4 10	58	2, 2, 2, 2, 2, 1, 1, 0	12	0	82.5	
14 q	21 50	555		430	21 35	125	12 17	9.4	-21.5	21 41	30.9	14 39	1014	994	4 10	20	0, 0, 0, 1, 1, 1, 2, 2	7	0	82.3	
15	3 11	521		488	10 55	33	11 3	7.8	-2.3	3 4	10.1	20 20	1014	996	24 0	18	3, 3, 1, 1, 1, 1, 1, 2	13	0	82.3	
16	23 53	530		494	10 36	36	13 10	6.0	-2.0	23 48	8.0	16 10	1009	991	2 8	18	2, 1, 2, 2, 3, 3, 3, 2	18	1	82.2	
17	21 26	527		492	2 22	35	12 57	8.7	-10.4	1 0	19.1	17 10	1297	994	0 40	303	3, 3, 3, 2, 4, 3, 4, 3	25	1	82.1	
18 d	8 1	536		480	17 56	56	12 29	10.8	-10.4	18 31	21.2	17 10	1097	991	2 8	18	2, 2, 3, 4, 4, 7, 5, 2	29	2	82.0	
19	19 19	540		449	14 31	91	14 29	13.8	-11.2	23 49	25.0	13 52	1022	1012	23 6	10	2, 1, 2, 2, 2, 3, 2, 1	15	1	82.0	
20	17 10	811		347	18 27	464	15 30	18.5	-41.6	18 34	60.1	19 22	1030	1008	4 10	22	1, 1, 1, 1, 2, 3, 3, 1	13	0	81.9	
21 q	15 15	514		463	0 12	51	12 58	5.7	-0.3	7 45	6.0										
22	16 44	516		465	18 19	51	13 3	6.3	-9.5	19 27	15.8										
23	4 40																				
24	16 47	512		493	9 46	19	12 28	4.8	-0.4	8 20	5.2	15 12	1015	1007	4 40	8	1, 0, 1, 1, 2, 2, 1, 0	8	0	81.8	
25	6 47	526		472	17 45	54	13 23	7.9	-4.5	18 9	12.4	19 49	1026	997	11 1	29	0, 1, 1, 2, 1, 3, 3, 1	12	1	81.8	
26	17 4	530		481	21 41	49	13 43	7.5	-2.0	21 58	9.5	22 0	1033	997	11 43	36	0, 0, 1, 2, 2, 1, 3, 2	11	0	81.8	
27	2 26	533		448	20 23	85	17 17	12.6	-10.2	20 29	22.8	20 28	1057	995	4 31	62	3, 3, 2, 2, 2, 3, 4, 3	22	1	81.7	
28	20 33	519		460	14 0	59	13 9	11.9	-6.8	3 43	18.7	16 54	1027	985	3 28	42	3, 3, 3, 2, 3, 3, 1, 3	21	1	81.9	
29	22 17	529		488	10 49	41	13 10	5.3	-1.4	22 44	6.7	21 51	1011	996	12 21	15	0, 0, 0, 1, 1, 1, 2, 2	7	0	81.8	
30	23 57	533		491	11 51	42	13 40	5.9	-0.3	8 28	6.2	15 13	1009	995	6 52	14	1, 1, 2, 2, 2, 1, 1, 2	12	0	81.9	
31 d	0 1	532		502	10 50	30	12 30	5.8	-1.3	22 50	7.1	23 50	1006	995	11 37	11	2, 0, 1, 0, 1, 1, 1, 1	7	0	81.9	
Mean	21 15	532		460	18 43	72	17 20	22.3	-4.7	23 52	27.0	18 42	1099	997	9 23	102	2, 1, 1, 1, 2, 3, 4, 3	17	1	82.0	
	18 24	538		474	11 59	64	12 29	9.7	-10.7	2 35	20.4	16 40	1036	977	2 9	59	3, 3, 2, 3, 3, 3, 3, 2	22	1	82.1	
	19 39	587		425	20 24	162	13 25	12.2	-20.4	20 29	32.5	16 44	1056	985	6 8	71	3, 3, 3, 3, 4, 4, 5, 4	29	1	82.2	
Mean	- -	561		458	- -	103	- -	11.2	-10.5	- -	21.7	- -	1056	991	- -	65	-	-	-	0.71	82.3



**TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

106 ESKDALFMUIR (H)

16,000γ (0.16 C.G.S. unit) +

FEBRUARY 1940

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
1 d	509	499	485	485	491	507	487	504	482	478	486	464	472	485	500	512	512	540	485	492	480	478	501	485	492
2 d	506	504	494	497	495	500	510	497	478	493	493	495	494	486	497	501	512	510	485	501	500	501	513	516	499
3 d	508	513	506	508	508	513	513	512	512	493	482	484	489	473	500	484	489	529	504	505	508	493	537	500	503
4	512	507	506	506	508	508	512	512	509	504	500	501	502	504	507	509	499	505	512	514	517	513	515	530	509
5	524	514	513	513	516	520	524	526	520	519	511	509	512	512	496	504	524	527	524	512	507	500	509	523	515
6	527	508	512	513	513	521	528	528	524	524	515	523	524	517	515	520	520	532	504	497	497	501	509	502	516
7	539	531	508	511	516	515	514	513	513	508	500	496	500	500	503	513	506	508	517	517	515	520	523	520	513
8	524	516	516	519	520	517	528	527	515	506	496	504	505	509	515	505	513	517	517	514	508	496	497	506	512
9	501	499	496	490	515	519	521	512	511	506	500	501	508	513	513	513	509	516	519	520	520	520	514	519	511
10	508	511	519	515	512	515	515	515	513	507	502	502	507	515	519	516	515	525	523	511	512	503	504	503	512
11	514	516	521	523	527	530	525	523	523	516	504	512	518	519	515	508	510	513	512	511	478	470	465	464	509
12 d	488	496	503	492	512	512	519	517	507	507	503	507	512	512	483	496	503	521	522	523	527	523	523	517	509
13	523	535	510	515	526	528	527	528	527	519	511	505	508	500	508	516	523	524	523	516	503	512	515	516	517
14 q	519	514	515	518	522	523	525	527	525	512	499	499	505	513	519	521	519	519	523	525	523	523	517	516	518
15	514	517	520	523	522	524	527	528	522	503	502	504	506	498	513	518	519	523	526	529	525	529	529	525	519
16	526	526	521	522	526	526	522	522	517	515	500	498	510	518	522	521	510	513	523	526	533	522	515	519	519
17 q	519	520	519	520	522	527	531	528	519	518	515	509	508	518	522	524	515	510	518	522	522	522	523	523	520
18 q	523	522	522	523	524	526	527	528	527	528	524	519	514	516	520	521	522	523	523	521	523	526	523	525	523
19 q	525	526	526	525	526	527	528	528	526	519	515	514	521	524	526	527	526	526	528	530	528	530	534	530	526
20	523	494	496	507	502	504	505	526	525	518	510	512	511	522	510	527	526	511	518	514	502	507	510	506	512
21	488	502	511	508	512	506	510	506	505	494	488	491	483	507	510	519	484	498	505	510	510	509	503	507	503
22	510	510	515	511	514	522	522	501	502	514	509	502	503	512	510	511	510	510	508	513	515	504	518	511	511
23	498	498	507	510	508	513	506	504	501	500	505	500	505	514	513	510	512	514	525	523	502	484	463	481	504
24	486	494	496	502	507	510	507	510	508	501	504	495	498	501	500	510	514	503	515	523	514	512	522	506	506
25 d	507	502	493	496	501	500	520	505	510	487	455	484	483	509	503	510	508	503	495	500	497	502	501	503	499
26	503	507	506	510	510	510	507	506	500	491	489	492	499	497	502	503	503	510	515	527	503	510	514	514	505
27 q	514	514	521	522	521	512	516	514	507	496	492	497	510	506	514	519	517	518	522	520	521	523	521	518	514
28	519	518	515	514	522	525	523	522	522	510	496	496	499	503	508	507	513	511	523	529	531	520	514	527	515
29	525	528	530	526	527	530	534	532	526	514	503	501	500	498	494	504	506	518	520	519	533	523	519	520	518
Mean	513	512	510	511	515	517	518	517	513	507	500	501	504	507	509	512	512	516	515	516	512	510	512	511	511

**MAGNETIC DECLINATION (WEST)**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

107 ESKDALEMUIR (D)

13° +

FEBRUARY 1940

	Hour G.M.T.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															</
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TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

91

108 ESKDALEMUIR (V)		44,000γ (0.44 C.G.S. unit) +																								FEBRUARY 1940	
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	
		γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1 d		975	974	982	982	989	991	993	1003	1006	1012	1015	1018	1026	1031	1035	1034	1030	1039	1037	1033	1014	1021	1012	995	1010	
2 d		966	983	994	997	1000	1003	1004	1007	1012	1009	1010	1009	1013	1016	1019	1024	1018	1017	1028	1025	1018	1016	1012	1003	1008	
3 d		989	992	1000	1003	1003	1003	1003	1003	1004	1007	1008	1009	1012	1019	1022	1031	1036	1040	1024	1015	1013	1018	997	999	1010	
4		996	1000	1001	1003	1003	1003	1003	1003	1006	1004	1001	1002	1006	1008	1010	1015	1027	1019	1012	1010	1014	1011	1007	1000	1007	
5		990	992	997	1001	1001	1000	999	998	998	997	996	995	997	1000	1010	1015	1006	1004	1004	1008	1013	1018	1002	986	1001	
6		980	990	991	992	997	997	997	997	995	991	994	991	995	999	1005	1006	1007	1007	1025	1037	1045	1032	1026	1019	1005	
7		998	969	980	994	998	998	1000	1002	1001	1000	998	1001	1000	1004	1016	1017	1018	1015	1013	1013	1013	1012	1009	1006	1003	
8		1003	986	988	994	995	994	991	991	994	994	998	1001	1001	1003	1007	1010	1010	1010	1009	1013	1025	1020	1019	1009	1003	
9		993	988	992	992	986	989	991	994	996	997	1000	999	1001	1003	1006	1010	1009	1007	1005	1003	1003	1004	1007	1002	999	
10		998	1002	998	1001	1003	1003	1001	1001	1000	998	996	994	991	991	997	1004	1006	1005	1006	1012	1013	1015	1018	1013	1003	
11		1006	1003	1003	1003	1002	1001	1001	998	995	993	992	989	989	992	1001	1007	1008	1007	1010	1014	1018	1013	1004	988	1002	
12 d		996	1003	1006	1007	998	997	995	995	996	995	994	991	991	995	1007	1025	1042	1025	1015	1010	1006	1006	1006	1005	1004	
13		995	988	994	996	997	997	997	995	993	991	987	986	991	995	998	1001	1003	1003	1006	1008	1018	1010	1006	993	998	
14 q		988	996	1000	1001	1000	1000	999	997	997	996	996	995	997	999	1000	1003	1004	1006	1006	1003	1003	1003	1006	1004	1000	
15		1000	996	993	996	999	1000	998	997	995	992	992	992	995	1004	1006	1006	1007	1007	1005	1003	1004	1004	1000	1000	1000	
16		1001	1000	1000	1000	998	997	998	998	997	997	994	992	992	990	992	1000	1008	1009	1007	1007	1006	1000	1001	1001	999	
17 q		1000	1000	1000	1001	1001	998	997	996	998	998	996	995	996	994	994	998	1006	1008	1006	1003	1002	1001	1002	1001	1000	
18 q		1001	1000	1000	998	997	997	997	996	995	995	992	990	989	989	990	992	994	997	998	1000	998	997	998	997	996	
19 q		996	995	995	995	995	995	995	994	995	997	999	997	996	997	995	996	996	997	998	1000	1001	1002	1001	1000	997	
20		991	985	956	958	984	995	995	986	989	991	994	996	1000	1006	1010	1010	1010	1017	1021	1025	1034	1027	1024	1021	1001	
21		1016	1002	1002	997	994	1000	1002	1002	1001	1001	1003	1006	1011	1013	1022	1030	1046	1037	1028	1021	1019	1018	1019	1017	1013	
22		1014	1010	1002	996	989	986	985	986	987	988	991	995	1000	1006	1010	1017	1022	1024	1027	1027	1021	1024	1022	1013	1006	
23		1013	1013	1013	1012	1008	1000	998	997	997	996	995	997	1000	1002	1006	1008	1008	1008	1007	1010	1010	1016	1024	1011	1006	
24		1001	1004	1007	1007	1004	998	991	986	984	985	989	994	998	1004	1012	1018	1024	1024	1018	1015	1016	1018	1016	1024	1006	
25 d		1026	1025	1018	1016	1005	994	983	985	990	994	997	1001	1017	1040	1100	1105	1110	1095	1080	1038	1026	1019	1016	1015	1029	
26		1016	1015	1016	1015	1014	1013	1012	1009	1007	1007	1007	1007	1007	1009	1010	1015	1018	1020	1019	1016	1013	1007	1007	1007	1012	
27 q		1007	1008	1006	1001	993	997	1001	1004	1007	1008	1006	1003	1005	1009	1013	1015	1014	1013	1010	1010	1009	1007	1006	1007	1007	
28		1007	1007	1007	1007	1007	1006	1007	1007	1007	1007	1005	1003	1004	1007	1007	1009	1009	1013	1013	1012	1008	1007	1010	1012	1003	
29		1002	1000	998	1000	1001	1000	996	997	997	998	997	997	997	1006	1012	1025	1052	1030	1019	1016	1010	1006	1005	1003	1007	
Mean		999	997	998	999	999	998	998	997	998	998	998	998	1001	1005	1011	1015	1019	1017	1016	1014	1014	1012	1010	1005	1005	

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

109 ESKDALEMUIR												FEBRUARY 1940																		
TERRESTRIAL MAGNETIC ELEMENTS																														
Horizontal force						Declination			Vertical force			3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +															
Maximum 16,000γ +			Minimum 16,000γ +			Range			Maximum 13° +							Minimum 13° +			Range			Maximum 44,000γ +			Minimum 44,000γ +			Range		
1 d	h.	m.	γ	γ	h.	m.	γ	h.	m.	γ	h.	m.	γ	γ	h.	m.	γ	h.	m.	γ	h.	m.	γ	h.	m.	γ	h.	m.	γ	°A
2 d	17	33	618	412	19	53	206	19	45	12.8	-22.5	17	25	35.3	19	36	1068	970	1	25	98	4, 3, 3, 3, 4, 5, 5, 4	31	1	82.2					
3 d	15	43	523	465	8	58	58	0	2	13.3	-11.9	19	10	25.2	18	48	1032	960	0	25	72	3, 2, 3, 3, 3, 3, 4, 3	24	1	82.3					
4	22	11	606	459	13	27	147	12	33	8.1	-17.2	17	20	25.3	17	17	1051	987	0	52	64	3, 1, 2, 2, 3, 4, 3, 5	23	1	82.4					
5	23	59	551	485	16	16	66	17	32	6.6	-7.1	20	43	13.7	16	38	1031	990	24	0	41	1, 1, 1, 1, 1, 2, 3, 3	13	1	82.3					
6	24	0	558	469	14	48	89	14	5	5.6	-5.6	21	22	11.2	21	27	1020	975	24	0	45	3, 1, 1, 2, 3, 3, 2, 4	19	0	82.5					
7	0	4	558	475	23	6	83	19	20	8.7	-10.7	20	36	19.4	20	33	1049	974	0	7	75	3, 2, 2, 2, 3, 2, 4, 3	21	1	82.5					
8	0	33	563	485	13	47	78	1	35	8.7	-6.9	1	2	15.6	16	36	1020	962	1	50	58	4, 2, 2, 2, 2, 2, 2, 2	18	1	82.6					
9	6	30	533	477	21	12	56	13	5	7.3	-8.5	20	32	15.8	20	20	1030	984	1	51	46	2, 2, 2, 2, 2, 2, 3, 3	18	1	82.6					
10	23	35	534	481	3	32	53	23	37	8.0	-8.7	0	50	16.7	15	26	1013	983	4	41	30	3, 3, 2, 1, 1, 2, 0, 3	15	0	82.6					
11	17	5	534	492	22	1	42	13	0	6.5	-7.9	22	53	14.4	22	9	1019	990	13	0	29	2, 2, 1, 1, 1, 2, 3, 3	15	0	82.6					
12 d	19	36	535	446	23	18	89	14	3	8.4	-12.2	23	30	20.6	20	26	1021	985	23	47	36	2, 1, 2, 2, 2, 2, 4, 3	18	1	82.6					
13	20	21	539	475	0	1	64	13	8	11.0	-9.0	0	14	20.0	16	14	1049	990	11	56	59	3, 3, 2, 2, 3, 3, 2, 2	20	1	82.7					
14 q	1	26	550	489	13	57	61	13	47	11.0	-9.5	20	28	20.5	20	19	1021	985	24	0	36	3, 2, 2, 1, 3, 1, 3, 2	17	1	82.6					
15	8	19	533	493	10	24	40	11	6	6.4	-2.8	23	54	9.2	18	0	1007	984	0	9	23	2, 1, 1, 2, 2, 1, 1, 1	11	0	82.7					
16	20	10	538	488	13	25	50	13	9	9.3	-2.7	21	26	12.0	16	14	1009	989	11	3	20	3, 1, 2, 2, 2, 2, 2, 2	15	0	82.7					
17 q	20	43	547	491	10	53	56	11	12	4.7	-5.8	20	4	10.5	16	39	1010	989	13	40	21	1, 1, 1, 2, 2, 3, 3, 3	16	0	82.7					
18 q	15	46	534	497	11	55	37	12	17	4.3	-0.9	5	55	5.2	17	26	1009	993	14	3	16	1, 1, 2, 2, 2, 3, 1, 1	13	0	82.7					
19 q	7	52	531	511	12	57	20	12	43	3.1	-0.1	5	41	3.2	0	1	1001	988	13	36	13	0, 0, 1, 1, 1, 1, 1, 1	6	0	82.7					
20	22	8	539	512	10	18	27	13	13	3.7	-2.1	23	50	5.8	22	0	1003	994	7	28	9	1, 0, 0, 1, 1, 1, 1, 2	7	0	82.7					
21	0	11	538	479	2	28	59	16 52 17 5	9.9	-9.2	2	25	19.1	20	40	1039	947	2	42	92	3, 3, 3, 2, 3, 3, 3, 2	22	1	82.9						
22	15	7	533	453	16	28	80	13	50	9.8	-8.5	1	50	18.3	16	47	1049	991	4	12	58	4, 3, 2, 2, 3, 4, 1, 2	21	1	82.8					
23	23	3	548	479	7	51	69	13	17	9.4	-12.5	2	40	21.9	19	9	1031	984	7	2	47	3, 2, 3, 2, 2, 2, 2, 3	19	0	82.8					
24	18	56	531	448	22	41	83	14	21	4.5	-7.7	22	56	12.2	22	26	1027	994	10	50	33	2, 2, 2, 1, 2, 1, 3, 3	16	1	82.7					
25 d	22	11	545	459	0	21	86	13	40	9.7	-11.3	0	46	21.0	17	13	1027	983	8	10	44	4, 2, 2, 2, 2, 3, 3, 4	22	0	82.8					
26	13	50	545	429	18	3	116	13	55	20.6	-16.1	4	22	36.7	16	12	1123	979	6	52	144	4, 3, 4, 4, 4, 4, 4, 2	29	1	82.8					
27 q	19	41	568	487	9	46	81	12	27	6.9	-15.5	19	39	22.4	17	41	1021	1005	10	0	16	2, 1, 2, 1, 2, 2, 4, 3	17	0	82.8					
28	4	4	532	490	10	39	42	12	50	7.8	-3.9	5	39	11.7	16	0	1016	991	4	41	25	2, 3, 2, 2, 2, 1, 1, 1	14	0	82.8					
29	20	13	537	490	11	22	47	13	0	7.3	-8.2	22	17	15.5	22	28	1015	1002	10	8	13	1, 2, 1, 2, 2, 1, 2, 3	14	0	82.9					
Mean	7	14	542	479	16	16	63	13	58	11.9	-5.0	20	33	16.9	16	20	1058	995	6	40	53	2, 2, 2, 2, 3, 3, 3, 2	19	1	82.9					
Mean	-	-	546	476	-	-	71	-	-	8.5	-8.6	-	-	17.1	-	-	1030	984	-	-	46	-	-	-	-	-	0.52	82.7		



TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

110 ESKDALEMUIR (H)				16,000γ (0.16 C.G.S. unit) +																				MARCH 1940			
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	
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	517	517	517	519	526	525	537	521	509	502	497	490	492	500	507	514	517	515	524	525	526	526	526	526	525	516	
2	523	524	525	526	525	524	525	521	510	502	499	498	502	505	513	517	516	518	526	527	528	522	524	526	518		
3	525	525	529	528	528	523	529	521	517	504	494	496	501	503	506	506	513	516	526	526	525	533	520	525	517		
4	521	521	522	522	525	527	525	522	517	508	506	505	505	506	501	513	517	521	526	526	525	527	523	533	519		
5	521	521	514	516	521	524	525	518	516	511	505	503	505	509	507	513	517	522	525	527	529	527	528	525	518		
6 q	526	525	524	525	527	529	529	524	514	505	498	498	505	509	515	519	525	529	529	537	538	535	529	522	521		
7 q	527	527	526	521	521	526	523	521	509	501	495	497	502	509	513	523	527	530	533	535	532	529	526	525	520		
8	524	529	520	517	525	522	515	521	519	514	510	510	509	516	518	522	526	528	534	537	499	487	487	478	515		
9	486	470	467	484	519	514	509	499	494	487	478	482	488	490	501	511	513	509	521	514	525	503	507	502	499		
10	508	502	505	510	505	502	502	504	507	513	509	509	509	513	514	519	519	526	525	529	523	514	517	514	512		
11 q	515	516	518	518	515	516	519	518	511	500	492	493	496	500	509	518	514	519	526	526	530	529	530	530	515		
12	527	526	527	529	527	528	526	523	514	502	498	496	508	515	519	525	522	525	523	480	467	463	523	494	512		
13	501	502	499	508	514	522	516	504	503	485	482	477	490	499	507	503	503	514	518	519	519	520	514	510	505		
14	510	511	514	516	516	510	527	518	511	490	492	483	480	487	498	510	507	504	514	527	522	511	523	520	508		
15 q	519	518	515	515	519	519	519	518	509	494	484	483	486	491	502	513	522	524	526	526	527	527	526	524	513		
16	523	523	524	526	525	527	523	524	518	504	490	493	489	503	502	522	529	530	532	522	507	510	506	514	515		
17	518	516	516	520	522	523	528	525	516	499	485	480	488	495	502	512	518	523	526	527	528	529	528	527	515		
18 q	526	527	527	527	527	527	529	523	513	504	499	497	499	509	519	523	526	530	532	537	538	539	542	541	523		
19	541	538	541	537	538	531	529	523	507	506	507	507	503	518	527	534	522	533	535	506	487	499	491	488	519		
20	499	502	503	520	502	499	500	488	483	469	444	432	472	493	484	497	514	504	526	522	486	504	511	556	496		
21	516	506	506	516	514	519	511	507	499	488	483	486	493	502	506	499	513	520	522	522	514	523	526	534	509		
22	538	539	525	514	514	518	519	515	502	495	484	476	481	491	502	511	526	525	536	534	509	514	507	514	512		
23	518	515	514	518	520	518	529	539	519	480	477	428	447	469	487	499	533	512	523	531	533	486	426	444	499		
24 d	476	461	460	456	444	467	483	480	483	472	452	456	481	503	531	874	956	1033	731	593	542	66	66	51	501		
25 d	-9	-92	-85	-175	172	293	293	232	346	376	331	461	538	485	470	468	449	483	467	472	542	436	127	257	306		
26	364	378	398	413	421	444	444	456	445	433	428	425	430	436	451	476	488	495	504	519	493	485	483	480	450		
27	456	465	473	432	442	483	477	471	472	451	441	441	449	457	475	483	483	506	499	499	500	534	503	476	474		
28	465	452	440	484	479	483	499	493	483	465	455	436	453	468	484	495	510	500	511	511	530	501	504	509	484		
29 d	502	494	490	493	495	500	502	496	491	445	432	456	475	503	507	531	942	844	832	566	504	461	382	266	525		
30 d	361	-70	-27	-33	127	391	391	424	303	248	340	401	426	506	552	651	717	569	565	455	452	437	456	420	378		
31 d	339	277	433	472	460	449	457	459	433	363	144	327	464	596	464	499	733	557	484	480	503	465	465	405	447		
Mean	480	460	466	467	484	499	501	497	489	475	462	472	486	500	503	526	555	547	539	521	516	492	478	475	495		

MAGNETIC DECLINATION (WEST)  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

111 ESKDALEMUIR (D)													13°+													MARCH 1940												
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												
1		1.1	0.7	1.0	1.1	0.4	1.6	2.5	0.7	-0.1	0.1	1.9	3.7	6.1	5.6	4.4	2.9	1.5	0.2	1.0	1.6	1.3	1.1	0.8	0.8	1.7												
2		0.7	0.8	1.1	1.0	0.3	-0.1	-0.2	-0.9	-1.9	-1.6	0.6	2.9	5.6	5.7	5.6	4.4	2.8	2.3	2.5	2.0	1.5	-0.7	0.7	1.4	1.5												
3		1.4	1.1	2.6	0.0	-1.2	1.1	0.0	-1.1	-1.2	-0.1	2.0	4.2	5.6	6.0	5.5	4.2	1.9	1.2	1.7	1.4	0.8	-4.8	-0.3	0.4	1.3												
4		0.8	0.9	1.0	1.1	0.4	-0.1	-0.3	-0.4	-0.7	-0.3	1.5	4.5	7.1	8.3	6.6	5.1	3.4	2.8	2.0	1.6	1.1	1.4	-0.2	-3.9	1.8												
5		-3.3	-1.5	-0.9	0.8	0.8	-0.9	-0.9	-0.9	-1.1	0.5	2.5	5.6	6.5	6.9	6.0	4.0	2.5	2.4	1.9	1.7	1.6	1.4	0.7	1.0	1.6												
6	q	1.1	1.0	0.8	0.7	0.4	0.0	-0.2	-1.2	-1.9	-1.0	1.4	3.9	6.0	6.2	6.0	4.8	3.1	2.4	2.6	2.5	1.8	1.5	1.1	0.6	1.8												
7	q	-0.2	-0.1	-0.2	-0.3	-1.1	-1.2	-1.2	-1.7	-2.8	-3.0	-1.2	2.0	5.9	8.1	7.1	5.9	3.6	2.5	2.3	1.7	2.0	1.6	1.1	0.0	1.3												
8		-0.4	-2.2	-3.9	-3.9	-2.6	-2.0	-1.9	-0.2	-2.6	-2.2	0.2	2.7	4.6	4.6	5.1	5.1	3.0	2.1	2.5	4.4	1.1	-6.3	-6.6	-13.6	-0.5												
9		-10.9	-17.8	-13.1	-11.8	-1.9	-4.3	-1.7	-0.3	-0.1	-0.3	1.4	4.6	6.9	7.8	8.0	7.5	3.4	3.2	2.3	3.4	3.2	0.8	0.8	-0.2	-0.4												
10		-0.2	-1.2	-2.0	-3.9	-3.3	-3.1	-2.4	-2.5	-1.9	0.1	2.1	5.0	6.1	6.1	4.7	2.9	1.0	0.9	1.3	1.5	2.6	1.7	1.2	1.0	0.7												
11	q	0.7	0.2	0.6	-0.7	-0.8	-0.9	-0.9	-1.0	-1.4	-1.5	0.7	3.9	6.5	6.9	7.1	6.5	3.7	2.9	2.7	2.4	1.8	1.2	0.7	0.7	1.7												
12		0.6	0.7	0.8	0.9	0.3	-0.1	-0.7	-2.0	-2.9	-3.0	-0.3	2.9	6.2	8.0	8.6	8.6	2.5	7.5	5.5	6.0	1.4	-10.2	-9.9	-2.0	1.2												
13		-1.1	-0.1	1.3	-0.3	-1.5	-1.1	0.0	-0.5	-0.3	1.3	4.1	5.1	7.0	7.4	8.0	5.9	2.5	1.5	1.5	1.6	1.3	0.9	-4.5	-4.8	1.5												
14		-1.3	-0.3	0.2	-0.4	-2.4	-1.2	-0.2	1.6	1.1	1.0	2.9	4.3	6.0	8.0	8.0	7.7	5.0	2.9	-0.1	-0.3	-1.8	-1.0	0.3	0.3	1.7												
15	q	0.2	0.4	-0.2	-0.3	-0.9	-0.9	-1.1	-2.0	-2.5	-2.5	-0.3	2.9	6.0	7.2	7.1	5.7	3.4	2.5	2.6	2.3	1.7	1.4	1.1	0.6	1.4												
16		0.0	-0.2	-0.3	-1.1	-1.9	-2.5	-2.5	-1.9	-2.3	-2.1	0.0	4.9	6.2	8.6	6.6	6.2	5.2	4.4	4.3	3.5	5.6	5.3	-1.9	-1.7	1.8												
17		-1.0	0.4	0.2	-0.1	0.0	-0.3	-0.8	-1.8	-2.5	-1.8	0.0	2.9	6.3	7.6	7.3	5.9	3.4	1.8	1.6	1.6	1.3	0.9	0.8	0.8	1.4												
18	q	0.6	0.6	0.7	0.8	0.0	-0.2	-0.8	-2.2	-3.7	-3.6	-0.2	3.6	6.9	7.8	6.8	4.5	2.8	1.7	2.2	2.0	1.8	1.7	1.6	0.9	1.5												
19		0.2	-0.4	0.4	-2.0	-2.9	-5.4	-4.8	-4.2	-3.5	0.9	2.5	4.3	5.7	11.3	12.9	14.2	15.5	11.8	1.8	-2.0	-5.7	-6.3	-10.8	-11.6	0.9												
20		-11.7	-5.5	-3.9	-10.2	-6.6	-4.8	-4.5	-5.9	-3.8	-2.2	2.2	8.0	8.6	10.7	10.5	5.5	4.2	1.0	-9.0	-3.8	-8.2	-2.5	-1.1	0.7	-1.3												
21		-2.8	-6.5	-0.3	-2.0	-1.1	-0.1	-3.5	-4.0	-3.9	-3.3	-1.9	2.7	5.9	8.8	9.9	7.0	4.2	2.1	1.1	-1.1	-2.8	0.7	1.4	0.7	0.5												
22		0.7	-0.5	-2.2	-4.3	-2.0	-2.5	-2.1	-4.3	-4.4	-3.4	-1.1	2.0	5.7	6.6	7.1	5.1	3.0	1.6	1.7	1.2	-6.3	0.4	-3.4	-0.3	-0.1												
23		1.1	0.5	0.1	0.1	-1.4	-3.8	-3.8	-4.7	-3.7	0.0	2.6	8.0	8.7	10.6	9.2	7.8	5.5	3.3	0.7	1.1	0.9	-19.2	-10.0	-1.9	0.5												
24	d	-9.4	-6.4	-2.0	-3.8	-1.4	-2.4	-2.0	-3.3	-6.1	-4.8	-2.8	-0.1	4.4	5.7	-7.4	18.2	41.7	39.2	40.2	-1.5	4.7	-15.9	-38.9	-27.7	0.8												
25	d	8.8	35.8	-38.0	-52.4	-23.5	-18.4	-7.4	-2.0	-2.9	-1.1	-3.8	9.3	7.9	8.8	6.2	1.4	-1.3	-2.4	-0.1	0.7	-15.7	-5.1	-0.4	14.2	-3.4												
26		-11.2	-5.7	-4.1	-8.2	-6.2	-1.3	2.4	-2.8	-5.5	-6.7	-5.7	-2.9	0.5	2.4	3.4	3.5	3.3	3.2	-0.5	-22.3	-6.9	-2.1	-0.8	0.1	-3.1												
27		7.5	0.3	-7.6	-5.5	-1.9	2.4	-2.0	-3.9	-3.9	-3.4	-0.4	3.5	6.5	8.8	9.1	7.6	4.9	0.7	1.5	1.8	0.7	-14.2	-8.0	-7.4	-0.1												
28		-5.1	-3.9	-3.5	0.2	0.6	1.6	1.1	-1.2	-5.5	-4.7	-1.9	1.6	6.0	8.8	7.9	6.3	5.1	1.6	-0.2	-1.9	-1.2	-0.7	-2.9	-3.8	0.2												
29	d	-1.1	-2.7	-1.9	-1.1	-1.8	-0.7	-1.9	-3.7	-6.2	-5.8	-0.5	4.0	8.6	10.7	12.1	11.4	12.9	7.0	18.7	3.4	-0.9	-7.2	-14.3	-33.8	0.2												
30	d	-27.8	-16.8	-32.8	-39.8	-18.3	8.5	-8.7	-11.1	-9.4	5.0	6.3	2.8	0.4	0.7	4.6	9.3	-3.1	2.1	-5.1	6.4	-2.3	-6.6	-1.9	-15.8	-6.4												
31	d	-18.5	1.1	-0.5	-6.5	-4.8	-4.2	-3.9	-3.8	-6.4	-8.1	-46.1	-36.8	-5.6	8.3	10.2	10.1	2.9	-2.0	0.6	-1.5	-3.1	0.2	-0.3	5.5	-4.7												
Mean		-2.6	-0.9	-3.4	-4.9	-2.8	-1.5	-1.8	-2.4	-3.0	-1.9	-1.0	2.5	5.6	7.4	6.9	6.6	5.0	3.7	3.0	0.7	-0.5	-2.6	-3.4	-3.2	0.2												



TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

93

112 ESKDALEMUIR (V)

44,000γ (0.44 C.G.S. unit) +

MARCH 1940

Hour G.M.T.	0-1		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
	γ	γ																							
1	1004	1006	1006	1005	1003	1002	997	1001	1004	1001	995	1001	1004	1009	1012	1012	1012	1010	1007	1006	1006	1006	1005	1003	γ
2	1003	1002	1002	1001	1001	1001	1003	1006	1008	1008	1002	999	998	1001	1001	1006	1009	1008	1007	1006	1006	1006	1006	1003	1004
3	1001	1001	997	996	997	998	997	1001	1002	1003	1000	1000	1000	1003	1007	1010	1014	1010	1007	1006	1006	1006	1003	1001	1003
4	1001	1001	1001	1001	1000	1000	999	998	998	996	991	989	993	997	1002	1001	1001	1001	1001	1001	1002	1003	1006	995	999
5	995	993	994	995	995	997	999	1001	998	998	997	997	994	999	1003	1004	1004	1002	1001	1001	1001	1001	1001	1001	999
6 q	1001	1001	1001	1001	1000	1000	1000	1001	1001	999	993	990	990	991	995	998	1000	997	996	996	996	1000	1002	1006	998
7 q	1004	1002	1001	1001	1001	996	997	998	999	1001	995	991	990	990	990	995	1001	1000	997	998	1000	1001	1001	1002	998
8	1002	997	996	996	995	995	995	994	997	993	991	990	990	992	994	1003	1010	1010	1006	1005	1015	1016	1013	994	1000
9	985	966	951	943	925	923	942	961	973	981	987	993	991	1000	1008	1019	1027	1033	1027	1024	1018	1026	1024	1022	990
10	1017	1016	1015	1012	1010	1007	1004	1003	1001	995	994	994	994	999	1006	1011	1012	1008	1007	1006	1006	1008	1009	1009	1006
11 q	1008	1008	1006	1007	1007	1006	1003	1003	1004	1003	997	994	999	1001	1003	1008	1009	1008	1006	1006	1005	1006	1004	1003	1004
12	1002	1002	1002	1001	1002	1002	1002	1003	1003	1001	994	990	989	990	996	1007	1033	1043	1065	1099	1099	1034	958	976	1012
13	1003	1007	985	995	1006	1006	1003	1007	1006	1007	1004	1002	1002	1003	1007	1018	1024	1019	1014	1011	1010	1009	1012	1004	1007
14	1001	1003	1006	1007	1007	1006	996	995	995	997	996	994	995	996	1000	1012	1020	1024	1022	1015	1012	1013	1008	1007	1005
15 q	1007	1006	1007	1007	1007	1007	1006	1005	1005	1003	1002	1000	997	999	1000	1003	1006	1007	1006	1006	1006	1004	1003	1006	1004
16	1005	1004	1004	1003	1003	1002	1003	1003	1005	1006	1000	997	997	998	1001	1005	1011	1015	1015	1022	1028	1028	1022	1013	1008
17	1008	1007	1007	1007	1007	1007	1007	1007	1007	1007	1003	997	995	999	1003	1007	1008	1008	1007	1005	1004	1004	1003	1003	1005
18 q	1003	1002	1002	1002	1003	1003	1003	1006	1008	1005	997	988	988	993	999	1001	1001	1001	1000	1000	1000	999	1000	999	1000
19	1000	1000	992	988	987	990	992	995	998	997	994	990	988	991	1004	1021	1042	1082	1088	1087	1054	1039	1027	1006	1015
20	988	994	988	961	971	993	1007	1013	1010	1010	1007	1006	1008	1009	1023	1024	1022	1028	1033	1023	1018	1015	1012	991	1006
21	975	981	994	1000	996	985	995	1001	1002	1006	1006	1001	995	993	1003	1008	1007	1010	1010	1013	1015	1011	1007	1003	1001
22	986	980	975	984	993	996	1000	1004	1008	1007	1003	991	985	987	993	1000	1002	1004	1003	1006	1019	1008	1007	1007	998
23	1007	1007	1007	1006	1001	1001	994	987	984	989	991	992	993	997	1009	1015	1030	1048	1042	1028	1023	1012	954	804	997
24 d	852	882	903	940	943	963	980	998	1009	1010	1013	1010	1009	1014	1055	1129	571	679	547	1049	982	1013	905	946	933
25 d	1085	613	815	756	904	900	969	1019	1021	1067	1094	1086	1096	1087	1091	1096	1086	1086	1088	1073	1041	970	876	834	990
26	943	847	879	941	985	984	997	1021	1033	1046	1049	1049	1046	1044	1043	1043	1045	1047	1061	1073	1048	1039	1033	1030	1014
27	978	922	920	949	963	982	1010	1025	1026	1024	1020	1010	1007	1013	1021	1029	1046	1052	1042	1035	1033	1029	1011	1005	1006
28	991	961	950	989	992	1006	1009	1015	1020	1018	1015	1013	1009	1019	1036	1040	1046	1051	1048	1042	1021	1021	1020	1007	1014
29 d	1001	1006	1011	1013	1015	1019	1023	1025	1020	1013	1008	1006	1016	1043	1061	1109	1250	1153	1199	1216	1103	1131	1010	856	1054
30 d	858	683	704	655	641	687	878	973	1021	1028	1027	1062	1103	1174	1149	1188	1236	1197	1201	1064	1083	1015	997	988	984
31 d	862	792	893	981	998	1015	1027	1034	1043	1056	1170	1168	1140	1166	1159	1120	1210	1164	1133	1096	1032	1024	1034	957	1053
Mean	986	958	968	972	979	983	995	1003	1007	1009	1011	1009	1010	1016	1022	1030	1026	1026	1022	1033	1022	1016	999	983	1004

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

113 ESKDALEMUIR

MARCH 1940

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 + °A			
	Horizontal force				Declination				Vertical force										
	Maximum 16,000γ +		Minimum 16,000γ +		Range	Maximum 13° +		Minimum 13° +		Range	Maximum 44,000γ +						Minimum 44,000γ +		Range
	h. m.	γ	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	γ	h. m.	γ			
1	6 15	544	485	11 9	59	13 2	7.2	-0.8	8 38	8.0	16 11	1013	995	6 30	18	1, 2, 2, 2, 2, 1, 0	12	0	82.8
2	20 10	535	494	10 56	41	12 24	6.1	-2.4	8 45	8.5	16 40	1012	996	12 3	16	2, 1, 1, 1, 1, 2, 2, 2	12	0	82.8
3	21 30	549	490	10 17	59	14 8	6.3	-8.4	21 28	14.7	16 20	1015	995	6 3	20	2, 2, 2, 1, 2, 2, 1, 3	15	0	82.9
4	23 12	556	496	14 5	60	13 50	8.9	-5.6	23 33	14.5	22 39	1007	988	11 59	19	1, 1, 1, 1, 2, 1, 1, 3	11	0	82.9
5	22 22	533	494	11 12	39	13 54	7.6	-3.9	0 32	11.5	15 42	1007	990	1 51	17	2, 1, 2, 1, 2, 0, 0, 1	9	0	82.9
6 q	20 21	544	493	10 38	51	12 52	6.9	-2.1	8 16	9.0	23 42	1007	988	11 59	19	0, 0, 0, 1, 1, 2, 2, 2	8	0	82.9
7 q	19 39	541	486	11 2	55	13 58	8.8	-3.5	9 15	12.3	0 6	1006	988	12 12	18	2, 2, 1, 1, 2, 1, 1, 2	12	0	82.9
8	19 43	545	456	23 22	89	20 12	7.7	-18.4	23 47	26.1	20 51	1022	989	11 40	33	2, 2, 2, 2, 2, 1, 4, 4	19	1	82.9
9	20 17	533	428	2 58	105	15 5	8.8	-19.9	1 44	28.7	17 10	1036	904	4 56	132	4, 5, 3, 2, 2, 2, 3, 2	23	1	82.9
10	19 0	533	495	1 32	38	13 24	6.5	-4.3	3 18	10.8	0 1	1019	991	10 3	28	2, 2, 2, 1, 2, 1, 2, 2	14	0	82.9
11 q	20 23	534	491	11 33	43	14 49	8.0	-1.9	8 38	9.9	16 43	1010	991	11 20	19	1, 1, 1, 1, 1, 2, 1, 1	9	0	83.0
12	22 53	581	424	20 43	157	19 7	10.3	-19.1	22 46	29.4	20 18	1116	936	22 31	180	0, 0, 1, 1, 2, 3, 5, 5	17	1	83.0
13	22 46	534	470	11 26	64	14 50	8.7	-7.2	22 42	15.9	16 16	1025	979	2 53	46	3, 2, 2, 2, 2, 2, 1, 3	17	1	83.0
14	19 57	540	476	12 6	64	14 50	8.6	-5.5	19 48	14.1	18 17	1025	993	11 50	32	2, 2, 2, 2, 2, 3, 3, 2	18	0	83.0
15 q	21 11	529	479	11 35	50	13 49	7.8	-8.2	8 40	16.0	17 12	1008	997	13 0	11	0, 0, 0, 1, 1, 1, 0, 1	4	0	83.0
16	18 20	538	482	12 21	56	13 52	9.5	-3.7	21 57	13.2	21 10	1032	995	11 40	37	1, 1, 1, 1, 2, 1, 3, 2	12	0	83.0
17	6 38	533	476	11 0	57	14 3	7.8	-3.2	8 36	11.0	16 55	1009	994	12 20	15	2, 1, 1, 2, 1, 1, 1, 0	9	0	83.0
18 q	22 10	543	495	11 50	48	13 32	8.1	-3.8	8 36	11.9	8 10	1009	986	11 55	23	0, 0, 1, 1, 1, 0, 1, 1	5	0	83.0
19	18 37	553	465	20 3	88	16 37	16.9	-12.9	21 10 23 38	29.8	18 12	1105	985	4 42	120	2, 2, 3, 3, 3, 4, 4, 3	24	1	83.0
20	23 42	577	417	11 42 12 50	160	14 9	13.3	-15.1	18 39	28.4	18 37	1037	954	3 55	83	4, 3, 3, 4, 4, 3, 4, 4	29	1	83.0
21	24 0	554	479	10 0	75	14 15	10.5	-7.6	1 14	18.1	20 11	1017	971	0 14	46	3, 2, 2, 1, 2, 2, 2, 3	17	1	83.0
22	0 11	559	471	11 37	88	21 13	9.0	-11.1	20 24	20.1	20 50	1023	972	2 10	51	3, 2, 1, 2, 2, 2, 4, 4	20	1	83.0
23	23 40	582	211	23 58	371	23 56	27.9	-32.7	23 34	60.6	17 41	1050	753	23 17	297	1, 2, 3, 5, 4, 4, 4, 7	30	2	83.0
24 d	18 15	1546	<-447	*	>1993	18 28	110.5	-77.6	21 10	188.1	15 54	1211	-450	18 21	1361	6, 4, 3, 3, 7, 9, 9, 9	50	2	83.1
25 d	8 52	746	<-447	†	>1193	1 26	131.2	-100.1	3 26	231.3	0 30	1528	356	1 10	1172	9, 9, 8, 8, 6, 4, 5, 7	56	2	83.1
26	19 40	596	280	0 10	316	1 22	10.2	-41.0	19 34	51.2	19 23	1095	750	1 14	345	6, 4, 3, 3, 3, 3, 6, 3	31	2	83.1
27	21 33	562	383	0 56	179	0 50	11.6	-21.3	21 27	32.9	17 10	1056	906	2 10	150	5, 4, 3, 4, 3, 4, 3, 4	30	1	83.2
28	20 5	571	371	2 4	200	13 8 13 50	9.7	-8.3	23 5	18.0	17 32	1054	929	2 10	125	5, 3, 3, 3, 3, 3, 4, 3	27	1	83.2
29 d	17 8	1671	19	23 22	1652	17 11	106.7	-69.7	23 48	176.4	16 24	1384	742	23 21	642	3, 2, 2, 4, 4, 9, 7, 8	39	2	83.2
30 d	16 30	983	-613	4 8	1596	15 0	28.8	-75.8	4 5	104.6	16 30	1309	562	4 58	747	9, 9, 7, 7, 6, 7, 7, 5	57	2	83.2
31 d	16 38	893	-55	10 17	948	14 10	23.2	-58.9	10 40	82.1	16 35	1248	726	1 40	522	6, 3, 4, 8, 7, 8, 5, 6	47	2	83.3
Mean	- -	650	327	- -	322	- -	21.1	-21.1	- -	42.2	- -	1080	876	- -	205	-	-	0.77	83.0



TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

114 ESKDALEMUIR (H)

16,000γ (0.16 C.G.S. unit) +

APRIL 1940

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
1 d	427	435	377	411	441	451	427	464	428	370	377	415	445	442	460	467	471	489	521	517	494	505	510	487	451
2 d	482	475	478	475	478	479	478	478	468	467	469	467	481	483	489	505	514	526	540	549	454	467	428	445	482
3 d	496	388	448	394	307	374	329	378	428	446	458	455	461	473	516	511	548	539	541	568	572	528	506	501	465
4	491	488	485	492	487	488	487	488	473	461	460	464	474	491	504	506	504	501	508	515	508	530	504	516	493
5	519	510	507	500	497	503	503	501	494	476	470	470	475	476	484	491	496	498	512	515	537	530	514	511	500
6	522	505	502	505	493	490	510	505	493	471	462	467	470	479	489	497	503	509	515	521	515	514	511	511	498
7 q	509	509	508	512	513	514	514	508	496	478	466	462	469	479	496	509	513	516	521	521	515	516	512	513	503
8 q	511	510	510	511	514	515	516	511	506	484	473	472	478	488	500	519	523	508	519	516	519	518	518	516	507
9 q	519	516	515	513	515	518	519	516	507	488	472	469	480	492	495	503	504	511	519	517	518	518	517	517	507
10 q	518	516	515	516	518	518	516	512	499	481	466	462	469	483	499	511	519	526	530	527	526	523	523	523	508
11	523	523	521	523	527	526	527	520	508	495	483	484	489	504	516	531	531	521	525	523	523	523	520	519	516
12 q	518	518	519	519	519	522	520	519	511	492	476	473	477	484	500	516	529	531	530	527	529	531	527	527	513
13	522	531	522	526	527	527	535	527	511	498	488	472	480	492	486	492	522	521	526	527	523	519	516	517	513
14	521	522	523	515	531	523	504	498	504	474	473	469	476	485	495	512	521	510	518	525	522	520	520	520	508
15	516	504	502	504	511	515	515	515	500	480	476	479	488	482	527	530	520	536	531	523	528	515	519	526	510
16	515	496	492	495	476	500	501	492	481	474	472	474	482	493	507	511	531	524	512	516	513	520	518	512	500
17	511	505	500	499	503	508	495	499	500	492	477	474	480	490	506	512	515	524	530	531	519	515	515	511	505
18	524	513	510	513	512	512	509	508	503	488	480	480	484	495	502	513	519	527	527	524	523	526	525	531	510
19	527	524	515	507	513	519	515	512	508	493	489	489	499	503	515	534	518	523	526	520	519	520	520	519	514
20	520	520	518	523	514	523	523	520	519	510	504	501	511	531	528	526	550	554	539	538	527	523	520	523	524
21	546	539	537	538	538	530	532	527	523	506	488	484	484	496	504	516	523	526	535	538	513	514	519	522	520
22	515	527	523	522	523	495	466	453	453	457	455	449	457	484	496	499	535	541	528	524	520	516	519	518	499
23	514	516	518	512	515	513	507	496	484	466	457	457	479	472	501	519	523	523	526	530	525	520	507	490	503
24	496	503	508	511	515	512	507	500	488	468	464	472	489	504	507	507	519	520	526	527	524	527	525	526	506
25 d	525	527	562	406	463	502	507	505	492	468	449	445	457	477	495	523	528	544	570	515	441	481	414	359	486
26 d	231	410	361	472	499	492	458	464	463	460	449	454	461	479	487	499	514	539	536	530	500	495	490	484	468
27	492	492	492	492	507	500	493	496	490	476	461	457	472	487	492	497	523	523	534	520	508	512	508	507	497
28	507	507	507	503	504	503	503	507	500	487	477	484	492	496	511	523	515	521	528	527	523	520	528	520	508
29	496	534	514	503	503	515	516	512	504	493	487	487	493	492	511	520	514	533	527	523	526	526	524	525	512
30	523	523	520	519	523	525	523	519	511	496	481	474	485	511	533	536	538	544	544	532	534	528	534	512	519
Mean	501	503	500	498	499	504	499	498	491	477	469	469	478	488	502	511	519	524	528	526	517	517	510	507	501

## MAGNETIC DECLINATION (WEST)

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

115 ESKDALEMUIR (D)

13° +

APRIL 1940

	Hour G.M.T.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

95

116 ESKDALEUIR (V)

44,000γ (0.44 C.G.S. unit) +

APRIL 1940

	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	Mean
	0-1	1-2																							
1 d	857	975	897	887	951	990	1008	1019	1025	1040	1046	1040	1050	1063	1070	1075	1071	1053	1056	1050	1043	1037	1029	1032	1015
2 d	1029	1030	1024	1027	1027	1028	1029	1032	1032	1032	1028	1025	1028	1031	1036	1043	1052	1057	1062	1008	980	963	949	915	1019
3 d	985	894	806	706	751	792	853	896	949	1008	1030	1033	1024	1024	1027	1040	1059	1084	1083	1090	1127	1084	1064	1049	977
4	1045	1042	1040	1035	1035	1035	1036	1033	1032	1030	1034	1033	1028	1028	1034	1041	1046	1049	1055	1044	1040	1030	1029	1027	1037
5	1023	1022	1022	1024	1023	1023	1028	1032	1032	1031	1028	1020	1017	1019	1025	1031	1035	1039	1040	1036	1032	1021	1022	1018	1027
6	1007	1008	1020	1025	1025	1017	1012	1015	1019	1023	1023	1020	1020	1020	1023	1024	1026	1028	1028	1027	1030	1031	1031	1030	1022
7 q	1030	1031	1031	1031	1030	1030	1031	1033	1034	1036	1030	1023	1017	1015	1018	1021	1025	1028	1030	1030	1030	1030	1030	1030	1028
8 q	1030	1030	1030	1030	1027	1027	1030	1030	1028	1027	1026	1018	1010	1009	1017	1024	1033	1039	1037	1033	1030	1027	1028	1028	1027
9 q	1027	1026	1025	1027	1027	1027	1028	1026	1025	1024	1021	1011	1009	1014	1024	1029	1032	1033	1032	1031	1029	1027	1026	1026	1025
10 q	1026	1025	1026	1026	1026	1027	1028	1027	1026	1023	1016	1008	1007	1010	1016	1020	1024	1024	1024	1025	1024	1025	1025	1025	1022
11	1025	1025	1025	1025	1023	1024	1026	1027	1025	1022	1014	1006	1005	1010	1012	1016	1019	1024	1025	1025	1023	1022	1022	1022	1021
12 q	1022	1022	1024	1024	1024	1024	1024	1022	1018	1015	1006	998	998	1005	1011	1016	1018	1020	1020	1020	1020	1021	1021	1021	1017
13	1021	1017	1018	1018	1018	1016	1013	1015	1012	1009	1004	1001	1001	1009	1019	1021	1025	1032	1030	1027	1027	1027	1027	1025	1018
14	1019	1016	1015	1011	1001	999	1002	1002	1001	1002	1000	999	1000	1005	1012	1019	1031	1041	1036	1034	1033	1030	1027	1026	1015
15	1022	1019	1019	1020	1019	1019	1019	1015	1013	1010	1004	1003	1006	1014	1026	1060	1045	1037	1040	1048	1037	1030	1024	1007	1023
16	991	982	986	987	986	991	1007	1009	1012	1013	1007	1004	1004	1011	1016	1024	1034	1048	1054	1046	1041	1034	1025	1024	1014
17	1022	1021	1020	1010	1011	1015	1017	1012	1009	1007	1006	1009	1011	1015	1020	1026	1032	1035	1039	1039	1034	1032	1030	1027	1021
18	1021	1018	1020	1021	1021	1021	1018	1013	1013	1010	1003		1000	1008	1016	1022	1026	1027	1027	1026	1025	1022	1021	1021	1018
19	1021	1020	1018	1016	1018	1016	1017	1018	1018	1019	1016	1010	1008	1013	1020	1027	1032	1033	1033	1034	1032	1028	1026	1026	1022
20	1025	1024	1023	1022	1022	1021	1021	1019	1018	1012	1007	1004	1003	1008	1015	1017	1016	1019	1026	1028	1027	1027	1028	1024	1019
21	1020	1020	1019	1017	1016	1019	1020	1021	1018	1014	1011	1010	1011	1011	1013	1014	1018	1021	1021	1024	1030	1030	1021	1006	1018
22	1008	1003	994	990	984	986	1000	1006	1009	1018	1019	1017	1013	1018	1028	1035	1045	1054	1043	1036	1031	1030	1025	1021	1017
23	1024	1022	1012	1018	1024	1025	1024	1021	1018	1018	1012	1007	1003	1009	1008	1011	1016	1021	1022	1024	1026	1028	1019	1012	1018
24	1006	1012	1018	1021	1021	1021	1022	1022	1021	1019	1016	1010	1003	1006	1020	1026	1031	1032	1031	1028	1025	1022	1021	1020	1020
25 d	1021	1021	1010	855	761	914	978	992	1004	1008	1011	1008	1005	1009	1015	1019	1030	1043	1088	1116	1042	924	910	862	985
26 d	774	854	832	917	938	967	979	985	1004	1018	1024	1036	1045	1052	1063	1072	1070	1072	1075	1072	1060	1043	1037	1027	1001
27	1015	997	1004	1012	1008	1012	1017	1016	1014	1013	1013	1012	1010	1021	1037	1037	1040	1049	1051	1052	1047	1038	1027	1025	1024
28	1025	1014	1012	1021	1024	1024	1022	1018	1013	1010	1012	1009	1006	1010	1024	1039	1043	1045	1047	1039	1033	1028	1025	1018	1023
29	995	977	992	1008	1007	997	1004	1009	1012	1012	1013	1010	1007	1010	1013	1024	1029	1030	1031	1031	1029	1027	1026	1025	1013
30	1025	1025	1025	1024	1023	1024	1023	1020	1014	1007	1002	1001	1003	1006	1016	1030	1040	1039	1036	1033	1028	1027	1021	1016	1021
Mean	1005	1006	1000	995	996	1004	1011	1014	1016	1018	1016	1013	1012	1016	1023	1030	1035	1039	1041	1039	1034	1025	1021	1015	1018

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

117 ESKDALEUIR

APRIL 1940

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 + °A			
	Horizontal force				Declination			Vertical force											
	Maximum 16,000γ +		Minimum 16,000γ +		Range	Maximum 13° +		Minimum 13° +		Range	Maximum 44,000γ +						Minimum 44,000γ +		Range
	h. m.	γ	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	γ	h. m.	γ			
1 d	21 58	579	322	9 50	257	0 30	12.0	-14.3	4 3	26.3	16 11	1082	784	0 7	298	6, 5, 4, 5, 4, 5, 4, 4			
2 d	19 10	732	340	23 12	392	19 14	9.7	-25.3	20 45	35.0	19 2	1069	873	23 24	196	2, 2, 2, 2, 2, 3, 6, 6			
3 d	20 7	654	103	1 55	551	6 0	20.6	-45.1	3 39	65.7	20 24	1149	657	3 9	492	7, 7, 5, 4, 5, 5, 5, 4			
4	21 31	550	446	11 4	104	14 2	5.5	-7.9	18 33	13.4	18 5	1058	1025	24 0	33	3, 2, 2, 2, 3, 3, 3, 3			
5	20 51	549	460	11 30	89	14 29	6.2	-6.5	8 0	12.7	18 13	1043	1013	24 0	30	2, 2, 2, 2, 1, 2, 3, 3			
6	0 34	540	458	10 34	82	0 40	7.9	-4.6	9 0	12.5	21 55	1032	998	0 52	34	3, 2, 2, 1, 1, 1, 2, 1			
7 q	19 17	528	461	11 18	67	14 6	7.8	-6.3	8 39	14.1	9 10	1039	1013	13 38	26	1, 0, 1, 1, 2, 1, 2, 1			
8 q	15 47	531	469	10 50	62	13 40	8.0	-7.3	8 7	15.3	17 56	1040	1007	13 10	33	0, 0, 1, 2, 2, 3, 1, 1			
9 q	0 58	523	467	11 26	56	13 54	8.9	-6.1	8 50	15.0	17 30	1033	1007	12 11	26	1, 1, 1, 2, 2, 2, 1, 0			
10 q	18 37	531	461	11 20	70	13 22	7.9	-6.2	8 45	14.1	6 6	1030	1006	12 13	24	1, 0, 1, 2, 2, 1, 1, 1			
11	15 58	546	478	11 16	68	*	10.4	-6.6	9 1	17.0	7 30	1027	1003	12 2	24	1, 1, 1, 2, 3, 3, 1, 1			
12 q	17 44	537	469	11 15	68	13 18	8.0	-7.0	7 57	15.0	7 11	1025	995	11 59	30	1, 1, 1, 2, 2, 2, 1, 1			
13	6 18	539	461	11 51	78	14 30	13.2	-6.5	7 50	19.7	17 20	1033	999	11 32	34	2, 2, 2, 3, 3, 4, 2, 1			
14	5 0	539	457	11 56	82	13 42	8.6	-5.9	6 27	14.5	17 27	1043	997	5 12	46	1, 3, 3, 2, 2, 3, 2, 2			
15	17 26	550	468	10 59	82	14 12	11.4	-9.1	19 32	20.5	15 31	1067	990	24 0	77	2, 2, 2, 2, 4, 3, 3, 3			
16	21 26	541	457	10 32	84	12 28	8.7	-10.9	1 37	19.6	18 22	1056	979	1 12	77	4, 3, 2, 2, 2, 2, 3, 3			
17	18 47	535	472	11 38	63	14 20	8.1	-5.5	6 0	13.6	18 53	1040	1005	10 15	35	3, 3, 2, 2, 2, 2, 2, 1			
18	23 29	539	476	11 2	63	13 20	8.8	-5.8	6 20	14.6	18 2	1028	997	12 9	31	2, 1, 2, 1, 1, 1, 1, 2			
19	15 36	543	486	11 18	57	13 27	8.1	-9.9	5 0	18.0	19 52	1036	1007	12 0	29	2, 2, 2, 1, 2, 3, 2, 1			
20	17 35	560	495	10 54	65	14 11	8.7	-11.2	8 2	19.9	22 1	1031	1001	12 21	30	1, 2, 3, 2, 3, 3, 3, 2			
21	0 19	574	473	12 40	101	13 51	7.3	-12.8	23 38	20.1	20 48	1033	1002	23 29	31	3, 2, 2, 3, 2, 2, 3, 3			
22	16 56	587	433	7 58	154	14 24	14.3	-10.0	0 1	24.3	17 20	1057	983	5 0	74	3, 4, 3, 2, 3, 4, 2, 1			
23	19 16	538	453	11 16	85	12 59	9.8	-12.6	23 50	22.4	21 10	1030	1001	12 30	29	2, 1, 2, 1, 3, 1, 2, 3			
24	16 32	538	463	10 10	75	13 38	9.4	-11.9	0 1	21.3	16 52	1034	1001	12 42	33	3, 1, 1, 2, 3, 3, 1, 1			
25 d	17 56	609	203	3 44	406	3 33	37.2	-38.1	21 18	75.3	19 40	1161	719	4 22	442	3, 7, 3, 2, 3, 5, 6, 6			
26 d	19 11	566	24	0 32	542	0 29	16.6	-23.6	1 6	40.2	19 3	1081	693	0 33	388	7, 4, 3, 3, 3, 3, 4, 2			
27	17 55	541	453	11 12	88	13 49	7.9	-15.3	0 8	23.2	19 22	1055	995	1 42	60	3, 2, 2, 1, 2, 3, 3, 2			
28	23 42	535	471	10 24	64	14 47	8.2	-7.4	8 21	15.6	18 12	1049	1004	12 23	45	2, 1, 2, 1, 2, 3, 2, 3			
29	17 49	543	474	0 26	69	14 16	7.0	-9.9	1 51	16.9	18 10	1032	977	1 21	55	4, 3, 2, 2, 3, 2, 2, 1			
30	18 28	565	470	8 51	95	14 54	6.4	-8.1	5 52	14.5	16 43	1042	1000	12 4	42	1, 2, 2, 3, 3, 3, 4, 3			
Mean	- -	558	421	- -	137	- -	10.4	-11.9	- -	22.3	- -	1051	958	- -	93	-	-	0.70	83.5



TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

118 ESKDALEMUIR (H)

16,000γ (0.16 C.G.S. unit) +

MAY 1940

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
1	γ	514	508	508	515	509	509	510	501	494	493	495	498	500	508	498	515	523	543	536	536	521	524	522	509	512
2	γ	513	513	513	521	509	508	520	517	507	491	487	488	489	501	504	521	521	521	520	521	524	524	520	521	511
3 q	γ	521	522	512	515	517	514	516	505	500	493	488	486	501	516	521	517	523	525	528	527	524	528	524	514	514
4 q	γ	524	523	513	516	517	514	504	497	489	485	482	485	497	501	509	520	528	529	525	527	528	530	532	532	513
5	γ	528	518	517	521	521	526	519	508	492	482	483	496	503	509	513	520	521	524	536	540	532	524	528	524	516
6 q	γ	524	524	524	524	525	524	521	516	508	501	496	496	508	517	524	536	540	540	539	538	535	536	535	536	524
7	γ	542	539	532	536	539	532	513	496	493	497	495	490	494	498	509	520	524	537	537	524	531	526	524	524	519
8	γ	525	528	532	529	528	520	511	500	491	485	484	489	500	508	516	513	523	537	543	543	539	535	535	535	519
9	γ	535	541	533	521	514	533	509	497	485	478	481	492	504	513	496	508	521	532	532	539	536	543	543	539	518
10	γ	536	536	535	532	531	513	509	512	508	496	493	496	507	501	522	528	551	554	553	555	546	551	508	520	525
11	γ	513	516	518	516	512	524	514	499	490	485	478	470	482	499	521	531	527	537	533	555	548	521	521	521	514
12	γ	513	521	516	508	502	505	481	493	493	484	478	482	478	482	487	528	541	545	560	553	528	525	517	521	510
13	γ	512	521	512	512	507	508	504	498	489	489	488	494	497	504	501	513	539	551	551	548	530	532	520	520	514
14	γ	520	512	517	516	513	497	489	486	473	473	481	484	489	493	521	547	548	539	543	547	539	522	521	516	512
15	γ	513	513	516	497	517	516	509	496	494	490	482	490	498	504	524	521	528	540	567	550	537	518	517	501	514
16	γ	493	491	511	513	512	509	504	497	497	496	489	489	496	497	498	509	523	540	547	543	536	533	535	532	512
17	γ	535	533	528	519	509	516	517	515	513	517	517	501	492	500	510	512	536	550	567	559	544	533	520	525	524
18 d	γ	512	516	512	505	512	508	524	489	443	469	498	494	477	438	496	503	501	519	523	512	514	508	507	513	500
19	γ	523	524	497	493	504	501	496	481	477	481	481	477	476	493	496	504	516	535	520	525	535	553	524	523	506
20	γ	524	525	516	512	516	510	508	508	498	490	492	489	500	504	536	520	552	535	532	523	524	524	524	524	516
21	γ	524	526	528	520	532	520	513	502	497	489	479	486	498	512	524	535	537	540	543	544	532	527	528	532	519
22 d	γ	527	535	529	500	475	454	438	504	504	449	446	470	481	493	513	517	512	520	543	539	533	527	525	522	502
23 d	γ	523	521	519	524	521	524	524	511	492	489	485	480	489	507	521	523	532	553	598	590	553	555	548	536	526
24 d	γ	547	544	542	516	512	505	499	492	459	350	386	444	454	496	540	559	524	540	578	537	535	513	498	496	503
25	γ	500	505	497	508	512	503	496	485	477	467	468	476	477	493	505	517	537	569	548	545	556	521	519	516	508
26 d	γ	513	521	524	508	512	482	506	496	492	469	473	482	484	492	501	517	582	590	600	582	552	512	508	481	516
27	γ	488	496	509	508	496	482	493	489	475	455	470	470	490	497	502	517	528	551	556	535	544	543	532	534	507
28	γ	516	514	521	510	531	516	496	481	485	483	478	462	478	500	524	526	539	541	563	548	537	527	520	520	513
29	γ	521	527	509	512	512	501	497	489	481	480	484	489	494	504	525	530	544	556	551	548	540	526	521	516	515
30 q	γ	517	517	516	516	512	505	500	497	493	493	501	501	509	516	520	521	532	544	539	551	543	539	493	524	517
31 q	γ	521	521	517	517	520	517	514	512	509	501	498	504	508	512	517	531	540	543	540	539	535	532	531	528	521
Mean	γ	520	521	519	515	515	510	505	499	490	481	481	485	492	500	513	522	532	541	547	543	536	529	523	521	514

MAGNETIC DECLINATION (WEST)  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

119 ESKDALEMUIR (D)

13° +

MAY 1940

	Hour	G.M.T.																						Mean		
		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
1		-5.7	-4.9	-3.0	-4.3	-5.0	-6.2	-9.1	-8.6	-7.2	-4.9	-1.4	2.8	6.1	7.3	5.8	3.2	0.9	1.0	0.1	-3.5	-1.7	0.0	-0.1	-1.8	-1.7
2		-3.1	-4.4	-4.6	-6.4	-7.2	-5.4	-6.7	-6.4	-5.5	-3.6	-0.9	3.1	6.1	8.0	7.0	5.4	3.0	-0.2	-1.2	-0.8	-0.2	-0.3	-0.8	-0.7	-1.1
3	q	-0.8	-0.9	-1.8	-0.2	-2.7	-3.3	-5.4	-6.2	-3.6	-1.3	-0.1	2.9	5.1	6.0	5.1	3.5	2.1	0.7	-0.2	-0.2	-0.2	-0.3	-0.6	-1.8	-0.2
4	q	-1.3	-1.2	-2.8	-1.8	-3.8	-6.1	-7.2	-6.3	-6.2	-3.1	0.0	2.7	5.1	4.4	3.3	2.5	1.7	0.2	-1.1	-1.2	-0.1	0.7	0.8	-0.4	-0.9
5		-1.2	-1.1	-1.8	-2.4	-3.9	-4.8	-5.7	-6.2	-6.8	-3.9	-0.6	2.7	5.4	5.4	4.5	3.0	1.6	0.6	0.6	0.4	-1.0	-1.1	0.0	-0.1	-0.7
6	q	-0.6	-1.0	-1.1	-1.8	-2.5	-3.5	-3.9	-4.4	-4.4	-2.4	1.6	6.0	9.0	8.9	6.3	4.7	2.6	1.3	0.6	0.7	0.7	0.0	0.0	0.2	0.7
7		0.1	-1.7	-2.8	-2.8	-3.6	-4.6	-4.7	-6.2	-3.6	-1.4	0.4	2.6	5.3	6.3	5.1	3.7	1.8	1.2	0.3	-0.2	-0.6	-1.1	-0.2	-0.9	-0.3
8		-2.2	-2.3	-4.3	-3.3	-5.6	-6.0	-6.5	-7.2	-6.5	-3.7	0.5	3.6	6.5	6.4	5.7	4.3	3.0	1.6	0.8	0.4	0.7	-0.2	-0.6	0.2	-0.6
9		0.7	-0.1	-3.2	-3.8	-1.8	-4.9	-6.5	-6.5	-5.6	-3.6	-1.1	2.7	6.4	8.4	7.9	4.5	4.5	3.2	1.8	0.0	-1.7	1.2	0.9	0.7	0.2
10		0.3	-0.9	-1.7	-2.8	-4.8	-7.3	-6.0	-5.4	-5.8	-2.1	0.4	5.6	8.4	7.0	5.4	5.4	5.2	2.7	-1.4	-0.6	-6.2	-11.5	-4.5	-3.6	-1.0
11		-4.1	-6.4	-1.6	-6.0	-5.1	-3.7	-3.6	-4.7	-4.9	-2.8	2.0	4.8	8.6	8.3	6.9	6.2	3.9	2.7	1.7	0.6	-4.4	-1.6	-0.1	0.7	0.1
12		-1.5	-2.1	-5.5	-2.7	-0.9	-1.7	-1.2	0.6	-4.8	-4.9	-1.8	1.1	3.4	6.5	6.5	2.9	0.6	2.5	0.9	-3.9	-1.0	0.8	-1.1	-8.4	-0.7
13		-6.3	-5.5	-5.8	-4.6	-4.1	-3.9	-6.1	-7.5	-6.6	-4.8	-2.2	0.9	4.4	7.4	7.2	4.4	4.4	4.2	2.5	0.9	-1.0	-6.8	-6.5	-6.4	-1.7
14		-8.4	-8.3	-7.0	-5.4	-3.9	-6.7	-6.3	-4.9	-5.6	-2.6	0.8	4.2	6.9	7.1	4.7	3.6	1.8	2.0	2.4	1.8	-0.4	0.6	2.4	-1.1	-0.9
15		-1.1	-1.1	-1.6	0.8	-1.1	-4.6	-6.6	-3.9	-0.4	0.1	2.4	3.6	5.5	4.7	5.0	-1.0	0.9	2.4	0.7	-2.0	-4.8	-2.8	-1.0	-7.5	-0.6
16		-7.5	-9.7	-6.6	-6.4	-6.6	-6.8	-6.7	-5.8	-4.8	-2.1	0.1	1.7	3.5	3.3	2.7	1.8	0.9	0.6	-0.3	-1.8	-1.6	0.6	0.6	-0.1	-2.1
17		0.8	-1.8	-3.8	-3.5	-5.9	-6.4	-6.7	-6.5	-4.7	-1.9	2.0	4.2	4.7	5.7	5.4	3.5	1.9	0.8	1.5	-5.6	-1.8	-1.0	-2.9	-3.8	-1.1
18	d	-2.8	-1.0	-9.4	-14.4	-11.1	-7.4	-7.3	-11.1	-8.3	3.3	0.0	3.4	5.3	8.9	5.7	5.3	2.5	-1.1	-3.8	-3.9	-2.9	-1.8	-1.0	0.0	-2.2
19		-1.2	0.8	-2.7	-3.7	-4.4	-5.8	-6.6	-5.8	-3.6	-4.6	-3.7	0.5	4.2	5.2	4.1	3.5	2.3	0.9	-1.0	-1.0	-1.1	-1.1	-1.9	-1.3	-1.2
20		-1.1	-0.7	-2.0	-2.8	-2.0	-2.6	-5.4	-6.8	-6.6	-4.7	-2.8	0.5	3.6	5.9	6.4	4.5	3.5	-0.7	-0.3	-0.1	0.0	-0.3	-0.9	-1.0	-0.7
21		-1.1	-1.7	-1.1	1.4	-2.5	-7.8	-6.6	-6.7	-6.1	-3.9	-0.9	3.0	4.8	5.4	5.1	3.5	1.7	0.0	-0.9	-1.1	-3.4	-1.2	0.5	-0.2	-0.8
22	d	-1.0	1.7	-1.7	0.6	8.7	5.6	0.9	-1.2	-4.6	-4.6	0.6	4.1	5.1	7.1	6.3	3.6	1.0	-2.8	-1.9	-1.2	-0.3	-0.1	0.6	-0.8	1.1
23	d	-0.3	-0.3	-1.2	-1.1	-1.9	-6.2	-8.0	-7.9	-6.4	-4.1	-1.0	2.6	6.2	7.8	7.2	5.1	2.6	0.7	1.8	2.9	-10.2	-2.9	-4.6	-3.7	-1.0
24	d	-2.7	-3.2	-4.5	-2.9	4.3	-5.5	-6.9	-14.2	-9.1	-5.6	6.9	7.5	9.5	12.9	10.3	10.2	5.2	5.5	5.7	4.6	-3.5	-7.0	-3.6	-2.0	0.5
25		-2.8	-3.6	-0.8	-0.8	-4.4	-6.5	-7.9	-7.9	-6.9	-4.6	-2.0	1.1	3.0	4.1	4.7	4.2	3.2	-1.8	1.1	0.2	-4.6	-0.7	-0.3	-0.7	-1.4
26	d	-1.3	-0.9	-0.9	-4.5	-6.1	-1.7	-2.7	-0.2	-1.7	0.2	2.4	3.8	4.1	2.9	2.0	0.3	2.4	2.9	-4.0	0.3	-1.9	-5.4	-7.7	-8.0	-1.1
27		-13.3	-12.0	-14.0	-10.5	-9.8	-7.7	-6.3	-5.9	-5.4	-2.6	0.5	2.6	4.7	6.5	5.5	4.0	2.4	2.1	0.3	1.5	2.1	0.5	-3.8	1.1	-2.4
28		-5.2	-6.8	-7.5	-4.4	-5.0	-9.9	-9.1	-6.1	-8.1	-5.7	-2.1	2.7	5.3	5.7	7.1	6.1	5.1	2.1	0.0	-0.5	-0.7	-1.3	-1.7	-0.8	-1.7
29		-1.4	-1.8	-5.0	-5.2	-5.5	-5.9	-7.9	-8.0	-6.4	-4.4	-2.5	0.9	4.1	4.6	5.2	5.0	4.2	3.2	1.8	-0.1	-2.5	-1.5	-1.5	-1.8	-1.3
30	q	-2.2	-2.1	-3.3	-3.6	-4.6	-6.2	-7.3	-8.7	-7.6	-4.6	-1.7	1.0	2.9	4.5	3.9	3.3	2.7	1.7	0.8	0.3	-0.6	-3.1	-1.8	-1.6	-1.6
31	q	-2.3	-2.4	-4.3	-5.0	-5.0	-5.3	-5.8	-6.1	-5.8	-4.5	-1.5	0.8	3.0	3.8	2.3	2.7	2.8	1.8	1.0	0.7	0.0	-0.1	-1.2	-1.5	-1.3
Mean		-2.6	-2.8	-3.8	-3.7	-3.8	-5.1	-6.0	-6.2	-5.6	-3.2	-0.2	2.9	5.4	6.3	5.5	4.0	2.7	1.3	0.3	-0.4	-1.8	-1.6	-1.4	-1.8	-0.9



TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

97

120 ESKDALEMUIR (V)

44,000γ (0.44 C.G.S. unit) +

MAY 1940

	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	Mean
	0-1	1-2																							
1	1013	1014	1017	1019	1021	1024	1021	1019	1014	1005	998	992	994	1004	1009	1012	1019	1025	1034	1036	1033	1027	1025	1027	1017
2	1025	1022	1018	1012	1016	1015	1013	1014	1013	1010	1004	999	999	1004	1008	1015	1028	1036	1036	1030	1027	1026	1025	1024	1017
3 q	1023	1021	1021	1021	1021	1025	1027	1027	1024	1017	1012	1007	1007	1011	1014	1021	1025	1027	1027	1025	1025	1025	1025	1024	1021
4 q	1024	1021	1021	1021	1023	1025	1025	1019	1015	1009	1001	996	997	1009	1014	1017	1025	1030	1031	1028	1025	1024	1023	1021	1019
5	1015	1016	1019	1020	1021	1020	1022	1022	1019	1014	1004	997	998	1005	1013	1019	1022	1024	1024	1021	1023	1025	1022	1021	1017
6 q	1021	1020	1020	1021	1021	1023	1023	1020	1018	1010	1004	1001	999	1006	1012	1013	1017	1021	1022	1020	1019	1019	1019	1019	1016
7	1018	1015	1018	1019	1019	1020	1021	1022	1013	1007	1003	1000	999	1006	1012	1015	1019	1024	1027	1026	1024	1024	1022	1021	1016
8	1020	1018	1011	1005	1010	1017	1019	1020	1018	1005	998	997	1000	1008	1018	1021	1020	1021	1021	1020	1020	1021	1020	1019	1014
9	1018	1010	1010	1012	1007	995	1004	1010	1010	1003	997	994	998	1013	1027	1030	1028	1027	1025	1025	1025	1021	1019	1019	1014
10	1019	1019	1020	1021	1022	1024	1019	1012	1004	997	988	988	992	1001	1009	1018	1025	1040	1043	1040	1036	1013	1001	994	1014
11	991	986	990	976	996	998	1001	1004	1009	1010	1001	1000	997	1007	1020	1030	1039	1043	1042	1028	1023	1020	1019	1017	1010
12	1009	1011	1012	1012	1006	1003	1002	997	1004	1007	1003	1003	1010	1016	1022	1033	1042	1040	1040	1046	1037	1027	1022	1016	1017
13	1006	996	1006	1015	1019	1016	1013	1014	1015	1010	1002	997	997	1012	1021	1022	1022	1028	1036	1042	1040	1025	1017	1012	1016
14	1001	997	1001	1006	1012	1018	1018	1015	1015	1009	1007	1007	1011	1019	1019	1027	1038	1040	1039	1038	1036	1029	1021	1019	1018
15	1020	1020	1019	1009	982	986	993	995	993	996	997	993	995	1004	1018	1038	1043	1035	1037	1044	1043	1036	1027	1016	1014
16	1006	996	1006	1015	1022	1024	1019	1013	1007	999	991	991	999	1004	1009	1014	1018	1021	1022	1027	1027	1021	1020	1019	1012
17	1014	1007	1008	1015	1019	1015	1006	1001	999	997	989	990	994	999	1009	1018	1025	1033	1037	1044	1033	1027	1027	1021	1014
18 d	1009	972	984	982	986	983	958	967	971	976	997	1006	1030	1045	1043	1043	1052	1052	1054	1040	1033	1027	1027	1025	1011
19	1018	998	1003	1018	1024	1027	1027	1026	1024	1022	1021	1016	1013	1013	1019	1027	1028	1033	1034	1031	1031	1015	1005	1013	1020
20	1019	1019	1021	1024	1023	1019	1020	1020	1018	1009	1000	996	1000	1012	1020	1034	1048	1056	1042	1031	1025	1024	1022	1022	1022
21	1024	1024	1024	1017	991	999	1009	1015	1013	1009	999	1000	998	1004	1010	1017	1022	1028	1028	1028	1031	1028	1022	1009	1015
22 d	1012	1007	964	961	960	955	965	973	994	1012	1013	1027	1037	1034	1039	1051	1057	1060	1045	1034	1033	1028	1024	1024	1013
23 d	1024	1024	1025	1026	1027	1031	1028	1025	1021	1015	1013	1010	1008	1017	1024	1028	1033	1033	1030	1040	1045	1024	1019	1022	1025
24 d	1025	1025	1024	1015	927	923	955	992	999	1000	981	992	1021	1044	1072	1088	1101	1082	1090	1079	1063	1017	1003	1006	1022
25	988	998	1000	989	1003	1022	1033	1034	1030	1018	1013	1009	1013	1024	1031	1035	1041	1048	1043	1040	1038	1029	1027	1026	1022
26 d	1026	1025	1013	1004	1006	1005	1000	1004	1009	1006	1002	1001	1004	1012	1020	1027	1034	1051	1068	1061	1054	1039	991	950	1017
27	911	940	961	995	1007	1012	1011	1012	1013	1001	997	997	999	1008	1018	1023	1027	1030	1033	1027	1022	1023	1022	992	1003
28	994	1000	1000	985	962	985	1000	1001	1006	1008	1003	1009	1015	1018	1024	1034	1039	1049	1045	1036	1033	1024	1022	1017	1013
29	1008	997	1003	1015	1021	1022	1019	1017	1019	1016	1010	1005	1007	1012	1016	1021	1025	1028	1032	1034	1031	1026	1025	1025	1018
30 q	1024	1024	1024	1024	1025	1027	1026	1025	1022	1017	1013	1013	1014	1013	1011	1017	1022	1027	1027	1027	1030	1027	1021	1021	1022
31 q	1021	1019	1017	1020	1021	1021	1020	1018	1015	1014	1006	997	1000	1010	1016	1024	1027	1025	1025	1025	1025	1025	1022	1022	1018
Mean	1011	1008	1009	1009	1007	1009	1010	1011	1011	1007	1002	1001	1005	1013	1020	1027	1033	1036	1037	1035	1032	1025	1019	1016	1016

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

121 ESKDALEMUIR

MAY 1940

	TERRESTRIAL MAGNETIC ELEMENTS										3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 + °A	
	Horizontal force			Declination			Vertical force								
	Maximum 16,000γ +	Minimum 16,000γ +	Range	Maximum 13° +	Minimum 13° +	Range	Maximum 44,000γ +	Minimum 44,000γ +	Range						
1	h. m. γ	γ h. m.	γ	h. m. °	° h. m.	°	h. m. γ	γ h. m.	γ						
2	17 28 551	489 10 57	62	13 21	8.2	-10.1	6 49	18.3	19 50 1037	991 11 55	46	2, 1, 1, 1, 3, 2, 3, 2	15	0	84.3
3	15 38 533	481 11 0	52	13 26	8.7	-7.6	6 49	16.3	18 0 1039	997 11 51	42	2, 2, 1, 1, 1, 3, 1, 1	12	0	84.3
4	19 50 534	480 11 9	54	13 20	6.2	-6.8	7 14	13.0	17 30 1028	1006 12 42	22	2, 1, 2, 1, 2, 2, 1, 1	12	0	84.4
5	23 58 551	481 10 18	70	12 54	5.3	-8.1	6 23	13.4	18 15 1031	995 11 38	36	2, 1, 1, 1, 1, 1, 1, 2	10	0	84.5
6	0 1 549	477 10 32	72	12 40	6.5	-7.7	7 56	14.2	20 58 1026	996 12 10	30	2, 1, 1, 2, 2, 2, 2, 1	13	0	84.6
7	17 18 543	493 11 30	50	13 1	9.8	-4.6	8 3	14.4	6 0 1024	997 12 31	27	1, 0, 0, 1, 2, 1, 0, 1	6	0	84.6
8	17 42 548	485 11 44	63	13 24	6.9	-6.6	7 20	13.5	18 40 1030	997 12 7	33	1, 2, 2, 1, 2, 2, 2, 1	13	0	84.7
9	19 31 547	482 9 59	65	13 5	8.0	-7.4	6 50	15.4	* * 1022	997 11 1	25	2, 2, 1, 1, 2, 2, 1, 1	12	0	84.8
10	1 21 551	477 9 27	74	† †	9.0	-8.0	5 51	17.0	15 14 1032	992 11 47	40	2, 3, 2, 3, 3, 3, 2, 1	19	1	84.8
11	17 52 585	485 10 55	100	13 6	9.6	-15.3	21 18	24.9	18 44 1045	985 11 27	60	1, 3, 2, 2, 4, 3, 4, 4	23	1	84.9
12	20 0 582	462 11 10	120	12 57	9.6	-7.4	6 55	17.0	18 3 1048	972 3 21	76	3, 3, 2, 2, 3, 3, 3, 2	21	1	84.9
13	18 54 567	466 13 50	101	13 27	7.2	-13.3	23 0	20.5	19 28 1049	997 7 23	52	2, 3, 3, 2, 3, 2, 3, 4	22	1	85.1
14	16 58 563	476 12 2	87	14 0	9.2	-11.6	21 8	20.8	20 8 1045	994 1 14	51	3, 2, 1, 2, 3, 3, 3, 3	20	1	85.1
15	16 25 558	466 9 45	92	13 10	7.9	-11.0	0 50	18.9	17 22 1042	997 1 9	45	2, 2, 3, 2, 3, 3, 2, 2	19	1	85.2
16	18 54 580	475 10 33	105	12 52	6.8	-10.9	23 30	17.7	19 55 1045	978 4 40	67	1, 3, 3, 2, 3, 3, 3, 3	21	1	85.3
17	17 55 548	470 11 43	78	12 40	3.9	-12.7	1 42	16.6	20 27 1029	988 11 8	41	3, 2, 1, 1, 2, 3, 1, 1	14	1	85.3
18	18 45 582	485 12 40	97	13 49	6.9	-8.6	19 29	15.5	19 29 1049	988 10 46	61	2, 2, 2, 3, 2, 3, 3, 2	19	1	85.4
19	5 56 544	404 13 19	140	13 43	10.6	-16.4	8 0	27.0	16 51 1061	954 6 16	107	4, 4, 5, 3, 4, 3, 3, 2	28	1	85.5
20	21 17 586	463 11 4	123	13 3	5.6	-8.2	21 15	13.8	18 5 1037	990 1 49	47	3, 1, 2, 2, 2, 3, 2, 4	19	1	85.6
21	15 54 567	479 9 28	88	14 18	7.9	-8.2	7 30	16.1	17 9 1062	995 11 10	67	2, 2, 2, 2, 3, 4, 2, 1	18	1	85.6
22	19 11 559	477 10 31	82	3 55	6.1	-9.2	5 51	15.3	20 20 1033	988 4 45	45	1, 3, 1, 1, 2, 2, 2, 2	14	1	85.6
23	1 59 555	407 6 21	148	4 18	12.5	-6.6	8 34	19.1	17 19 1063	949 5 19	114	4, 5, 5, 3, 3, 3, 2, 1	26	1	85.7
24	17 57 684	474 11 26	210	13 13	7.9	-19.5	20 23	27.4	20 22 1062	1004 12 6	58	2, 2, 2, 2, 2, 5, 5, 2	22	1	85.8
25	18 17 618	208 9 42	410	4 29	26.8	-17.3	7 26	44.1	16 23 1105	882 4 37	223	2, 6, 4, 7, 5, 5, 5, 4	38	2	85.9
26	17 52 599	461 9 59	138	14 45	5.2	-10.0	0 56	15.2	17 13 1050	977 0 42	73	3, 3, 1, 2, 2, 4, 3, 2	20	1	86.0
27	18 22 624	434 23 50	190	12 23	5.4	-13.1	22 57	18.5	18 9 1072	934 24 0	138	3, 3, 3, 2, 2, 5, 4, 4	26	1	86.0
28	18 3 569	423 0 11	146	14 0	7.4	-24.6	0 50	32.0	18 11 1036	900 0 14	136	5, 3, 2, 3, 2, 3, 3, 4	25	1	86.1
29	18 0 570	442 11 56	128	14 34	8.0	-10.6	5 6	18.6	17 23 1051	959 4 20	92	2, 3, 2, 3, 4, 3, 3, 3	23	1	86.1
30	17 34 575	477 9 10	98	15 22	5.7	-9.2	7 45	14.9	19 23 1037	995 1 30	42	2, 2, 1, 2, 2, 3, 3, 1	16	1	86.2
31	17 40 553	490 10 30	63	13 45	5.2	-9.4	7 53	14.6	20 55 1031	1008 14 16	23	1, 0, 1, 2, 2, 2, 2, 2	12	0	86.3
32	17 49 545	497 † †	48	13 45	4.1	-6.4	7 33	10.5	17 0 1028	995 11 50	33	1, 2, 1, 1, 2, 1, 0, 1	9	0	86.3
Mean	- - 568	460 - -	108	- - 8.0	-10.5 - -	18.5	- - 1043	981 - -	63	-	-	-	0.71	85.3	



**TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

122 ESKDALEMUIR (H)

16,000γ (0.16 C.G.S. unit) +

JUNE 1940

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
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1 q	525	524	524	527	528	524	516	508	502	497	500	503	512	514	524	540	546	548	547	548	544	539	525	524	525	525
2	523	525	521	532	523	531	535	517	505	492	485	484	489	508	535	532	524	536	553	548	543	529	524	521	521	521
3	517	519	519	521	520	514	505	497	490	484	486	492	508	489	517	521	535	532	519	543	543	537	537	537	537	516
4 q	535	519	524	524	524	524	517	509	504	504	501	500	508	523	532	533	536	540	544	550	547	545	539	540	526	526
5	543	539	539	537	540	536	525	509	501	494	496	508	524	523	524	539	549	556	564	569	556	555	528	528	533	533
6 d	543	503	497	518	486	473	509	476	439	442	476	485	477	520	542	532	521	583	586	569	548	517	500	477	509	509
7 d	498	494	528	486	465	497	505	478	454	429	439	473	493	528	524	528	536	544	551	560	540	524	509	532	505	505
8	516	517	513	515	512	500	500	492	477	476	478	475	489	516	496	521	535	544	563	571	547	536	536	522	514	514
9	517	519	517	512	492	516	503	498	477	447	441	469	493	509	512	514	527	543	583	563	542	533	537	517	512	512
10	512	516	517	516	513	512	501	489	493	493	485	485	496	501	516	521	524	532	536	536	539	532	532	533	514	514
11 q	532	524	524	526	528	528	527	518	506	496	489	485	501	515	533	535	538	554	544	545	540	537	539	532	525	525
12	528	526	525	528	527	525	524	520	516	505	489	482	485	501	520	513	534	542	552	554	546	555	544	540	524	524
13	536	537	539	540	539	536	536	533	524	519	513	510	509	516	531	535	544	547	548	555	549	551	554	540	535	535
14 d	536	538	539	542	551	548	536	522	493	511	503	508	532	516	525	548	567	611	598	570	533	493	478	455	531	531
15 d	465	478	476	484	478	493	465	434	455	441	452	454	466	517	500	548	563	532	539	535	528	524	524	524	495	495
16	519	508	513	513	513	510	500	486	462	477	489	503	512	528	516	520	536	539	539	559	554	542	527	528	516	516
17	520	512	509	512	516	520	494	492	517	509	493	474	485	500	490	512	539	559	537	531	543	525	528	527	514	514
18	524	521	521	517	517	508	470	496	492	482	482	483	497	501	513	523	529	538	548	544	534	537	532	528	514	514
19	527	531	531	521	521	522	511	508	485	489	473	481	482	497	524	539	528	539	542	541	536	533	533	528	518	518
20 q	521	519	522	521	518	519	520	514	500	487	475	473	479	487	504	516	531	539	551	548	539	539	537	532	516	516
21 q	525	524	521	522	528	531	524	520	517	501	485	482	484	493	513	522	530	534	544	543	540	539	533	531	520	520
22	532	528	528	528	528	524	526	520	511	498	485	486	520	548	545	538	547	551	552	558	548	543	535	535	530	530
23	533	528	507	519	521	517	516	510	493	486	483	486	492	509	516	528	538	540	556	555	560	553	525	528	521	521
24	524	520	521	525	519	513	523	510	486	481	477	493	492	498	524	557	569	578	574	558	532	524	544	504	523	523
25 d	502	503	500	470	487	466	489	497	520	493	480	525	475	723	590	692	626	557	657	620	469	476	477	473	532	532
26	474	483	465	482	485	491	494	493	477	461	465	465	460	470	485	493	505	548	520	539	529	537	524	501	494	494
27	501	499	491	489	497	493	489	485	476	470	460	473	476	501	500	528	536	520	524	520	517	514	513	513	499	499
28	507	508	501	504	502	503	501	498	492	480	472	471	470	474	492	505	542	578	555	544	528	524	524	526	508	508
29	525	523	521	520	520	512	502	493	487	482	481	482	486	491	501	519	525	524	579	563	548	543	544	544	517	517
30	537	547	508	542	539	519	513	512	500	480	469	472	488	514	531	520	527	552	530	531	531	534	523	523	518	518
Mean	520	518	515	516	515	513	509	501	492	483	480	485	493	514	519	532	540	548	555	552	538	532	527	521	517	517

**MAGNETIC DECLINATION (WEST)**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

123 ESKDALEMUIR (D)

13° +

JUNE 1940

		Hour G.M.T.																								Mean
		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	
1	q	-1.5	-2.6	-2.6	-3.7	-5.1	-6.8	-5.5	-4.7	-3.9	-3.5	-1.2	1.4	3.4	3.6	3.9	2.8	1.7	0.6	0.2	-0.7	-1.5	-2.5	-2.5	-1.5	-1.3
2		-2.3	-2.2	-3.5	-5.8	-10.1	-10.2	-4.0	-2.1	-1.5	-3.2	0.4	3.7	6.9	9.0	8.3	5.0	3.3	-0.5	-0.7	-1.1	-0.9	-0.4	-1.5	-3.6	-0.7
3		-2.6	-3.6	-3.5	-3.3	-4.3	-6.2	-7.7	-7.2	-6.2	-3.8	-1.0	3.3	5.8	6.4	4.6	3.8	1.9	0.4	-1.4	-1.9	-1.4	-0.8	-0.6	0.3	-1.2
4	q	-3.3	-1.4	-1.4	-3.7	-5.1	-6.6	-7.0	-6.3	-6.0	-3.8	-0.8	3.3	5.7	6.0	5.2	3.8	2.1	0.2	-0.1	-0.5	-0.7	-0.8	-1.5	-1.1	-1.0
5		-1.2	-1.1	-2.5	-3.9	-4.0	-5.9	-5.7	-5.1	-6.2	-0.6	1.0	4.3	7.3	7.0	5.1	4.1	1.5	0.2	0.3	0.9	-0.1	0.3	-0.2	-3.4	-0.3
6	d	-8.8	-14.4	-16.2	-5.2	-3.1	-2.4	-6.3	-8.0	-6.5	-1.7	3.5	7.2	11.6	10.3	9.5	6.5	3.9	1.7	-0.7	2.1	0.5	-0.7	-3.7	-8.2	-1.2
7	d	-3.9	-2.0	-6.9	-12.8	-8.3	-6.2	-7.9	-9.8	-6.0	-1.2	2.7	4.3	7.1	9.0	8.5	7.8	5.2	2.5	-1.0	-0.7	-4.9	-5.5	-3.1	-0.8	-1.4
8		-1.7	-10.2	-4.7	-5.5	-7.4	-6.3	-6.4	-6.5	-7.2	-5.7	-3.6	-1.0	2.6	7.2	6.0	6.9	2.3	2.4	2.9	-2.7	-2.5	-3.8	-9.0	-5.6	-2.5
9		-4.0	-3.1	-3.6	-3.0	1.5	-3.9	-8.7	-10.3	-10.3	-5.7	-0.8	2.6	5.0	7.1	6.9	5.6	3.5	3.2	-2.1	-2.5	-3.1	-2.8	-2.8	-5.3	-1.5
10		-1.1	0.3	-2.8	-4.6	-6.3	-8.2	-9.5	-9.9	-8.4	-6.7	-3.7	-0.9	2.3	4.1	5.0	3.7	1.7	0.5	0.0	-0.9	-1.2	-1.3	-1.1	-1.5	-2.1
11	q	-3.6	-3.0	-2.1	-3.0	-4.5	-5.5	-6.3	-7.4	-8.4	-5.7	-2.6	1.5	5.6	7.3	7.4	6.1	2.9	0.9	0.0	0.5	0.1	-0.3	-2.1	-2.8	-1.0
12		-2.0	-2.1	-2.5	-3.8	-5.4	-6.6	-7.9	-8.5	-8.4	-7.4	-4.0	0.4	4.2	6.9	7.8	5.8	3.6	3.4	2.6	1.4	-0.3	0.5	0.0	-0.3	-0.9
13		-0.3	-0.9	-1.7	-2.2	-3.7	-5.6	-6.4	-6.2	-5.1	-3.8	-1.6	2.4	4.5	4.7	3.6	2.3	1.0	-0.2	-0.8	-0.9	-1.0	-1.0	-2.0	-2.7	-1.1
14	d	-2.1	-2.9	-2.6	-1.9	-5.7	-9.2	-9.9	-9.4	-5.6	-4.6	-0.3	2.6	6.2	7.2	7.8	7.9	6.7	7.8	0.6	-0.9	-1.4	-10.4	-7.5	-11.9	-1.6
15	d	-10.2	-13.7	-8.3	-3.9	2.8	3.3	-1.6	-1.0	-1.2	-3.7	-2.9	2.9	5.3	6.9	6.2	6.2	5.3	2.8	3.2	0.9	0.7	0.8	0.1	-0.2	0.0
16		0.0	-2.8	-6.6	-7.3	-8.2	-7.4	-7.9	-8.3	-4.8	-0.3	0.8	1.6	2.5	5.0	4.2	2.0	1.3	0.3	-0.1	-0.7	-0.3	-1.9	-2.1	-0.1	-1.7
17		-1.4	-3.9	-3.8	-1.1	-5.7	-6.6	-3.7	-0.7	-1.8	-2.7	-0.3	2.6	3.6	3.6	2.8	1.7	1.6	0.0	-3.7	-1.6	-0.3	-1.9	-0.2	0.2	-1.0
18		-0.1	-1.2	-0.2	4.0	-1.8	1.6	-6.6	-5.7	-5.5	-1.7	0.0	2.6	3.7	4.6	4.6	4.1	2.3	-0.5	-2.6	-2.6	-2.3	-1.6	-2.7	-2.5	-0.4
19		-2.7	-2.5	-0.3	-0.3	-2.0	-1.2	-5.9	-6.9	-8.3	-5.4	-1.2	0.7	3.2	3.5	5.7	4.2	2.3	0.7	-1.1	-1.2	-1.2	-1.5	-0.6	-1.7	-1.0
20	q	-1.8	-1.5	-1.7	-2.2	-2.3	-5.4	-9.0	-10.0	-8.2	-5.4	-1.2	1.8	3.4	4.2	4.1	3.3	1.6	0.1	-1.1	-1.9	-2.2	-1.5	-0.8	-1.1	-1.6
21	q	-1.5	-1.4	-0.4	1.0	-3.3	-5.1	-6.6	-7.5	-9.2	-7.5	-4.3	0.4	4.3	5.4	4.4	2.8	0.4	-1.8	-2.4	-2.0	-2.0	-1.3	-1.2	-1.1	-1.7
22		-1.5	-2.2	-2.8	-3.4	-4.6	-4.8	-5.5	-6.5	-6.5	-6.3	-3.9	-0.9	4.4	6.2	6.9	6.3	5.6	3.8	2.6	2.2	0.7	-1.1	-2.1	-2.1	-0.6
23		-5.5	-9.2	-8.8	-6.9	-7.0	-6.5	-6.9	-7.5	-7.3	-5.8	-2.8	1.7	5.9	7.7	7.4	7.0	5.5	3.1	1.6	0.0	-1.4	-2.6	-2.4	-3.1	-1.8
24		-2.3	1.3	-3.0	-3.9	-5.7	-1.9	-6.5	-11.6	-10.5	-6.5	-3.5	0.8	4.1	5.8	5.4	7.0	6.1	5.1	0.9	-0.3	-0.3	-0.9	-2.1	-6.6	-1.2
25	d	-3.8	-2.9	-2.2	19.6	-1.9	-8.1	-10.4	-13.6	-15.2	-12.9	-2.8	-3.3	13.4	0.2	7.2	4.5	5.6	10.3	1.0	-9.0	-0.1	2.0	6.9	6.3	-1.0
26		6.7	0.2	-3.7	-3.6	-4.0	-6.3	-7.3	-8.1	-7.6	-5.7	-2.8	-0.2	1.5	2.3	2.7	1.3	-1.1	0.9	-1.2	-0.7	-1.4	-1.2	-2.7	-4.0	-1.9
27		-3.9	-1.2	-3.6	-2.8	-5.8	-6.6	-6.7	-5.1	-6.0	-5.5	-3.7	0.2	3.4	4.3	3.7	1.7	-2.3	-0.5	-0.6	-0.7	-1.0	-1.5	-1.7	-1.8	-2.0
28		-0.2	-1.0	-3.4	-4.5	-6.1	-6.6	-7.0	-6.7	-7.4	-6.6	-4.4	-2.0	0.3	1.3	1.6	1.3	1.4	0.7	0.6	0.1	-1.0	-0.3	-1.1	-1.7	-2.2
29		-2.9	-3.7	-4.1	-4.7	-6.5	-8.1	-10.2	-9.8	-8.4	-5.6	-2.8	0.0	2.4	3.3	3.6	2.8	0.2	-1.9	0.7	-0.4	0.8	0.2	-0.9	-1.2	-2.4
30		-1.9	2.6	-1.2	-8.6	-6.3	-9.1	-9.8	-9.3	-8.2	-5.8	-2.9	-0.3	1.0	2.8	3.6	3.4	3.2	2.5	-1.1	-1.3	-0.9	-0.8	-0.4	-0.8	-2.1
Mean		-2.4	-3.1	-3.7	-3.0	-4.7	-5.6	-7.0	-7.3	-6.9	-4.8	-1.7	1.5	4.7	5.4	5.0	4.4	2.7	1.6	-0.1	-0.9	-1.0	-1.5	-1.7	-2.3	-1.3



TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

99

124 ESKDALEUIR (V)

44,000 $\gamma$  (0.44 C.G.S. unit) +

JUNE 1940

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
		$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$
1 q	1021	1021	1021	1021	1021	1021	1019	1015	1014	1015	1009	1000	997	1000	1010	1013	1016	1023	1025	1022	1023	1027	1026	1025	1022	1017
2	1021	1020	1018	1006	1006	1000	992	994	1000	994	991	994	994	1000	1011	1024	1041	1048	1046	1037	1033	1032	1030	1021	1019	1016
3	1019	1020	1021	1021	1022	1021	1018	1016	1019	1016	1008	1001	997	997	998	1006	1011	1015	1025	1027	1024	1021	1021	1021	1019	1016
4 q	1012	1013	1016	1021	1022	1023	1021	1019	1011	1006	998	1000	1004	1009	1015	1022	1025	1025	1024	1023	1023	1020	1019	1019	1019	1016
5	1019	1019	1019	1021	1021	1022	1020	1022	1019	1012	1000	989	989	996	1009	1020	1024	1025	1024	1023	1026	1025	1025	1018	1016	1016
6 d	1001	969	972	965	941	943	950	973	981	991	992	1009	1019	1016	1020	1036	1043	1061	1079	1070	1063	1057	1037	1025	1009	1009
7 d	1001	955	943	933	941	959	991	1010	1015	1018	1012	1013	1013	1019	1030	1033	1034	1042	1049	1040	1033	1026	1022	998	1005	1005
8	967	967	980	1005	1017	1026	1030	1031	1028	1022	1016	1011	1010	1018	1028	1025	1039	1036	1032	1038	1034	1030	1010	1006	1017	1017
9	1018	1021	1021	1021	1008	1007	1019	1024	1020	1016	1004	1004	1007	1008	1016	1027	1035	1033	1038	1037	1037	1025	1009	1011	1019	1019
10	1003	996	1009	1019	1024	1027	1024	1024	1021	1017	1008	1002	1003	1003	1007	1013	1018	1021	1025	1025	1024	1024	1022	1018	1016	1016
11 q	1016	1016	1018	1021	1023	1025	1022	1018	1018	1015	1004	1003	1001	1004	1010	1016	1025	1031	1031	1027	1022	1021	1020	1019	1018	1018
12	1018	1018	1019	1020	1022	1022	1019	1015	1014	1015	1011	1005	1001	999	1005	1012	1018	1022	1025	1022	1021	1019	1019	1019	1016	1016
13	1019	1019	1021	1021	1024	1026	1023	1022	1021	1010	1001	1003	1006	1004	1006	1015	1020	1025	1027	1024	1021	1020	1016	1015	1017	1017
14 d	1014	1015	1018	1018	1015	1015	1015	1017	1014	1009	1001	995	995	1004	1010	1019	1028	1051	1070	1057	1054	1027	978	967	1017	1017
15 d	966	967	962	947	937	926	960	982	994	1010	1024	1030	1028	1036	1052	1053	1084	1080	1053	1048	1039	1032	1030	1025	1011	1011
16	1022	1000	998	1003	1015	1020	1022	1022	1019	1015	1015	1014	1013	1016	1024	1025	1025	1028	1031	1033	1036	1020	1021	1016	1019	1019
17	1006	1014	1012	994	997	1006	1003	994	995	1004	1007	1013	1015	1022	1040	1037	1040	1055	1063	1051	1040	1042	1034	1028	1021	1021
18	1027	1027	1025	1000	975	966	982	994	1006	1003	1001	1010	1021	1030	1039	1048	1052	1051	1042	1037	1034	1028	1027	1027	1019	1019
19	1026	1025	1024	1022	1018	1003	1009	1015	1019	1019	1015	1017	1023	1027	1033	1050	1055	1057	1049	1039	1034	1033	1027	1020	1027	1027
20 q	1019	1022	1025	1025	1026	1025	1022	1021	1024	1022	1020	1019	1018	1019	1021	1024	1029	1033	1034	1034	1033	1028	1025	1025	1025	1025
21 q	1025	1025	1024	1016	1018	1019	1021	1019	1016	1015	1007	998	1000	1009	1014	1024	1025	1027	1030	1029	1027	1025	1024	1022	1019	1019
22	1021	1020	1022	1025	1025	1025	1022	1021	1018	1012	1008	996	990	998	1011	1021	1025	1028	1027	1026	1025	1026	1026	1022	1018	1018
23	1007	978	985	1001	1010	1015	1015	1012	1014	1005	998	991	989	995	1004	1009	1015	1020	1022	1026	1027	1027	1025	1019	1009	1009
24	1016	1006	995	998	997	997	1002	1008	1012	1010	1011	1001	1004	1016	1028	1036	1061	1076	1080	1063	1046	1038	1013	1001	1021	1021
25 d	1010	1013	1009	929	930	951	970	989	997	991	993	997	1030	1122	1261	1245	1252	1145	1232	1130	1079	1057	1037	1038	1059	1059
26	1008	997	994	1015	1030	1039	1042	1034	1036	1040	1040	1034	1033	1033	1036	1039	1042	1039	1044	1046	1048	1043	1033	1033	1032	1032
27	1033	1029	1025	1021	1029	1034	1038	1037	1038	1037	1034	1028	1030	1032	1038	1043	1048	1045	1038	1037	1036	1034	1033	1033	1035	1035
28	1030	1021	1024	1031	1037	1038	1036	1031	1030	1025	1025	1022	1016	1015	1016	1023	1025	1038	1049	1047	1043	1036	1032	1030	1030	1030
29	1028	1029	1031	1032	1034	1036	1035	1031	1024	1021	1014	1014	1016	1021	1022	1021	1024	1031	1033	1038	1036	1031	1028	1027	1027	1027
30	1026	1019	985	995	996	1015	1023	1031	1036	1033	1021	1011	1013	1018	1026	1034	1040	1047	1054	1049	1040	1037	1034	1030	1026	1026
Mean	1014	1009	1008	1006	1006	1008	1012	1015	1016	1014	1009	1007	1009	1017	1029	1035	1041	1042	1046	1040	1035	1030	1023	1019	1020	1020

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

125 ESKDALEUIR

JUNE 1940

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +
	Horizontal force			Declination			Vertical force									
	Maximum 16,000γ +	Minimum 16,000γ +	Range	Maximum 13° +	Minimum 13° +	Range	Maximum 44,000γ +	Minimum 44,000γ +	Range							
	h. m. γ	γ h. m.	γ	h. m. γ	γ h. m.	γ	h. m. γ	γ h. m.	γ							°A
1 q	21 10 555	496 9 31	59	14 32 4.1	-7.2 5 31	11.3	20 55 1030	995 11 0	35	1, 1, 2, 2, 2, 2, 2, 2	14	0	86.5			
2	18 12 560	476 11 40	84	13 17 9.6	-11.1 4 51	20.7	16 40 1050	990 10 40	60	2, 2, 2, 2, 3, 3, 2, 2	18	0	86.5			
3	16 49 552	470 13 38	82	13 30 7.8	-8.2 6 23	16.0	18 12 1028	996 12 33	32	1, 1, 1, 1, 3, 3, 2, 2	14	0	86.6			
4 q	19 4 553	497 11 20	56	13 30 6.3	-7.4 6 10	13.7	17 20 1027	996 10 54	31	2, 1, 1, 1, 2, 2, 1, 1	9	0	86.6			
5	21 12 583	489 8 2	94	12 50 8.1	-9.2 8 12	17.3	20 55 1029	986 11 56	43	1, 1, 2, 3, 2, 2, 2, 4	17	0	86.6			
6 d	18 16 595	426 8 48	169	12 20 13.3	-18.7 2 27	32.0	18 22 1079	930 4 27	149	4, 4, 4, 4, 4, 4, 3, 4	31	1	86.6			
7 d	* * 575	419 9 36	156	13 48 10.5	-14.4 3 27	24.9	18 7 1054	925 3 1	129	4, 4, 4, 4, 4, 3, 3, 3	29	1	86.7			
8	19 39 594	462 11 25	132	† † 8.0	-13.8 † †	21.8	16 46 1043	960 0 9	83	4, 3, 2, 2, 3, 4, 4, 3	25	1	86.7			
9	18 52 614	430 9 50	184	13 48 8.0	-12.6 7 52	20.6	18 40 1042	1001 5 2	41	2, 3, 3, 3, 2, 3, 4, 3	23	1	86.7			
10	20 45 546	481 7 25	65	14 7 5.2	-11.8 7 2	17.0	4 58 1027	994 1 18	33	2, 1, 2, 1, 1, 1, 1, 2	11	0	86.8			
11 q	§ § 560	481 11 30	79	13 55 8.0	-9.4 8 2	17.4	18 4 1033	1001 12 43	32	2, 1, 2, 1, 2, 2, 1, 2	13	0	86.8			
12	19 33 565	479 12 14	86	14 20 8.1	-9.3 7 47	17.4	18 39 1025	997 13 14	28	1, 0, 2, 2, 3, 3, 2, 2	15	0	86.8			
13	19 54 563	505 12 4	58	12 55 5.2	-7.3 6 16	12.5	18 43 1028	1000 10 20	28	1, 1, 1, 1, 2, 2, 2, 2	12	0	86.8			
14 d	16 57 674	388 23 15	286	17 12 12.2	-19.8 23 34	32.0	18 3 1079	929 22 42	150	1, 2, 3, 2, 5, 6, 5, 5	29	2	86.8			
15 d	16 28 595	416 7 10	179	4 32 13.2	-15.3 0 59	28.5	16 56 1096	908 4 52	188	3, 4, 4, 3, 4, 4, 3, 2	27	1	86.8			
16	19 49 565	451 8 20	114	14 0 6.5	-10.8 7 24	17.3	20 22 1038	993 2 41	45	3, 2, 3, 3, 3, 2, 3, 3	22	1	86.9			
17	17 26 573	464 11 48	109	12 10 4.4	-8.4 5 6	12.8	18 17 1066	989 3 50	77	2, 2, 3, 3, 3, 4, 2, 2	21	1	86.9			
18	19 15 560	436 6 21	124	3 16 6.6	-11.1 6 21	17.7	16 40 1053	964 5 1	89	2, 3, 4, 2, 2, 2, 2, 1	18	1	87.0			
19	15 14 559	466 12 37	93	14 20 6.6	-11.2 8 11	17.8	17 37 1060	998 5 37	62	2, 2, 2, 2, 4, 4, 1, 1	18	1	87.1			
20 q	18 5 558	469 11 12	89	13 24 4.5	-10.1 7 33	14.6	19 1 1036	1016 12 48	20	1, 1, 1, 2, 2, 2, 2, 1*	12	0	87.1			
21 q	19 50 551	478 11 11	73	13 6 5.9	-9.9 8 30	15.8	18 47 1031	995 11 55	36	2, 2, 2, 2, 2, 1, 1, 1	13	0	87.1			
22	14 36 573	458 10 50	115	15 3 8.7	-6.7 10 51	15.4	17 5 1030	988 1 1	42	1, 1, 1, 3, 3, 2, 2, 2	15	0	87.1			
23	20 8 572	477 10 58	95	13 53 7.9	-9.9 1 36	17.8	20 1 1030	975 1 43	55	3, 2, 2, 1, 2, 2, 2, 2	16	1	87.2			
24	19 9 598	466 12 59	132	15 37 8.3	-12.2 8 22	20.5	18 56 1084	993 2 50	91	3, 3, 3, 2, 4, 3, 4, 4	26	1	87.2			
25 d	13 51 1203	368 12 59	835	3 22 38.4	-54.3 14 10	92.7	14 9 1482	899 3 40	583	4, 6, 4, 6, 9, 7, 7, 4	47	2	87.2			
26	17 31 711	450 2 34	261	0 2 16.1	-8.6 8 8	24.7	21 0 1050	990 2 47	60	4, 3, 2, 2, 2, 6, 4, 3	26	1	87.3			
27	16 20 549	455 10 42	94	13 56 4.7	-9.3 6 53	14.0	16 29 1051	1019 3 38	32	2, 2, 2, 3, 3, 3, 2, 1	18	0	87.3			
28	17 22 594	468 12 22	126	14 45 2.2	-8.4 8 5	10.6	13 50 1052	1014 14 1	38	2, 1, 2, 2, 2, 4, 3, 1	17	1	87.3			
29	18 37 594	478 ** **	116	15 0 4.1	-10.5 6 23	14.6	19 30 1039	1012 10 51	27	1, 2, 1, 1, 2, 2, 3, 2	14	1	87.3			
30	17 48 567	465 10 53	102	1 46 7.8	-10.9 3 10	18.7	18 29 1056	977 2 38	79	4, 3, 1, 1, 3, 3, 3, 2	20	1	87.3			
Mean	- - 600	459 - -	142	- - 8.7	-12.3 - -	20.9	- - 1061	981 - -	80	-	-	0.63	86.9			



TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

126 ESKDALEMUIR (H)

16,000γ (0.16 C.G.S. unit) +

JULY 1940

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
1	518	510	501	522	515	525	519	518	503	484	476	482	492	521	535	537	549	542	534	528	519	522	524	523	517
2 q	523	521	519	518	519	515	510	510	508	500	495	496	506	520	522	537	540	543	541	537	530	530	531	521	521
3	524	518	511	515	517	509	511	519	519	506	497	510	504	510	510	537	555	557	566	573	551	537	523	482	523
4 d	462	500	534	522	504	504	496	491	471	467	460	479	510	515	521	521	553	550	554	535	519	509	499	508	508
5	501	522	515	511	508	504	487	493	491	480	475	481	498	499	540	545	526	537	558	572	540	544	532	525	516
6	538	521	503	508	519	515	506	492	486	481	471	476	460	492	519	526	546	546	547	570	538	523	518	521	513
7	515	514	514	518	518	514	502	488	483	480	483	483	492	492	519	542	554	555	565	540	530	522	518	519	515
8	514	515	518	515	511	506	506	501	494	480	474	478	492	503	521	526	530	526	537	534	543	549	550	566	516
9	541	543	539	533	537	534	515	503	498	502	499	491	491	518	537	522	540	546	584	558	560	548	534	533	529
10 d	532	546	537	517	515	483	482	512	491	460	441	452	456	514	526	563	539	553	549	538	533	542	542	518	514
11	525	530	512	511	499	522	510	496	487	475	475	469	472	483	506	514	524	547	545	541	545	530	518	522	511
12	519	521	522	526	528	514	512	506	498	490	487	490	495	507	519	525	526	534	543	549	533	526	525	526	518
13 d	525	522	522	514	517	517	507	510	519	487	475	507	534	596	504	520	556	536	537	503	494	501	511	490	517
14 d	507	498	497	495	490	507	471	471	476	467	445	467	468	468	498	538	558	550	544	538	525	528	519	508	501
15	508	511	499	506	502	502	501	490	487	483	471	471	495	506	519	530	529	557	558	537	533	526	515	511	510
16	510	507	486	497	499	507	501	491	475	467	476	483	495	494	514	522	530	546	538	535	535	526	530	521	508
17 q	519	521	522	518	518	518	510	509	502	491	487	494	500	515	523	545	531	526	533	534	529	526	523	524	517
18 q	522	518	518	517	512	511	508	507	503	500	496	498	502	511	511	523	530	530	534	538	538	541	535	534	518
19	527	525	522	523	530	524	519	510	496	487	485	490	499	510	527	515	533	539	545	543	546	537	535	526	521
20 q	522	526	530	528	526	519	515	506	494	482	480	487	496	511	530	538	550	557	557	544	538	534	526	523	522
21	522	531	526	530	535	530	525	516	503	487	487	480	492	503	519	530	540	569	576	553	549	531	531	526	525
22	527	527	520	525	518	505	469	498	495	491	492	487	503	519	511	530	553	546	545	550	541	523	525	516	517
23	530	515	516	518	514	511	510	506	500	496	491	484	487	501	514	525	549	546	537	535	527	526	525	518	516
24	514	517	515	526	506	529	526	515	503	476	481	483	484	494	522	536	533	546	538	542	535	525	524	538	517
25	515	498	503	506	517	513	496	500	503	479	468	464	485	492	502	520	542	541	534	539	536	531	529	532	510
26	543	521	524	515	520	526	526	522	510	502	496	483	492	507	526	517	519	530	535	535	534	534	532	530	520
27 q	530	522	519	522	526	526	527	526	514	502	495	494	503	517	526	535	534	545	545	549	548	549	549	549	527
28	545	540	535	536	532	527	518	507	501	496	496	502	514	510	518	522	524	535	541	545	545	542	541	536	525
29	533	526	526	533	536	535	522	515	511	505	501	502	506	527	534	550	554	561	549	558	535	541	534	535	530
30 d	533	539	533	534	526	537	533	519	506	491	487	491	512	522	553	569	572	572	556	568	528	526	515	518	531
31	518	506	526	523	503	494	487	504	494	467	480	475	479	482	510	523	547	519	532	546	542	537	530	526	510
Mean	521	520	518	519	517	516	507	505	497	486	481	485	494	508	521	532	540	545	547	545	536	531	527	523	517

MAGNETIC DECLINATION (WEST)  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

127 ESKDALEMUIR (D)

13° +

JULY 1940

	Hour	G. M. T.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											</
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TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

101

128 ESKDALEMUIR (V)

44,000γ (0.44 C.G.S. unit) +

JULY 1940

	Hour G.M.T.																								Mean
	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	
1	1030	1016	1004	1012	1024	1026	1027	1030	1033	1032	1028	1020	1017	1024	1028	1031	1036	1040	1042	1036	1035	1034	1034	1034	1028
2 q	1033	1033	1033	1035	1037	1040	1036	1029	1027	1018	1011	1007	1011	1024	1031	1032	1037	1043	1041	1042	1043	1040	1037	1036	1031
3	1036	1034	1034	1033	1033	1033	1027	1017	1013	1013	1004	998	1002	1013	1019	1022	1028	1038	1048	1055	1046	1037	1028	995	1025
4 d	945	968	978	1000	1004	1010	1022	1024	1027	1031	1031	1021	1010	1016	1024	1032	1043	1046	1049	1052	1049	1045	1025	994	1019
5	989	1007	1021	1026	1031	1033	1032	1032	1033	1033	1029	1012	1013	1022	1030	1041	1046	1046	1044	1045	1042	1037	1021	1022	1029
6	1016	1003	996	997	1007	1018	1021	1025	1022	1016	1016	1016	1015	1019	1020	1024	1031	1042	1045	1043	1043	1037	1033	1030	1022
7	1022	1024	1030	1033	1037	1039	1037	1032	1028	1024	1017	1011	1009	1016	1027	1037	1048	1055	1052	1046	1043	1038	1034	1028	1032
8	1029	1032	1029	1025	1030	1033	1034	1034	1031	1027	1025	1018	1015	1019	1021	1024	1030	1034	1037	1037	1033	1033	1031	1024	1029
9	1018	1019	1021	1018	1015	1019	1027	1029	1026	1016	1010	1009	1012	1014	1024	1034	1034	1037	1040	1046	1041	1042	1039	1028	1026
10 d	1025	998	995	994	993	997	999	1003	1011	1022	1030	1029	1031	1041	1051	1049	1058	1066	1070	1058	1049	1041	1030	1025	1028
11	1025	1009	991	1002	994	1001	1012	1020	1024	1023	1017	1012	1017	1021	1028	1031	1036	1042	1049	1048	1046	1041	1033	1032	1023
12	1031	1031	1029	1025	1025	1030	1031	1030	1024	1019	1015	1018	1022	1026	1027	1031	1032	1034	1037	1037	1042	1039	1035	1033	1029
13 d	1031	1031	1028	1028	1034	1032	1030	1026	1018	1010	1006	1001	1032	1110	1143	1118	1108	1132	1124	1084	1056	1048	1040	1016	1054
14 d	1028	1016	1025	1020	991	1001	1019	1026	1027	1030	1034	1031	1041	1054	1055	1069	1084	1076	1061	1052	1045	1040	1031	1033	1037
15	1036	1028	998	998	1006	1019	1028	1025	1031	1031	1030	1028	1032	1033	1041	1058	1068	1067	1061	1054	1048	1042	1036	1031	1035
16	1026	1016	1014	1015	1024	1030	1034	1033	1031	1027	1019	1015	1017	1027	1029	1034	1041	1052	1054	1046	1040	1039	1037	1032	1031
17 q	1031	1028	1025	1028	1031	1033	1037	1037	1038	1036	1034	1031	1030	1030	1033	1037	1046	1052	1046	1041	1039	1037	1036	1034	1035
18 q	1033	1033	1034	1035	1033	1033	1027	1025	1022	1021	1016	1012	1010	1014	1022	1030	1033	1038	1034	1034	1033	1032	1033	1033	1028
19	1031	1029	1030	1031	1031	1033	1032	1033	1033	1024	1018	1015	1014	1015	1022	1031	1033	1037	1036	1031	1027	1031	1031	1030	1028
20 q	1031	1031	1031	1032	1031	1027	1026	1027	1025	1021	1019	1009	1003	1006	1018	1027	1031	1033	1032	1034	1032	1031	1031	1031	1026
21	1031	1029	1028	1030	1032	1032	1031	1027	1018	1012	1007	1014	1015	1015	1020	1023	1031	1040	1054	1054	1048	1048	1039	1033	1030
22	1031	1031	1032	1030	1023	1018	1018	997	998	1004	1012	1015	1016	1024	1036	1040	1043	1058	1057	1051	1046	1036	1033	1033	1028
23	1026	1025	1030	1033	1033	1032	1029	1028	1026	1020	1013	1012	1013	1013	1022	1027	1027	1035	1038	1042	1039	1033	1032	1030	1027
24	1030	1029	1030	1028	1018	1007	1013	1017	1021	1027	1030	1027	1027	1031	1035	1042	1043	1045	1048	1047	1042	1036	1031	1027	1030
25	1012	1012	1012	1016	1020	1020	1022	1019	1023	1030	1029	1021	1015	1012	1012	1017	1025	1036	1037	1034	1031	1031	1030	1028	1023
26	1015	1013	1020	1023	1025	1025	1025	1026	1027	1023	1021	1019	1018	1017	1020	1029	1033	1036	1034	1031	1028	1027	1027	1027	1025
27 q	1025	1025	1026	1027	1027	1027	1024	1022	1022	1019	1012	1005	1002	1009	1016	1021	1028	1025	1022	1024	1025	1025	1025	1022	1021
28	1016	1017	1022	1024	1028	1030	1027	1025	1025	1021	1015	1013	1010	1016	1023	1030	1033	1036	1036	1033	1031	1030	1028	1028	1025
29	1027	1026	1026	1026	1027	1028	1031	1027	1022	1012	1007	1003	1002	1009	1014	1015	1019	1024	1031	1030	1037	1036	1027	1025	1022
30 d	1026	1025	1025	1022	1024	1019	1018	1019	1015	1013	1015	1012	1007	1006	1012	1026	1037	1038	1043	1039	1040	1036	1036	1033	1024
31	1030	1019	990	986	1002	1009	1013	1014	1014	1019	1016	1013	1013	1015	1019	1029	1040	1042	1037	1032	1033	1033	1029	1025	1020
Mean	1023	1021	1019	1020	1022	1024	1025	1025	1024	1022	1019	1015	1016	1023	1030	1035	1041	1046	1046	1043	1040	1037	1032	1027	1028

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

129 ESKDALEMUIR

JULY 1940

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 + °A			
	Horizontal force				Declination			Vertical force											
	Maximum 16,000γ +		Minimum 16,000γ +		Range	Maximum 13° +		Minimum 13° +		Range	Maximum 44,000γ +						Minimum 44,000γ +		Range
	h. m.	γ	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ				
1	17 23	553	456	10 10	97	2 11	8.6	-10.9	6 6	19.5	18 9	1043	1000	2 52	43	3, 2, 2, 1, 3, 3, 3, 1	18	1	87.3
2 q	20 13	546	490	10 50	56	12 40	4.2	-9.2	7 19	13.4	20 22	1044	1006	11 22	38	1, 1, 2, 1, 2, 2, 2, 2	13	0	87.3
3	19 53	585	428	23 56	157	13 43	7.1	-16.5	23 31	23.6	19 44	1056	960	24 0	96	2, 2, 3, 2, 3, 3, 3, 5	23	1	87.3
4 d	19 37	564	430	0 1	134	13 3	7.1	-17.4	23 28	24.5	19 33	1055	936	0 27	119	5, 3, 3, 3, 3, 3, 4, 4	27	1	87.3
5	19 10	597	467	10 56	130	14 55	7.8	-13.1	0 50	20.9	18 58	1051	978	0 3	73	3, 2, 3, 2, 4, 3, 4, 3	24	1	87.3
6	19 52	581	448	12 31	133	14 31	7.9	-11.9	6 51	19.8	18 50	1046	995	2 59	51	4, 3, 2, 3, 4, 3, 3, 2	24	1	87.3
7	18 9	584	472	9 29	112	13 48	5.0	-10.2	7 14	15.2	17 47	1056	1007	12 1	49	2, 1, 1, 2, 3, 2, 3, 1	15	0	87.3
8	23 19	589	471	10 58	118	15 7	6.8	-9.4	6 32	16.2	19 0	1038	1013	12 35	25	1, 1, 1, 1, 2, 2, 2, 3	13	0	87.3
9	18 21	609	481	12 40	128	14 39	7.0	-9.9	5 50	16.9	19 3	1049	1007	11 59	42	2, 3, 2, 2, 3, 3, 3, 3	21	1	87.3
10 d	15 23	579	414	11 7	165	15 17	7.1	-11.9	22 50	19.0	18 22	1074	985	4 8	89	3, 4, 4, 3, 4, 4, 2, 3	27	1	87.4
11	17 31	557	464	12 29	93	14 10	6.1	-12.7	7 23	18.8	19 11	1051	988	2 25	63	3, 3, 2, 2, 2, 3, 2, 2	19	1	87.3
12	19 48	553	480	10 22	73	14 10	5.0	-7.8	8 2	12.8	20 34	1043	1014	10 52	29	2, 2, 2, 1, 2, 1, 2, 1	13	0	87.3
13 d	13 48	682	419	10 14	263	15 0	16.9	-10.4	18 43	27.3	14 1	1151	1001	12 1	150	1, 2, 3, 5, 6, 5, 4, 4	30	2	87.3
14 d	16 24	576	430	10 32	146	3 54	10.5	-12.8	7 50	23.3	16 30	1086	982	4 12	104	2, 4, 3, 3, 3, 3, 3, 2	23	1	87.5
15	18 57	572	459	10 39	113	13 40	5.4	-12.0	3 20	17.4	16 33	1071	990	2 42	81	3, 3, 1, 2, 3, 3, 3, 2	20	1	87.5
16	17 16	556	460	8 59	96	14 4	6.0	-10.2	6 43	16.2	17 50	1056	1013	* *	43	3, 2, 2, 2, 2, 3, 2, 2	18	0	87.5
17 q	15 49	558	483	10 3	75	14 9	2.1	-9.0	7 42	11.1	17 31	1055	1024	3 0	31	2, 1, 1, 1, 1, 3, 1, 1	11	0	87.5
18 q	21 5	545	493	10 49	52	14 15	5.8	-9.2	7 9	15.0	17 30	1039	1009	12 41	30	0, 1, 1, 1, 2, 1, 1, 1	8	0	87.5
19	20 17	557	483	10 50	74	14 13	5.9	-11.9	7 36	17.8	17 45	1038	1013	13 8	25	1, 1, 1, 1, 2, 2, 3, 3	13	0	87.6
20 q	17 46	565	477	10 35	88	14 27	6.0	-10.1	6 37	16.1	19 27	1036	1001	12 40	35	2, 1, 1, 1, 2, 2, 2, 2	13	0	87.7
21	18 13	592	466	11 42	126	15 8	7.1	-11.1	7 56	18.2	19 2	1057	1007	10 8	50	2, 1, 2, 2, 2, 3, 3, 2	17	0	87.7
22	16 51	568	446	7 0	122	13 28	8.8	-10.0	6 14	18.8	17 42	1061	992	7 31	69	1, 3, 4, 3, 4, 3, 3, 2	23	1	87.7
23	17 18	561	472	12 8	89	12 52	5.0	-9.9	7 12	14.9	19 46	1043	1009	11 3	34	3, 1, 2, 2, 3, 2, 2, 2	17	0	87.6
24	23 47	560	468	9 38	92	14 43	4.1	-9.2	7 49	13.3	18 50	1050	1005	5 10	45	2, 3, 2, 2, 3, 3, 2, 3	20	1	87.6
25	17 2	558	453	11 5	105	14 11	3.3	-10.6	1 7	13.9	17 40	1038	1009	2 20	29	3, 2, 3, 3, 1, 3, 2, 2	19	1	87.7
26	0 1	549	481	11 3	68	14 18	5.0	-11.0	7 0	16.0	17 52	1037	1008	1 0	29	2, 2, 1, 2, 2, 2, 1, 1	13	0	87.5
27 q	17 30	554	488	11 23	66	15 15	3.8	-10.1	6 59	13.9	16 42	1029	1000	12 9	29	2, 1, 1, 1, 1, 2, 1, 1	10	0	87.5
28	0 20	549	488	11 0	61	13 57	4.9	-10.5	7 50	15.4	18 0	1037	1008	12 12	29	2, 1, 1, 2, 2, 2, 1, 2	13	0	87.5
29	19 38	571	492	11 0	79	14 22	5.0	-12.1	†	17.1	20 52	1043	1000	12 12	43	1, 1, 1, 1, 2, 2, 3, 3	14	0	87.6
30 d	19 8	605	475	10 12	130	14 17	10.4	-13.6	3 40	24.0	18 49	1045	1003	13 21	42	2, 3, 2, 3, 4, 4, 4, 3	25	1	87.6
31	16 23	561	459	9 24	102	13 11	5.8	-10.2	4 22	16.0	17 10	1045	983	3 0	62	3, 3, 3, 3, 3, 3, 3, 2	23	1	87.6
Mean	- -	572	464	- -	108	- -	6.5	-11.1	- -	17.6	- -	1052	998	- -	54	-	-	0.55	87.5



**TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

130 ESKDALEMUIR (H)

16,000γ (0.16 C.G.S. unit) +

AUGUST 1940

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
1	γ	523	520	517	518	515	515	510	502	491	476	480	496	514	516	519	523	534	549	531	539	531	531	536	518	517
2	γ	515	515	518	521	519	515	508	503	495	480	488	495	503	512	514	530	545	533	561	537	549	538	535	537	519
3 d	γ	534	534	534	525	530	533	514	507	483	490	464	471	472	491	561	471	553	533	526	521	514	514	519	522	513
4	γ	516	519	526	522	522	519	501	497	479	467	468	479	492	502	518	526	519	514	526	530	546	530	525	526	511
5	γ	522	519	514	510	513	519	522	507	495	476	473	487	495	512	502	537	524	540	550	546	541	537	526	523	516
6 d	γ	531	538	513	524	507	515	522	512	487	475	462	483	488	507	494	517	547	518	527	547	547	533	519	521	514
7	γ	518	522	514	516	517	517	515	511	499	472	464	480	476	480	502	491	530	549	541	533	530	526	523	526	511
8	γ	530	539	518	503	508	511	502	484	492	460	476	469	494	506	499	494	506	522	526	526	524	520	526	526	507
9 d	γ	522	510	510	517	518	519	518	504	494	432	441	460	487	526	525	564	589	587	573	566	497	484	468	485	512
10	γ	501	499	502	503	510	506	498	492	484	479	476	491	483	491	506	510	514	519	541	534	531	523	522	518*	506
11 d	γ	514	512	513	516	501	503	494	499	486	468	483	494	510	506	514	536	531	538	550	549	533	530	522	522	513
12	γ	517	518	522	514	515	491	503	508	501	483	467	471	475	491	495	522	536	546	542	531	526	526	527	526	511
13	γ	506	519	521	508	514	503	490	485	476	471	480	494	506	512	518	515	515	526	526	530	530	530	531	523	510
14	γ	524	524	521	522	517	521	522	510	487	463	468	479	498	499	496	510	514	533	526	526	527	527	524	537	511
15 q	γ	525	518	514	514	515	514	505	497	483	476	474	483	492	507	522	521	518	522	530	529	534	534	533	531	512
16 q	γ	533	530	526	524	524	524	516	498	487	475	471	480	487	500	517	528	523	530	530	538	531	529	528	527	515
17 q	γ	533	529	522	519	518	514	510	503	499	492	493	500	505	507	515	530	535	533	533	534	538	534	535	535	519
18	γ	534	535	535	534	531	527	522	515	506	492	491	491	506	522	537	573	596	601	553	533	542	542	511	528	532
19	γ	514	506	507	506	506	502	495	487	482	476	467	468	483	479	502	537	519	538	537	534	531	530	530	510	506
20	γ	503	511	509	506	518	515	510	502	491	482	483	483	500	493	517	534	535	522	530	527	522	522	522	523	511
21	γ	529	520	516	511	519	511	507	496	482	472	475	483	490	519	530	516	525	535	545	541	529	530	531	537	513
22	γ	528	527	526	526	526	522	519	510	495	490	499	499	526	540	545	564	536	554	545	541	529	530	531	537	528
23	γ	534	521	518	516	519	511	503	495	486	472	468	475	487	499	519	520	530	526	525	533	531	530	530	524	511
24 q	γ	524	519	519	518	519	518	515	504	490	473	468	480	496	512	519	524	526	525	530	530	530	530	526	526	513
25	γ	525	524	525	524	523	519	518	511	501	489	486	487	502	517	518	536	538	532	543	545	553	546	530	528	522
26 d	γ	541	550	553	538	530	525	516	507	498	485	492	506	519	539	530	515	534	545	575	534	541	549	538	497	527
27	γ	511	530	527	533	520	493	501	492	483	480	482	488	501	506	533	533	514	526	526	534	533	530	531	542	515
28	γ	537	533	513	494	515	517	510	499	487	487	476	483	497	507	515	530	533	536	532	533	535	534	526	527	515
29	γ	524	518	526	526	518	509	507	499	483	479	480	480	486	491	506	515	521	524	530	533	530	527	530	533	513
30 q	γ	529	522	519	519	518	517	514	505	498	491	491	501	512	514	521	518	514	526	532	537	531	530	533	546	518
31	γ	533	522	522	518	517	514	514	515	511	502	490	499	514	522	515	517	526	525	530	541	545	546	546	531	521
Mean	γ	523	523	520	518	518	515	510	502	492	478	476	485	497	507	517	524	532	536	538	535	533	529	525	525	515

**MAGNETIC DECLINATION (WEST)**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

131 ESKDALEMUIR (D)

13° +

AUGUST 1940

	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
1			-2.3	3.4	-3.4	-9.7	-8.7	-9.8	-10.1	-9.9	-8.5	-6.6	-2.6	2.2	5.3	6.0	4.8	2.7	0.6	-0.9	-1.8	-3.0	-2.8	-4.8	-1.8	-5.1	-2.8
2			-5.0	-4.8	-4.8	-4.5	-5.9	-7.5	-9.3	-10.2	-11.2	-8.5	-4.0	1.1	5.5	7.0	5.8	3.6	2.5	0.6	0.3	-7.7	-4.0	-2.3	-2.4	-2.9	-2.9
3	d		-5.1	-6.4	-8.2	-7.7	-6.3	-4.1	-0.4	4.2	3.3	3.9	3.4	3.7	6.0	6.9	7.5	3.3	3.8	-2.0	-1.8	-4.0	-4.0	-1.1	-1.7	-2.1	-0.4
4			-2.1	1.7	-0.5	-3.1	-4.6	-5.8	-5.0	-4.1	-4.7	-3.3	-1.8	1.5	4.1	5.1	4.3	2.4	-0.8	-2.0	-2.5	-2.4	-6.7	-4.0	-3.2	-2.3	-1.7
5			-1.8	-2.7	-2.1	-2.3	-3.3	-5.0	-9.2	-9.2	-7.7	-4.8	-1.2	1.4	3.7	5.0	4.1	3.1	1.5	0.6	-0.5	-2.2	-3.8	-6.7	-6.7	-3.0	-2.2
6	d		-3.0	-3.2	-4.6	-5.5	-5.7	-5.8	-7.5	-8.4	-7.5	-4.9	-2.1	0.2	3.2	6.0	4.8	3.0	2.2	-1.4	-2.0	-2.1	-6.7	-4.5	-5.7	-10.1	-3.0
7			-5.1	-4.1	-5.4	-5.1	-6.0	-7.6	-6.9	-6.5	-6.9	-5.4	-1.0	1.2	3.8	6.1	5.7	3.0	1.6	-0.5	-6.3	-2.3	-1.4	-1.4	-2.1	-2.2	-2.3
8			-2.3	-1.3	-6.6	-6.3	-6.7	-7.3	-5.0	-1.2	-3.1	-3.7	-2.5	-1.4	-1.2	1.4	0.7	-0.5	-2.4	-3.0	-2.8	-3.6	-3.3	-4.0	-3.8	-1.4	-3.0
9	d		-0.4	-5.6	-4.9	-3.2	-3.1	1.1	1.7	-3.0	-6.7	-9.5	-7.3	-5.3	-4.0	1.3	0.5	3.1	-0.2	-0.8	1.5	-11.7	-3.9	-5.9	-7.3	-7.4	-3.4
10			-4.0	-4.5	-3.8	-5.0	-6.5	-7.3	-6.9	-5.6	-4.7	-3.2	-1.1	1.2	3.6	3.1	1.4	0.5	-0.3	-1.3	-0.6	-2.2	-3.7	-1.3	-1.6	-2.2	-2.3
11	d		-3.1	-4.1	-0.3	-3.9	-4.8	-7.6	-8.3	-8.0	-3.1	-1.5	0.5	1.3	0.8	1.0	0.7	0.4	-3.1	-2.7	-1.0	-5.1	-2.2	-1.6	-3.7	-8.4	-2.8
12			-6.8	-4.8	-6.3	-8.3	-9.6	-8.4	-5.7	-6.9	-6.3	-4.1	-0.4	2.4	4.6	6.3	5.8	3.4	0.1	-3.6	-3.5	-3.1	-2.3	-2.2	-2.8	-3.3	-2.7
13			-3.0	-4.9	-2.6	-6.7	-5.8	-7.1	-6.7	-7.6	-6.3	-2.1	0.5	2.4	3.5	4.6	4.1	3.2	0.6	-1.5	-2.0	-2.2	-2.2	-2.2	-4.0	-3.8	-2.2
14			-3.2	-4.0	-4.5	-3.3	-1.7	-5.6	-8.7	-9.4	-7.7	-4.5	-1.1	1.8	4.3	5.6	6.0	4.3	0.6	-1.7	-3.7	-3.7	-3.0	-3.1	-2.7	-1.4	-2.1
15	q		-4.6	-4.3	-4.1	-5.3	-6.3	-7.8	-9.4	-9.9	-9.4	-7.5	-4.8	-0.4	2.1	3.1	2.9	1.4	-1.3	-2.3	-2.2	-2.0	-2.2	-2.1	-2.2	-3.0	-3.4
16	q		-3.3	-4.0	-5.0	-5.9	-6.3	-7.5	-9.2	-8.9	-7.1	-6.8	-3.8	-0.3	3.3	4.8	4.2	3.1	0.1	-1.4	-2.3	-2.4	-2.9	-3.6	-3.5	-3.9	-3.0
17	q		-4.1	-5.8	-5.8	-6.3	-7.1	-8.5	-9.9	-9.5	-8.2	-5.0	-1.8	1.2	4.8	6.9	6.9	4.4	0.7	-2.1	-3.1	-2.0	-2.7	-4.1	-3.5	-4.1	-2.9
18			-4.8	-4.8	-4.9	-5.5	-6.0	-6.8	-7.7	-8.5	-9.3	-6.6	-1.7	3.1	5.9	6.9	7.1	6.2	6.5	7.9	2.2	-0.9	0.4	0.6	-2.3	-5.9	-1.2
19			-6.7	-5.4	-5.0	-5.3	-6.7	-8.1	-8.6	-8.5	-7.6	-4.0	0.3	4.0	6.7	6.2	5.0	4.0	-3.8	-4.2	-4.9	-3.0	-0.5	-1.5	-2.9	-7.5	-2.8
20			-9.3	-8.5	-11.1	-8.4	-8.5	-7.5	-8.2	-11.6	-11.1	-8.0	-3.9	1.2	6.3	4.4	3.4	2.4	0.6	-1.9	-6.1	-3.9	-3.1	-3.0	-3.1	-3.3	-4.9
21			-4.8	-6.8	-5.2	-6.6	-9.4	-9.5	-9.4	-8.4	-7.4	-4.9	-0.2	3.5	3.3	5.2	5.5	0.7	-2.0	-2.8	-2.7	-3.0	-2.3	-1.4	-3.0	-7.2	-3.3
22			-8.2	-8.1	-7.3	-7.4	-8.4	-9.6	-10.3	-10.6	-9.4	-6.7	-3.0	1.3	5.2	7.7	7.7	7.0	4.0	2.6	-1.1	-0.5	-1.3	-2.2	-3.2	-5.7	-2.8
23			-7.5	-7.5	-6.1	-7.7	-8.8	-9.3	-10.2	-9.3	-7.8	-6.1	-2.2	1.7	4.2	5.9	5.3	1.7	-0.5	-2.7	-3.9	-2.7	-2.3	-3.0	-4.9	-5.3	-3.7
24	q		-5.2	-4.8	-5.0	-5.5	-5.9	-6.8	-8.0	-9.1	-9.2	-6.8	-3.1	0.9	4.0	5.2	4.1	1.4	-0.9	-2.3	-2.9	-3.0	-3.2	-3.1	-3.2	-3.9	-3.2
25			-4.0	-4.4	-4.8	-5.0	-5.6	-5.9	-6.2	-7.3	-6.8	-6.2	-3.8	-0.2	4.1	6.0	4.1	2.5	0.5	-1.0	-0.9	-0.5	-0.3	-0.7	-4.1	-5.1	-2.3
26	d		-4.7	-4.8	-5.3	-5.8	-6.8	-8.0	-9.1	-9.1	-9.8	-8.1	-4.1	-0.1	3.8	7.1	5.6	2.4	-1.6	-1.0	1.1	-0.8	-1.7	-4.2	-6.0	-12.4	-3.5
27			-12.2	-9.6	-7.4	-10.5	-8.3	-8.2	-7.1	-8.1	-7.0	-5.8	-3.7	-1.4	1.7	3.2	2.8	1.5	-0.6	-0.4	-0.8	-1.2	-2.0	-4.5	-3.1	-4.6	-4.0
28			-6.6	-5.6	-6.7	-2.0	-5.0	-8.2	-8.5	-9.3	-8.1	-6.3	-3.6	-1.3	2.4	3.3	2.2	-0.4	-2.1	-3.5	-3.9	-5.3	-4.9	-2.8	-4.5	-3.7	-3.9
29			-4.2	0.7	-4.0	-5.9	-6.6	-7.9	-7.4	-7.6	-8.3	-6.6	-4.2	1.0	5.9	5.9	3.8	2.5	0.4	-1.6	-3.2	-3.1	-2.9	-2.9	-3.7	-3.6	-2.7
30	q		-4.6	-4.2	-5.6	-5.5	-6.0	-6.6	-7.3	-7.2	-7.0	-5.7	-1.6	3.2	6.2	5.5	2.9	0.8	-1.1	-1.7	-1.9	-3.1	-5.5	-3.5	-2.8	-3.2	-2.7
31			-6.2	-7.4	-6.2	-7.2	-7.7	-7.9	-8.1	-8.9	-8.4	-6.4	-2.7	3.4	5.6	5.3	3.5	1.3	-1.0	-1.9	-1.5	-1.6	-2.0	-2.3	-3.3	-11.7	-3.5
Mean			-4.8	-4.5	-5.1	-5.8	-6.4	-7.2	-7.5	-7.7	-7.2	-5.3	-2.2	1.1	3.8	5.1	4.3	2.5	0.1	-1.3	-2.1	-3.0	-2.9	-2.9	-3.5	-4.8	-2.8



**TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

103

132 ESKDALEUIR (V)

44,000 $\gamma$  (0.44 C.G.S. unit) +

AUGUST 1940

	Hour G.M.T.																								Mean
	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	
11	1025	1007	968	989	1014	1024	1029	1030	1030	1027	1018	1013	1013	1015	1021	1026	1030	1041	1044	1043	1041	1036	1018	1012	1021
2	1019	1025	1026	1027	1030	1032	1031	1029	1027	1022	1016	1009	1007	1008	1015	1023	1029	1035	1036	1056	1041	1031	1028	1026	1026
3 d	1026	1026	1022	1026	1028	1027	1025	1017	1019	1010	1013	1026	1048	1060	1090	1117	1102	1107	1080	1075	1067	1047	1040	1034	1047
4	1027	1023	1012	1019	1023	1025	1025	1020	1025	1029	1024	1021	1021	1028	1034	1038	1037	1039	1037	1038	1039	1033	1033	1031	1028
5	1031	1028	1025	1025	1024	1023	1028	1031	1029	1025	1025	1022	1024	1028	1031	1031	1038	1037	1039	1039	1044	1038	1032	1027	1030
6 d	1023	1008	1009	1015	1016	1020	1022	1025	1026	1030	1025	1016	1018	1031	1043	1043	1049	1052	1043	1042	1046	1030	1027	1004	1028
7	1007	1015	1023	1030	1034	1034	1030	1029	1031	1034	1033	1030	1033	1034	1048	1058	1051	1068	1077	1056	1040	1034	1033	1031	1037
8	1030	1021	1003	1007	1024	1030	1030	1021	1012	1018	1014	1014	1018	1026	1038	1042	1045	1043	1039	1039	1038	1037	1033	1031	1027
9 d	1028	1028	1028	1030	1027	1022	1016	1025	1027	1031	1035	1042	1068	1085	1099	1089	1104	1109	1092	1064	1030	1032	1025	1032	1049
10	1027	1033	1038	1038	1040	1040	1040	1037	1034	1031	1024	1019	1022	1028	1033	1044	1050	1059	1057	1056	1052	1042	1038	1037	1038
11 d	1034	1033	1025	1015	1023	1026	1027	1026	1025	1025	1023	1027	1025	1030	1044	1057	1076	1072	1063	1064	1050	1041	1034	1016	1037
12	1006	1013	1011	1005	1009	1018	1016	1016	1019	1018	1015	1012	1015	1021	1030	1043	1058	1066	1063	1054	1045	1040	1034	1028	1027
13	1013	1021	1020	1025	1031	1033	1033	1027	1026	1019	1015	1012	1012	1019	1031	1042	1049	1050	1047	1040	1036	1033	1033	1031	1029
14	1030	1031	1030	1028	1021	1020	1025	1025	1024	1022	1014	1014	1019	1027	1033	1037	1038	1040	1045	1042	1036	1033	1032	1027	1029
15 q	1021	1021	1027	1031	1034	1037	1039	1037	1037	1024	1015	1012	1012	1013	1026	1034	1036	1035	1031	1028	1027	1028	1029	1029	1028
16 q	1027	1026	1027	1028	1030	1031	1033	1034	1030	1022	1019	1014	1007	1009	1016	1021	1026	1029	1027	1026	1029	1031	1029	1028	1025
17 q	1027	1026	1025	1025	1027	1027	1028	1029	1024	1007	1007	1010	1007	1010	1018	1025	1030	1031	1029	1025	1024	1027	1027	1027	1023
18	1026	1025	1026	1026	1026	1025	1025	1019	1015	1004	1003	1005	1008	1016	1029	1051	1067	1091	1111	1084	1056	1042	1052	1042	1036
19	1034	1037	1037	1037	1037	1036	1033	1030	1027	1024	1015	1010	1006	1017	1031	1055	1080	1070	1059	1048	1039	1036	1034	1034	1036
20	1035	1031	1031	1031	1019	1000	1000	1007	1006	1002	1002	1006	1005	1014	1021	1030	1040	1049	1050	1042	1034	1031	1029	1028	1023
21	1026	1026	1028	1031	1024	1023	1021	1021	1021	1011	1006	1006	1007	1014	1031	1042	1043	1038	1037	1038	1037	1037	1037	1038	1027
22	1033	1027	1027	1027	1027	1026	1021	1015	1014	1014	1013	1008	1004	1007	1021	1039	1055	1063	1068	1043	1037	1032	1031	1027	1028
23	1021	1016	1016	1015	1019	1025	1025	1023	1019	1014	1012	1009	1007	1012	1020	1031	1039	1040	1037	1032	1030	1029	1028	1028	1023
24 q	1027	1027	1027	1028	1031	1032	1033	1031	1031	1029	1021	1009	1009	1012	1018	1024	1030	1032	1030	1028	1028	1027	1026	1026	1026
25	1027	1027	1027	1027	1028	1030	1031	1031	1027	1022	1010	1003	999	1003	1015	1020	1024	1027	1026	1026	1025	1026	1033	1036	1023
26 d	1030	1025	1021	1022	1025	1027	1026	1022	1019	1015	1010	1000	1000	1012	1026	1034	1033	1030	1028	1044	1039	1022	982	1003	1021
27	1000	999	1003	1010	1019	1022	1023	1025	1027	1024	1021	1016	1013	1015	1016	1027	1031	1027	1027	1029	1030	1032	1029	1024	1020
28	1013	1010	1015	1010	1006	1018	1022	1022	1025	1025	1022	1021	1015	1018	1021	1027	1028	1030	1028	1031	1030	1027	1029	1027	1022
29	1023	1013	1009	1019	1022	1025	1025	1021	1021	1015	1009	1007	1009	1019	1025	1028	1031	1028	1027	1027	1030	1030	1027	1025	1021
30 q	1024	1024	1024	1026	1027	1027	1027	1027	1027	1021	1014	1008	1005	1010	1020	1027	1028	1025	1024	1027	1031	1027	1026	1019	1023
31	1015	1016	1019	1021	1023	1025	1025	1024	1024	1018	1005	1000	1001	1009	1014	1024	1030	1034	1028	1028	1027	1026	1026	1024	1020
Mean	1024	1022	1020	1022	1025	1026	1026	1025	1024	1020	1016	1014	1015	1021	1031	1040	1045	1048	1046	1042	1037	1033	1029	1027	1028

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

133 ESKDALEUIR

AUGUST 1940

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 + °A
	Horizontal force			Declination			Vertical force									
	Maximum 16,000γ +	Minimum 16,000γ +	Range	Maximum 13° +	Minimum 13° +	Range	Maximum 44,000γ +	Minimum 44,000γ +	Range							
	h. m. γ	γ h. m.	γ	h. m. °	h. m. °	°	h. m. γ	γ h. m.	γ							
1	17 40 561	468 9 25	93	1 59 6.8	-10.9 6 50	17.7	18 11 1048	965 2 31	83	4, 2, 1, 3, 2, 3, 2, 3	20	1	87.6			
2	18 53 613	478 9 22	135	13 25 8.3	-13.9 19 39	22.2	19 34 1063	1006 13 20	57	1, 1, 2, 2, 3, 5, 2	18	1	87.6			
3 d	14 44 670	405 15 10	265	16 54 13.1	-9.6 5 17	22.7	15 9 1132	1009 9 43	123	2, 3, 3, 3, 6, 6, 4, 3	30	1	87.6			
4	20 43 553	460 10 13	93	1 56 7.2	-9.2 20 16	16.4	20 11 1042	1009 2 28	33	3, 1, 3, 2, 2, 3, 3, 1	18	0	87.6			
5	15 52 560	463 10 0	97	13 38 6.0	-11.0 21 43	17.0	20 44 1048	1020 11 31	28	2, 2, 1, 3, 3, 3, 2, 3	19	1	87.6			
6 d	20 58 604	448 10 42	156	13 41 6.9	-14.1 23 40	21.0	17 3 1056	998 23 52	58	3, 2, 3, 3, 3, 4, 4, 4	26	1	87.7			
7	17 23 566	455 9 27	111	13 23 6.8	-8.4 5 29	15.2	18 1 1081	1001 0 1	80	2, 1, 2, 2, 3, 4, 3, 1	18	1	87.7			
8	1 42 553	452 9 30	101	13 51 2.4	-7.7 5 19	10.1	16 32 1046	1001 2 30	45	3, 2, 3, 2, 3, 2, 0, 2	17	1	87.7			
9 d	18 48 676	417 10 48	259	18 53 16.7	-20.6 19 27	37.3	16 45 1117	1014 6 22	103	2, 3, 4, 4, 4, 4, 6, 2	29	1	87.7			
10	18 42 547	471 12 59	76	12 44 4.9	-7.8 6 6	12.7	17 38 1061	1017 11 42	44	2, 1, 2, 3, 3, 4, 2, 1	18	1	87.7			
11 d	19 19 576	463 9 40	113	12 0 2.2	-12.9 23 30	15.1	16 49 1081	1011 3 15	70	3, 2, 3, 3, 3, 3, 3, 3	23	1	87.7			
12	17 1 553	462 10 22	91	14 1 6.8	-10.5 4 56	17.3	17 42 1067	1003 3 16	64	2, 3, 3, 3, 2, 3, 2, 2	20	1	87.7			
13	17 57 550	468 9 53	82	13 28 5.1	-8.6 7 36	13.7	17 10 1051	1008 0 18	43	3, 2, 2, 2, 2, 3, 2, 1	17	1	87.7			
14	23 47 546	456 9 50	90	* 6.7	-10.2 7 40	16.9	18 30 1046	1012 10 40	34	1, 2, 3, 2, 3, 2, 2, 2	17	0	87.7			
15 q	20 40 535	469 10 11	66	13 26 3.7	-10.2 6 39	13.9	6 33 1040	1009 13 2	31	2, 0, 1, 1, 2, 2, 1, 0	9	0	87.7			
16 q	19 52 542	468 10 27	74	13 0 4.9	-10.2 7 0	15.1	7 11 1036	1006 12 49	30	0, 0, 2, 1, 2, 2, 2, 1	10	0	87.7			
17 q	16 5 542	490 10 4	52	13 48 7.6	-10.2 6 32	17.8	17 20 1033	1003 10 3	30	1, 1, 1, 1, 1, 2, 1, 1	9	0	87.7			
18	17 4 652	486 10 4	166	† † 12.0	-10.2 23 51	22.2	18 6 1120	1001 9 59	119	1, 1, 1, 1, 3, 4, 3, 3	17	1	87.7			
19	17 19 554	461 10 40	93	12 39 7.6	-9.6 † †	17.2	16 30 1085	1004 12 29	81	2, 0, 1, 1, 3, 3, 2, 3	15	1	87.7			
20	16 49 544	466 10 48	78	12 50 8.5	-13.0 2 15	21.5	18 31 1051	998 5 42	53	3, 3, 2, 2, 3, 3, 2, 1	20	1	87.7			
21	18 46 549	468 9 38	81	13 52 7.5	-11.0 4 38	18.5	16 5 1044	1003 10 41	41	2, 2, 1, 2, 3, 2, 2, 3	17	0	87.8			
22	19 4 607	483 10 33	124	13 59 8.5	-12.0 7 9	20.5	18 6 1072	1003 13 0	69	3, 0, 1, 2, 2, 4, 4, 2	18	1	87.8			
23	18 56 545	464 10 30	81	14 6 6.6	-10.7 8 48	17.3	17 5 1043	1006 12 47	37	2, 2, 1, 1, 2, 2, 2, 1	13	0	87.9			
24 q	20 10 533	464 10 11	69	13 35 5.5	-9.5 7 40	15.0	6 51 1033	1007 12 39	26	0, 0, 1, 2, 1, 2, 1, 0	7	0	87.9			
25	20 20 563	483 11 0	80	13 39 6.3	-7.7 7 52	14.0	23 1 1039	997 12 51	42	0, 1, 1, 1, 2, 2, 3, 3	13	0	87.8			
26 d	22 5 602	468 23 1	134	13 54 8.2	-15.2 23 21	23.4	19 45 1046	971 22 30	75	2, 3, 1, 3, 3, 3, 4, 5	24	1	88.0			
27	23 57 565	475 9 18	90	13 18 4.2	-14.7 0 35	18.9	21 39 1033	992 1 0	41	3, 3, 2, 2, 3, 3, 3, 2	21	1	88.0			
28	0 1 564	463 10 42	101	13 10 5.0	-11.1 7 22	16.1	17 30 1032	1001 4 10	31	3, 3, 2, 2, 3, 2, 2, 2	19	1	88.1			
29	19 5 539	451 13 33	88	13 3 8.0	-8.9 8 6	16.9	16 30 1031	1003 2 2	28	3, 2, 2, 2, 3, 2, 1, 2	17	1	88.1			
30 q	23 40 554	487 9 40	67	12 46 6.9	-7.5 6 49	14.4	20 30 1031	1003 12 32	28	1, 1, 0, 2, 2, 2, 2, 3	13	0	88.1			
31	21 42 553	480 10 49	73	12 41 6.2	-15.6 23 51	21.8	17 16 1036	997 12 1	39	2, 1, 2, 2, 2, 2, 2, 3	16	0	88.1			
Mean	- - 570	464 - -	106	- - 7.0	-11.1 - -	18.1	- - 1056	1003 - -	54	-	-	0.65	87.8			



**TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

134 ESKDALEMUIR (H)

16,000γ (0.16 C.G.S. unit) +

SEPTEMBER 1940

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
1 d	511	507	507	507	520	527	503	486	483	476	469	464	517	526	541	499	499	497	503	503	514	516	517	515	504
2	515	514	514	511	506	505	499	488	475	475	461	479	491	507	511	503	522	530	531	518	528	518	526	522	506
3	495	506	515	515	511	507	508	494	479	467	460	468	463	486	506	506	530	521	520	522	508	491	519	514	500
4	507	519	507	505	522	507	506	495	464	436	436	456	486	499	514	514	510	510	518	526	522	525	501	504	500
5	522	518	506	502	510	508	499	489	480	467	468	480	498	505	506	514	522	521	530	525	518	521	524	518	506
6	516	519	512	515	515	511	514	513	491	475	465	478	487	509	517	521	519	522	528	535	531	537	520	515	511
7 d	526	526	497	512	495	522	502	475	443	444	437	450	476	476	476	493	524	514	526	527	517	529	515	506	496
8	517	501	506	507	501	506	510	508	492	464	453	464	481	494	486	503	531	511	510	518	516	519	518	526	502
9	535	501	507	498	511	514	503	501	487	461	462	477	495	496	501	503	504	520	542	518	517	508	499	509	503
10 q	506	506	502	503	503	507	512	509	503	490	472	472	484	496	504	506	504	508	514	521	524	524	522	519	505
11	516	516	517	517	516	515	515	510	500	480	465	467	485	504	510	509	508	505	517	531	530	531	529	524	509
12 q	522	522	520	517	520	521	522	517	506	495	493	497	499	505	505	509	516	526	531	528	528	531	527	524	516
13	525	525	526	525	524	521	515	504	492	487	487	495	514	525	542	531	535	531	540	541	540	538	537	537	522
14	535	533	538	538	545	535	522	508	501	493	498	503	515	523	522	538	526	535	558	494	519	530	520	511	523
15	511	512	514	516	506	506	511	503	479	483	493	500	507	498	526	515	515	527	530	522	522	526	527	524	511
16	521	522	522	519	519	515	506	499	491	483	483	491	510	511	528	503	503	521	510	515	512	515	518	519	510
17 q	518	518	518	518	517	515	510	500	490	479	479	491	503	512	518	518	526	530	534	538	534	534	534	534	515
18	530	529	528	527	526	522	519	508	500	488	479	479	491	497	507	518	522	529	537	540	536	535	538	541	522
19 q	530	529	530	528	525	526	520	507	496	489	482	490	495	501	513	510	521	529	529	529	529	529	530	533	517
20	532	532	532	532	528	527	524	518	502	493	483	482	500	509	521	538	502	527	529	541	526	529	530	533	520
21	526	529	532	529	529	527	525	510	498	482	470	474	477	482	476	492	509	521	525	525	526	526	525	525	510
22	524	521	521	520	517	516	514	510	497	482	479	486	486	498	494	517	516	524	537	532	525	525	521	521	512
23 q	521	517	517	518	518	521	517	510	499	488	484	487	487	498	506	514	518	525	528	529	529	529	526	528	513
24	522	525	521	518	526	521	518	514	503	487	479	479	486	494	506	516	517	525	532	533	536	524	518	517	513
25	513	516	532	529	521	515	532	521	509	498	491	474	487	495	513	512	524	524	513	509	521	529	521	513	513
26 d	513	516	517	518	516	516	516	510	501	486	476	472	472	481	501	512	508	590	524	462	461	481	489	479	501
27 d	467	456	454	442	469	484	480	488	473	458	463	466	465	469	476	498	496	510	497	512	513	489	485	469	478
28 d	471	497	497	490	460	459	458	502	481	483	467	481	486	485	492	497	504	519	512	504	485	497	497	498	488
29	498	497	497	503	508	501	494	494	486	477	470	469	482	486	485	490	498	496	500	509	524	503	513	513	496
30	516	513	510	509	512	516	513	506	492	476	468	469	485	490	498	504	508	515	505	513	508	504	512	517	502
Mean	515	515	514	513	513	513	510	503	490	478	472	478	490	499	510	510	515	522	524	521	520	520	519	517	507

**MAGNETIC DECLINATION (WEST)**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

135 ESKDALEMUIR (D)

13° +

SEPTEMBER 1940

	Hour G.M.T.													Hour G.M.T.												Mean
	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	
1 d	-10.4	-12.0	-12.4	-7.6	-4.8	-8.0	-7.2	-5.7	-7.7	-5.6	-0.1	5.2	10.1	10.9	10.1	3.0	1.3	-2.2	-3.3	-5.2	-5.3	-3.8	-3.3	-3.2	-2.8	
2	-3.6	-4.4	-4.8	-6.3	-7.1	-8.0	-9.7	-9.9	-7.7	-4.9	-0.5	5.7	8.0	8.7	5.4	2.1	1.1	0.6	-5.1	-3.5	-2.0	-3.4	-3.4	-5.1	-2.4	
3	-7.1	-11.2	-6.1	-6.3	-7.0	-2.6	-2.4	-6.6	-7.5	-4.7	-1.9	3.9	6.3	5.4	4.8	1.7	-0.8	-6.1	-3.8	-3.8	-7.1	-10.3	-7.3	-6.5	-3.6	
4	-4.8	2.4	-6.0	-6.2	-6.6	-7.8	-9.6	-10.3	-8.0	-3.1	-2.6	0.8	5.8	6.5	4.2	0.7	-2.5	-3.7	-3.7	-3.7	-7.2	-11.1	-7.9	-5.2	-3.7	
5	-3.1	-6.5	-3.4	-2.6	-3.4	-7.0	-8.8	-9.8	-7.5	-3.9	-1.0	2.4	5.2	5.7	2.6	-1.3	-3.2	-4.0	-4.9	-6.0	-8.3	-4.1	-3.9	-5.0	-3.4	
6	-3.8	-3.9	-2.9	-3.5	-5.7	-6.0	-6.6	-6.7	-5.9	-4.1	-1.9	1.5	2.6	3.3	2.8	0.6	-1.7	-3.1	-3.3	-3.6	-3.7	-8.6	-7.1	-7.5	-3.3	
7 d	-6.8	-15.5	-17.1	-8.1	-4.7	-5.0	-2.1	-4.0	-6.1	-4.3	-3.1	0.0	1.4	6.2	5.0	0.3	-2.3	-2.8	-3.5	-3.5	-5.9	-10.4	-6.7	-4.3	-3.3	
8	-7.4	-5.2	-5.8	-8.6	-6.6	-6.3	-7.2	-7.3	-5.9	-3.4	0.9	2.3	3.4	6.3	4.5	1.3	-3.6	-4.9	-4.8	-3.3	-3.3	-3.8	-3.5	-4.1	-3.2	
9	-9.7	-12.6	-8.6	-1.6	-6.3	-7.1	-8.4	-9.8	-8.4	-4.1	-1.0	1.7	3.7	4.3	3.3	0.5	-1.9	-4.5	-7.1	-7.3	-6.8	-10.1	-6.4	-8.4	-4.9	
10 q	-3.5	-3.8	-5.3	-4.3	-5.0	-5.1	-6.6	-8.1	-8.5	-7.4	-4.8	-1.4	1.3	2.7	0.5	-1.7	-3.2	-3.8	-3.9	-3.7	-3.5	-4.6	-4.9	-5.6	-3.9	
11	-4.7	-4.4	-4.5	-4.8	-5.3	-5.7	-6.3	-6.8	-7.1	-5.3	-1.3	3.8	7.2	7.3	5.8	2.9	2.1	-0.9	-2.1	-2.8	-3.1	-3.4	-3.4	-3.9	-1.9	
12 q	-4.6	-4.2	-5.5	-6.1	-5.7	-6.0	-6.4	-7.1	-6.7	-4.8	-2.3	1.3	3.4	4.4	2.7	0.4	-1.3	-2.2	-2.7	-3.3	-4.0	-3.1	-4.0	-3.9	-3.0	
13	-4.4	-4.4	-4.9	-5.6	-5.8	-6.5	-7.5	-8.2	-7.5	-4.9	-1.8	1.9	3.7	2.9	2.4	-0.6	-1.1	-0.8	0.3	-0.8	-1.4	-2.6	-3.3	-3.5	-2.7	
14	-4.3	-5.3	-3.0	-5.3	-6.9	-7.7	-8.6	-9.0	-7.9	-5.7	-2.4	1.9	4.6	4.0	2.2	1.0	-0.9	-1.7	-4.4	-6.0	-1.6	-1.7	-2.7	-6.3	-3.2	
15	-8.0	-5.9	-5.8	-7.1	-9.1	-3.6	-8.1	-7.6	-6.3	-5.3	-3.2	-0.2	4.0	2.2	1.5	-1.4	-3.2	-5.8	-8.5	-5.0	-3.6	-3.9	-3.8	-4.6	-4.3	
16	-5.0	-5.0	-5.0	-5.6	-6.5	-6.6	-7.1	-8.7	-8.5	-6.5	-3.4	0.1	5.0	6.0	7.6	5.4	-0.4	-2.1	-4.8	-4.8	-4.0	-4.5	-4.6	-4.2	-3.1	
17 q	-4.1	-4.6	-4.7	-5.0	-5.7	-6.5	-8.1	-9.3	-8.7	-6.6	-3.4	-0.4	1.5	1.7	0.6	-0.5	-0.9	-1.0	-1.1	-1.2	-1.9	-3.6	-5.9	-4.7	-3.5	
18	-4.9	-4.9	-5.0	-5.6	-5.8	-6.4	-7.6	-9.2	-10.0	-8.9	-6.0	-1.9	2.8	3.6	3.0	1.2	-0.4	-1.4	-1.5	-1.9	-3.8	-4.6	-4.5	-5.3	-3.7	
19 q	-5.8	-5.0	-5.2	-5.9	-5.9	-6.3	-8.1	-8.9	-9.3	-7.6	-5.7	-2.9	0.1	1.2	1.5	0.4	-0.1	-1.3	-2.1	-3.0	-3.2	-3.9	-4.1	-4.8	-4.0	
20	-4.8	-5.0	-4.9	-5.1	-5.9	-5.6	-6.7	-7.8	-9.5	-7.6	-3.0	-0.3	4.8	8.3	7.5	8.9	5.9	2.4	-0.7	-2.0	-2.9	-4.9	-4.9	-4.9	-2.0	
21	-5.0	-5.6	-6.8	-5.9	-6.7	-7.4	-7.7	-11.2	-10.2	-7.7	-3.1	2.2	5.9	6.0	7.1	5.0	0.6	-4.2	-3.9	-3.9	-3.8	-4.0	-4.8	-4.8	-3.3	
22	-5.7	-5.3	-5.0	-5.7	-5.8	-5.8	-7.0	-8.1	-8.4	-6.3	-2.4	0.2	2.5	4.9	3.3	1.6	0.9	-0.9	-4.8	-4.0	-3.2	-4.5	-4.2	-4.7	-3.3	
23 q	-5.1	-5.4	-5.0	-5.3	-5.7	-5.9	-6.7	-7.8	-8.5	-7.2	-4.2	-1.1	2.2	2.3	1.3	-0.5	-2.1	-2.3	-2.8	-3.3	-3.5	-3.9	-4.0	-4.1	-3.7	
24	-4.8	-5.9	-6.5	-6.5	-6.8	-6.5	-6.6	-8.1	-8.6	-7.7	-5.6	-2.0	0.4	1.6	2.1	1.1	-1.2	-2.3	-3.1	-3.2	-2.3	-2.5	-5.7	-6.7	-4.1	
25	-8.1	-9.1	-9.1	-10.1	-7.8	-6.7	-5.9	-8.4	-8.5	-7.4	-3.3	0.4	5.1	4.9	6.6	4.2	1.8	-4.6	-4.2	-4.9	-4.8	-6.8	-11.9	-5.2	-4.3	
26 d	-5.9	-5.7	-5.1	-5.0	-5.3	-5.8	-6.4	-7.7	-8.5	-7.4	-5.0	-1.9	1.1	2.3	2.9	1.5	-1.3	-16.6	-21.1	-28.3	-6.6	-3.1	-5.1	-1.3	-6.1	
27 d	-6.1	-14.3	-27.0	-13.5	-7.7	-6.8	-6.7	-7.8	-9.3	-9.1	-7.0	-3.3	-1.7	-0.9	-2.3	-2.2	-2.2	-8.4	-13.9	-6.4	-3.3	-9.2	-8.6	-10.9	-7.9	
28 d	-7.9	-11.3	-11.0	-3.4	0.9	2.5	-1.0	-4.1	-4.7	-6.7	-4.9	-1.8	0.7	0.9	0.9	0.0	-2.9	-9.2	-5.8	-12.5	-9.3	-7.3	-9.9	-6.9	-4.8	
29	-5.7	-6.4	-6.7	-6.4	-6.2	-5.5	-6.6	-7.5	-8.0	-6.8	-3.1	-1.2	1.8	2.4	0.1	-0.7	-2.4	-4.0	-4.9	-5.3	-5.8	-5.7	-4.7	-3.8	-4.3	
30	-3.1	-2.7	-4.1	-4.6	-5.2	-5.9	-6.9	-8.6	-9.4	-7.8	-5.2	-1.3	2.2	2.2	1.1	-0.9	-2.8	-4.0	-7.2	-5.9	-11.2	-6.6	-4.7	-4.8	-4.5	
Mean	-5.6	-6.4	-6.9	-5.9	-5.9	-5.9	-6.8	-8.0	-8.0	-6.1	-3.1	0.5	3.5	4.3	3.4	1.1	-1.0	-3.5	-4.8	-5.1	-4.5	-5.2	-5.4	-5.2	-3.8	



TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

105

136 ESKDALEMUIR (V)

44,000γ (0.44 C.G.S. unit) +

SEPTEMBER 1940

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
1 d	1016	994	964	989	1007	1019	1021	1025	1027	1025	1019	1016	1026	1057	1085	1094	1073	1064	1053	1051	1045	1037	1034	1033	1032
2	1033	1033	1033	1033	1034	1034	1032	1030	1022	1020	1020	1020	1022	1033	1049	1056	1060	1062	1072	1058	1042	1036	1031	1031	1037
3	1001	992	1021	1029	1033	1027	1003	1006	1015	1019	1019	1021	1030	1033	1041	1048	1058	1072	1054	1045	1045	1033	1017	1016	1028
4	1024	989	998	1021	1023	1030	1034	1034	1033	1032	1031	1039	1030	1030	1034	1041	1049	1045	1040	1038	1039	1031	1023	1018	1029
5	1005	1012	1013	1010	1014	1023	1031	1034	1031	1029	1023	1023	1025	1034	1039	1046	1050	1045	1045	1048	1043	1034	1032	1031	1030
6	1031	1031	1030	1028	1031	1034	1036	1032	1030	1022	1018	1016	1019	1022	1027	1033	1038	1036	1033	1032	1032	1031	1022	1020	1029
7 d	1015	994	980	958	931	940	958	982	1000	1009	1018	1028	1030	1036	1044	1064	1077	1066	1053	1049	1046	1028	1021	1008	1014
8	991	1010	1026	1029	1024	1026	1033	1032	1036	1033	1028	1024	1025	1032	1045	1063	1079	1082	1066	1049	1042	1036	1033	1028	1036
9	1009	1000	991	989	1012	1024	1033	1035	1032	1026	1024	1027	1030	1036	1045	1054	1062	1072	1067	1054	1031	1029	1020	1011	1030
10 q	1009	1016	1025	1028	1031	1035	1038	1037	1033	1033	1029	1016	1013	1019	1026	1032	1033	1033	1032	1031	1031	1033	1032	1032	1028
11	1031	1031	1031	1031	1032	1033	1033	1033	1032	1030	1024	1013	1009	1015	1026	1033	1041	1045	1040	1036	1033	1032	1032	1032	1030
12 q	1031	1030	1028	1030	1028	1029	1029	1028	1025	1024	1021	1020	1019	1022	1027	1031	1032	1031	1031	1032	1033	1032	1033	1032	1028
13	1031	1031	1029	1028	1027	1030	1031	1029	1027	1018	1007	1003	1006	1015	1021	1024	1025	1024	1021	1023	1025	1027	1028	1027	1023
14	1027	1027	1022	1012	1006	1013	1021	1024	1023	1018	1010	1006	1004	1009	1013	1025	1033	1044	1067	1092	1055	1043	1040	1044	1028
15	1042	1041	1037	1034	1032	1029	1029	1028	1027	1022	1021	1019	1024	1031	1037	1039	1040	1046	1048	1043	1038	1034	1032	1031	1033
16	1032	1032	1032	1031	1030	1031	1030	1030	1028	1024	1020	1018	1016	1022	1037	1055	1058	1052	1049	1042	1038	1035	1033	1033	1034
17 q	1032	1032	1031	1031	1031	1032	1032	1030	1023	1016	1010	1007	1009	1014	1019	1022	1024	1025	1027	1027	1028	1030	1028	1026	1024
18	1027	1028	1028	1028	1027	1027	1027	1027	1025	1025	1019	1010	1003	1009	1016	1019	1022	1025	1025	1025	1027	1028	1027	1025	1023
19 q	1024	1024	1024	1024	1024	1025	1026	1025	1023	1014	1007	1005	1006	1008	1011	1016	1019	1023	1024	1025	1025	1024	1024	1024	1020
20	1024	1024	1024	1024	1024	1024	1024	1022	1017	1007	1002	1000	997	1006	1013	1029	1042	1044	1042	1037	1042	1039	1035	1030	1024
21	1029	1026	1022	1022	1023	1024	1024	1024	1022	1013	1005	1001	1006	1019	1020	1026	1034	1040	1038	1035	1030	1029	1026	1026	1023
22	1026	1026	1026	1027	1027	1027	1029	1028	1024	1021	1018	1011	1008	1014	1025	1035	1036	1035	1034	1032	1032	1033	1031	1030	1026
23 q	1028	1029	1029	1027	1026	1026	1027	1028	1025	1023	1015	1012	1013	1016	1018	1021	1023	1024	1025	1026	1026	1025	1024	1024	1023
24	1026	1025	1026	1026	1024	1024	1026	1028	1028	1024	1020	1014	1013	1014	1017	1021	1025	1025	1025	1026	1025	1029	1035	1036	1024
25	1036	1036	1030	1020	1020	1023	1007	1017	1020	1018	1016	1020	1018	1019	1021	1031	1042	1069	1059	1053	1042	1033	1014	1010	1028
26 d	1021	1024	1025	1025	1026	1028	1030	1030	1029	1023	1021	1016	1012	1014	1018	1030	1043	1069	1196	1120	1067	1066	1051	1002	1041
27 d	988	856	888	915	956	985	1017	1026	1031	1032	1033	1032	1038	1048	1062	1075	1081	1093	1084	1058	1030	1035	984	985	1014
28 d	965	961	982	961	948	948	968	976	991	1005	1020	1038	1035	1049	1071	1082	1093	1115	1085	1049	1042	1047	1032	1030	1021
29	1028	1012	1009	1021	1025	1027	1031	1036	1038	1035	1035	1035	1032	1035	1046	1050	1048	1047	1044	1042	1035	1030	1029	1029	1033
30	1029	1026	1028	1030	1030	1030	1032	1036	1033	1030	1023	1018	1017	1021	1028	1037	1043	1044	1053	1047	1035	1025	1029	1029	1031
Mean	1020	1013	1014	1015	1017	1020	1023	1025	1025	1022	1019	1018	1018	1024	1033	1041	1046	1050	1051	1044	1037	1033	1028	1024	1027

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

137 ESKDALEMUIR

SEPTEMBER 1940

	TERRESTRIAL MAGNETIC ELEMENTS										3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +		
	Horizontal force			Declination			Vertical force									
	Maximum 16,000γ +	Minimum 16,000γ +	Range	Maximum 13° +	Minimum 13° +	Range	Maximum 44,000γ +	Minimum 44,000γ +	Range							
1 d	h. m. γ	γ h. m.	γ	h. m. γ	γ h. m.	γ	h. m. γ	γ h. m.	γ	h. m. γ	γ h. m.	γ				°A
2	14 8 565	444 11 33	121	14 20 14.9	-15.2 1 36	30.1	15 15 1098	959 2 9	139				3, 3, 3, 3, 4, 3, 2, 1	22	1	88.2
3	18 0 563	455 10 48	108	13 28 9.3	-10.7 7 56	20.0	18 48 1079	1019 9 49	60				0, 1, 2, 2, 2, 3, 3, 3	16	1	88.2
4	22 29 551	447 0 53	104	12 20 7.8	-13.8 1 18	21.6	17 22 1075	955 1 2	120				3, 3, 3, 3, 4, 3, 3, 4	26	1	88.2
5	21 23 553	428 10 12	125	13 0 7.0	-11.9 7 28	18.9	16 25 1051	983 1 52	68				4, 3, 3, 3, 3, 2, 4	25	1	88.2
6	16 0 541	459 8 57	82	13 15 6.9	-11.2 20 15	18.1	16 18 1054	1002 0 25	52				3, 3, 2, 2, 3, 2, 1	19	1	88.3
7 d	21 43 549	460 * *	89	14 14 4.1	-11.2 21 41	15.3	16 38 1039	1014 11 37	25				2, 2, 2, 2, 3, 2, 1, 3	19	0	88.3
8	21 16 575	424 8 33	151	13 42 6.8	-19.4 2 15	26.2	16 12 1081	923 4 36	158				4, 4, 4, 3, 3, 4, 2, 4	28	1	88.3
9	24 0 542	430 11 5	112	13 21 8.0	-10.2 0 18	18.2	17 20 1085	985 0 3	100				2, 2, 2, 3, 3, 3, 2, 2	19	1	88.3
10 q	18 43 561	452 11 7	109	13 55 5.0	-14.8 23 16	19.8	18 0 1078	986 3 42	92				3, 3, 2, 3, 2, 3, 4, 3	23	1	88.3
11	21 13 530	468 11 9	62	13 19 3.0	-8.9 8 36	11.9	6 26 1039	1007 0 1	32				1, 1, 2, 1, 1, 1, 1, 1	9	0	88.3
12 q	21 10 533	457 10 53	76	† † 7.7	-7.6 8 4	15.3	17 30 1046	1008 12 26	38				0, 0, 0, 2, 2, 3, 2, 1	10	0	88.3
13	21 53 535	487 10 9	48	13 40 5.0	-7.7 7 25	12.7	20 26 1034	1018 11 47	16				1, 0, 1, 2, 2, 1, 1, 1	9	0	88.3
14	18 1 554	485 9 43	69	12 35 4.3	-8.5 7 25	12.8	6 20 1031	1001 11 38	30				1, 1, 1, 2, 3, 3, 2, 0	13	0	88.3
15	18 42 581	473 19 30	108	12 28 6.3	-9.7 6 58	16.0	19 21 1103	1003 † †	100				2, 2, 2, 2, 3, 3, 5, 3	22	1	88.3
16	18 20 546	465 8 37	81	12 40 5.3	-12.2 18 17	17.5	18 38 1050	1018 11 33	32				1, 3, 3, 3, 3, 2, 3, 1	19	1	88.3
17 q	15 24 560	470 15 2	90	15 26 10.3	-10.4 7 30	20.7	15 59 1061	1014 12 12	47				1, 1, 2, 2, 4, 4, 2, 1	17	1	88.4
18	19 9 542	475 10 21	67	13 5 2.2	-9.6 7 43	11.8	6 31 1033	1007 11 37	26				0, 1, 1, 2, 1, 1, 1, 2	9	0	88.4
19 q	22 56 557	473 10 51	84	13 1 4.1	-10.4 8 31	14.5	21 5 1030	1002 12 28	28				0, 1, 1, 1, 1, 1, 1, 2	8	0	88.4
20	0 1 540	480 10 20	60	14 28 2.3	-9.5 8 10	11.8	6 49 1028	1004 11 30	24				1, 0, 2, 1, 2, 1, 0, 1	8	0	88.3
21	14 55 570	471 10 33	99	14 58 12.1	-11.9 8 7	24.0	20 51 1048	997 12 22	51				1, 1, 2, 2, 4, 4, 2, 2	18	1	88.2
22	5 46 541	456 10 40	85	12 54 9.7	-13.8 7 55	23.5	17 40 1042	1001 11 4	41				2, 2, 2, 3, 3, 3, 1, 1	17	1	88.0
23 q	19 0 546	466 9 48	80	13 35 5.8	-13.8 7 45	19.6	16 36 1038	1007 12 13	31				1, 1, 2, 2, 3, 1, 2, 1	13	0	87.8
24	18 34 534	483 11 0	51	13 29 3.0	-8.6 8 21	11.6	0 1 1031	1011 11 57	20				1, 0, 1, 1, 1, 0, 1, 1	6	0	87.7
25	20 56 542	475 11 0	67	14 0 2.2	-9.3 8 41	11.5	23 20 1039	1007 11 57	32				1, 1, 0, 1, 1, 1, 1, 3	9	0	87.5
26 d	22 1 573	445 11 31	128	14 26 8.7	-17.4 22 30	26.1	17 48 1074	1003 6 22	71				3, 3, 3, 4, 3, 4, 4, 4	28	1	87.4
27 d	17 19 660	408 19 40	252	23 3 15.7	-52.8 19 33	68.5	18 37 1222	980 23 22	242				2, 0, 0, 2, 2, 5, 6, 4	21	2	87.3
28 d	19 58 588	417 1 9	171	0 47 5.4	-31.7 2 26	37.1	17 20 1099	812 1 11	287				6, 5, 2, 2, 2, 4, 5, 4	30	2	87.3
29	18 42 624	425 6 42	199	4 43 4.8	-17.5 19 20	22.3	17 36 1127	941 0 55	186				4, 4, 4, 3, 2, 4, 5, 3	29	1	87.2
30	20 36 575	453 14 7	122	13 3 3.1	-9.8 20 36	12.9	15 29 1051	1003 1 45	48				2, 2, 2, 2, 3, 2, 4, 2	19	1	87.1
30	21 0 533	467 11 14	66	12 47 4.1	-19.7 20 45	23.8	18 41 1057	1018 12 30	39				2, 1, 1, 0, 2, 1, 4, 3	14	1	87.1
Mean	- - 559	457 - -	102	- - 6.5	-14.0 - -	20.5	- - 1064	990 - -	74	-	-	-	-	-	0.70	88.0



TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

138 ESKDALEMUIR (H)

16,000γ (0.16 C.G.S. unit) +

OCTOBER 1940

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
1 d	540	504	500	505	505	531	511	516	496	461	447	455	471	496	493	517	528	529	501	419	477	490	489	489	495
2	491	495	495	496	495	498	488	482	475	465	457	456	473	479	489	495	481	488	488	480	490	499	496	495	485
3	500	509	515	516	531	519	507	497	472	442	434	441	456	460	492	496	493	492	529	495	503	508	514	508	493
4	503	512	503	503	517	511	504	499	491	477	475	472	472	476	488	499	501	503	512	514	516	512	512	515	499
5	523	503	503	499	516	519	519	512	504	488	475	475	484	493	488	502	510	516	516	515	519	518	519	518	506
6	519	516	511	516	519	518	518	511	503	496	499	484	496	488	493	508	492	495	502	511	516	513	483	502	505
7 d	519	502	515	518	534	548	524	465	436	461	489	483	459	460	503	512	519	519	491	438	441	470	449	445	487
8 d	430	433	478	509	475	441	445	445	446	440	456	464	472	483	510	508	507	515	523	490	483	492	492	539	478
9	497	495	496	499	503	503	508	507	503	488	477	477	479	488	497	500	503	508	489	513	509	503	505	511	498
10	513	512	512	512	515	518	519	521	515	507	496	488	479	472	480	493	500	512	516	511	496	491	492	498	503
11	510	511	509	503	519	515	516	521	503	496	485	481	480	484	496	507	507	512	516	519	519	514	516	527	507
12	523	515	519	519	515	517	523	522	515	499	495	484	480	495	507	512	524	519	525	527	528	517	515	518	513
13 q	514	515	512	515	516	521	522	515	503	483	474	479	491	497	514	518	519	518	522	522	522	522	520	517	510
14 q	518	518	518	518	522	522	522	518	506	491	483	483	487	495	506	518	521	522	526	526	529	522	520	518	513
15	526	527	528	537	533	534	525	527	526	487	477	487	486	495	510	512	523	510	509	514	518	515	510	516	514
16	518	522	522	521	522	526	527	526	502	492	482	483	491	496	499	506	506	508	515	482	498	514	515	517	508
17	518	514	514	511	514	515	518	518	514	503	491	488	494	499	510	511	517	522	527	529	527	529	526	526	514
18	526	511	515	517	520	524	526	502	503	507	497	491	492	506	503	518	519	535	524	519	525	517	516	525	514
19	514	518	513	523	511	522	522	502	477	460	475	479	470	487	502	506	510	515	519	520	537	537	511	514	506
20	511	518	518	522	508	511	510	510	502	489	485	487	490	507	510	513	515	514	521	518	523	527	515	508	510
21	510	511	510	521	524	515	515	506	506	502	492	479	499	510	518	528	502	518	518	518	565	534	529	511	514
22	502	501	505	515	518	517	494	519	512	497	489	470	470	493	506	506	509	510	514	514	516	514	514	512	505
23 q	510	510	512	514	517	519	519	517	505	491	485	482	487	494	502	506	510	512	517	514	514	517	517	517	508
24 q	517	517	517	517	518	518	518	515	509	496	487	486	491	503	506	510	517	517	518	521	521	522	523	521	512
25 d	520	520	520	521	524	524	523	520	516	509	499	498	493	511	529	536	545	552	554	554	559	520	500	516	523
26 d	528	513	519	513	522	527	531	531	530	533	508	502	508	513	495	497	493	474	462	441	454	486	492	497	503
27	499	508	511	503	488	491	498	495	496	493	484	480	480	495	511	487	496	493	492	492	499	492	495	492	495
28	492	495	507	500	503	507	512	504	500	496	493	502	499	492	498	495	503	504	505	502	501	500	508	512	501
29	515	515	511	515	519	512	519	512	508	500	499	495	496	503	507	507	508	512	512	510	514	517	520	519	510
30 q	516	526	510	526	523	527	527	523	510	499	496	497	499	500	508	512	518	523	523	523	522	516	516	520	515
31	521	523	519	524	524	526	525	517	500	488	491	495	499	507	507	500	497	503	515	520	520	519	520	519	512
Mean	511	509	511	514	515	516	514	509	499	488	483	481	485	493	503	508	509	512	513	505	512	511	508	511	505

## MAGNETIC DECLINATION (WEST)

Mean values for periods of sixty minutes ending at exact hours, G.M.T.

139 ESKDALEMUIR (D)

13° +

OCTOBER 1940

		Hour G.M.T.																								Mean
		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	
1	d	-3.1	-12.6	-13.1	-12.1	-7.4	-5.0	-7.7	-6.8	-6.5	-3.6	-0.3	5.2	8.1	7.7	9.4	6.8	3.9	-4.0	-14.6	-21.5	-10.7	-3.2	-3.7	-3.9	-4.1
2		-3.9	-3.9	-4.1	-5.3	-5.7	-6.5	-7.4	-8.2	-8.7	-6.8	-3.2	-0.2	2.2	2.6	1.9	-0.1	-3.5	-7.5	-6.9	-8.1	-6.7	-11.2	-9.0	-6.9	-4.9
3		-5.0	-4.9	-5.0	-6.3	-3.1	-3.6	-0.5	-3.9	-4.7	-0.7	1.3	3.7	4.1	3.8	3.3	1.0	-2.5	-4.5	-19.9	-10.0	-5.2	-4.5	-7.5	-9.6	-3.5
4		-7.0	-8.4	-6.3	-9.4	-7.4	-8.9	-8.1	-8.3	-8.1	-7.1	-4.5	-1.8	0.1	1.3	0.5	-1.3	-3.0	-6.6	-5.1	-4.4	-3.8	-4.9	-5.1	-5.1	-5.1
5		-6.2	-5.6	-5.0	-1.7	-4.5	-8.0	-6.8	-6.7	-7.7	-5.9	-3.0	0.2	2.7	3.7	4.6	0.9	-2.1	-3.6	-4.5	-4.4	-4.2	-4.7	-5.0	-4.9	-3.4
6		-5.3	-5.5	-5.1	-4.9	-6.3	-6.2	-6.5	-6.3	-5.9	-0.9	1.5		6.3	7.1	5.0	2.7	-0.5	-5.2	-3.2	-3.8	-4.7	-15.3	-10.7	-10.8	-3.8
7	d	-13.4	-10.5	-8.9	-11.2	-8.3	-0.6	1.4	-2.9	5.9	3.1	0.3	2.4	5.1	6.3	1.6	5.1	6.1	10.5	6.8	-8.3	-13.8	-20.1	-15.9	-15.9	-3.1
8	d	-19.5	-30.9	-30.1	-25.4	-10.5	-4.1	-3.2	2.4	-3.2	-4.9	-0.5	2.2	3.8	5.3	4.8	6.2	1.3	-1.2	5.4	1.9	-8.5	-9.4	-9.3	-5.9	-5.6
9		-12.1	-6.8	-6.5	-6.8	-6.6	-6.5	-6.4	-6.7	-6.9	-6.5	-5.0	-1.9	0.5	1.4	0.7	-0.1	-2.4	-2.8	-2.9	-2.7	-4.5	-5.9	-6.8	-6.3	-4.6
10		-5.3	-5.6	-5.7	-5.6	-5.7	-5.8	-5.1	-5.3	-6.4	-6.6	-4.5	-2.2	1.4	1.4	0.2	-0.2	-2.7	-4.5	-4.0	-3.9	-9.5	-12.8	-12.6	-11.8	-5.1
11		-9.5	-8.4	-6.3	-2.6	-4.1	-7.4	-6.9	-8.1	-9.2	-8.3	-6.4	-2.8	-0.4	0.7	2.3	1.5	0.5	-1.4	-2.3	-3.1	-4.0	-5.9	-7.6	-7.0	-4.4
12		-16.9	-12.1	-11.2	-7.4	-9.4	-8.4	-7.6	-8.4	-8.9	-8.4	-6.1	-2.2	-1.2	0.6	1.1	0.9	-1.3	-1.2	-2.0	-2.2	-2.3	-6.7	-10.3	-6.9	-5.8
13	q	-7.4	-6.5	-6.6	-6.1	-6.7	-6.8	-6.7	-7.6	-8.4	-7.7	-5.8	-2.6	0.3	-0.3	-0.5	-2.0	-3.0	-3.8	-3.9	-4.0	-4.9	-4.8	-5.7	-5.2	-4.9
14	q	-5.0	-5.0	-4.9	-5.0	-5.3	-5.9	-6.6	-8.2	-9.8	-9.4	-6.1	-2.3	-0.3	1.0	0.8	-0.9	-3.0	-3.2	-3.2	-3.8	-4.1	-5.1	-6.4	-6.6	-4.5
15		-5.7	-4.9	-5.3	-5.6	-6.3	-6.3	-5.6	-6.6	-8.2	-8.6	-5.9	-1.6	1.3	2.5	1.5	-0.6	-2.7	-3.3	-9.1	-6.7	-6.2	-7.5	-8.6	-7.6	-4.9
16		-6.6	-4.0	-4.9	-5.3	-5.5	-5.9	-4.9	-5.1	-7.5	-6.6	-5.2	-2.9	1.3	2.9	2.6	2.1	-0.7	0.3	-11.4	-7.5	-6.6	-5.0	-5.1	-5.2	-4.0
17		-4.9	-5.1	-5.9	-6.4	-6.5	-6.9	-6.6	-7.2	-8.3	-8.1	-6.8	-4.1	-1.3	0.1	1.4	-0.7	-2.4	-2.9	-3.0	-3.1	-3.8	-4.5	-6.0	-12.8	-4.8
18		-10.6	-8.6	-6.6	-6.1	-6.4	-6.5	-6.7	-6.1	-9.3	-9.3	-6.9	-4.4	-1.8	0.7	0.6	-0.8	-1.4	-1.7	-1.2	-1.9	-5.3	-8.1	-9.9	-8.4	-5.3
19		-8.4	-6.9	-7.3	-5.7	-6.3	-6.5	-7.2	-6.9	-5.4	-5.7	-3.3	-0.7	2.7	0.9	-0.2	-1.1	-2.5	-4.0	-3.1	-4.5	-5.1	-6.4	-10.0	-6.5	-4.6
20		-6.7	-7.1	-5.8	-8.9	-7.3	-8.3	-7.1	-7.2	-8.2	-7.5	-4.7	-1.6	-0.2	0.1	-0.6	-1.7	-2.9	-4.3	-3.1	-2.4	-3.3	-5.2	-8.1	-13.0	-5.2
21		-6.7	-6.5	-7.3	-5.4	-6.2	-6.5	-7.1	-5.5	-5.7	-4.2	-2.0	0.9	-0.1	-0.5	0.5	0.1	-1.4	-5.7	-3.5	-5.3	-6.7	-10.1	-12.4	-12.2	-5.0
22		-8.1	-8.1	-6.5	-5.8	-7.8	-6.7	-4.7	-5.2	-6.2	-3.9	-0.1		-1.7	-1.9	-2.0	-2.7	-3.2	-3.5	-3.8	-3.9	-5.3	-6.3	-6.0	-6.1	-4.8
23	q	-5.9	-6.3	-6.0	-5.8	-5.7	-5.8	-6.2	-7.1	-7.8	-7.8	-5.9	-3.7	-2.4	-2.1	-2.2	-3.2	-3.9	-4.0	-4.5	-4.9	-5.7	-5.8	-5.8	-5.7	-5.2
24	q	-5.7	-5.7	-5.6	-5.5	-5.4	-5.8	-5.9	-6.4	-7.5	-7.5	-5.7	-3.4	-2.3	-1.4	-1.9	-2.3	-3.0	-3.9	-4.8	-5.0	-5.1	-5.7	-5.7	-5.7	-4.9
25	d	-5.7	-5.7	-5.8	-5.2	-5.3	-5.5	-5.9	-8.2	-7.7	-5.6	-1.2		-0.4	0.8	0.9	0.4	0.5	0.4	0.0	0.3	0.7	-9.5	-8.2	-6.7	-3.7
26	d	-7.1	-6.5	-6.7	-6.9	-6.7	-6.8	-6.7	-6.9	-7.5	-5.8	-4.3	-2.3	-1.1	2.2	2.5	-1.9	-1.8	0.2	-9.5	-23.9	-12.8	-17.5	-15.7	-8.1	-6.7
27		-4.7	-6.7	-5.8	-4.8	-3.1	-4.9	-6.7	-6.0	-5.8	-4.6	-2.1	-1.5	-0.3	-1.0	-2.0	-5.0	-8.4	-5.1	-4.4	-9.6	-10.4	-9.3	-10.2	-12.0	-5.6
28		-5.5	-2.3	-6.0	-7.3	-6.0	-5.5	-5.5	-5.3	-4.1	-4.0	-3.6	-2.3	-0.2	-1.3	-2.1	-3.0	-5.1	-4.1	-4.0	-5.9	-16.5	-8.3	-7.8	-6.6	-5.1
29		-5.8	-5.7	-5.9	-1.2	-8.3	-7.8	-7.7	-7.1	-6.8	-6.3	-4.1	-3.2	-2.2	-1.9	-2.9	-4.1	-4.6	-4.6	-5.0	-5.8	-5.4	-5.6	-5.6	-5.7	-5.1
30	q	-5.9	-6.2	-4.0	-5.7	-5.6	-6.4	-6.8	-7.1	-6.8	-6.0	-3.8	-2.2	-1.1	-1.9	-2.3	-3.1	-3.0	-3.4	-4.1	-4.6	-4.5	-5.8	-6.6	-7.1	-4.7
31		-3.4	-4.3	-6.2	-8.4	-8.1	-7.7	-7.1	-6.9	-6.9	-5.8	-2.0	0.3	-1.0	0.6	0.6	-1.9	-0.5	-2.4	-4.8	-4.9	-5.3	-6.0	-5.9	-6.0	-4.3
Mean		-7.3	-7.3	-7.1	-6.8	-6.4	-6.2	-6.0	-6.3	-6.7	-6.1	-3.9	-1.1	0.7	1.3	1.0	-0.3	-1.9	-2.9	-4.5	-5.7	-6.3	-7.8	-8.2	-7.8	-4.7



**TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT**  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

107

140 ESKDALEUIR (V)		44,000γ (0.44 C.G.S. unit) +																						OCTOBER 1940		
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
		γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1 d	1001	993	996	997	996	991	1012	1022	1029	1032	1030	1030	1035	1049	1056	1071	1120	1145	1162	1037	1052	1050	1048	1046	1042	
2	1043	1042	1042	1041	1043	1044	1044	1043	1041	1040	1038	1038	1041	1046	1056	1060	1078	1095	1080	1071	1060	1048	1039	1033	1036	
3	1036	1035	1030	1024	1005	1001	1006	1018	1030	1033	1036	1041	1047	1046	1045	1057	1058	1069	1063	1044	1039	1038	1035	1031	1036	
4	1025	1011	997	968	987	999	1017	1026	1032	1036	1036	1033	1030	1031	1035	1039	1044	1047	1043	1040	1037	1036	1035	1031	1026	
5	1022	1018	1014	1010	1002	1007	1013	1019	1024	1025	1024	1023	1025	1030	1042	1046	1044	1039	1038	1037	1036	1035	1032	1032	1027	
6	1034	1034	1029	1029	1029	1029	1029	1029	1026	1025	1018	1020	1022	1032	1036	1050	1069	1071	1057	1049	1043	1035	1020	1003	1034	
7 d	971	984	994	993	982	969	967	990	999	1005	1018	1028	1036	1053	1100	1117	1137	1166	1234	1168	1080	1045	995	972	1042	
8 d	949	909	879	867	894	923	951	957	999	1027	1037	1041	1048	1055	1065	1090	1117	1117	1126	1155	1117	1094	1070	1036	1022	
9	1023	1039	1042	1041	1038	1037	1038	1041	1041	1040	1038	1036	1036	1036	1037	1044	1048	1045	1043	1044	1048	1051	1050	1045	1041	
10	1040	1038	1038	1037	1036	1036	1036	1036	1036	1036	1034	1038	1042	1042	1042	1042	1043	1043	1044	1047	1052	1051	1046	1036	1040	
11	1026	1027	1030	1030	1026	1030	1033	1037	1039	1036	1033	1031	1030	1031	1038	1041	1048	1048	1045	1043	1042	1044	1039	1024	1035	
12	1005	1003	1008	1011	1019	1024	1026	1030	1031	1033	1030	1026	1026	1023	1025	1029	1035	1034	1034	1035	1036	1043	1045	1035	1027	
13 q	1030	1027	1026	1029	1031	1032	1033	1037	1039	1036	1032	1031	1029	1029	1029	1031	1032	1032	1032	1032	1032	1032	1035	1035	1032	
14 q	1032	1032	1032	1031	1030	1030	1031	1035	1036	1033	1027	1023	1022	1025	1028	1031	1032	1031	1030	1030	1030	1033	1036	1035	1031	
15	1032	1030	1029	1026	1024	1024	1024	1021	1021	1025	1020	1018	1019	1023	1027	1031	1035	1036	1042	1039	1036	1034	1032	1030	1028	
16	1028	1024	1023	1024	1026	1026	1025	1025	1029	1029	1024	1020	1019	1027	1037	1044	1056	1058	1065	1061	1057	1046	1041	1037	1035	
17	1033	1033	1033	1032	1031	1030	1031	1032	1033	1031	1030	1030	1027	1025	1028	1032	1033	1030	1030	1030	1031	1031	1033	1030	1031	
18	1022	1024	1025	1026	1026	1027	1025	1026	1026	1026	1021	1019	1020	1023	1026	1029	1029	1030	1033	1038	1041	1052	1043	1035	1029	
19	1032	1030	1029	1018	1017	1021	1024	1026	1026	1030	1030	1032	1036	1038	1038	1040	1045	1044	1042	1043	1037	1014	1025	1030	1031	
20	1031	1027	1020	1018	1021	1024	1025	1025	1026	1026	1024	1024	1026	1029	1033	1036	1036	1036	1036	1037	1036	1036	1038	1041	1030	
21	1037	1036	1033	1030	1030	1030	1029	1027	1026	1029	1024	1026	1024	1027	1033	1040	1044	1048	1042	1042	1021	1002	1008	1017	1029	
22	1024	1029	1030	1030	1027	1018	1018	1021	1021	1025	1026	1032	1042	1038	1037	1037	1037	1036	1033	1035	1036	1036	1035	1034	1031	
23 q	1033	1033	1033	1032	1032	1031	1031	1032	1034	1034	1030	1028	1030	1031	1032	1033	1031	1030	1030	1030	1031	1031	1031	1030	1031	
24 q	1030	1030	1030	1030	1030	1030	1031	1031	1031	1033	1034	1032	1031	1030	1031	1035	1036	1035	1034	1033	1032	1031	1030	1030	1032	
25 d	1029	1029	1029	1027	1027	1027	1028	1029	1029	1029	1023	1017	1018	1023	1021	1023	1023	1020	1020	1020	1024	1039	1062	1064	1051	
26 d	1042	1038	1035	1032	1029	1026	1025	1024	1024	1017	1026	1026	1026	1029	1052	1054	1087	1115	1097	1090	1052	1001	1007	1014	1040	
27	1012	1002	999	1003	1005	1012	1021	1029	1032	1031	1032	1039	1048	1053	1055	1061	1063	1051	1048	1049	1042	1037	1029	1026	1032	
28	1018	1004	1003	1016	1022	1024	1025	1026	1026	1029	1030	1026	1029	1038	1042	1045	1044	1043	1041	1043	1042	1031	1031	1031	1030	
29	1030	1030	1029	1020	1011	1017	1020	1024	1026	1027	1030	1032	1035	1036	1037	1038	1033	1032	1032	1033	1033	1032	1031	1031	1029	
30 q	1031	1026	1025	1019	1021	1020	1023	1025	1029	1027	1026	1029	1030	1031	1031	1030	1029	1027	1026	1026	1027	1031	1031	1027	1027	
31	1021	1014	1018	1020	1022	1021	1020	1024	1027	1030	1030	1031	1032	1035	1041	1044	1046	1043	1041	1035	1032	1033	1032	1032	1030	
Mean	1023	1020	1019	1017	1018	1018	1021	1025	1028	1029	1029	1029	1031	1034	1040	1045	1052	1055	1055	1049	1043	1038	1034	1030	1033	

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

141 ESKDALEUIR													OCTOBER 1940						
TERRESTRIAL MAGNETIC ELEMENTS																			
Horizontal force						Declination			Vertical force				3-hr. range indices K	Sum of K indices	Magnetic character of day (0.2)	Temperature in magnet house 200 +			
Maximum 16,000γ +		Minimum 16,000γ +		Range	Maximum 13° +		Minimum 13° +		Range	Maximum 44,000γ +		Minimum 44,000γ +					Range		
	h. m.	γ	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	γ	h. m.	γ		°A			
1 d	18 10	598	283	19 30	315	14 20	11.2	-38.2	19 37	49.4	18 15	1222	965	19 41	257	4, 3, 2, 2, 4, 4, 7, 1	27	2	87.0
2	15 48	511	445	*	66	14 0	3.2	-14.0	21 45	17.2	17 28	1096	1032	23 11	64	2, 1, 2, 2, 2, 3, 3, 3	18	1	87.0
3	18 32	567	428	10 38	139	13 16	5.6	-28.2	18 18	33.8	18 6	1080	997	5 5	83	2, 2, 3, 2, 3, 3, 5, 3	23	1	86.9
4	5 8	525	469	11 12	56	2 51	3.0	-11.1	3 16	14.1	17 29	1048	960	3 16	88	3, 3, 2, 1, 2, 2, 1, 1	15	1	86.9
5	0 29	538	469	10 16	69	14 27	5.7	-8.6	5 37	14.3	15 10	1049	1002	4 10	47	3, 3, 1, 1, 2, 1, 1, 1	13	0	86.8
6	4 5	523	463	11 34	60	13 39	7.8	-24.2	21 35	32.0	17 0	1080	991	24 0	89	1, 1, 1, 3, 3, 3, 2, 4	18	1	86.8
7 d	15 46	554	373	20 58	181	18 0	17.5	-40.0	21 0	57.5	18 11	1282	958	0 43	324	4, 4, 5, 4, 4, 4, 6, 5	36	2	86.8
8 d	23 22	613	391	0 40	222	18 45	11.1	-37.0	2 11	48.1	19 18	1164	852	2 49	312	5, 5, 4, 3, 3, 3, 4, 5	32	2	86.6
9	0 7	542	472	11 50	70	13 40	2.3	-17.4	0 4	19.7	21 29	1053	1014	0 12	39	4, 1, 2, 2, 2, 1, 2, 2	16	0	86.6
10	18 41	523	465	13 28	58	13 55	2.4	-14.9	22 16	17.3	20 55	1055	1032	10 31	23	0, 1, 1, 2, 3, 2, 3, 2	14	0	86.5
11	23 48	549	474	13 1	75	14 25	3.4	-11.2	24 0	14.6	16 41	1049	1003	24 0	46	2, 2, 2, 1, 2, 1, 1, 3	14	0	86.5
12	0 1	537	463	11 53	74	15 28	1.5	-19.0	0 28	20.5	21 55	1050	1002	1 37	48	3, 2, 2, 3, 2, 2, 2, 3	19	0	86.5
13 q	6 26	532	472	10 43	60	12 26	1.3	-9.4	7 58	10.7	8 42	1039	1025	2 10	14	1, 1, 2, 1, 2, 2, 0, 1	10	0	86.5
14 q	4 58	534	476	10 49	58	13 59	2.2	-10.3	9 6	12.5	22 30	1036	1020	12 18	16	1, 0, 0, 1, 1, 1, 1, 1	6	0	86.5
15	3 25	545	464	9 40	81	13 23	3.9	-10.3	† †	14.2	18 19	1043	1017	11 22	26	2, 2, 3, 3, 3, 3, 3, 2	21	1	86.4
16	18 43	556	465	19 12	91	13 38	3.3	-20.4	18 37	23.7	18 28	1072	1017	12 8	55	2, 1, 2, 2, 2, 2, 4, 1	16	1	86.3
17	23 8	547	486	11 2	61	14 4	3.1	-15.4	23 26	18.5	22 42	1036	1024	13 50	12	2, 1, 1, 2, 2, 1, 1, 3	13	0	86.2
18	17 46	542	479	11 43	63	14 4	4.3	-12.3	† †	16.6	21 22	1056	1017	11 8	39	3, 2, 3, 2, 2, 2, 2, 4	18	1	86.2
19	20 57	580	445	9 7	135	12 48	4.5	-11.7	20 56	16.2	16 44	1048	1011	21 36	37	2, 3, 3, 3, 3, 2, 4, 4	24	1	86.2
20	21 31	530	479	10 11	51	13 23	0.6	-16.8	23 20	17.4	23 17	1044	1018	3 33	26	2, 2, 2, 2, 2, 1, 2, 3	16	0	86.1
21	20 28	601	452	11 10	149	11 33	5.5	-15.9	21 40	21.4	17 39	1050	996	21 26	54	2, 2, 2, 3, 2, 3, 4, 4	22	1	86.0
22	7 27	535	439	12 5	96	11 56	1.6	-9.9	1 42	11.5	12 5	1042	1014	5 40	28	2, 2, 3, 3, 3, 1, 2, 1	19	1	85.9
23 q	6 0	521	478	11 23	43	12 53	-1.4	-8.3	9 20	6.9	8 50	1036	1027	11 8	9	1, 0, 0, 1, 0, 1, 0, 0	3	0	85.8
24 q	22 24	524	482	11 28	42	13 52	-0.4	-8.0	9 23	7.6	15 31	1036	1029	23 49	7	0, 0, 0, 1, 1, 1, 1, 0	4	0	85.8
25 d	20 36	582	466	22 3	116	20 41	2.5	-15.7	22 3	18.2	22 7	1074	1017	10 41	57	0, 0, 1, 2, 3, 3, 4, 4	17	1	85.7
26 d	§ §	555	419	19 23	136	14 34	8.0	-30.2	19 30	38.2	17 48	1121	994	21 29	127	2, 2, 2, 3, 4, 5, 5, 4	27	1	85.7
27	1 27	527	455	15 44	72	12 27	1.5	-15.6	19 45	17.1	16 2	1070	996	2 43	74	3, 3, 2, 2, 3, 3, 3, 2	21	1	85.6
28	20 32	535	459	20 9	76	12 19	0.6	-23.8	20 21	24.4	20 13	1051	995	2 0	56	3, 2, 1, 2, 3, 2, 4, 2	19	1	85.6
29	4 0	527	488	12 20	39	3 27	1.8	-9.9	4 46	11.7	15 7	1039	1008	4 7	31	1, 3, 2, 2, 2, 1, 1, 1	13	0	85.6
30 q	1 22	538	495	12 56	43	12 10	-0.5	-8.7	23 45	8.2		1032	1018	3 19	14	3, 2, 1, 1, 1, 1, 1, 2	12	0	85.5
31	4 13	528	480	9 40	48	13 53	1.4	-9.3	3 47	10.7	16 48	1048	1013	1 10	35	2, 1, 2, 2, 2, 2, 2, 1	14	0	85.4
Mean	- -	546	454	- -	92	- -	3.8	-17.0	- -	20.8	- -	1071	1002	- -	69	-	-	0.65	86.3



TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

142 ESKDALEUIR (H)												16,000γ (0.16 C.G.S. unit) +												NOVEMBER 1940											
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									
		γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ								
1		519	526	519	521	526	542	523	519	505	507	496	491	485	487	494	503	503	504	498	515	519	519	517	515	511									
2		515	515	512	507	518	521	521	504	505	507	499	485	495	500	503	504	508	512	515	519	519	520	511	512	509									
3		507	504	500	507	508	525	530	529	507	491	468	468	478	491	491	492	496	499	484	492	493	493	498	503	498									
4		504	503	512	512	515	514	541	523	515	492	487	484	495	489	484	496	503	493	469	473	461	473	481	499	497									
5		499	493	495	488	514	524	503	492	492	487	478	472	477	480	497	497	503	505	507	511	527	511	511	510	499									
6		512	511	499	515	511	513	519	519	512	496	492	485	484	487	499	503	508	520	519	523	524	527	515	519	509									
7		523	520	526	523	525	523	534	519	515	504	495	472	475	491	495	504	511	515	515	515	519	523	520	523	512									
8 q		518	524	519	519	522	522	523	523	515	507	503	499	496	501	507	511	512	515	515	519	522	521	519	520	515									
9		519	519	519	519	531	526	524	524	501	487	479	476	477	484	496	507	499	496	511	514	514	503	503	503	505									
10 q		504	507	508	510	516	519	516	511	503	493	492	496	500	507	508	509	513	519	521	523	523	523	523	520	511									
11 q		519	521	523	524	527	529	530	524	520	508	503	500	505	511	515	519	523	523	524	526	524	527	522	511	519									
12 d		523	512	515	516	519	523	522	528	528	492	464	498	515	501	503	515	512	519	507	499	481	496	433	442	503									
13 d		440	468	375	406	481	476	466	475	481	479	479	469	484	499	504	490	507	499	510	510	512	508	507	503	480									
14		496	507	510	495	500	500	498	475	494	487	479	483	484	496	507	508	511	493	499	507	510	489	504	502	498									
15		503	499	508	507	518	508	507	496	504	499	496	492	499	503	507	515	508	511	512	523	510	508	504	503	506									
16		512	503	508	512	520	509	515	513	512	504	497	497	501	514	522	530	477	492	520	483	483	500	484	496	504									
17		508	503	503	506	511	512	511	508	508	498	490	491	495	503	512	509	491	510	519	484	500	499	542	497	505									
18 q		490	499	503	508	508	509	510	508	498	488	485	485	484	492	500	507	512	516	517	518	519	516	507	510	505									
19 q		512	512	515	519	523	524	526	527	519	511	518	520	516	519	519	520	527	527	530	535	533	531	526	523	522									
20		524	523	526	528	531	531	532	535	531	520	515	514	516	515	516	517	517	523	523	519	503	492	513	488	519									
21		480	495	496	514	519	523	539	524	485	463	468	484	489	483	496	496	505	509	512	512	504	503	484	472	498									
22 d		489	483	489	515	519	511	512	481	508	486	448	453	480	496	495	500	504	508	514	515	485	496	499	505	495									
23		504	511	504	511	503	508	469	461	453	434	453	465	473	476	488	491	498	499	492	492	489	496	499	495	486									
24		507	503	501	501	502	501	501	508	511	499	496	497	503	507	511	514	512	515	514	508	509	503	501	507	505									
25 d		505	509	514	509	514	516	522	520	523	475	512	518	511	489	480	491	461	473	473	468	484	495	503	487	498									
26		494	496	512	527	494	500	512	491	461	480	492	496	496	492	508	501	480	505	510	510	510	511	511	511	500									
27		510	517	508	508	511	512	514	511	505	508	507	503	492	484	492	503	500	508	500	499	508	525	510	513	506									
28		515	512	512	515	520	519	519	517	513	501	496	503	500	508	510	511	515	516	517	515	511	523	511	500	512									
29 d		516	519	518	522	524	499	531	520	512	488	515	503	499	495	471	487	469	468	473	476	504	534	511	484	502									
30		489	480	488	488	499	508	505	505	503	481	472	480	484	488	499	476	504	506	500	503	510	508	507	527	496									
Mean		505	507	505	508	514	515	516	510	505	493	489	489	493	496	501	504	503	507	507	507	507	509	506	503	504									

MAGNETIC DECLINATION (WEST)  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

143 ESKDALEUIR (D)													13° +													NOVEMBER 1940												
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												
1		-6.0	-6.2	-7.1	-6.5	-6.9	-7.3	-5.1	-1.8	-3.4	-4.3	-3.4	2.1	0.5	0.8	-1.6	-2.3	-3.3	-4.0	-6.0	-6.8	-6.0	-6.9	-6.9	-6.6	-4.4												
2		-5.9	-5.8	-5.9	-5.0	-6.3	-7.0	-6.9	-3.4	-2.1	-4.4	-3.9	-2.5	-1.6	-1.1	-1.9	-3.3	-4.6	-5.1	-5.3	-6.0	-6.5	-7.0	-8.6	-10.3	-5.0												
3		-10.3	-10.5	-7.0	-6.5	-5.9	-3.3	-7.0	-6.9	-6.1	-5.8	-5.1	-1.9	0.2	2.1	3.9	2.1	-0.6	-2.3	-2.9	-5.9	-8.5	-10.1	-10.1	-8.6	-4.9												
4		-7.5	-8.7	-7.3	-7.2	-6.2	-3.9	-1.4	-5.5	-5.3	-7.5	-5.9	-3.5	2.1	4.3	4.9	6.4	5.5	7.7	-4.0	-9.2	-15.8	-16.9	-15.1	-14.1	-4.8												
5		-16.6	-10.4	-6.9	-2.5	-0.7	-7.7	-6.8	-5.9	-6.0	-6.0	-5.0	-3.1	-1.6	-3.5	-2.3	-3.3	-5.1	-5.1	-5.9	-6.9	-13.1	-8.1	-7.6	-7.0	-6.1												
6		-6.7	-4.7	-3.0	-4.9	-6.8	-6.0	-6.9	-7.8	-8.4	-9.1	-6.2	-3.6	-1.4	-1.2	-1.5	-2.8	-4.3	-7.2	-5.2	-10.5	-7.1	-7.9	-8.3	-6.5	-5.7												
7		-5.7	-4.9	-5.6	-7.8	-8.4	-7.6	-7.9	-6.6	-4.8	-6.8	-4.5	-2.0	-1.3	0.4	-1.0	-3.0	-4.2	-5.4	-5.6	-6.0	-5.9	-7.7	-6.5	-6.6	-5.2												
8	q	-6.6	-9.2	-8.5	-7.6	-7.4	-6.8	-7.5	-7.4	-8.2	-6.6	-4.2	-3.0	-1.7	-1.2	-1.3	-2.4	-3.0	-3.0	-3.3	-5.0	-5.7	-6.0	-6.6	-6.8	-5.4												
9		-7.4	-6.6	-6.7	-6.6	-8.5	-7.7	-3.8	-5.7	-6.5	-6.7	-4.0	-2.0	-0.5	2.2	0.8	-0.3	4.9	0.2	-3.7	-6.5	-5.3	-6.9	-10.5	-10.5	-4.5												
10	q	-9.2	-7.3	-6.6	-5.5	-5.9	-6.0	-6.6	-7.0	-7.5	-7.2	-5.0	-3.9	-3.5	-3.2	-3.9	-4.7	-5.0	-5.0	-5.0	-5.4	-5.7	-5.9	-6.3	-6.2	-5.7												
11	q	-5.9	-5.1	-4.9	-5.0	-5.7	-5.6	-6.5	-6.7	-7.4	-7.6	-6.0	-3.9	-2.7	-2.4	-3.2	-4.0	-4.1	-4.8	-5.1	-5.7	-5.9	-5.7	-6.4	-9.3	-5.4												
12	d	-7.1	-9.4	-7.1	-6.0	-5.8	-6.3	-6.6	-7.1	-7.4	-7.8	-0.1	2.8	2.6	2.1	2.0	1.0	1.4	1.4	-1.2	-6.3	-8.5	-16.4	-19.4	-24.0	-5.5												
13	d	-31.9	-27.2	-27.4	-18.8	-22.0	-8.3	-8.8	-7.5	-10.9	-9.1	-4.2	-3.0	-0.1	3.1	4.4	2.6	1.2	-0.7	-2.7	-4.2	-5.5	-7.3	-7.4	-7.9	-8.5												
14		-9.9	-9.2	-9.5	-10.3	-8.3	-8.6	-7.3	-6.3	-6.7	-6.5	-4.3	-3.5	-1.4	-3.0	-2.8	-3.8	-3.9	-4.1	-5.9	-5.8	-6.6	-10.7	-7.6	-10.5	-6.5												
15		-8.8	-8.3	-5.0	-7.8	-8.0	-7.3	-7.9	-6.9	-8.5	-7.7	-5.7	-2.6	-3.4	-2.1	-3.2	-2.4	-2.4	-3.3	-4.2	-6.1	-6.1	-11.7	-9.6	-10.7	-6.2												
16		-16.1	-8.6	-5.9	-5.9	-7.7	-5.6	-6.2	-6.7	-6.8	-7.9	-6.1	-5.0	-4.1	-3.3	-2.5	-1.4	-6.2	-5.3	-8.9	-9.5	-10.5	-15.1	-14.8	-10.8	-7.5												
17		-7.6	-5.6	-5.9	-5.5	-6.0	-6.5	-6.8	-6.9	-7.7	-8.6	-7.3	-6.0	-5.0	-4.2	-2.9	-1.6	-3.2	3.0	-1.2	-11.9	-7.8	-10.1	-13.1	-15.2	-6.4												
18	q	-9.5	-9.3	-8.1	-6.6	-6.5	-6.7	-7.0	-7.0	-6.7	-7.9	-7.5	-5.7	-5.3	-4.3	-4.3	-4.3	-5.0	-5.2	-5.9	-6.1	-6.4	-8.4	-9.5	-7.0	-6.7												
19	q	-7.5	-7.7	-6.9	-6.6	-6.0	-6.1	-6.5	-6.5	-6.6	-7.8	-6.7	-3.4	-3.9	-3.1	-4.0	-4.9	-4.2	-4.2	-4.3	-5.2	-6.0	-6.8	-6.8	-6.8	-5.8												
20		-6.8	-6.7	-6.1	-6.1	-6.0	-6.1	-6.5	-6.7	-6.9	-7.0	-5.8	-4.4	-3.1	-3.1	-3.2	-2.7	-3.3	-5.0	-5.8	-5.1	-6.1	-12.6	-9.5	-18.6	-6.4												
21		-19.5	-10.2	-5.2	-5.1	-6.9	-7.7	-8.3	-7.2	-3.7	-5.9	-4.0	-3.4	0.1	-2.6	-3.4	-4.0	-5.5	-5.3	-5.9	-6.0	-7.3	-15.2	-14.7	-8.7	-6.9												
22	d	-15.5	-16.7	-15.5	-12.5	-12.1	-1.3	-2.3	-0.9	1.1	-4.7	-3.1	1.4	-1.2	-2.2	-2.9	-4.9	-6.0	-6.2	-6.1	-6.2	-10.5	-17.8	-8.3	-11.1	-6.9												
23		-8.7	-5.9	-9.8	-10.6	-7.9	-4.0	0.3	0.2	-3.3	-2.5	-1.6	-1.3	0.0	-1.9	-3.7	-5.3	-6.6	-6.8	-7.0	-7.7	-13.2	-8.6	-8.5	-8.5	-5.5												
24		-7.1	-7.2	-7.2	-7.2	-7.0	-7.1	-7.6	-7.6	-8.0	-7.8	-5.8	-3.3	-2.0	-3.0	-2.9	-3.3	-3.9	-5.0	-5.8	-5.1	-6.6	-13.4	-13.0	-8.5	-6.5												
25	d	-6.8	-6.9	-9.8	-8.1	-7.7	-7.6	-7.0	-7.0	-6.9	-6.8	-1.5	0.7	3.0	3.0	11.9	-2.3	-0.2	-1.5	-5.3	-11.4	-8.6	-12.3	-22.1	-16.5	-5.7												
26		-13.2	-9.0	1.1	-6.0	-2.0	-2.2	-1.0	-0.7	-3.6	-2.2	-3.2	-2.2	-2.9	-4.1	-6.3	-4.8	-7.8	-10.5	-6.1	-6.1	-7.1	-7.6	-7.6	-7.0	-5.1												
27		-6.8	-6.9	-7.6	-7.9	-7.8	-7.7	-7.0	-7.0	-6.8	-7.3	-6.3	-3.8	-2.9	-3.5	-1.9	-3.0	-7.3	-9.3	-11.2	-10.4	-8.6	-6.7	-7.5	-6.9	-6.8												
28		-6.8	-6.4	-5.8	-6.3	-6.7	-8.1	-7.4	-7.3	-7.3	-7.3	-5.9	-3.4	-3.4	-3.2	-4.7	-5.8	-5.2	-5.5	-5.9	-6.4	-7.5	-8.4	-14.9	-11.3	-6.7												
29	d	-11.3	-8.0	-6.7	-8.4	-9.4	-2.2	-3.2	-4.7	-3.6	0.2	-0.5	-0.5	1.2	-1.5	-2.1	-1.4	-8.5	-15.0	-5.2	-9.9	-9.5	-15.7	-16.1	-15.8	-6.6												
30		-8.2	-7.1	-3.8	-3.4	-4.2	-4.7	-6.0	-6.5	-6.5	-6.3	-3.6	-2.1	-2.5	-4.9	-4.9	-6.0	-5.5	-6.2	-6.2	-8.5	-8.5	-7.5	-9.6	-9.4	-5.9												
Mean		-9.9	-8.5	-7.4	-7.1	-7.2	-6.1	-6.0	-5.8	-6.1	-6.4	-4.5	-2.5	-1.5	-1.5	-1.5	-2.5	-3.5	-4.3	-5.2	-7.1	-7.9	-10.1	-10.4	-10.3	-5.8												



TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

109

144 ESKDALEMUIR (V)

44,000γ (0.44 C.G.S. unit) +

NOVEMBER 1940

	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	Mean
	0-1	1-2																							
1	1035	1033	1031	1031	1029	1025	1023	1022	1026	1027	1029	1028	1034	1041	1048	1052	1052	1048	1049	1045	1039	1036	1036	1036	1036
2	1035	1035	1034	1034	1030	1030	1029	1029	1029	1028	1028	1029	1033	1036	1039	1040	1040	1038	1035	1034	1034	1034	1036	1036	1034
3	1033	1028	1024	1018	1018	1014	1016	1021	1027	1028	1028	1031	1034	1039	1044	1051	1055	1058	1064	1067	1064	1057	1049	1040	1038
4	1033	1023	1023	1024	1026	1025	1012	1017	1022	1031	1029	1029	1032	1043	1056	1077	1106	1147	1137	1090	1078	1060	1039	1008	1049
5	990	1007	1019	1013	997	1007	1022	1025	1030	1034	1034	1040	1045	1056	1057	1053	1052	1051	1050	1047	1043	1036	1036	1036	1033
6	1031	1027	1023	1020	1027	1030	1030	1033	1036	1037	1036	1034	1035	1037	1041	1043	1043	1041	1040	1040	1036	1033	1034	1032	1034
7	1030	1028	1024	1026	1025	1024	1024	1028	1029	1033	1034	1036	1040	1040	1041	1042	1041	1041	1040	1040	1039	1037	1036	1034	1034
8 q	1034	1030	1025	1025	1027	1028	1028	1030	1034	1034	1034	1035	1036	1039	1040	1041	1041	1040	1041	1040	1040	1037	1036	1035	1035
9	1034	1033	1030	1028	1024	1021	1015	1017	1024	1026	1027	1030	1036	1047	1060	1066	1067	1065	1057	1056	1048	1050	1049	1043	1040
10 q	1038	1036	1034	1034	1034	1034	1034	1035	1036	1032	1029	1030	1029	1030	1032	1034	1036	1034	1034	1034	1034	1034	1034	1034	1034
11 q	1034	1032	1031	1030	1030	1030	1030	1031	1034	1031	1026	1024	1027	1031	1033	1033	1032	1031	1033	1033	1033	1034	1034	1037	1031
12 d	1030	1027	1030	1030	1030	1030	1030	1028	1027	1033	1030	1027	1031	1034	1042	1049	1055	1053	1063	1082	1077	1013	1004	1021	1037
13 d	1017	1023	963	935	926	902	925	975	1012	1033	1033	1036	1041	1046	1054	1058	1063	1064	1055	1049	1047	1047	1046	1044	1016
14	1041	1037	1028	1032	1036	1036	1036	1035	1034	1034	1033	1035	1041	1046	1046	1047	1045	1052	1054	1049	1048	1055	1041	1037	1041
15	1040	1040	1032	1028	1031	1034	1033	1033	1035	1036	1031	1031	1033	1037	1042	1044	1045	1046	1043	1041	1046	1051	1048	1049	1039
16	1051	1045	1042	1040	1038	1037	1036	1035	1035	1036	1034	1035	1036	1036	1039	1043	1070	1080	1067	1067	1086	1073	1058	1046	1049
17	1041	1042	1045	1045	1043	1041	1040	1039	1040	1040	1040	1040	1040	1040	1042	1054	1056	1049	1058	1089	1069	1057	1037	1037	1047
18 q	1043	1045	1045	1042	1041	1041	1040	1037	1036	1035	1034	1034	1036	1037	1039	1041	1042	1040	1040	1040	1040	1041	1045	1042	1040
19 q	1041	1041	1040	1040	1037	1035	1034	1032	1033	1033	1028	1028	1031	1034	1036	1039	1037	1036	1036	1034	1034	1034	1034	1035	1035
20	1034	1034	1034	1034	1033	1034	1031	1028	1028	1029	1030	1030	1030	1033	1036	1039	1037	1037	1037	1038	1043	1048	1040	1025	1034
21	1021	1022	1015	1024	1031	1034	1029	1028	1030	1032	1028	1033	1042	1053	1054	1051	1046	1043	1042	1042	1045	1049	1037	989	1034
22 d	991	992	997	1001	1002	986	980	990	997	1016	1035	1049	1057	1050	1049	1048	1045	1042	1040	1045	1072	1081	1054	1033	1027
23	1031	1025	1016	1016	1022	1023	1024	1026	1032	1049	1060	1061	1067	1069	1064	1061	1055	1052	1054	1058	1061	1052	1048	1045	1045
24	1042	1043	1043	1043	1042	1040	1042	1041	1041	1036	1034	1034	1035	1036	1039	1042	1042	1042	1042	1044	1046	1054	1050	1045	1042
25 d	1043	1042	1039	1037	1036	1036	1036	1036	1036	1036	1039	1033	1041	1060	1107	1133	1131	1091	1105	1091	1070	1047	1025	1006	1057
26	1013	1021	994	980	1000	1001	1009	1023	1031	1037	1041	1043	1045	1049	1057	1057	1063	1058	1048	1045	1045	1043	1042	1042	1033
27	1040	1033	1029	1033	1034	1036	1036	1036	1038	1039	1036	1035	1042	1056	1055	1053	1053	1052	1052	1049	1045	1032	1035	1038	1041
28	1040	1040	1039	1037	1035	1035	1034	1034	1036	1039	1036	1035	1039	1039	1042	1045	1042	1040	1040	1040	1041	1040	1040	1039	1039
29 d	1031	1028	1030	1030	1028	1021	1010	1020	1025	1030	1028	1033	1044	1086	1099	1101	1101	1102	1087	1085	1060	1036	1001	1000	1047
30	1017	1027	1019	1026	1031	1034	1036	1039	1040	1044	1046	1046	1046	1053	1057	1063	1057	1054	1053	1051	1049	1046	1043	1033	1042
Mean	1031	1031	1026	1025	1025	1023	1023	1027	1030	1034	1033	1035	1039	1044	1050	1053	1055	1054	1053	1052	1050	1045	1038	1033	1038

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

145 ESKDALEMUIR

NOVEMBER 1940

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 + °A	
	Horizontal force			Declination			Vertical force										
	Maximum 16,000γ +	Minimum 16,000γ +	Range	Maximum 13° +	Minimum 13° +	Range	Maximum 44,000γ +	Minimum 44,000γ +	Range								
	h. m. γ	γ h. m.	γ	h. m. γ	γ h. m.	γ	h. m. γ	γ h. m.	γ	h. m. γ	γ h. m.	γ					
1	5 4 545	473 12 17	72	11 50	3.5	-8.3	5 6	11.8	15 3	1054	1021	7 49	33	2, 2, 3, 2, 2, 1, 2, 0	14	0	85.4
2	6 6 526	476 11 19	50	13 20	-0.6	-11.8	23 50	11.2	15 45	1041	1025	10 50	16	1, 2, 2, 2, 1, 0, 0, 2	10	0	85.4
3	5 58 539	461 10 59	78	14 22	4.7	-12.3	0 53	17.0	19 5	1070	1010	5 53	60	2, 2, 3, 2, 2, 2, 2, 2	17	0	85.3
4	6 17 549	434 20 43	115	17 18	12.2	-18.7	21 11	30.9	18 26	1172	979	23 56	193	3, 3, 3, 2, 3, 4, 5, 4	27	1	85.2
5	20 36 542	456 11 28	86	3 59	2.2	-18.6	0 26	20.8	14 20	1059	980	0 1	79	3, 4, 2, 3, 3, 2, 3, 1	21	1	85.2
6	21 12 541	480 12 54	61	12 47	-0.6	-11.9	19 19	11.3	15 2	1044	1018	3 22	26	2, 2, 2, 2, 2, 2, 2, 2	16	0	85.2
7	6 43 540	452 11 44	88	13 39	1.3	-9.5	* *	10.8	† †	1042	1023	2 49	19	2, 1, 3, 3, 3, 1, 1, 2	17	0	85.2
8 q	1 5 530	495 12 5	35	12 55	-0.6	-10.2	1 50	9.6	16 20	1042	1024	2 35	18	2, 1, 1, 0, 1, 0, 1, 1	7	0	85.2
9	3 50 535	470 12 21	65	16 36	6.8	-12.8	23 11	19.6	17 3	1070	1013	7 0	57	1, 2, 3, 1, 3, 3, 2, 2	17	1	85.1
10 q	22 42 526	490 10 10	36	13 18	-2.9	-9.5	0 11	6.6	0 1	1041	1028	12 42	13	1, 1, 1, 1, 1, 1, 0, 0	6	0	85.1
11 q	21 10 533	499 24 0	34	12 40	-2.1	-10.2	23 22	8.1	23 58	1038	1023	11 21	15	0, 0, 1, 1, 1, 0, 0, 2	5	0	85.2
12 d	16 58 538	414 22 18	124	16 21	6.0	-29.2	24 0	35.2	19 28	1093	957	21 50	136	3, 1, 2, 3, 3, 3, 4, 5	24	1	85.2
13 d	14 21 523	320 2 42	203	5 2	6.2	-36.0	0 13	42.2	16 29	1066	854	5 13	212	6, 5, 5, 3, 3, 2, 2, 1	27	2	85.2
14	22 20 558	468 12 46	90	22 27	2.9	-15.9	23 0	18.8	22 0	1059	1024	2 53	35	3, 3, 2, 3, 3, 3, 2, 4	23	1	85.2
15	21 22 536	484 11 30	52	11 16	-0.3	-17.8	21 18	17.5	21 1	1054	1023	3 15	31	2, 2, 2, 2, 1, 2, 3, 3	17	1	85.1
16	18 22 588	445 16 39	143	17 52	2.0	-22.2	0 30	24.2	20 20	1090	1033	10 30	57	4, 2, 1, 1, 2, 4, 5, 3	22	1	85.1
17	22 26 585	416 19 29	169	17 23	4.8	-26.7	19 36	31.5	19 32	1109	1028	22 53	81	1, 1, 0, 1, 2, 4, 5, 4	18	1	85.2
18 q	20 12 525	476 0 14	49	13 30	-4.0	-14.9	0 1	10.9	1 42	1046	1033	10 33	13	3, 1, 2, 1, 2, 1, 1, 2	13	0	85.1
19 q	19 12 542	485 0 22	57	13 29	-1.6	-8.5	9 48	6.9	0 5	1042	1027	11 39	15	2, 1, 1, 2, 2, 1, 2, 2	13	0	85.2
20	7 0 538	461 23 50	77	12 42	-1.9	-22.7	24 0	20.8	21 42	1049	1010	23 53	39	1, 0, 1, 1, 1, 2, 2, 4	12	1	85.2
21	7 0 554	444 9 26	110	12 22	1.3	-24.5	0 10	25.8	13 51	1056	957	23 50	99	4, 3, 4, 3, 2, 2, 2, 4	24	1	85.1
22 d	5 56 563	437 10 34	126	† †	5.6	-26.8	21 2	32.4	20 59	1100	964	0 1	136	4, 4, 4, 3, 3, 1, 4, 4	27	1	85.1
23	2 0 530	409 9 27	121	6 50	5.3	-15.9	20 22	21.2	12 37	1072	1010	2 6	62	3, 3, 3, 4, 2, 1, 3, 2	21	1	85.0
24	21 58 523	491 22 42	32	12 48	-0.9	-19.5	21 52	18.6	21 32	1058	1032	10 34	26	1, 0, 2, 1, 1, 1, 1, 3	10	0	84.9
25 d	16 0 551	407 14 55	144	14 46	21.7	-31.7	22 5	53.4	14 58	1191	999	23 52	192	2, 1, 2, 4, 5, 5, 3, 4	26	2	85.0
26	3 8 542	441 8 43	101	2 48	4.9	-19.1	0 3	24.0	16 33	1066	970	3 6	96	5, 3, 4, 2, 3, 3, 2, 1	23	1	85.0
27	21 0 550	476 13 19	74	13 56	-0.5	-14.3	20 49	13.8	13 52	1059	1028	2 31	31	2, 1, 2, 2, 2, 3, 3, 3	18	1	85.0
28	21 49 550	485 23 30	65	11 51	-2.4	-17.7	22 8	15.3	15 30	1047	1034	7 2	13	0, 1, 1, 2, 1, 1, 1, 4	11	0	85.1
29 d	21 42 608	437 14 40	171	13 7	7.8	-28.7	21 39	36.5	16 52	1114	992	22 40	122	2, 3, 3, 4, 4, 4, 4, 5	29	1	85.1
30	23 25 546	453 15 30	93	12 19	-0.5	-16.0	20 0	15.5	15 42	1067	1010	0 1	57	3, 3, 2, 2, 2, 3, 3, 3	21	1	85.1
Mean	- - 545	455 - -	91	- - 2.7	-18.1 - -	20.7	- - 1070	1004 - -	66	-	-	-	-	-	0.67	85.1	



TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

146 ESKDALEMUIR (H)

16,000γ (0.16 C.G.S. unit) +

DECEMBER 1940

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
1	504	507	508	511	505	519	521	522	507	509	504	487	503	505	499	499	508	508	487	508	496	481	496	495	504
2	508	505	511	499	508	515	516	514	508	511	455	472	491	499	500	487	507	506	503	507	508	495	521	498	502
3	496	510	511	510	519	510	512	511	511	509	499	481	492	499	480	482	504	507	510	499	501	519	496	508	503
4	511	510	508	518	524	523	515	519	519	512	504	501	499	511	503	491	492	499	505	518	515	515	515	515	510
5	523	507	512	507	511	520	524	515	519	511	509	514	519	519	515	511	511	508	504	508	513	514	512	519	514
6 q	512	511	514	514	520	523	522	518	518	510	514	514	513	513	513	514	515	514	518	516	513	510	513	513	515
7 q	511	511	514	516	518	518	515	514	514	507	505	507	510	512	514	514	516	518	519	521	519	519	518	519	515
8 q	520	521	522	522	525	526	526	525	524	524	519	518	518	522	522	522	522	522	523	523	521	523	520	520	522
9	522	525	528	524	522	530	549	551	534	534	523	516	503	490	498	518	522	522	518	512	511	512	506	510	520
10	511	508	506	509	514	514	511	518	519	518	517	514	522	530	533	534	525	500	517	512	514	511	514	511	516
11	510	509	512	509	508	507	507	510	504	506	513	514	512	519	520	522	524	520	518	521	519	494	491	510	512
12	510	510	506	507	510	514	510	510	506	511	513	506	507	506	511	495	511	518	518	513	518	520	520	514	511
13	509	498	514	507	511	511	514	511	509	483	502	509	511	514	514	515	518	523	522	521	526	518	513	515	512
14	526	513	514	514	514	514	517	518	522	517	514	503	490	508	522	522	515	458	483	487	499	498	502	518	508
15	509	506	507	509	510	514	514	514	518	517	514	510	510	518	502	515	522	514	514	502	509	518	522	514	513
16	511	511	511	513	515	513	515	518	514	495	506	509	503	506	511	514	521	522	514	516	518	518	514	511	512
17	511	514	514	515	520	521	522	519	518	518	514	506	499	484	498	507	511	511	502	509	518	509	526	504	511
18 q	511	510	507	512	513	519	522	522	518	518	512	507	507	517	518	520	519	514	513	522	522	522	521	517	516
19 q	517	519	514	518	521	523	525	522	519	514	512	509	513	522	530	532	534	530	530	530	530	518	506	506	521
20 d	531	518	515	518	525	526	536	530	529	514	457	455	479	475	510	486	492	495	473	491	502	498	491	467	501
21 d	489	484	483	480	491	525	498	495	490	487	475	448	487	495	484	490	499	496	489	502	535	506	502	499	493
22 d	506	502	510	500	511	511	518	506	503	479	479	483	455	490	498	487	494	498	505	503	505	504	509	506	498
23	513	508	512	513	515	519	521	520	519	513	498	495	478	500	489	480	465	498	504	529	495	487	510	504	504
24	500	504	503	510	511	510	513	516	511	505	503	502	497	495	502	512	514	509	514	517	502	506	503	510	507
25	511	518	518	514	522	527	527	498	506	512	499	491	491	491	500	498	483	491	503	509	510	515	519	508	507
26	511	511	511	526	526	514	520	518	516	483	476	482	483	499	506	511	513	515	506	487	510	507	509	510	506
27	521	509	511	518	523	526	527	527	517	511	507	509	498	487	495	490	511	512	514	512	511	510	514	515	511
28	514	514	510	514	518	522	525	523	511	499	513	511	510	514	514	525	529	526	525	519	506	492	463	495	512
29	502	495	494	496	487	503	518	507	510	503	491	494	503	504	503	491	494	485	519	509	494	491	493	511	500
30 d	506	509	503	509	514	534	548	502	439	506	510	493	488	478	494	491	488	491	479	495	518	522	529	514	503
31 d	515	479	495	518	530	525	521	514	518	511	510	503	506	511	525	518	491	488	484	494	504	506	506	507	507
Mean	511	508	510	511	515	519	520	516	512	508	502	499	500	504	507	506	509	507	507	510	512	508	509	509	509

508 at 0-1h. January 1, 1941

MAGNETIC DECLINATION (WEST)  
Mean values for periods of sixty minutes ending at exact hours, G.M.T.

147 ESKDALEMUIR (D)

13° +

DECEMBER 1940

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
1		-8.4	-6.8	-6.1	-5.2	-5.2	-6.1	-6.1	-6.0	-6.2	-5.8	-4.7	-4.0	-3.0	-2.7	-2.9	-2.8	-4.8	-5.5	-10.3	-10.6	-8.5	-13.0	-13.5	-11.9	-6.7
2		-8.2	-12.9	-13.0	-6.9	-8.2	-7.2	-6.5	-5.2	-6.0	-5.0	-5.8	-1.9	-1.8	-2.4	-2.3	-7.8	-5.3	-4.1	-11.0	-8.1	-6.8	-14.0	-19.7	-14.3	-7.7
3		-8.4	-5.8	-3.9	-7.0	-6.6	-6.1	-5.8	-6.4	-6.3	-4.4	-3.1	-1.7	-1.3	-1.5	-3.0	-3.2	-7.1	-8.8	-7.8	-8.3	-11.9	-20.9	-10.2	-7.1	-6.5
4		-6.8	-6.9	-6.4	-3.6	-7.9	-7.3	-5.3	-3.6	-3.4	-3.9	-3.1	-2.2	-3.1	-3.1	-3.1	-3.2	-6.0	-8.5	-11.2	-9.7	-6.5	-6.9	-7.0	-7.7	-5.7
5		-10.7	-8.4	-6.7	-7.3	-6.8	-6.1	-6.7	-6.8	-5.1	-6.0	-5.1	-4.1	-3.4	-3.3	-4.1	-4.0	-3.2	-5.1	-3.7	-6.1	-6.1	-7.0	-8.7	-8.0	-5.9
6	q	-8.8	-7.2	-6.8	-6.1	-6.2	-7.9	-7.1	-7.1	-6.8	-6.1	-4.8	-3.8	-3.2	-3.1	-4.1	-4.3	-5.1	-5.4	-5.9	-6.1	-9.6	-8.0	-7.0	-6.9	-6.1
7	q	-6.8	-5.3	-3.8	-6.5	-6.7	-6.8	-6.8	-6.8	-7.0	-6.5	-5.7	-4.2	-3.5	-3.5	-4.6	-5.2	-5.8	-6.0	-6.3	-6.3	-6.5	-6.9	-6.9	-6.8	-5.9
8	q	-6.5	-6.2	-6.2	-6.4	-6.5	-6.7	-6.8	-6.9	-6.9	-6.9	-5.9	-4.6	-4.4	-4.8	-4.9	-5.1	-5.1	-5.2	-5.7	-6.0	-6.1	-6.1	-6.6	-6.8	-6.0
9		-6.5	-6.1	-6.2	-6.9	-6.9	-6.7	-7.0	-6.7	-4.1	-4.1	-2.7	-2.9	-1.4	0.4	-1.3	-3.5	-4.4	-4.8	-5.5	-6.3	-6.8	-6.9	-9.8	-10.6	-5.3
10		-9.8	-8.8	-9.0	-7.2	-7.2	-8.8	-7.0	-7.0	-7.0	-6.1	-4.8	-3.9	-3.2	-2.4	-3.4	-3.4	-0.4	1.2	-4.3	-3.9	-7.1	-7.6	-6.6	-6.7	-5.6
11		-7.7	-8.6	-7.7	-8.9	-8.6	-8.6	-8.6	-8.4	-8.0	-7.2	-4.7	-3.3	-2.9	-3.2	-4.5	-5.5	-5.3	-4.4	-5.8	-5.4	-5.9	-13.4	-12.6	-9.7	-7.0
12		-11.9	-14.5	-10.9	-8.3	-8.3	-8.2	-7.5	-7.5	-6.5	-7.6	-5.9	-4.7	-2.6	-2.7	-3.1	-4.0	-3.4	-2.5	-4.0	-4.2	-6.0	-6.1	-6.6	-7.4	-6.4
13		-7.9	-10.3	-13.8	-11.3	-8.3	-7.8	-7.0	-7.0	-7.0	-7.0	-5.5	-3.4	-3.3	-3.5	-4.8	-4.1	-4.2	-6.7	-5.3	-5.7	-9.7	-9.4	-7.3	-7.0	-7.0
14		-9.5	-8.8	-8.4	-7.9	-7.9	-8.5	-8.6	-8.2	-7.0	-6.9	-5.0	-3.3	-3.4	-3.0	-4.1	-5.2	-3.5	-8.1	-9.5	-6.2	-8.7	-10.5	-10.2	-8.9	-7.1
15		-10.2	-7.4	-7.2	-6.2	-6.3	-6.7	-7.0	-7.1	-7.0	-7.5	-6.5	-5.1	-4.0	-2.5	-3.0	-3.2	-4.0	-4.0	-10.9	-4.2	-7.8	-8.5	-12.2	-17.8	-6.9
16		-11.5	-9.2	-7.2	-6.3	-6.9	-7.8	-7.8	-7.8	-7.8	-7.1	-4.8	-4.3	-3.5	-2.6	-3.3	-4.0	-5.1	-4.8	-5.2	-6.8	-7.0	-8.5	-9.5	-8.0	-6.5
17		-7.9	-7.9	-6.6	-6.3	-6.1	-6.8	-7.1	-7.6	-7.7	-7.9	-7.0	-5.9	-3.4	-3.2	-2.6	-4.2	-5.1	-6.6	-6.5	-7.7	-7.7	-10.1	-15.0	-10.5	-7.0
18	q	-10.4	-15.1	-8.4	-7.0	-7.6	-6.9	-6.9	-7.6	-7.8	-7.7	-6.5	-4.2	-5.6	-5.0	-5.3	-5.9	-6.2	-6.0	-7.0	-6.9	-7.2	-7.7	-7.9	-8.3	-7.3
19	q	-7.9	-7.9	-8.3	-6.8	-6.8	-6.7	-7.0	-7.5	-7.0	-6.1	-5.2	-4.8	-5.1	-4.4	-4.3	-5.2	-6.1	-6.8	-6.7	-6.7	-7.0	-7.5	-9.6	-9.4	-6.7
20	d	-10.4	-12.5	-8.7	-7.1	-5.9	-4.9	-4.0	-5.3	-6.7	-5.2	-4.9	-2.1	0.5	-5.8	-3.8	-2.3	-4.3	-17.7	-8.8	-7.8	-14.9	-19.7	-20.6	-19.5	-8.4
21	d	-13.9	-7.4	-7.5	-7.9	0.6	-1.7	-5.2	-6.7	-6.9	-7.1	-4.0	-5.9	-5.1	-2.3	-1.5	-4.2	-7.7	-5.8	-10.5	-10.7	-16.1	-13.1	-11.9	-12.2	-7.3
22	d	-7.9	-5.6	-5.9	-9.9	-8.7	-7.6	-4.9	-3.8	0.4	-3.3	-3.1	-2.9	-5.3	-4.1	-2.2	-9.6	-6.7	-6.8	-7.7	-8.7	-8.9	-8.8	-8.8	-8.8	-6.2
23		-7.8	-6.7	-8.6	-7.9	-7.5	-6.8	-6.5	-6.8	-6.9	-5.9	-5.9	-5.9	-4.3	-5.1	-4.3	-7.4	-6.9	-7.6	-6.1	-18.8	-13.7	-13.7	-11.3	-8.6	-8.0
24		-11.3	-10.2	-8.7	-7.5	-7.0	-6.1	-6.2	-5.2	-6.0	-6.2	-5.2	-4.3	-4.1	-3.3	-4.7	-5.2	-5.9	-6.9	-5.9	-6.5	-8.7	-13.1	-12.0	-10.3	-7.1
25		-8.6	-6.8	-6.7	-6.8	-7.8	-7.5	-6.8	-4.2	-4.0	-5.7	-5.7	-3.7	-3.4	-1.3	-2.6	-3.7	-7.4	-3.9	-6.7	-6.3	-8.3	-7.6	-12.2	-9.0	-6.1
26		-7.4	-7.3	-6.4	-5.2	-7.5	-6.7	-5.5	-6.3	-6.3	-6.6	-3.7	-2.8	-2.1	-3.6	-4.2	-5.2	-6.4	-6.7	-6.6	-14.3	-12.9	-9.9	-8.3	-8.5	-6.7
27		-8.3	-7.3	-6.2	-4.5	-8.4	-9.5	-7.5	-5.9	-5.7	-8.6	-8.4	-5.9	-3.5	-1.4	-2.2	-7.0	-5.4	-6.5	-7.3	-7.9	-8.7	-9.0	-10.7	-7.8	-6.8
28		-7.5	-7.5	-8.7	-6.8	-6.0	-6.6	-7.0	-7.0	-7.1	-6.0	-6.7	-4.4	-4.2	-4.2	-2.5	-4.3	-5.8	-6.0	-6.5	-6.8	-9.7	-27.5	-14.0	-14.0	-7.8
29		-15.1	-10.6	-7.8	-7.8	-4.3	-4.1	-5.9	-6.0	-6.4	-6.7	-6.5	-6.0	-5.2	-3.3	-4.1	-6.0	-4.0	-5.1	-12.2	-7.3	-10.1	-15.1	-9.5	-12.2	-7.6
30	d	-8.7	-7.2	-7.1	-6.0	-2.5	-2.0	-1.9	-1.2	0.5	1.7	-0.4	-2.3	-2.4	-0.9	-2.0	-6.0	-11.9	-9.4	-16.2	-14.2	-6.9	-7.1	-7.2	-9.4	-5.4
31	d	-8.8	-5.1	-6.9	-12.2	-11.4	-6.7	-6.5	-6.7	-5.9	-6.6	-6.1	-6.0	-4.2	-3.2	-1.5	-1.3	-3.4	-5.3	-0.5	-5.8	-7.1	-7.9	-8.8	-8.6	-6.1
Mean		-9.1	-8.3	-7.6	-7.1	-6.8	-6.7	-6.5	-6.3	-6.0	-6.0	-5.1	-4.0	-3.4	-3.1	-3.4	-4.7	-5.3	-6.1	-7.3	-7.7	-8.7	-10.7	-10.4	-9.8	-6.7



**TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT**  
 Mean values for periods of sixty minutes ending at exact hours, G.M.T.

111

148 ESKDALEUIR (V)

44,000γ (0.44 C.G.S. unit) +

DECEMBER 1940

	Hour G.M.T.																								Mean
	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	
1	1034	1036	1036	1033	1033	1032	1034	1034	1034	1034	1036	1040	1042	1045	1048	1048	1048	1048	1057	1052	1051	1044	1034	1035	1040
2	1022	1013	1009	1009	1018	1028	1032	1034	1033	1030	1039	1037	1041	1047	1055	1076	1066	1061	1063	1054	1048	1048	1036	1028	1039
3	1030	1029	1022	1029	1032	1035	1036	1036	1036	1031	1029	1036	1042	1045	1058	1064	1061	1057	1052	1052	1051	1039	1035	1035	1041
4	1037	1039	1039	1033	1032	1034	1034	1031	1030	1032	1033	1034	1040	1043	1051	1057	1063	1063	1057	1049	1042	1041	1040	1040	1041
5	1036	1036	1036	1035	1032	1026	1023	1029	1030	1035	1036	1037	1040	1040	1043	1046	1047	1051	1053	1056	1051	1046	1045	1039	1039
6 q	1038	1039	1037	1037	1035	1034	1034	1034	1032	1030	1030	1031	1033	1034	1030	1040	1040	1041	1041	1040	1041	1040	1039	1037	1036
7 q	1036	1034	1031	1034	1034	1035	1036	1036	1036	1034	1032	1031	1031	1033	1035	1036	1038	1039	1037	1036	1036	1036	1036	1036	1035
8 q	1035	1035	1035	1034	1034	1034	1033	1033	1032	1031	1028	1030	1031	1033	1033	1034	1034	1034	1034	1034	1034	1034	1034	1034	1033
9	1034	1031	1030	1030	1030	1026	1020	1018	1018	1024	1026	1031	1036	1040	1041	1041	1040	1040	1040	1040	1040	1037	1045	1046	1033
10	1039	1037	1037	1036	1034	1034	1034	1032	1030	1030	1028	1028	1028	1029	1030	1033	1037	1049	1052	1053	1057	1052	1048	1045	1038
11	1042	1042	1040	1039	1037	1036	1037	1036	1036	1036	1035	1036	1036	1038	1038	1039	1039	1039	1042	1041	1042	1054	1051	1042	1040
12	1040	1040	1040	1040	1039	1036	1036	1035	1033	1034	1034	1036	1037	1038	1040	1047	1049	1043	1044	1046	1048	1046	1043	1044	1040
13	1044	1033	1034	1034	1034	1035	1035	1034	1034	1036	1034	1034	1038	1040	1042	1043	1041	1041	1040	1040	1042	1042	1043	1044	1038
14	1043	1042	1040	1039	1036	1036	1035	1033	1030	1031	1032	1034	1040	1040	1040	1041	1045	1069	1081	1074	1069	1065	1059	1039	1046
15	1038	1040	1040	1040	1040	1040	1039	1036	1034	1031	1030	1031	1034	1035	1040	1042	1040	1042	1051	1047	1053	1049	1047	1031	1040
16	1027	1033	1033	1032	1030	1034	1034	1034	1031	1030	1027	1032	1034	1036	1036	1038	1037	1039	1042	1043	1041	1042	1043	1042	1035
17	1042	1041	1040	1039	1038	1036	1035	1034	1034	1031	1028	1030	1037	1045	1050	1049	1046	1046	1046	1045	1043	1042	1033	1034	1039
18 q	1035	1035	1035	1036	1036	1036	1036	1035	1034	1032	1033	1033	1036	1034	1037	1040	1040	1040	1041	1037	1036	1036	1036	1036	1036
19 q	1036	1032	1034	1034	1034	1034	1034	1033	1031	1031	1030	1033	1034	1034	1034	1035	1034	1034	1033	1034	1034	1036	1043	1040	1034
20 d	1027	1022	1023	1025	1027	1022	1014	1019	1024	1028	1036	1040	1043	1075	1061	1073	1120	1123	1088	1069	1059	1031	1012	1024	1045
21 d	1019	1004	1003	1000	970	962	1003	1031	1043	1047	1048	1055	1054	1046	1057	1067	1067	1061	1066	1061	1054	1037	1040	1037	1035
22 d	1028	1013	998	1010	1016	1022	1024	1030	1030	1034	1035	1039	1049	1060	1056	1079	1067	1061	1058	1052	1049	1046	1043	1042	1039
23	1031	1021	1028	1033	1034	1034	1034	1033	1033	1033	1036	1036	1040	1045	1053	1067	1072	1065	1057	1063	1045	1047	1036	1012	1041
24	1025	1027	1029	1031	1033	1034	1036	1036	1039	1039	1037	1036	1040	1042	1045	1043	1043	1042	1042	1041	1044	1051	1046	1042	1038
25	1037	1033	1033	1031	1031	1031	1030	1033	1031	1034	1035	1040	1046	1046	1048	1055	1062	1063	1060	1054	1049	1041	1034	1035	1041
26	1036	1036	1035	1029	1025	1028	1030	1033	1033	1036	1037	1037	1041	1043	1045	1046	1043	1043	1046	1063	1054	1046	1043	1042	1040
27	1035	1035	1034	1030	1028	1028	1028	1031	1034	1036	1036	1036	1037	1042	1049	1057	1052	1048	1043	1042	1042	1042	1040	1036	1038
28	1036	1036	1034	1034	1034	1033	1034	1034	1035	1034	1035	1036	1036	1038	1045	1042	1040	1039	1037	1037	1043	1057	1052	1054	1039
29	1042	1020	1027	1027	1016	1008	1013	1024	1033	1039	1043	1048	1043	1044	1050	1057	1060	1064	1067	1052	1055	1061	1046	1038	1041
30 d	1039	1037	1036	1036	1030	1015	1014	1019	1031	1028	1036	1045	1048	1054	1060	1066	1070	1067	1072	1064	1047	1043	1040	1040	1043
31 d	1035	1005	999	1018	1022	1028	1033	1036	1036	1039	1039	1039	1039	1041	1046	1049	1061	1079	1090	1078	1063	1054	1048	1043	1043
Mean	1035	1031	1030	1031	1029	1029	1030	1032	1033	1033	1034	1036	1039	1042	1045	1050	1052	1053	1053	1050	1047	1045	1041	1038	1039

1040 at 0-lh. January 1, 1941.

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

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DECEMBER 1940

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 + °A			
	Horizontal force				Declination				Vertical force										
	Maximum 16,000γ +		Minimum 16,000γ +		Range	Maximum 13° +		Minimum 13° +		Range	Maximum 44,000γ +						Minimum 44,000γ +		Range
	h. m.	γ	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ						
1	5 15	527	468	21 49	59	13 14	-1.4	-16.9	21 10	15.5	18 33	1059	1029	5 17	30	2, 3, 2, 2, 2, 2, 3, 3	19	0	85.1
2	5 0	534	427	10 27	107	11 11	0.3	-25.4	22 53	25.7	15 58	1082	1004	3 55	78	3, 3, 2, 4, 2, 3, 3, 4	24	1	85.1
3	21 22	534	461	11 25	73	11 24	1.4	-26.9	21 22	28.3	15 11	1065	1021	2 30	44	3, 2, 1, 3, 3, 3, 2, 4	21	1	85.1
4	19 12	531	479	18 43	52	3 24	-1.5	-17.6	18 50	16.1	16 20	1066	1029	3 59	37	1, 3, 2, 1, 3, 3, 3, 2	18	0	85.0
5	0 42	535	492	18 42	43	18 30	-1.5	-14.0	22 20	12.5	19 3	1058	1019	6 3	39	3, 2, 2, 2, 2, 2, 2, 2	17	0	84.9
6 q	4 53	525	503	20 30	22	13 10	-2.5	-10.6	20 42	8.1	20 30	1043	1030	10 59	13	2, 1, 1, 2, 1, 1, 2, 1	11	0	84.8
7 q	19 37	522	502	10 18	20	2 31	-2.8	-7.7	8 22	4.9	17 0	1040	1030	* *	10	2, 1, 1, 1, 0, 0, 0, 0	5	0	84.7
8 q	5 29	526	514	12 10	12	13 12	-4.2	-7.1	7 10	2.9	0 1	1036	1028	10 30	8	0, 0, 0, 0, 0, 0, 0, 0	0	0	84.6
9	6 56	557	480	12 50	77	13 41	1.2	-13.7	22 52	14.9	22 55	1051	1017	8 10	34	1, 2, 2, 2, 3, 1, 1, 2	14	0	84.4
10	16 13	557	487	16 57	70	17 16	2.2	-11.8	5 32	14.0	20 26	1060	1027	12 18	33	1, 2, 2, 2, 1, 4, 2, 2	16	0	84.4
11	16 58	528	464	22 21	64	12 11	-2.4	-19.4	21 35	17.0	21 32	1059	1034	10 58	25	1, 1, 1, 2, 1, 2, 2, 3	13	0	84.2
12	22 30	528	471	15 38	57	12 24	-1.3	-15.9	† †	14.6	15 52	1057	1030	8 52	27	2, 1, 2, 2, 2, 3, 2, 2	16	0	84.3
13	20 30	534	478	9 22	56	11 39	-1.6	-16.7	† †	15.1	§ §	1046	1030	1 35	16	3, 2, 2, 3, 1, 1, 2, 2	16	0	84.3
14	23 10	557	443	18 0	114	12 58	-0.7	-13.3	18 0	12.6	18 7	1088	1028	8 53	60	3, 1, 2, 2, 3, 4, 4, 4	23	1	84.3
15	23 16	552	483	17 56	69	13 59	-0.7	-20.3	23 12	19.6	18 11	1054	1030	10 40	24	2, 1, 1, 1, 3, 3, 3, 3	17	1	84.3
16	17 23	537	486	9 22	51	13 59	-0.7	-17.3	0 1	16.6	19 11	1046	1024	0 26	22	3, 2, 1, 3, 2, 2, 2, 1	16	0	84.4
17	22 16	547	479	13 20	68	14 22	-1.6	-17.7	22 15	16.1	14 44	1051	1027	10 30	24	1, 1, 0, 1, 2, 1, 3, 3	13	0	84.3
18 q	0 36	528	495	12 0	33	11 52	-3.5	-17.3	1 13	13.8	18 29	1042	1030	0 40	12	3, 1, 1, 2, 2, 2, 2, 0	13	0	84.2
19 q	16 14	538	494	22 9	44	13 48	-2.6	-12.8	22 10	10.2	22 20	1046	1030	9 13	16	2, 1, 0, 1, 2, 1, 1, 3	11	0	84.2
20 d	16 53	592	394	17 51	198	16 45	6.1	-40.9	17 8	47.0	17 1	1221	1003	22 38	218	3, 2, 2, 4, 4, 6, 5, 5	31	2	84.1
21 d	20 42	609	428	11 20	181	4 41	4.8	-28.0	20 40	32.8	16 19	1072	946	5 2	126	3, 5, 4, 4, 3, 3, 5, 3	30	1	84.0
22 d	2 47	527	400	12 33	127	8 41	2.0	-15.5	15 23	17.5	15 31	1083	994	2 4	89	3, 2, 3, 3, 5, 3, 2, 2	23	1	83.9
23	19 49	588	451	16 46	137	12 21	-2.5	-29.4	19 33	26.9	16 50	1076	1008	23 20	68	2, 1, 1, 2, 3, 3, 5, 4	21	1	83.8
24	7 21	522	483	20 50	39	13 1	-2.4	-19.5	21 2	17.1	21 0	1054	1020	0 1	34	2, 2, 2, 1, 2, 1, 3, 3	16	0	83.8
25	6 1	538	475	15 57	63	13 12	-0.6	-13.9	22 23	13.3	17 57	1067	1028	6 8	39	2, 2, 3, 3, 1, 3, 3, 3	20	1	83.8
26	20 26	539	464	9 52	75	12 10	-1.4	-23.1	19 40	21.7	19 39	1071	1024	4 30	47	1, 2, 2, 3, 2, 0, 4, 2	16	1	83.9
27	0 12	538	460	13 5	78	13 30	-0.5	-12.5	22 33	12.0	15 41	1060	1027	4 1	33	3, 3, 2, 2, 3, 3, 1, 2	19	0	83.9
28	16 55	533	455	22 40	78	14 23	-1.7	-33.9	21 31	32.2	21 12	1061	1032	5 2	29	2, 2, 2, 2, 2, 1, 4, 4	19	1	83.9
29	18 42	547	461	0 1	86	16 40	-1.1	-19.4	18 33	18.3	18 19	1072	1005	4 52	67	4, 3, 2, 2, 1, 3, 4, 3	22	1	83.8
30 d	6 5	559	413	8 16	146	9 8	4.9	-25.0	18 54	29.9	18 51	1079	1010	5 39	69	2, 3, 5, 3, 3, 3, 4, 3	26	1	83.8
31 d	14 26	573	440	1 44	133	1 49	4.0	-14.3	4 25	18.3	18 48	1096	990	2 3	106	4, 3, 3, 2, 4, 4, 3, 2	25	1	83.7
Mean	- -	544	465	- -	78	- -	-0.4	-18.6	- -	18.2	- -	1066	1019	- -	48	-	-	0.48	84.3



## ALL DAYS

Departures from the mean of the 24 hourly values (uncorrected for non-cyclic change)

150 ESKDALEMUIR		1940																							
	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	
NORTH COMPONENT																									
	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	
Jan.	-0.2	-0.4	+2.3	+4.3	+5.6	+9.4	+9.4	+8.2	+2.1	-3.0	-7.2	-10.4	-10.0	-7.8	-5.9	-2.7	+2.1	+1.6	-0.5	+3.2	+0.1	-0.5	+0.5	-0.2	
Feb.	+4.5	+3.3	+1.9	+2.6	+5.7	+7.9	+8.6	+6.8	+2.2	-4.4	-12.5	-14.1	-12.1	-9.2	-6.4	-2.8	-1.7	+3.9	+2.9	+4.6	+2.9	+0.3	+3.3	+1.9	
Mar.	-11.9	-33.2	-24.3	-22.3	-7.6	+5.9	+7.8	+4.3	-2.3	-18.0	-31.0	-25.6	-15.1	-3.8	+0.1	+22.6	+53.2	+46.7	+39.1	+24.5	+20.4	-0.6	-12.9	-16.0	
Apr.	+0.8	+3.8	+2.0	-0.6	+1.2	+5.3	+0.5	+1.0	-5.1	-20.7	-31.2	-34.5	-29.3	-21.0	-7.7	+3.4	+13.3	+19.2	+25.1	+24.2	+15.7	+16.4	+10.4	+7.7	
May	+7.4	+8.8	+7.3	+3.7	+3.5	+0.4	-3.4	-8.9	-18.1	-30.1	-32.6	-31.9	-28.5	-21.3	-8.4	+2.3	+13.3	+24.0	+30.6	+27.3	+22.1	+15.5	+8.8	+8.1	
June	+3.5	+2.1	+0.4	+0.7	+0.7	+0.7	-1.9	-9.5	-19.3	-29.4	-36.1	-34.3	-30.7	-21.5	-5.3	+8.3	+17.2	+26.5	+34.7	+33.4	+20.0	+14.6	+9.5	+4.9	
July	+4.7	+4.0	+2.4	+3.8	+2.3	+2.9	-3.9	-6.2	-13.6	-26.6	-33.8	-33.7	-28.2	-16.3	-5.0	+7.1	+16.7	+23.2	+26.8	+25.7	+17.7	+13.4	+9.9	+6.5	
Aug.	+10.5	+9.5	+7.3	+5.9	+6.6	+4.4	+0.2	-6.9	-18.0	-33.3	-38.3	-33.4	-25.0	-15.9	-5.8	+3.5	+13.1	+18.7	+21.6	+20.3	+17.3	+14.3	+11.5	+11.9	
Sept.	+9.7	+9.9	+9.6	+7.7	+7.8	+7.8	+5.3	+0.4	-12.7	-26.2	-35.0	-33.3	-24.6	-17.4	-5.3	-2.8	+3.9	+14.0	+16.9	+14.4	+13.0	+13.5	+12.6	+10.7	
Oct.	+8.7	+6.9	+8.3	+10.8	+11.7	+12.3	+10.1	+5.4	-3.3	-14.8	-22.4	-27.0	-25.7	-18.4	-8.5	-2.2	+1.3	+4.8	+7.4	+1.6	+8.1	+9.2	+6.6	+9.1	
Nov.	+5.3	+5.0	+2.0	+5.3	+11.2	+10.7	+11.3	+5.9	+1.0	-10.7	-16.1	-18.2	-15.7	-12.5	-7.8	-3.7	-3.8	+0.6	+2.2	+3.8	+4.9	+9.1	+6.5	+3.7	
Dec.	+4.7	+0.9	+1.5	+2.6	+5.7	+9.3	+10.6	+6.7	+2.0	-1.9	-8.4	-13.0	-12.5	-8.6	-5.4	-5.0	-1.9	-2.6	-0.9	+2.0	+4.7	+3.4	+3.7	+2.6	
Year	+3.9	+1.7	+1.7	+2.1	+4.5	+6.4	+4.6	+0.6	-7.1	-18.3	-25.3	-25.8	-21.5	-13.5	-5.9	+2.3	+10.6	+15.1	+17.2	+15.5	+12.3	+9.1	+5.9	+4.2	
Winter	+3.6	+2.2	+1.9	+3.7	+7.0	+9.3	+9.9	+6.9	+1.8	-5.0	-11.1	-14.0	-12.6	-9.6	-6.4	-3.6	-1.3	+0.9	+1.0	+3.5	+3.1	+3.1	+3.5	+2.0	
Equinox	+1.8	-3.1	-1.1	-1.1	+3.3	+7.8	+5.9	+2.8	-5.9	-20.0	-29.9	-30.1	-23.7	-15.1	-5.4	+5.2	+17.9	+21.2	+22.1	+16.2	+14.3	+9.7	+4.2	+2.9	
Summer	+6.5	+6.1	+4.3	+3.5	+3.4	+2.1	-2.3	-7.8	-17.3	-29.9	-35.2	-33.3	-28.1	-16.0	-6.1	+5.3	+15.1	+23.1	+28.4	+26.7	+19.3	+14.4	+9.9	+7.8	

WEST COMPONENT																									
	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	
Jan.	-8.5	-8.7	-8.8	-9.6	-6.3	-3.3	+0.2	0.0	-1.0	+1.1	+6.1	+11.7	+18.6	+20.1	+16.9	+11.5	+12.1	+9.1	-5.3	-6.9	-14.4	-12.4	-10.2	-12.0	
Feb.	-11.1	-12.1	-11.7	-11.6	-9.5	-8.8	-5.7	-2.9	-1.7	-0.4	+5.5	+14.0	+18.7	+20.3	+17.5	+15.3	+9.3	+6.0	+3.8	+0.8	-8.1	-9.3	-10.8	-7.7	
Mar.	-16.7	-13.1	-23.6	-30.4	-16.6	-7.3	-7.9	-11.8	-16.5	-14.4	-13.3	+5.0	+23.1	+34.3	+32.9	+36.7	+35.5	+27.8	+22.5	+7.9	+1.0	-14.1	-20.6	-20.5	
Apr.	-4.3	-10.4	-13.7	-13.8	-13.5	-13.1	-15.1	-18.3	-22.0	-21.3	-10.7	+4.0	+22.4	+31.6	+34.9	+28.7	+22.5	+14.9	+9.9	+5.5	-0.7	-3.3	-5.1	-9.1	
May	-6.7	-7.4	-12.6	-12.9	-13.5	-20.7	-25.9	-28.3	-27.3	-18.3	-4.0	+11.3	+24.3	+30.8	+29.6	+24.5	+20.6	+16.6	+13.1	+8.8	+0.8	+0.3	-0.3	-2.8	
June	-4.3	-8.0	-11.4	-8.1	-16.1	-20.8	-28.5	-31.6	-31.6	-23.9	-10.0	+6.0	+22.7	+31.1	+30.0	+30.3	+23.8	+20.8	+14.1	+10.0	+6.2	+2.7	+0.4	-3.7	
July	-3.4	-4.9	-7.5	-10.5	-14.2	-21.7	-28.9	-29.7	-30.7	-26.4	-14.7	+0.6	+17.1	+29.5	+34.5	+32.0	+26.0	+19.8	+14.4	+10.2	+6.1	+3.8	+1.1	-2.5	
Aug.	-7.3	-6.4	-9.5	-13.5	-16.2	-20.5	-23.1	-25.5	-25.8	-20.2	-5.9	+11.6	+26.9	+35.3	+33.7	+27.1	+17.5	+11.6	+8.5	+3.5	+3.6	+2.9	+0.9	-7.3	
Sept.	-6.8	-10.9	-13.3	-8.8	-8.5	-8.8	-13.8	-20.8	-23.6	-17.5	-4.6	+13.5	+30.2	+35.6	+33.9	+23.5	+14.7	+4.4	-1.0	-3.1	-0.5	-3.8	-5.3	-4.7	
Oct.	-10.7	-11.2	-9.8	-7.6	-5.3	-4.6	-4.1	-6.3	-10.5	-10.3	-0.9	+11.6	+20.9	+25.7	+26.2	+21.4	+14.2	+10.0	+2.9	-4.6	-5.6	-12.9	-15.4	-13.0	
Nov.	-18.1	-11.4	-6.5	-4.5	-3.5	+1.9	+2.5	+2.1	-0.3	-4.7	+3.4	+12.8	+18.3	+19.2	+20.4	+16.1	+11.1	+8.5	+4.2	-4.5	-8.2	-18.0	-20.5	-20.2	
Dec.	-10.7	-8.0	-4.4	-1.8	+0.6	+1.9	+3.5	+3.2	+3.9	+2.9	+5.9	+10.1	+13.3	+15.7	+15.1	+8.5	+6.1	+2.1	-3.5	-4.9	-8.7	-19.0	-17.4	-14.5	
Year	-9.1	-9.4	-11.1	-11.1	-10.3	-10.5	-12.2	-14.1	-15.6	-12.8	-3.6	+9.4	+21.4	+27.5	+27.1	+22.9	+17.8	+12.6	+6.9	+1.9	-2.4	-6.9	-8.7	-9.9	
Winter	-12.1	-10.0	-7.8	-6.9	-4.7	-2.1	+0.1	+0.6	+0.2	-0.3	+5.2	+12.1	+17.2	+18.8	+17.5	+12.9	+9.7	+6.4	-0.2	-3.8	-9.9	-14.6	-14.7	-13.6	
Equinox	-9.6	-11.4	-15.1	-15.2	-11.0	-8.5	-10.2	-14.3	-18.2	-15.9	-7.4	+8.5	+24.1	+31.9	+32.0	+27.6	+21.7	+14.3	+8.6	+1.4	-1.5	-8.5	-11.6	-11.8	
Summer	-5.5	-6.7	-10.3	-11.3	-15.0	-20.9	-26.6	-28.8	-28.9	-22.2	-8.7	+7.3	+22.7	+31.7	+31.9	+28.5	+22.0	+17.2	+12.5	+8.1	+4.2	+2.4	+0.1	-4.1	

VERTICAL COMPONENT																									
	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	
Jan.	-5.3	-7.4	-9.7	-11.5	-12.1	-11.8	-10.4	-9.4	-8.2	-6.4	-6.7	-5.0	-5.0	-0.5	+5.1	+14.6	+22.8	+22.0	+19.5	+15.0	+10.4	+6.0	+1.7	-2.3	
Feb.	-5.9	-7.4	-6.9	-5.9	-6.1	-6.5	-7.1	-7.4	-6.9	-6.9	-6.6	-4.1	-4.1	-0.2	+6.0	+10.6	+14.3	+12.5	+10.9	+9.2	+8.7	+7.4	+5.1	+0.1	
Mar.	-17.3	-45.8	-35.4	-31.2	-24.3	-20.3	-8.9	-0.3	+3.1	+5.3	+7.2	+5.8	+6.1	+12.4	+18.1	+26.8	+22.0	+22.5	+18.5	+29.3	+18.7	+12.5	-4.5	-20.3	
Apr.	-12.2	-11.2	-17.3	-22.4	-21.9	-13.2	-6.3	-3.9	-1.9	+0.2	-1.3	-4.7	-5.9	-1.5	+5.6	+12.5	+17.2	+20.9	+23.1	+20.9	+16.3	+7.2	+2.9	-3.1	
May	-5.2	-7.9	-7.4	-6.9	-9.3	-7.4	-6.1	-5.0	-5.3	-9.1	-14.2	-15.3	-11.7	-3.7	+3.5	+10.4	+16.3	+19.6	+20.3	+18.2	+15.5	+8.4	+3.1	-0.8	
June	-6.5	-11.7	-12.6	-14.8	-14.5	-12.1	-8.5	-5.7	-4.7	-6.7	-11.2	-13.0	-11.0	-3.5	+8.3	+14.2	+20.7	+21.9	+25.9	+19.6	+14.9	+9.9	+2.6	-1.5	
July	-4.9	-7.6	-9.1	-7.6	-6.4	-4.4	-2.5	-3.5	-4.3	-6.4	-9.1	-12.9	-12.2	-5.2	+1.7	+7.2	+12.7	+17.9	+18.4	+15.2	+11.7	+8.5	+4.0	-1.2	
Aug.	-4.6	-6.2	-8.0	-5.9	-3.5	-2.3	-2.1	-3.3	-4.2	-8.0	-12.2	-14.7	-13.6	-7.4	+2.6	+11.3	+17.1	+19.9	+17.8	+14.1	+9.1	+4.4	+1.2	-1.5	
Sept.	-7.2	-14.5	-13.2	-12.2	-10.7	-7.4	-4.5	-2.5	-2.6	-5.3	-8.4	-10.0	-9.8	-3.2	+5.1	+13.5	+18.5	+22.3	+23.5	+16.6	+9.2	+5.9	+0.1	-3.2	
Oct.	-9.3	-12.1	-13.9	-16.0	-15.9	-14.4	-11.3	-7.8	-4.5	-3.1	-4.1	-3.5	-1.5	+1.8	+7.4	+12.7	+19.3	+22.2	+22.9	+16.5	+10.2	+5.4	+1.8	-2.8	
Nov.	-6.8	-7.3	-12.0	-13.5	-13.1	-14.4	-14.4	-11.1	-7.5	-4.2	-4.4	-3.1	+0.7	+6.5	+11.8	+15.4	+17.1	+16.3	+15.3	+14.2	+12.5	+7.0	+0.3	-5.3	
Dec.	-4.2	-8.1	-9.1	-8.4	-9.8	-10.3	-9.0	-7.2	-6.5	-5.7	-5.0	-2.7	-0.1	+3.1	+6.0	+11.									



## ALL DAYS

Departures from the mean of the 24 hourly values (uncorrected for non-cyclic change)

151 ESKDALEMUIR

1940

	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
	DECLINATION (measured positive towards the west)																							
Jan.	-1.71	-1.75	-1.90	-2.15	-1.54	-1.10	-0.41	-0.39	-0.31	+0.36	+1.58	+2.87	+4.23	+4.45	+3.70	+2.46	+2.36	+1.76	-1.04	-1.54	-2.92	-2.48	-2.10	-2.43
Feb.	-2.47	-2.60	-2.46	-2.47	-2.19	-2.15	-1.55	-0.90	-0.45	+0.13	+1.70	+3.50	+4.36	+4.56	+3.84	+3.24	+1.97	+1.04	+0.64	-0.06	-1.79	-1.89	-2.34	-1.66
Mar.	-2.83	-1.11	-3.66	-5.13	-3.01	-1.76	-1.98	-2.59	-3.25	-2.09	-1.24	+2.22	+5.41	+7.16	+6.69	+6.39	+4.72	+3.46	+2.73	+0.46	-0.76	-2.83	-3.58	-3.42
Apr.	-0.91	-2.29	-2.87	-2.78	-2.80	-2.91	-3.08	-3.75	-4.23	-3.35	-0.72	+2.43	+5.91	+7.40	+7.44	+5.67	+3.95	+2.12	+0.83	-0.02	-0.87	-1.44	-1.52	-2.21
May	-1.70	-1.92	-2.89	-2.79	-2.90	-4.22	-5.09	-5.32	-4.70	-2.31	+0.72	+3.78	+6.26	+7.24	+6.39	+4.86	+3.56	+2.25	+1.23	+0.50	-0.87	-0.67	-0.47	-0.94
June	-1.03	-1.72	-2.34	-1.67	-3.31	-4.25	-5.68	-5.96	-5.51	-3.47	-0.34	+2.82	+6.04	+6.79	+6.33	+5.75	+4.03	+2.98	+1.23	+0.46	+0.33	-0.13	-0.37	-0.98
July	-0.91	-1.19	-1.64	-2.31	-2.99	-4.54	-5.68	-5.75	-5.59	-4.12	-1.41	+1.70	+4.79	+6.74	+7.24	+6.17	+4.49	+2.94	+1.68	+0.87	+0.42	+0.14	-0.23	-0.82
Aug.	-1.98	-1.74	-2.28	-3.02	-3.59	-4.36	-4.70	-4.86	-4.39	-2.55	+0.59	+3.91	+6.63	+7.90	+7.10	+5.33	+2.95	+1.49	+0.71	-0.24	-0.08	-0.08	-0.71	-2.03
Sept.	-1.84	-2.67	-3.15	-2.15	-2.10	-2.15	-3.05	-4.23	-4.20	-2.32	+0.69	+4.29	+7.28	+8.04	+7.13	+4.90	+2.81	+0.24	-0.99	-1.30	-0.71	-1.41	-1.66	-1.45
Oct.	-2.59	-2.59	-2.37	-2.04	-1.63	-1.50	-1.29	-1.53	-1.97	-1.41	+0.85	+3.61	+5.45	+6.07	+5.71	+4.45	+2.82	+1.80	+0.24	-1.01	-1.52	-3.04	-3.44	-3.07
Nov.	-3.93	-2.54	-1.41	-1.17	-1.24	-0.12	-0.01	+0.15	-0.10	-0.46	+1.43	+3.44	+4.45	+4.48	+4.50	+3.45	+2.44	+1.69	+0.75	-1.09	-1.90	-4.07	-4.46	-4.28
Dec.	-2.41	-1.65	-0.94	-0.47	-0.15	-0.03	+0.20	+0.35	+0.68	+0.68	+1.59	+2.66	+3.27	+3.62	+3.31	+1.97	+1.32	+0.56	-0.67	-1.07	-2.00	-4.01	-3.72	-3.09
Year	-2.03	-1.98	-2.33	-2.35	-2.29	-2.42	-2.69	-2.90	-2.83	-1.74	+0.45	+3.10	+5.34	+6.20	+5.78	+4.55	+3.12	+1.86	+0.61	-0.34	-1.06	-1.83	-2.05	-2.20
Winter	-2.63	-2.13	-1.68	-1.57	-1.28	-0.85	-0.44	-0.20	-0.05	+0.17	+1.57	+3.12	+4.08	+4.28	+3.84	+2.78	+2.02	+1.26	-0.08	-0.94	-2.15	-3.11	-3.15	-2.87
Equinox	-2.04	-2.17	-3.01	-3.03	-2.39	-2.08	-2.35	-3.03	-3.41	-2.29	-0.11	+3.14	+6.01	+7.17	+6.74	+5.35	+3.57	+1.91	+0.70	-0.47	-0.97	-2.18	-2.55	-2.54
Summer	-1.41	-1.64	-2.29	-2.45	-3.20	-4.34	-5.29	-5.47	-5.05	-3.11	-0.11	+3.05	+5.93	+7.17	+6.77	+5.53	+3.76	+2.41	+1.21	+0.40	-0.05	-0.19	-0.45	-1.19

	INCLINATION																							
Jan.	+0.01	-0.02	-0.25	-0.42	-0.57	-0.86	-0.88	-0.80	-0.35	-0.02	+0.22	+0.34	+0.25	+0.19	+0.25	+0.36	+0.24	+0.30	+0.60	+0.26	+0.47	+0.37	+0.16	+0.14
Feb.	-0.27	-0.22	-0.12	-0.14	-0.38	-0.55	-0.65	-0.59	-0.29	+0.13	+0.57	+0.55	+0.41	+0.29	+0.30	+0.22	+0.33	-0.04	+0.02	-0.09	+0.15	+0.31	+0.07	-0.01
Mar.	+0.61	+1.24	+1.08	+1.15	+0.15	-0.78	-0.61	-0.11	+0.48	+1.53	+2.42	+1.75	+0.79	+0.04	-0.06	-1.38	-3.49	-2.93	-2.45	-1.01	-0.89	+0.57	+1.05	+0.86
Apr.	-0.29	-0.37	-0.35	-0.31	-0.41	-0.47	+0.04	+0.11	+0.62	+1.69	+2.18	+2.09	+1.44	+0.87	+0.12	-0.35	-0.79	-0.97	-1.23	-1.15	-0.62	-0.85	-0.53	-0.45
May	-0.51	-0.66	-0.47	-0.22	-0.26	+0.11	+0.46	+0.89	+1.47	+2.03	+1.85	+1.55	+1.21	+0.84	+0.19	-0.27	-0.78	-1.34	-1.71	-1.48	-1.08	-0.82	-0.50	-0.51
June	-0.32	-0.30	-0.17	-0.29	-0.16	-0.03	+0.35	+0.97	+1.62	+2.13	+2.24	+1.85	+1.40	+0.13	+0.09	-0.65	-0.97	-1.51	-1.85	-1.86	-1.05	-0.75	-0.57	-0.23
July	-0.38	-0.38	-0.27	-0.28	-0.10	+0.03	+0.63	+0.77	+1.25	+1.98	+2.21	+1.88	+1.29	+0.49	-0.15	-0.77	-1.17	-1.38	-1.52	-1.46	-0.96	-0.73	-0.57	-0.42
Aug.	-0.69	-0.68	-0.53	-0.33	-0.28	-0.04	+0.29	+0.76	+1.47	+2.30	+2.30	+1.65	+0.90	+0.33	-0.06	-0.36	-0.70	-0.91	-1.10	-1.04	-0.96	-0.87	-0.71	-0.71
Sept.	-0.71	-0.85	-0.76	-0.67	-0.65	-0.56	-0.25	+0.23	+1.13	+1.85	+2.16	+1.73	+0.92	+0.52	-0.04	+0.16	-0.02	-0.43	-0.51	-0.48	-0.61	-0.68	-0.75	-0.71
Oct.	-0.64	-0.58	-0.74	-0.99	-1.08	-1.10	-0.88	-0.46	+0.26	+1.05	+1.38	+1.51	+1.34	+0.87	+0.35	+0.14	+0.18	+0.09	+0.04	+0.37	-0.19	-0.28	-0.16	-0.47
Nov.	-0.24	-0.34	-0.33	-0.62	-1.01	-1.09	-1.14	-0.69	-0.25	+0.67	+0.89	+0.93	+0.77	+0.69	+0.50	+0.38	+0.51	+0.23	+0.17	+0.17	+0.11	-0.16	-0.11	-0.07
Dec.	-0.25	-0.14	-0.26	-0.35	-0.63	-0.89	-0.97	-0.66	-0.35	-0.06	+0.34	+0.63	+0.62	+0.41	+0.28	+0.48	+0.35	+0.48	+0.45	+0.21	+0.03	+0.21	+0.07	+0.02
Year	-0.31	-0.28	-0.27	-0.29	-0.45	-0.52	-0.30	+0.03	+0.59	+1.28	+1.56	+1.37	+0.94	+0.47	+0.15	-0.17	-0.53	-0.70	-0.76	-0.63	-0.47	-0.31	-0.21	-0.22
Winter	-0.18	-0.18	-0.24	-0.39	-0.65	-0.85	-0.91	-0.69	-0.31	+0.17	+0.51	+0.62	+0.51	+0.40	+0.33	+0.36	+0.35	+0.24	+0.31	+0.14	+0.19	+0.18	+0.05	+0.02
Equinox	-0.26	-0.14	-0.19	-0.21	-0.50	-0.73	-0.43	-0.05	+0.62	+1.53	+2.03	+1.77	+1.12	+0.57	+0.10	-0.35	-1.02	-1.07	-1.04	-0.57	-0.58	-0.31	-0.10	-0.19
Summer	-0.47	-0.50	-0.36	-0.28	-0.20	+0.02	+0.43	+0.84	+1.46	+2.11	+2.15	+1.73	+1.21	+0.45	+0.02	-0.51	-0.91	-1.29	-1.54	-1.46	-1.01	-0.79	-0.59	-0.48

	HORIZONTAL FORCE																							
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	-2.1	-2.4	+0.2	+2.0	+4.0	+8.4	+9.2	+8.0	+1.8	-2.7	-5.6	-7.5	-5.5	-3.0	-1.9	0.0	+4.8	+3.6	-1.7	+1.6	-3.2	-3.3	-1.8	-2.9
Feb.	+1.9	+0.5	-0.8	-0.1	+3.4	+5.7	+7.1	+6.0	+1.8	-4.4	-11.0	-10.6	-7.6	-4.4	-2.3	+0.7	+0.4	+5.2	+3.7	+4.7	+1.0	-1.8	+0.8	+0.1
Mar.	-15.4	-35.3	-29.0	-28.6	-11.1	+4.1	+5.8	+1.5	-6.0	-20.8	-33.2	-23.8	-9.5	+4.0	+7.5	+30.3	+59.9	+51.8	+43.2	+25.7	+20.1	-3.8	-17.2	-20.2
Apr.	-0.2	+1.4	-1.1	-3.7	-1.9	+2.2	-2.9	-3.1	-9.9	-25.0	-32.8	-32.7	-23.5	-13.4	+0.3	+9.8	+18.0	+22.1	+26.7	+24.8	+15.2	+15.2	+9.0	+5.5
May	+5.7	+6.9	+4.3	+0.7	+0.4	-4.3	-9.1	-15.0	-23.8	-33.5	-32.7	-28.6	-22.3	-13.8	-1.5	+7.8	+17.6	+27.1	+32.8	+28.6	+21.7	+15.2	+8.5	+7.3
June	+2.4	+0.2	-2.2	-1.1	-2.9	-4.0	-8.3	-16.4	-25.9	-34.0	-37.4	-32.1	-24.8	-3.2	+1.6	+14.9	+22.1	+30.5	+37.0	+34.8	+20.8	+14.8	+9.3	+3.9
July	+3.8	+2.8	+0.6	+1.3	-0.9	-2.0	-10.3	-12.7	-20.1	-31.8	-36.2	-32.7	-23.6	-9.2	+2.9	+14.1	+22.1	+27.1	+29.3	+27.3	+18.6	+13.9	+9.9	+5.8
Aug.	+8.6	+7.8	+5.0	+2.7	+2.8	-0.3	-5.0	-12.5	-23.3	-37.0	-38.6	-29.9	-18.3	-7.6	+1.9	+9.5	+16.7	+20.8	+22.9	+20.6	+17.6	+14.6	+11.0	+10.0
Sept.	+7.9	+7.2	+6.4	+5.5	+5.7	+5.6	+2.1	-4.3	-17.7	-29.4	-35.1	-29.4	-17.2	-8.9	+2.5	+2.6	+7.1	+14.6	+16.2	+13.3	+12.5	+12.3	+11.1	+9.4
Oct.	+6.1	+4.2	+5.9	+8.8	+10.2	+11.0	+8.9	+3.9	-5.5	-16.7	-22.0	-23.7	-20.4	-12.2	-2.5	+2.6	+4.4	+6.9	+7.9	+0.5	+6.6	+6.1	+3.0	+6.0
Nov.	+1.1	+2.3	+0.5	+4.2	+10.1	+10.8	+11.6	+6.2	+0.9	-11.5	-14.9	-14.9	-11.2	-7.9	-3.1	0.0	-1.2	+2.5	+3.1	+2.7	+2.9	+4.9	+1.8	-0.9
Dec.	+2.2	-0.9	+0.5	+2.1	+5.7	+9.5	+11.1	+7.2	+2.8	-1.2	-6.9	-10.4	-9.2	-4.9	-1.9	-3.0	-0.5	-2.1	-1.7	+0.9	+2.6	-0.9	-0.3	-0.7
Year	+1.8	-0.4	-0.8	-0.5	+2.1	+3.9	+1.7	-2.6	-10.4	-20.7	-25.5	-23.0	-16.1	-7.0	+0.3	+7.4	+14.3	+17.5	+18.3	+15.5	+11.4	+7.3	+3.8	+1.9
Winter	+0.8	-0.1	+0.1	+2.1	+5.8	+8.6	+9.7	+6.9	+1.8	-4.9	-9.6	-10.9	-8.4	-5.1	-2.3	-0.6	+0.9	+2.3	+0.9	+2.5	+0.8	-0.3	+0.1	-1.1
Equinox	-0.4	-5.6	-4.5	-4.5	+0.7	+5.7	+3.5	-0.5	-9.8	-23.0	-30.8	-27.4	-17.7	-7.6	+1.9	+11.3	+22.3	+23.9	+23.5	+16.1	+13.6	+7.5	+1.5	+0.2
Summer	+5.1	+4.4	+1.9	+0.9	-0.1	-2.7	-8.2	-14.1	-23.3	-34.1	-36.2	-30.8	-22.3	-8.5	+1.2	+11.6	+19.6	+26.4	+30.5	+27.8	+19.7	+14.6	+9.7	+6.7



DIURNAL INEQUALITIES OF THE GEOGRAPHICAL COMPONENTS OF MAGNETIC FORCE  
INTERNATIONAL QUIET DAYS

Departures from the mean of the 24 hourly values (uncorrected for non-cyclic change)

152 ESKDALEMUIR														1940											
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	
NORTH COMPONENT																									
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
Jan.	+2.3	-0.5	+0.7	+1.5	+2.2	+2.9	+4.3	+4.1	-0.7	-7.1	-12.2	-13.9	-9.6	-4.4	+0.9	-0.1	+2.1	+3.9	+5.0	+5.7	+3.5	+1.7	+3.9	+3.9	
Feb.	+1.0	+0.1	+1.2	+2.8	+4.3	+5.1	+7.2	+6.5	+1.8	-4.5	-11.7	-14.3	-10.9	-6.5	-1.6	+0.9	-1.4	-1.6	+2.2	+3.2	+3.1	+4.9	+4.0	+4.1	
Mar.	+5.2	+5.2	+4.7	+4.3	+5.4	+7.2	+7.7	+5.7	-2.8	-13.1	-22.7	-26.1	-25.4	-20.6	-12.4	-3.5	+2.3	+6.9	+9.4	+12.7	+13.8	+13.0	+12.3	+10.7	
Apr.	+7.6	+7.1	+6.6	+7.9	+9.8	+11.9	+13.1	+11.1	+2.9	-16.7	-32.9	-39.8	-37.7	-29.7	-16.5	-1.0	+6.9	+10.0	+15.9	+13.6	+13.2	+13.4	+11.7	+11.7	
May	+4.4	+4.5	+0.8	+1.8	+4.5	+3.1	0.0	-5.3	-11.5	-19.9	-26.0	-26.4	-19.0	-11.9	-4.8	+2.7	+10.0	+15.7	+14.5	+17.5	+14.7	+13.9	+5.7	+11.1	
June	+6.3	+0.3	+0.9	+2.7	+5.7	+7.6	+4.5	-2.1	-9.9	-20.5	-30.8	-36.2	-31.1	-22.7	-8.0	+1.2	+10.1	+18.6	+22.4	+23.3	+19.0	+17.0	+12.2	+9.4	
July	+2.7	+1.1	+1.4	+2.1	+2.8	+2.0	-0.5	-2.9	-10.8	-20.9	-27.9	-28.6	-24.1	-12.3	-5.3	+8.6	+11.3	+15.2	+18.7	+18.4	+15.2	+13.2	+10.1	+10.7	
Aug.	+14.3	+9.5	+6.5	+6.0	+6.7	+6.5	+2.7	-7.5	-18.0	-29.8	-35.3	-30.4	-24.5	-16.2	-4.7	+2.7	+4.7	+10.1	+14.4	+17.0	+17.1	+15.7	+15.0	+17.6	
Sept.	+7.2	+6.2	+5.7	+5.5	+5.5	+7.3	+6.9	+0.6	-8.9	-20.9	-29.8	-28.0	-24.8	-17.0	-9.2	-5.2	+1.5	+8.6	+12.7	+14.7	+14.8	+16.1	+15.4	+15.2	
Oct.	+4.5	+6.7	+2.8	+7.1	+8.4	+10.9	+11.5	+8.5	-1.4	-16.1	-25.3	-27.7	-24.0	-17.6	-8.2	-1.5	+3.5	+5.3	+8.6	+9.0	+9.8	+8.6	+8.7	+8.1	
Nov.	-3.5	+0.4	+0.5	+2.2	+5.3	+6.4	+7.4	+5.8	+0.2	-8.9	-13.1	-15.9	-16.3	-11.3	-7.1	-2.9	+1.4	+4.1	+5.8	+9.3	+9.7	+9.9	+6.4	+4.0	
Dec.	-1.5	-1.0	-3.0	-1.0	+2.1	+4.8	+4.9	+3.4	+1.7	-2.7	-5.9	-8.7	-7.5	-2.8	-0.1	+1.4	+2.7	+1.5	+2.8	+4.7	+4.3	+1.7	-0.7	-1.2	
Year	+4.1	+3.3	+2.4	+3.6	+5.3	+6.3	+5.8	+2.4	-4.8	-15.1	-22.8	-24.7	-21.2	-14.5	-6.4	+0.3	+4.6	+8.2	+11.0	+12.5	+11.5	+10.8	+8.8	+8.8	
Winter	-0.4	-0.3	-0.2	+1.3	+3.5	+4.8	+5.9	+4.9	+0.8	-5.8	-10.7	-13.1	-11.0	-6.3	-1.9	-0.2	+1.2	+2.0	+4.0	+5.7	+5.2	+4.5	+3.4	+2.7	
Equinox	+6.1	+6.3	+4.9	+6.2	+7.3	+9.4	+9.8	+6.5	-2.5	-16.7	-27.7	-30.4	-28.0	-21.3	-11.6	-2.8	+3.5	+7.7	+11.6	+12.4	+12.9	+12.8	+12.0	+11.5	
Summer	+6.9	+3.8	+2.4	+3.2	+4.9	+4.8	+1.7	-4.4	-12.5	-22.8	-30.1	-30.4	-24.7	-15.8	-5.7	+3.8	+9.0	+14.9	+17.5	+19.0	+16.5	+15.0	+10.8	+12.2	

WEST COMPONENT																									
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
Jan.	-3.5	-2.1	-0.7	-1.8	-2.3	-3.0	-3.3	-7.3	-8.3	-4.9	-0.6	+5.9	+10.4	+12.8	+9.2	+3.3	+5.0	+3.4	+2.5	+2.1	-0.6	-3.9	-6.0	-6.3	
Feb.	-4.5	-3.7	-2.4	-4.5	-5.4	-8.4	-7.2	-5.5	-4.1	-4.0	+2.0	+7.2	+9.7	+8.1	+7.6	+7.3	+5.1	+3.8	+2.9	+2.7	+1.6	+0.4	-2.1	-6.6	
Mar.	-4.1	-4.4	-4.9	-6.5	-8.8	-9.1	-10.0	-14.4	-20.5	-22.1	-12.5	+2.4	+17.3	+23.2	+23.1	+18.5	+9.2	+5.8	+6.7	+6.0	+4.5	+2.6	+0.7	-2.5	
Apr.	+0.6	-2.2	-2.5	-4.2	-5.1	-7.8	-14.0	-22.3	-29.1	-29.2	-21.6	-4.4	+17.4	+30.3	+29.4	+23.1	+15.3	+5.3	+4.2	+4.4	+4.5	+4.2	+2.3	+1.7	
May	-2.9	-3.3	-9.7	-8.6	-14.1	-20.1	-26.0	-29.3	-26.6	-17.1	-4.5	+10.3	+23.6	+27.7	+22.7	+20.3	+17.2	+12.5	+7.6	+7.5	+6.5	+3.7	+1.8	+0.7	
June	-3.5	-3.1	-1.3	-4.3	-12.1	-20.6	-26.3	-29.3	-30.9	-23.7	-10.5	+6.5	+21.5	+27.4	+29.3	+25.4	+17.5	+10.9	+8.4	+7.4	+4.7	+4.2	+1.4	+1.2	
July	-2.3	-2.5	-4.4	-11.3	-16.3	-23.3	-29.3	-29.8	-28.7	-25.4	-14.9	+2.5	+16.8	+25.2	+28.4	+27.5	+19.3	+16.3	+13.6	+9.9	+9.1	+9.2	+7.4	+3.0	
Aug.	-3.2	-5.6	-8.7	-11.7	-14.6	-20.2	-27.6	-30.7	-29.5	-23.2	-8.0	+12.5	+29.5	+36.4	+34.6	+26.5	+13.6	+7.6	+6.1	+6.6	+2.6	+2.4	+3.5	+1.2	
Sept.	-3.3	-3.4	-6.2	-7.1	-8.5	-9.8	-15.7	-22.6	-25.3	-20.1	-9.1	+7.0	+20.5	+26.1	+22.2	+14.8	+10.7	+9.4	+8.3	+6.9	+5.4	+2.7	-1.2	-1.4	
Oct.	-4.6	-3.9	-2.2	-2.3	-2.6	-3.9	-5.3	-10.1	-16.2	-17.7	-8.9	+3.4	+12.6	+15.1	+15.9	+12.1	+8.9	+7.0	+5.6	+3.9	+2.1	-1.0	-3.9	-4.2	
Nov.	-10.4	-9.4	-5.8	-1.8	-1.3	-0.7	-3.4	-4.2	-7.3	-10.1	-3.4	+5.3	+7.9	+12.0	+10.4	+7.9	+7.9	+7.6	+6.6	+3.7	+1.5	-1.5	-5.1	-6.1	
Dec.	-8.6	-9.8	-2.2	-1.0	-1.3	-1.9	-1.5	-3.1	-3.1	-1.9	+2.5	+8.3	+8.3	+10.4	+8.6	+6.5	+4.3	+2.9	+1.0	+1.1	-3.4	-3.8	-6.1	-6.4	
Year	-4.2	-4.5	-4.2	-5.4	-7.7	-10.7	-14.1	-17.4	-19.1	-16.6	-7.5	+5.6	+16.3	+21.2	+20.1	+16.1	+11.2	+7.7	+6.1	+5.2	+3.2	+1.6	-0.6	-2.1	
Winter	-6.7	-6.2	-2.8	-2.3	-2.6	-3.5	-3.8	-5.0	-5.7	-5.2	+0.1	+6.7	+9.1	+10.8	+9.0	+6.2	+5.5	+4.4	+3.3	+2.3	-0.2	-2.2	-4.8	-6.3	
Equinox	-2.8	-3.5	-3.9	-5.0	-6.3	-7.6	-11.3	-17.4	-22.8	-22.3	-13.1	+2.1	+16.9	+23.6	+22.7	+17.1	+11.0	+6.9	+6.2	+5.3	+4.1	+2.1	-0.5	-1.6	
Summer	-3.0	-3.6	-6.0	-9.0	-14.3	-21.1	-27.3	-29.7	-29.0	-22.4	-9.5	+8.0	+22.8	+29.2	+28.8	+24.9	+16.9	+11.8	+8.9	+7.9	+5.7	+4.9	+3.5	+1.5	

VERTICAL COMPONENT																									
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
Jan.	+1.4	+1.7	+1.4	+1.3	+0.2	-0.1	-1.6	-1.9	-2.8	-3.1	-1.8	-3.3	-3.6	-0.9	+2.0	+2.3	+0.4	+0.7	+0.6	+0.7	+1.4	+1.9	+2.2	+0.9	
Feb.	-1.4	+0.1	+0.4	-0.6	-2.6	-2.3	-2.0	-2.4	-1.4	-0.9	-2.0	-3.8	-3.2	-2.1	-1.4	+1.0	+3.0	+4.5	+3.8	+3.4	+2.8	+2.3	+2.8	+2.0	
Mar.	+3.6	+2.8	+2.5	+2.6	+2.6	+1.4	+0.8	+1.6	+2.5	+1.2	+4.2	-8.4	-8.2	-6.2	-3.5	0.0	+2.4	+1.6	0.0	+0.2	+0.5	+1.0	+1.0	+2.2	
Apr.	+3.1	+2.8	+3.3	+3.6	+2.8	+3.1	+4.2	+3.6	+2.3	+1.0	-4.1	-12.4	-15.7	-13.4	-6.7	-2.0	+2.4	+4.9	+4.6	+3.8	+2.7	+2.0	+2.1	+2.0	
May	+3.5	+1.9	+1.6	+2.3	+3.1	+5.1	+5.1	+2.7	-0.2	-5.7	-11.9	-16.3	-15.7	-9.3	-5.6	-0.7	+4.1	+6.9	+7.3	+5.9	+5.8	+4.9	+2.9	+2.3	
June	-0.4	+0.5	+1.8	+1.9	+3.0	+3.3	+1.2	-0.7	-2.2	-5.5	-13.2	-15.5	-14.4	-8.7	-4.4	+1.5	+6.4	+9.3	+9.2	+8.3	+7.4	+5.1	+3.6	+2.5	
July	+2.2	+1.7	+1.5	+3.0	+3.5	+3.7	+1.6	-0.3	-1.5	-5.4	-9.9	-15.5	-17.2	-11.7	-4.3	+1.0	+6.7	+9.9	+6.6	+6.7	+6.1	+4.6	+4.1	+2.9	
Aug.	+0.5	+0.1	+1.3	+2.9	+5.1	+6.0	+7.3	+6.9	+5.1	-4.1	-9.5	-14.1	-16.7	-13.9	-5.1	+1.5	+5.3	+5.6	+3.5	+2.1	+3.1	+3.3	+2.7	+1.1	
Sept.	0.0	+1.4	+2.6	+3.2	+3.2	+4.7	+5.6	+4.8	+1.0	-2.8	-8.4	-12.8	-12.8	-9.0	-4.6	-0.4	+1.4	+2.5	+3.0	+3.4	+3.8	+4.0	+3.4	+2.8	
Oct.	+0.7	-0.9	-1.2	-2.3	-1.7	-1.9	-0.7	+1.5	+3.8	+2.3	-1.1	-2.1	-2.3	-1.1	+0.6	+1.7	+1.3	+0.3	-0.3	-0.3	-0.2	+0.9	+2.1	+0.9	
Nov.	+3.1	+1.9	+0.1	-0.7	-1.1	-1.2	-1.7	-1.9	-0.3	-1.9	-4.7	-4.7	-3.1	-0.7	+1.1	+2.7	+2.7	+1.4	+1.9	+1.3	+1.3	+1.1	+1.7	+1.7	
Dec.	+1.1	+0.1	-0.5	+0.1	-0.3	-0.3	-0.3	-0.7	-1.9	-3.3	-4.3	-3.3	-1.9	-1.3	-1.1	+2.1	+2.3	+2.7	+2.3	+1.3	+1.3	+1.5	+2.7	+1.7	
Year	+1.5	+1.2	+1.2	+1.4	+1.5	+1.8	+1.6	+1.1	+0.4	-2.3	-6.3	-9.3	-9.6	-6.5	-2.7	+0.9	+3.2	+4.2	+3.5	+3.1	+3.0	+2.7	+2.6	+1.9	
Winter	+1.1	+0.9	+0.3	0.0	-0.9	-1.0	-1.4	-1.7	-1.6	-2.3	-3.2	-3.8	-2.9	-1.3	+0.1	+2.0	+2.1	+2.3	+2.1	+1.7	+1.7	+1.7	+2.3	+1.6	
Equinox	+1.9	+1.5	+1.8	+1.8	+1.7	+1.8	+2.5	+2.9	+2.4	+0.4	-4.5	-8.9	-9.7	-7.4	-3.5	-0.2	+1.9	+2.							



## INTERNATIONAL QUIET DAYS

Departures from the mean of the 24 hourly values (uncorrected for non-cyclic change)

153 ESKDALEMUIR		1940																							
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																							
DECLINATION (measured positive towards the west)																									
Jan.	-0.82	-0.40	-0.18	-0.44	-0.58	-0.75	-0.88	-1.68	-1.64	-0.66	+0.46	+1.86	+2.56	+2.80	+1.82	+0.68	+0.92	+0.51	+0.28	+0.16	-0.28	-0.88	-1.40	-1.46	
Feb.	-0.95	-0.75	-0.54	-1.05	-1.29	-1.95	-1.79	-1.43	-0.92	-0.61	+0.95	+2.13	+2.47	+1.95	+1.62	+1.43	+1.11	+0.85	+0.49	+0.39	+0.18	-0.15	-0.61	-1.53	
Mar.	-1.08	-1.14	-1.22	-1.52	-2.04	-2.19	-2.40	-3.18	-4.02	-3.88	-1.48	+1.70	+4.70	+5.68	+5.26	+3.92	+1.76	+0.85	+0.92	+0.62	+0.26	-0.08	-0.44	-1.00	
Apr.	-0.23	-0.77	-0.81	-1.23	-1.49	-2.14	-3.45	-5.05	-6.05	-5.15	-2.85	+0.97	+5.29	+7.53	+6.73	+4.73	+2.79	+0.60	+0.11	+0.25	+0.29	+0.23	-0.09	-0.21	
May	-0.79	-0.87	-2.00	-1.83	-3.07	-4.23	-5.27	-5.69	-4.86	-2.53	+0.31	+3.33	+5.67	+6.17	+4.84	+3.99	+3.03	+1.79	+0.87	+0.71	+0.62	+0.09	+0.09	-0.37	
June	-1.01	-0.65	-0.31	-0.99	-2.73	-4.54	-5.55	-5.85	-5.81	-3.85	-0.69	+3.01	+5.81	+6.63	+6.33	+5.09	+3.07	+1.34	+0.65	+0.41	+0.07	+0.05	-0.29	-0.19	
July	-0.59	-0.55	-0.95	-2.39	-3.43	-4.81	-5.93	-5.91	-5.33	-4.17	-1.73	+1.85	+4.53	+5.69	+6.01	+5.17	+3.39	+2.59	+1.89	+1.15	+1.13	+1.25	+1.03	+0.11	
Aug.	-1.32	-1.58	-2.06	-2.66	-3.28	-4.41	-5.72	-5.88	-5.14	-3.32	+0.02	+3.96	+7.12	+8.14	+7.24	+5.26	+2.54	+1.07	+0.56	+0.54	-0.26	-0.24	0.00	-0.58	
Sept.	-1.00	-0.98	-1.52	-1.70	-1.98	-2.33	-3.56	-4.62	-4.72	-3.10	-0.46	+2.72	+5.32	+6.08	+4.94	+3.24	+2.10	+1.51	+1.10	+0.72	+0.40	-0.20	-0.96	-1.00	
Oct.	-1.14	-1.11	-0.58	-0.79	-0.91	-1.30	-1.61	-2.45	-3.22	-2.85	-0.62	+1.99	+3.68	+3.89	+3.62	+2.53	+1.65	+1.18	+0.73	+0.37	-0.02	-0.61	-1.20	-1.23	
Nov.	-1.95	-1.93	-1.21	-0.47	-0.51	-0.45	-1.03	-1.13	-1.49	-1.63	-0.09	+1.81	+2.37	+2.95	+2.45	+1.73	+1.53	+1.35	+1.07	+0.31	-0.15	-0.77	-1.33	-1.43	
Dec.	-1.68	-1.94	-0.31	-0.16	-0.36	-0.60	-0.52	-0.78	-0.71	-0.26	+0.78	+2.08	+2.04	+2.24	+1.75	+1.26	+0.74	+0.52	+0.08	0.00	-0.89	-0.84	-1.20	-1.24	
Year	-1.05	-1.06	-0.97	-1.27	-1.81	-2.47	-3.14	-3.64	-3.66	-2.67	-0.45	+2.28	+4.30	+4.98	+4.38	+3.25	+2.05	+1.18	+0.73	+0.47	+0.11	-0.18	-0.53	-0.84	
Winter	-1.35	-1.25	-0.56	-0.53	-0.69	-0.94	-1.05	-1.25	-1.19	-0.79	+0.53	+1.97	+2.36	+2.49	+1.91	+1.27	+1.07	+0.81	+0.48	+0.21	-0.29	-0.66	-1.13	-1.41	
Equinox	-0.86	-1.00	-1.03	-1.31	-1.61	-1.99	-2.75	-3.83	-4.50	-3.75	-1.35	+1.85	+4.75	+5.79	+5.14	+3.61	+2.07	+1.03	+0.71	+0.49	+0.23	-0.17	-0.67	-0.86	
Summer	-0.93	-0.91	-1.33	-1.97	-3.13	-4.50	-5.62	-5.83	-5.29	-3.47	-0.52	+3.04	+5.78	+6.66	+6.11	+4.88	+3.01	+1.70	+0.99	+0.70	+0.39	+0.29	+0.21	-0.26	

		INCLINATION																							
Jan.		-0.06	+0.11	0.00	-0.03	-0.10	-0.15	-0.27	-0.21	+0.10	+0.46	+0.76	+0.74	+0.38	+0.07	-0.15	+0.02	-0.21	-0.29	-0.35	-0.39	-0.19	-0.01	-0.11	-0.14
Feb.		-0.03	+0.05	-0.03	-0.13	-0.27	-0.27	-0.41	-0.40	-0.09	+0.33	+0.69	+0.73	+0.49	+0.25	-0.05	-0.14	+0.09	+0.16	-0.09	-0.17	-0.16	-0.27	-0.16	-0.12
Mar.		-0.19	-0.21	-0.17	-0.12	-0.16	-0.30	-0.34	-0.11	+0.55	+1.22	+1.57	+1.47	+1.21	+0.85	+0.38	-0.05	-0.23	-0.50	-0.72	-0.92	-0.97	-0.87	-0.79	-0.61
Apr.		-0.43	-0.36	-0.32	-0.37	-0.50	-0.59	-0.54	-0.30	+0.31	+1.56	+2.39	+2.37	+1.83	+1.16	+0.47	-0.33	-0.63	-0.61	-0.99	-0.86	-0.87	-0.89	-0.75	-0.75
May		-0.16	-0.20	+0.13	+0.07	0.00	+0.23	+0.52	+0.86	+1.15	+1.42	+1.48	+1.17	+0.50	+0.13	-0.17	-0.50	-0.81	-1.05	-0.88	-1.12	-0.92	-0.85	-0.33	-0.68
June		-0.37	+0.04	+0.01	-0.07	-0.11	-0.11	+0.13	+0.56	+1.06	+1.57	+1.86	+1.89	+1.36	+0.86	-0.03	-0.43	-0.77	-1.16	-1.37	-1.44	-1.14	-1.05	-0.73	-0.57
July		-0.09	+0.01	+0.01	+0.11	+0.15	+0.31	+0.52	+0.63	+1.11	+1.63	+1.81	+1.46	+0.90	+0.13	-0.19	-0.95	-0.87	-1.00	-1.27	-1.19	-0.98	-0.89	-0.67	-0.68
Aug.		-0.88	-0.54	-0.27	-0.14	-0.09	+0.03	+0.42	+1.13	+1.76	+2.20	+2.20	+1.46	+0.75	+0.17	-0.34	-0.54	-0.38	-0.64	-0.95	-1.16	-1.08	-0.98	-0.97	-1.15
Sept.		-0.43	-0.32	-0.22	-0.17	-0.16	-0.21	-0.07	+0.42	+1.00	+1.61	+1.89	+1.41	+1.00	+0.50	+0.16	+0.11	-0.23	-0.65	-0.88	-0.99	-1.00	-0.91	-0.91	-0.91
Oct.		-0.21	-0.40	-0.18	-0.49	-0.55	-0.70	-0.69	-0.37	+0.43	+1.38	+1.77	+1.71	+1.33	+0.90	+0.31	-0.04	-0.33	-0.45	-0.65	-0.65	-0.68	-0.53	-0.46	-0.45
Nov.		+0.46	+0.16	+0.06	-0.13	-0.36	-0.44	-0.48	-0.36	+0.09	+0.69	+0.79	+0.85	+0.87	+0.54	+0.34	+0.14	-0.14	-0.35	-0.43	-0.63	-0.63	-0.60	-0.30	-0.13
Dec.		+0.26	+0.22	+0.22	+0.08	-0.13	-0.30	-0.30	-0.19	-0.11	+0.12	+0.24	+0.36	+0.32	-0.01	-0.15	-0.14	-0.19	-0.07	-0.15	-0.29	-0.20	-0.02	+0.20	+0.22
Year		-0.17	-0.12	-0.06	-0.12	-0.19	-0.20	-0.13	+0.13	+0.62	+1.18	+1.45	+1.31	+0.91	+0.47	+0.05	-0.24	-0.39	-0.55	-0.73	-0.82	-0.73	-0.67	-0.50	-0.50
Winter		+0.15	+0.14	+0.06	-0.05	-0.21	-0.29	-0.37	-0.29	-0.01	+0.40	+0.62	+0.67	+0.51	+0.22	-0.01	-0.03	-0.11	-0.14	-0.26	-0.37	-0.29	-0.22	-0.09	-0.04
Equinox		-0.31	-0.32	-0.22	-0.29	-0.34	-0.45	-0.41	-0.09	+0.57	+1.45	+1.90	+1.74	+1.34	+0.85	+0.33	-0.08	-0.35	-0.55	-0.81	-0.85	-0.87	-0.82	-0.73	-0.68
Summer		-0.37	-0.17	-0.03	-0.01	-0.02	+0.12	+0.40	+0.79	+1.27	+1.70	+1.84	+1.49	+0.88	+0.32	-0.18	-0.61	-0.71	-0.96	-1.12	-1.23	-1.03	-0.95	-0.68	-0.77

		HORIZONTAL FORCE																							
Jan.		+1.4	-1.0	+0.5	+1.0	+1.6	+2.2	+3.4	+2.4	-2.5	-8.0	-12.0	-12.2	-7.0	-1.4	+2.9	+0.6	+3.2	+4.6	+5.4	+6.0	+3.3	+0.8	+2.4	+2.4
Feb.		0.0	-0.7	+0.6	+1.7	+3.0	+3.1	+5.4	+5.1	+0.8	-5.3	-11.0	-12.3	-8.4	-4.5	+0.2	+2.5	-0.2	-0.7	+2.8	+3.7	+3.4	+4.9	+3.4	+2.5
Mar.		+4.1	+4.1	+3.5	+2.7	+3.3	+5.0	+5.3	+2.3	-7.3	-17.7	-24.9	-24.9	-20.9	-14.9	-6.9	+0.7	+4.3	+8.0	+10.7	+13.7	+14.5	+13.3	+12.1	+9.9
Apr.		+7.5	+6.4	+5.9	+6.8	+8.4	+9.9	+9.6	+5.8	-3.7	-22.8	-36.9	-39.8	-32.9	-22.2	-9.5	+4.2	+10.2	+10.9	+16.4	+14.2	+13.9	+14.0	+11.9	+11.8
May		+3.6	+3.6	-1.4	-0.2	+1.2	-1.5	-5.8	-11.8	-17.2	-23.2	-26.4	-23.4	-13.2	-5.4	+0.4	+7.2	+13.6	+18.1	+15.8	+18.8	+15.8	+14.4	+6.0	+11.0
June		+5.3	-0.4	+0.6	+1.7	+2.8	+2.8	-1.5	-8.6	-16.6	-25.3	-32.4	-33.8	-25.5	-16.0	-1.2	+6.9	+13.8	+20.6	+23.7	+24.4	+19.6	+17.5	+12.2	+9.4
July		+2.1	+0.5	+0.4	-0.5	-0.9	-3.3	-7.1	-9.5	-17.0	-26.1	-30.5	-27.3	-19.7	-6.3	+1.2	+14.5	+15.3	+18.5	+21.3	+20.1	+16.8	+14.9	+11.5	+11.1
Aug.		+13.2	+8.0	+4.4	+3.2	+3.2	+1.8	-3.6	-14.2	-24.2	-34.2	-36.2	-26.8	-17.2	-7.6	+3.2	+8.6	+7.6	+11.6	+15.4	+18.0	+17.2	+15.8	+15.4	+17.4
Sept.		+6.3	+5.3	+4.2	+3.7	+3.5	+4.9	+3.1	-4.5	-14.4	-24.9	-31.1	-25.7	-19.5	-10.7	-4.0	-1.7	+3.9	+10.5	+14.1	+15.9	+15.6	+16.3	+14.7	+14.5
Oct.		+3.4	+5.6	+2.2	+6.4	+7.6	+9.7	+10.0	+6.0	-5.0	-19.6	-26.6	-26.2	-20.6	-13.8	-4.4	+1.2	+5.4	+6.7	+9.6	+10.0	+8.2	+7.6	+7.0	+7.0
Nov.		-5.7	-1.7	-0.8	+1.7	+4.9	+6.1	+6.5	+4.7	-1.4	-10.9	-13.5	-14.3	-14.1	-8.3	-4.6	-1.1	+3.1	+5.7	+7.1	+9.9	+9.8	+9.3	+5.1	+2.5
Dec.		-3.4	-3.2	-3.4	-1.2	+1.8	+4.3	+4.4	+2.6	+1.0	-3.0	-5.2	-6.6	-5.4	-0.4	+1.8	+2.8	+3.6	+2.1	+3.0	+4.8	+3.4	+0.8	-2.0	-2.6
Year		+3.1	+2.2	+1.4	+2.3	+3.4	+3.7	+2.5	-1.6	-9.0	-18.4	-23.9	-22.8	-17.0	-9.3	-1.7	+3.9	+7.0	+9.7	+12.1	+13.3	+11.9	+10.9	+8.4	+8.1
Winter		-1.9	-1.7	-0.8	+0.8	+2.8	+3.9	+4.9	+3.7	-0.5	-6.8	-10.4	-11.3	-8.7	-3.7	+0.1	+1.2	+2.4	+2.9	+4.6	+6.1	+5.0	+3.9	+2.2	+1.2
Equinox		+5.3	+5.3	+3.9	+4.9	+5.7	+7.4	+7.0	+2.4	-7.6	-21.3	-29.9	-29.1	-23.5	-15.4	-6.2	+1.1	+5.9	+9.0	+12.7	+13.3	+13.5	+12.9	+11.6	+10.8
Summer		+6.1	+2.9	+1.0	+1.1	+1.6	-0.1	-4.5	-11.0	-18.7	-27.2	-31.4	-27.8	-18.9	-8.8	+0.9	+9.3	+12.6	+17.2	+19.1	+20.3	+17.3	+15.7	+11.3	+12.2



## DIURNAL INEQUALITIES OF THE GEOGRAPHICAL COMPONENTS OF MAGNETIC FORCE

## INTERNATIONAL DISTURBED DAYS

Departures from the mean of the 24 hourly values (uncorrected for non-cyclic change)

154 ESKDALEUIR

1940

	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
NORTH COMPONENT																								
	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$
Jan.	+3.9	+5.3	+6.6	+7.8	+12.5	+21.5	+22.6	+17.8	+5.0	-0.1	-4.1	-6.2	-5.3	-10.9	-8.7	+0.8	+17.8	+5.4	-17.9	-13.7	-6.6	-18.2	-20.6	-14.9
Feb.	+7.5	+8.3	-0.1	-0.7	+4.4	+9.6	+10.6	+5.8	-3.9	-10.9	-20.1	-19.2	-16.6	-14.0	-9.7	-4.8	+1.4	+23.1	-0.3	+4.6	+2.5	+1.7	+17.1	+3.6
Mar.	-87.7	-217.0	-159.5	-164.7	-81.6	-10.1	-3.7	-10.6	-15.9	-48.9	-82.1	-9.3	+38.1	+75.0	+63.3	+155.3	+305.7	+247.1	+165.4	+75.3	+76.2	-52.3	-119.7	-138.3
Apr.	-39.3	-18.5	-18.4	-32.1	-26.7	-6.9	-29.6	-12.4	-12.5	-24.8	-30.3	-26.9	-16.1	-7.6	+9.7	+21.9	+37.5	+51.8	+65.9	+63.8	+25.2	+29.8	+4.1	-7.5
May	+16.0	+17.9	+18.7	+5.6	-2.1	-11.6	-6.1	-3.7	-24.6	-60.6	-52.9	-39.6	-38.5	-32.6	-2.6	+8.4	+16.8	+32.5	+57.6	+40.4	+30.9	+16.6	+10.6	+2.9
June	-0.3	-4.3	+0.5	-14.3	-18.1	-14.9	-6.6	-24.3	-34.8	-45.8	-44.4	-28.8	-35.7	+36.8	+14.7	+45.5	+40.1	+43.0	+68.1	+55.4	+9.0	-5.5	-15.9	-19.6
July	+0.1	+7.6	+12.6	+4.8	+0.5	-0.4	-11.3	-8.0	-15.1	-34.6	-50.3	-36.3	-24.1	+0.2	-3.1	+19.1	+28.8	+34.7	+31.7	+24.8	+7.6	+8.6	+7.4	-5.6
Aug.	+12.8	+14.8	+10.6	+10.5	+4.0	+5.4	-0.9	-7.6	-23.4	-43.4	-47.1	-35.2	-25.2	-9.9	+1.7	-1.1	+30.8	+26.4	+30.9	+28.9	+11.3	+6.7	-0.3	-0.6
Sept.	+6.3	+13.7	+10.8	+2.7	-2.5	+7.1	-2.3	-0.6	-14.7	-22.0	-31.6	-31.5	-17.1	-15.7	-6.5	0.0	+8.4	+34.4	+23.0	+14.3	+4.8	+9.3	+9.3	+0.5
Oct.	+15.3	+6.3	+17.6	+23.5	+17.5	+16.2	+9.0	-2.3	-13.1	-17.0	-19.8	-22.8	-24.6	-14.3	-0.7	+7.7	+13.5	+13.7	+6.3	-22.1	-9.5	+2.2	-6.3	+3.6
Nov.	+7.5	+10.0	-5.9	+2.5	+20.5	+7.5	+13.5	+7.7	+13.3	-12.4	-16.8	-14.6	-6.1	-7.7	-14.8	-5.1	-9.4	-4.6	-2.9	-0.9	-0.3	+17.7	+3.7	-2.1
Dec.	+12.3	-1.0	+1.4	+6.5	+12.3	+21.0	+20.9	+6.7	-7.6	-3.7	-17.0	-26.5	-20.5	-14.0	-3.0	-8.0	-7.3	-4.1	-11.9	-0.4	+16.6	+11.6	+12.0	+3.6
Year	-3.8	-13.1	-8.7	-12.3	-4.9	+3.7	+1.3	-2.6	-12.2	-27.1	-34.8	-24.7	-16.1	-1.2	+3.4	+20.0	+40.3	+42.0	+34.7	+22.5	+14.0	+2.4	-8.1	-14.5
Winter	+7.8	+5.6	+0.5	+4.0	+12.4	+14.9	+16.9	+9.5	+1.6	-6.7	-14.5	-16.6	-12.1	-11.6	-9.0	-4.2	+0.7	+4.9	-8.3	-2.6	+3.0	+3.2	+3.1	-2.5
Equinox	-26.3	-53.9	-37.3	-42.7	-23.4	+1.6	-6.7	-6.5	-14.0	-28.2	-41.0	-22.5	-5.2	+9.3	+16.7	+46.3	+91.3	+86.7	+65.2	+32.8	+24.1	-2.8	-28.1	-35.4
Summer	+7.1	+9.0	+10.6	+1.7	-3.9	-5.4	-6.2	-10.9	-24.5	-46.1	-48.6	-35.0	-30.9	-1.4	+2.7	+17.9	+29.1	+34.1	+47.0	+37.4	+14.7	+6.6	+0.5	-5.7

WEST COMPONENT																								
	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$
Jan.	-6.1	-7.1	-6.5	-4.4	-3.5	+5.8	+10.5	+12.5	+7.7	+6.6	+10.6	+17.2	+23.7	+27.7	+25.9	+17.8	+34.1	+3.1	-35.4	-22.5	-50.7	-26.1	-16.7	-24.5
Feb.	-18.5	-25.9	-18.9	-18.6	-14.9	-14.8	-4.5	+3.8	+5.1	+7.6	+12.9	+22.2	+25.1	+27.1	+24.9	+20.9	+12.9	-10.1	-9.0	-3.4	-2.6	-12.4	-9.7	+0.7
Mar.	-54.0	-25.8	-97.2	-126.2	-54.4	-5.9	-11.1	-12.6	-20.8	-12.5	-51.6	-9.3	+37.4	+64.1	+53.0	+98.4	+135.6	+113.1	+104.5	+38.0	+13.8	-32.7	-69.0	-75.0
Apr.	-0.1	-23.9	-32.6	-33.1	-29.9	-18.7	-7.6	-2.1	-11.3	-17.8	-2.3	+13.5	+27.7	+34.5	+41.9	+40.8	+35.9	+28.3	+30.7	+14.0	-12.6	-18.9	-21.7	-34.8
May	-1.7	+3.1	-10.5	-18.1	-3.9	-15.0	-22.5	-32.4	-32.7	-22.0	-0.8	+14.6	+23.5	+34.2	+33.1	+28.7	+20.0	+15.3	+13.7	+14.6	-8.8	-10.5	-11.0	-11.0
June	-23.3	-31.2	-30.5	-2.3	-15.0	-20.5	-32.0	-41.6	-36.9	-29.2	-4.9	+12.0	+39.9	+46.8	+33.0	+48.1	+40.7	+39.9	+23.9	+10.5	+2.1	-9.7	-5.7	-13.9
July	-11.4	-3.3	-8.6	-11.6	-19.7	-18.8	-24.6	-26.1	-30.9	-27.7	-16.7	+1.1	+22.9	+37.9	+40.3	+41.2	+30.3	+21.3	+9.2	+7.9	+5.7	+2.2	-10.3	-10.2
Aug.	-0.3	-7.5	-7.7	-10.4	-12.6	-10.0	-10.6	-12.9	-16.0	-16.9	-7.5	+4.5	+16.7	+32.5	+32.0	+24.6	+21.0	+11.1	+17.8	-3.9	-2.8	-2.7	-11.3	-27.1
Sept.	-9.7	-29.4	-43.7	-11.1	+3.5	+4.3	+1.8	-3.6	-13.7	-12.2	-1.7	+16.4	+32.6	+40.9	+40.4	+27.9	+20.0	-5.3	-16.3	-26.4	-1.1	-1.3	-9.3	-3.1
Oct.	-21.7	-40.8	-36.7	-31.6	-10.7	+5.0	+3.2	+1.6	+0.7	+0.4	+8.1	+23.9	+32.5	+41.6	+41.7	+41.0	+35.9	+31.9	+12.6	-32.9	-23.7	-35.3	-30.5	-16.2
Nov.	-37.1	-32.1	-34.2	-19.7	-18.7	+9.2	+8.4	+7.7	+8.5	+2.1	+19.6	+30.8	+36.8	+35.4	+42.4	+26.7	+18.7	+10.0	+11.9	-4.8	-9.3	-31.7	-38.6	-41.9
Dec.	-13.1	-4.5	-2.2	-8.0	+8.3	+15.2	+15.6	+11.2	+12.9	+11.9	+10.9	+8.0	+12.1	+13.7	+21.5	+8.1	-2.2	-12.3	-12.8	-13.6	-16.3	-20.1	-20.7	-28.3
Year	-16.5	-19.0	-27.5	-24.6	-14.3	-5.4	-6.1	-7.9	-10.6	-9.1	-2.0	+12.9	+27.7	+36.5	+35.9	+35.5	+33.7	+20.5	+12.6	-1.9	-8.9	-16.6	-21.2	-23.5
Winter	-18.7	-17.4	-15.4	-12.6	-7.2	+3.8	+7.5	+8.8	+8.5	+7.1	+13.5	+19.6	+24.4	+26.0	+28.7	+18.4	+15.9	-2.3	-11.3	-11.1	-19.8	-22.6	-21.4	-22.4
Equinox	-21.3	-29.9	-52.5	-50.5	-22.9	-3.8	-3.5	-4.2	-11.3	-10.5	-11.9	+11.1	+32.5	+45.3	+44.2	+52.1	+56.9	+42.0	+33.0	-1.8	-5.9	-22.0	-32.6	-32.3
Summer	-9.1	-9.7	-14.3	-10.5	-12.8	-16.1	-22.4	-28.3	-29.2	-24.0	-7.5	+8.0	+25.7	+37.9	+34.6	+35.7	+28.0	+21.9	+16.2	+7.3	-1.0	-5.1	-9.6	-15.6

VERTICAL COMPONENT																								
	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$
Jan.	-26.5	-27.8	-26.4	-27.7	-29.2	-31.6	-33.1	-32.0	-29.4	-26.3	-24.8	-25.2	-22.5	-14.8	+0.8	+51.1	+100.0	+94.2	+69.7	+52.4	+22.0	+7.5	-4.4	-16.0
Feb.	-22.1	-17.1	-12.5	-11.5	-13.5	-15.0	-16.9	-13.9	-10.9	-9.1	-7.7	-6.9	-0.7	+7.7	+24.1	+31.3	+34.7	+30.6	+24.3	+11.7	+2.9	+3.5	-3.9	-9.1
Mar.	-71.3	-207.7	-137.7	-133.9	-102.7	-86.1	-27.5	+6.9	+19.9	+31.9	+59.5	+63.5	+69.9	+93.9	+100.1	+125.5	+67.7	+52.9	+30.7	+96.7	+45.3	+27.7	-38.5	-86.7
Apr.	-66.4	-44.8	-85.8	-121.2	-114.0	-61.3	-30.2	-14.8	+3.2	+21.6	+28.2	+28.8	+30.8	+36.2	+42.6	+50.2	+56.8	+62.3	+73.2	+67.6	+50.8	+10.6	-1.8	-22.6
May	+1.7	-6.9	-15.5	-19.9	-36.3	-38.0	-36.3	-25.3	-18.7	-15.7	-16.3	-10.3	+2.5	+12.9	+22.1	+29.9	+37.9	+38.2	+39.9	+33.3	+28.1	+9.5	-4.7	-12.1
June	-21.8	-36.3	-39.4	-61.8	-67.4	-61.3	-43.0	-26.0	-20.0	-16.3	-15.8	-11.4	-3.2	+19.3	+54.4	+57.0	+68.0	+55.7	+76.4	+48.8	+33.4	+19.7	+0.6	-9.6
July	-21.2	-24.7	-22.1	-19.4	-23.1	-20.5	-14.6	-12.7	-12.7	-11.0	-9.1	-13.5	-8.0	+13.1	+24.7	+26.6	+33.7	+39.3	+37.2	+24.7	+15.5	+9.8	+0.1	-12.1
Aug.	-7.9	-12.2	-15.1	-14.6	-12.4	-11.7	-13.0	-13.2	-12.9	-14.0	-14.9	-14.0	-4.3	+7.4	+24.3	+31.8	+36.6	+37.9	+25.0	+21.6	+10.3	-1.8	-14.5	-18.4
Sept.	-23.4	-58.5	-56.5	-54.8	-50.7	-40.3	-25.6	-16.5	-8.7	-5.6	-2.1	+1.7	+3.8	+16.5	+31.7	+44.6	+49.1	+57.1	+69.8	+41.1	+21.7	+18.2	+0.1	-12.7
Oct.	-36.5	-44.4	-48.4	-51.7	-49.4	-47.8	-38.3	-30.6	-19.0	-14.1	-9.4	-6.4	-1.3	+6.4	+24.2	+36.1	+61.2	+77.6	+92.9	+59.8	+33.0	+15.5	+1.8	-11.2
Nov.	-14.2	-14.2	-24.9	-30.0	-32.2	-41.6	-40.4	-26.8	-17.3</															



DIURNAL INEQUALITIES OF THE MAGNETIC ELEMENTS, DECLINATION, INCLINATION, AND HORIZONTAL FORCE  
INTERNATIONAL DISTURBED DAYS

117

Departures from the mean of the 24 hourly values (uncorrected for non-cyclic change)

155 ESKDALEMUIR

1940

	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
DECLINATION (measured positive towards the west)																								
Jan.	-1.41	-1.68	-1.63	-1.25	-1.31	+0.16	+1.07	+1.69	+1.33	+1.34	+2.35	+3.79	+5.05	+6.14	+5.67	+3.57	+6.07	+0.38	-6.33	-3.91	-9.97	-4.44	-2.41	-4.27
Feb.	-4.11	-5.64	-3.83	-3.74	-3.22	-3.45	-1.40	+0.50	+1.21	+2.06	+3.55	+5.40	+5.87	+6.16	+5.51	+4.46	+2.56	-3.13	-1.82	-0.90	-0.65	-2.60	-2.77	-0.02
Mar.	-6.90	+4.91	-12.34	-18.01	-7.26	-0.73	-2.08	-2.07	-3.50	-0.25	-6.68	-1.45	+5.84	+9.55	+7.84	+12.79	+13.32	+11.49	+13.56	+4.21	-0.76	-4.21	-8.46	-8.81
Apr.	+1.82	-3.99	-5.76	-5.23	-4.83	-3.48	-0.17	+0.15	-1.72	-2.45	+0.94	+4.01	+6.38	+7.37	+8.06	+7.27	+5.55	+3.34	+3.17	-0.13	-3.74	-5.23	-4.60	-6.73
May	-1.09	-0.20	-3.01	-3.93	-0.69	-2.50	-4.27	-6.39	-5.49	-1.62	+2.31	+4.81	+6.57	+8.46	+6.83	+5.43	+3.27	+1.58	+0.09	+1.07	-3.23	-2.90	-2.73	-2.37
June	-4.72	-6.13	-6.20	+0.21	-2.20	-3.47	-6.18	-7.31	-5.86	-3.77	+1.08	+3.79	+9.76	+7.77	+6.00	+7.63	+6.38	+6.07	+1.66	-0.47	0.0	-1.71	-0.42	-1.91
July	-2.32	-1.03	-2.33	-2.58	-4.03	-3.79	-4.46	-4.93	-5.57	-4.02	-1.05	+1.91	+5.76	+7.69	+8.33	+7.46	+4.81	+2.71	+0.40	+0.45	+0.79	+0.04	-2.43	-1.81
Aug.	-0.65	-2.22	-2.06	-2.61	-2.74	-2.28	-2.11	-2.26	-2.16	-1.41	+0.68	+2.56	+4.57	+7.06	+6.42	+5.05	+2.82	+1.02	+2.17	-2.14	-1.10	-0.85	-2.28	-5.48
Sept.	-2.27	-6.60	-9.37	-2.37	+0.83	+0.54	+0.47	-0.71	-2.11	-1.46	+1.13	+4.79	+7.47	+9.04	+8.47	+5.67	+3.67	-2.68	-4.37	-6.03	-0.45	-0.70	-2.31	-0.65
Oct.	-5.11	-8.58	-8.27	-7.51	-2.99	+0.26	+0.23	+0.43	+0.75	+0.88	+2.57	+5.91	+7.75	+9.12	+8.49	+7.97	+6.65	+5.84	+2.27	-5.65	-4.37	-7.28	-5.91	-3.45
Nov.	-7.87	-6.99	-6.66	-4.11	-4.75	+1.51	+1.07	+1.21	+1.10	+1.01	+4.77	+6.93	+7.75	+7.55	+9.30	+5.65	+4.23	+2.25	+2.55	-0.95	-1.88	-7.25	-8.01	-8.41
Dec.	-3.24	-0.86	-0.52	-1.92	+1.12	+2.11	+2.20	+1.96	+2.98	+2.60	+3.00	+2.86	+3.40	+3.44	+4.50	+2.02	-0.10	-2.31	-2.04	-2.74	-4.08	-4.62	-4.76	-5.00
Year	-3.16	-3.25	-5.17	-4.42	-2.67	-1.26	-1.30	-1.48	-1.59	-0.59	+1.22	+3.78	+6.35	+7.45	+7.12	+6.25	+4.94	+2.21	+0.94	-1.43	-2.45	-3.48	-3.92	-4.08
Winter	-4.16	-3.79	-3.16	-2.75	-2.04	+0.08	+0.73	+1.34	+1.65	+1.75	+3.42	+4.75	+5.52	+5.82	+6.25	+3.93	+3.19	-0.70	-1.91	-2.13	-4.15	-4.73	-4.49	-4.43
Equinox	-3.11	-3.57	-8.93	-8.28	-3.56	-0.85	-0.39	-0.55	-1.65	-0.82	-0.51	+3.31	+6.86	+8.77	+8.21	+8.43	+7.30	+4.50	+3.66	-1.90	-2.33	-4.35	-5.32	-4.91
Summer	-2.19	-2.39	-3.40	-2.23	-2.41	-3.01	-4.25	-5.22	-4.77	-2.71	+0.75	+3.27	+6.67	+7.75	+6.89	+6.39	+4.32	+2.85	+1.08	-0.27	-0.89	-1.35	-1.97	-2.89

	INCLINATION																							
	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
Jan.	-0.82	-0.93	-0.99	-1.13	-1.49	-2.28	-2.47	-2.15	-1.17	-0.75	-0.51	-0.48	-0.57	-0.07	+0.19	+0.94	+0.79	+1.93	+3.44	+2.54	+1.75	+1.78	+1.49	+0.95
Feb.	-0.76	-0.58	-0.02	+0.05	-0.40	-0.78	-1.05	-0.78	-0.09	+0.37	+0.93	+0.75	+0.69	+0.70	+0.86	+0.77	+0.57	-0.60	+0.76	+0.04	-0.06	+0.16	-1.07	-0.47
Mar.	+4.80	+9.49	+8.53	+9.40	+3.63	-1.38	-0.27	+1.05	+1.85	+4.19	+7.64	+2.32	-1.33	-3.56	-2.47	-8.57	-20.43	-16.62	-11.67	-3.12	-4.09	+4.61	+7.95	+8.06
Apr.	+0.93	+0.47	-0.42	-0.39	-0.62	-0.79	+1.31	+0.48	+1.07	+2.44	+2.73	+2.28	+1.40	+0.87	-0.22	-0.82	-1.60	-2.29	-2.98	-2.73	-0.20	-1.41	+0.2	+0.46
May	-0.98	-1.39	-1.46	-0.59	-0.71	+0.05	-0.16	+0.11	+1.65	+3.93	+3.08	+2.12	+2.23	+1.94	+0.22	-0.24	-0.47	-1.42	-3.00	-2.05	-1.20	-0.69	-0.65	-0.32
June	-0.16	-0.15	-0.55	-0.56	-0.26	-0.23	-0.15	+1.58	+2.35	+3.05	+2.60	+1.43	+1.66	-2.65	-0.12	-2.31	-1.56	-2.05	-2.94	-2.59	+0.21	+1.00	+1.15	+1.26
July	-0.36	-1.07	-1.24	-0.62	-0.31	-0.20	+0.75	+0.61	+1.15	+2.42	+3.33	+2.03	+1.03	-0.26	+0.20	-1.22	-1.52	-1.63	-1.29	-1.13	-0.20	-0.36	-0.33	+0.22
Aug.	-1.03	-1.16	-0.95	-0.89	-0.38	-0.49	-0.10	+0.37	+1.46	+2.76	+2.84	+1.90	+1.29	+0.34	+0.01	+0.49	-1.43	-0.96	-1.68	-1.30	-0.45	-0.44	-0.17	0.00
Sept.	-0.85	-1.91	-1.45	-1.37	-1.15	-1.53	-0.51	-0.31	+0.96	+1.49	+2.05	+1.86	+0.79	+0.83	+0.54	+0.69	+0.37	-0.76	+0.46	+0.48	+0.24	-0.14	-0.47	-0.30
Oct.	-1.59	-0.91	-1.81	-2.35	-2.22	-2.32	-1.59	-0.63	+0.38	+0.76	+0.95	+0.98	+1.09	+0.48	+0.02	-0.23	+0.10	+0.54	+1.70	+3.43	+1.80	+0.77	+0.91	-0.27
Nov.	-0.29	-0.53	+0.29	-0.61	-1.86	-1.67	-2.01	-1.29	-1.43	+0.62	+0.69	+0.49	+0.01	+0.43	+1.17	+0.95	+1.39	+0.99	+0.84	+0.97	+0.87	+0.48	+0.07	+0.38
Dec.	-0.89	-0.48	-0.78	-0.89	-1.62	-2.38	-2.18	-0.95	+0.10	-0.08	+0.90	+1.68	+1.31	+1.07	+0.25	+1.04	+1.41	+1.38	+1.81	+0.82	-0.51	-0.43	-0.59	+0.03
Year	-0.16	+0.07	-0.07	0.00	-0.62	-1.17	-0.70	-0.16	+0.74	+1.77	+2.27	+1.45	+0.80	+0.01	+0.05	-0.71	-1.86	-1.79	-1.21	-0.39	-0.15	+0.36	+0.69	+0.83
Winter	-0.69	-0.63	-0.38	-0.65	-1.35	-1.78	-1.93	-1.29	-0.64	+0.04	+0.50	+0.61	+0.36	+0.53	+0.62	+0.93	+1.04	+0.93	+1.71	+1.09	+0.51	+0.25	-0.02	+0.22
Equinox	+0.82	+1.79	+1.21	+1.32	-0.08	-1.51	-0.26	+0.15	+1.07	+2.22	+3.35	+1.86	+0.49	-0.34	-0.53	-2.23	-5.39	-4.78	-3.13	-0.49	-0.56	+0.96	+2.10	+1.99
Summer	-0.63	-0.94	-1.05	-0.67	-0.41	-0.22	+0.09	+0.67	+1.65	+3.03	+2.96	+1.87	+1.56	-0.16	+0.08	-0.82	-1.25	-1.51	-2.23	-1.77	-0.41	-0.13	0.00	+0.29

	HORIZONTAL FORCE																							
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	+2.4	+3.6	+5.0	+6.6	+11.4	+22.2	+24.4	+20.2	+6.6	+1.4	-1.6	-2.2	+0.2	-4.4	-2.6	+4.8	+25.0	+6.0	-25.4	-18.4	-17.8	-23.6	-23.8	-20.0
Feb.	+3.1	+2.3	-4.3	-4.9	+0.9	+6.0	+9.3	+6.5	-2.7	-8.9	-16.7	-13.7	-10.5	-7.5	-3.9	+0.1	+4.3	+20.2	-2.3	+3.7	+1.9	-1.1	+14.5	+3.7
Mar.	-97.5	-217.2	-177.1	-188.7	-91.7	-11.2	-6.1	-13.1	-20.1	-50.4	-91.5	-11.1	+45.5	+87.4	+73.5	+173.3	+328.1	+266.0	+184.5	+81.9	+77.3	-58.2	-132.1	-151.5
Apr.	-38.3	-23.4	-25.3	-38.8	-32.8	-10.9	-30.6	-12.6	-14.7	-28.2	-30.1	-23.2	-9.5	+0.4	+18.9	+30.6	+44.6	+56.9	+71.2	+65.4	+21.7	+24.8	-0.9	-15.2
May	+15.2	+18.1	+15.9	+1.4	-2.9	-14.7	-11.0	-10.9	-31.3	-64.0	-51.7	-35.3	-32.2	-24.1	+4.9	+14.6	+20.9	+35.1	+59.2	+42.7	+28.1	+13.8	+7.9	+0.3
June	-5.6	-11.2	-6.4	-14.4	-21.0	-19.1	-13.6	-33.0	-42.2	-51.2	-44.4	-25.4	-25.8	+46.4	+21.8	+55.2	+48.2	+50.9	+71.8	+56.4	+9.2	-7.6	-16.8	-22.2
July	-2.5	+6.7	+10.3	+2.1	-3.9	-4.6	-16.5	-13.7	-21.7	-39.9	-52.7	-35.1	-18.3	+8.7	+6.1	+27.9	+34.9	+38.6	+32.9	+25.9	+8.7	+8.9	+4.9	-7.7
Aug.	+12.4	+12.7	+8.6	+7.9	+1.1	+3.0	-3.3	-10.3	-26.4	-46.1	-47.6	-33.3	-20.8	-2.3	+8.8	+4.5	+34.7	+28.2	+34.1	+27.3	+10.4	+5.9	-2.8	-6.7
Sept.	+4.0	+6.8	+0.8	+0.2	-1.6	+7.9	-1.8	-1.4	-17.4	-24.2	-31.2	-27.0	-10.4	-6.2	+3.6	+6.2	+12.6	+32.3	+18.8	+8.0	+4.4	+8.8	+7.0	-0.2
Oct.	+10.1	-2.9	+9.0	+15.9	+14.7	+16.9	+9.5	-1.9	-12.6	-16.5	-17.5	-16.9	-16.7	-4.7	+8.6	+16.7	+21.1	+20.5	+8.9	-28.9	-14.6	-5.7	-12.9	-0.1
Nov.	-1.0	+2.6	-13.4	-2.0	+15.8	+9.4	+15.0	+9.2	+14.8	-11.6	-12.0	-7.4	+2.2	+0.4	-5.0	+1.0	-5.0	-2.2	-0.2	-2.0	-2.4	+10.2	-5.0	-11.4
Dec.	+9.1	-2.0	+0.9	+4.6	+13.8	+23.9	+23.8	+9.0	-4.5	-1.0	-14.1	-24.0	-17.3	-10.6	+1.9	-6.0	-7.6	-6.7	-14.4	-3.4	+12.5	+6.8	+7.1	-1.8
Year	-7.4	-17.0	-14.7	-17.5	-8.0	+2.4	-0.1	-4.3	-14.3	-28.4	-34.3	-21.2	-9.5	+7.0	+11.4	+27.4	+46.8	+45.5	+36.6	+21.5	+11.6	-1.4	-12.7	-19.4
Winter	+3.4	+1.6	-2.9	+1.1	+10.5	+15.4	+18.1	+11.2	+3.5	-5.0	-11.1	-11.8	-6.3	-5.5	-2.4	0.0	+4.2	+4.3	-10.6	-5.0	-1.5	-1.9	-1.8	-7.4
Equinox	-30.4	-59.2	-48.1	-52.9	-27.9	+0.7	-7.3	-7.3	-16.2	-29.8	-42.6	-19.5	+2.2	+19.2	+26.1	+56.7	+101.6	+93.9	+70.9	+31.6	+22.2	-7.6	-34.7	-41.7
Summer	+4.9	+6.6	+7.1	-0.7	-6.7	-8.9	-11.1	-17.0	-30.4	-50.3	-49.1	-32.3	-24.3	+7.2	+10.4	+25.5	+34.7	+38.2	+49.5	+38.1	+14.1	+5.3	-1.7	-9.1



RANGE OF MEAN DIURNAL INEQUALITIES FOR THE MONTHS, YEAR AND SEASONS OF 1940  
The ranges are derived from the diurnal inequalities printed in Tables 150 to 155

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1940

	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
Jan.	19.8	34.5	34.9	19.6	21.1	5.9	43.2	84.8	133.1	7.37	1.48	16.7	4.48	1.15	18.2	16.11	5.91	50.4
Feb.	22.7	32.4	21.7	21.5	18.1	8.3	43.2	53.0	56.8	7.16	1.22	18.1	4.42	1.14	17.7	11.80	2.00	36.9
Mar.	86.4	67.1	75.1	39.9	45.3	12.0	522.7	261.8	333.2	12.29	5.91	95.2	9.70	2.54	39.4	31.57	29.92	545.3
Apr.	59.6	56.9	45.5	55.7	59.5	20.6	105.2	76.7	194.4	11.67	3.41	59.5	13.58	3.38	56.2	14.79	5.71	110.0
May	63.2	59.1	35.6	43.9	57.0	23.6	118.2	66.9	77.9	12.56	3.74	66.3	11.86	2.60	45.2	14.85	6.93	123.2
June	70.8	62.7	40.7	59.5	60.2	24.8	113.9	89.7	143.8	12.75	4.10	74.4	12.48	3.33	58.2	17.07	5.99	123.0
July	60.6	65.2	31.3	47.3	58.2	27.1	85.0	72.1	64.0	12.99	3.73	65.5	11.94	3.08	51.8	13.90	4.96	91.3
Aug.	59.9	61.1	34.6	52.9	67.1	24.0	78.0	59.6	56.3	12.76	3.40	61.5	14.02	3.36	54.2	12.54	4.52	82.3
Sept.	51.9	59.2	38.0	45.9	51.4	18.4	66.0	84.6	128.3	12.27	3.01	51.3	10.80	2.89	47.4	18.41	3.96	63.5
Oct.	39.3	41.6	38.9	39.2	33.6	6.1	48.1	82.5	144.6	9.51	2.61	34.7	7.11	2.47	36.6	17.70	5.78	50.0
Nov.	29.5	40.9	31.5	26.2	22.4	7.8	37.3	84.3	84.0	8.96	2.07	26.5	4.90	1.50	24.2	17.71	3.40	29.2
Dec.	23.6	34.7	24.0	13.6	20.2	7.0	47.5	45.3	68.4	7.63	1.60	21.5	4.18	0.66	11.4	9.50	4.19	47.9
Year	43.0	43.1	32.3	37.2	40.3	13.8	76.8	64.0	99.5	9.10	2.32	43.8	8.64	2.27	37.2	12.62	4.13	81.1
Winter	23.9	33.5	27.4	19.0	17.5	6.1	33.5	51.3	83.1	7.43	1.53	20.6	3.90	1.04	17.4	10.98	3.64	29.9
Equinox	52.2	50.2	42.9	43.3	46.4	12.6	145.2	109.4	157.1	10.58	3.10	54.7	10.29	2.77	43.4	17.70	8.74	160.8
Summer	63.6	60.8	34.6	49.4	58.9	23.9	95.6	67.1	79.4	12.64	3.69	66.7	12.49	3.07	51.7	12.97	5.26	99.8

## NON-CYCLIC CHANGE

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1940

	All days			Quiet days			Disturbed days		
	H	D	V	H	D	V	H	D	V
Jan.	-0.6	-0.41	-0.5	+0.7	-1.01	-2.0	-17.8	-1.83	+1.6
Feb.	+0.6	+0.41	+0.6	+1.9	-1.23	+1.3	+9.1	+4.74	+2.1
Mar.	-3.3	+0.17	-3.1	+6.3	-0.31	-2.0	-47.8	+5.46	-7.3
Apr.	+3.2	-0.39	+3.6	+3.8	+0.23	-1.2	+8.5	-2.72	+28.1
May	+0.4	+0.12	+0.2	+6.8	+0.19	-2.2	-12.4	-1.75	-20.5
June	-0.2	+0.02	+0.3	+1.4	+0.11	+1.4	-11.5	+3.77	-0.1
July	+0.1	-0.05	-0.2	+6.1	+0.40	-0.7	-3.3	+0.31	+5.7
Aug.	-0.1	-0.28	-0.2	+2.7	-0.15	-1.2	-16.4	-3.97	-14.2
Sept.	+0.3	+0.24	-0.2	+6.1	+0.29	+2.2	-6.0	+1.40	+1.7
Oct.	-0.3	-0.07	+0.6	+3.7	+0.37	-2.0	-10.7	+0.49	+11.1
Nov.	-0.1	-0.10	0.0	+8.5	+1.34	-2.4	-6.1	-1.28	-2.0
Dec.	-0.3	+0.01	+0.3	+3.3	+0.46	-1.1	-2.0	+1.58	+1.2
Year	0.0	-0.03	+0.1	+4.3	+0.06	-0.8	-9.7	+0.52	+0.6
Winter	-0.1	-0.02	+0.1	+3.6	-0.11	-1.1	-4.2	+0.80	+0.7
Equinox	0.0	-0.01	+0.2	+5.0	+0.15	-0.7	-14.0	+1.16	+8.4
Summer	+0.1	-0.05	0.0	+4.3	+0.14	-0.7	-10.9	-0.41	-7.3

## MEAN MONTHLY AND ANNUAL VALUES OF TERRESTRIAL MAGNETIC ELEMENTS

For all, a, quiet, q and disturbed, d, days for H, D and V and for all days for N, W, I and T

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	Horizontal force			Declination (west)			Vertical force			North component all days	West component all days	Inclination (north) all days	Total force all days
	a	q	d	a	q	d	a	q	d				
	16,000γ +			13° +			44,000γ +						
Jan.	504	511	497	2.3	2.1	2.7	1011	1005	1027	16079	3723	69 51.8	47941
Feb.	511	520	501	1.3	1.5	1.4	1005	1000	1013	16087	3721	69 51.2	47938
Mar.	495	519	431	0.2	1.6	-2.7	1004	1001	1003	16072	3712	69 52.2	47931
Apr.	501	507	470	-0.5	0.1	-1.9	1018	1024	1000	16079	3710	69 52.2	47947
May	514	518	509	-0.9	-0.7	-0.5	1016	1019	1017	16092	3711	69 51.3	47950
June	517	522	514	-1.3	-1.3	-1.1	1021	1019	1020	16096	3709	69 51.1	47955
July	518	521	514	-2.4	-2.3	-2.0	1028	1028	1032	16097	3705	69 51.3	47962
Aug.	515	516	516	-2.8	-3.0	-2.6	1028	1025	1036	16095	3702	69 51.5	47961
Sept.	507	513	494	-3.8	-3.6	-5.1	1028	1025	1024	16088	3696	69 52.0	47958
Oct.	505	512	497	-4.7	-4.8	-4.7	1033	1031	1035	16087	3691	69 52.3	47962
Nov.	504	514	496	-6.0	-5.8	-6.7	1038	1035	1037	16088	3685	69 52.5	47967
Dec.	509	518	500	-6.7	-6.4	-6.7	1039	1035	1041	16093	3683	69 52.2	47969
Year	508	516	495	-2.1	-1.9	-2.5	1022	1021	1024	16088	3704	69 51.8	47953

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



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	North component								West component								Vertical component								
	$a_1$	$b_1$	$a_2$	$b_2$	$a_3$	$b_3$	$a_4$	$b_4$	$a_1$	$b_1$	$a_2$	$b_2$	$a_3$	$b_3$	$a_4$	$b_4$	$a_1$	$b_1$	$a_2$	$b_2$	$a_3$	$b_3$	$a_4$	$b_4$	
	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	
	ALL DAYS																								
Jan.	+3.7	+3.0	-5.6	-0.3	+1.5	-1.0	+0.2	+0.1	-13.1	-3.7	+1.5	+4.8	+1.1	-1.6	+2.1	+0.1	-0.3	-15.1	-5.0	+0.1	+1.8	+1.8	+0.2	-1.1	
Feb.	+6.2	+1.9	-5.6	-0.6	+2.2	-0.9	+0.5	+1.3	-12.8	-6.1	+1.9	+3.6	-0.4	-0.9	+1.5	+1.4	+0.7	-9.9	-3.5	+0.2	+0.9	-0.8	-1.0	-1.5	
Mar.	-2.8	-21.5	-24.3	-0.6	+6.1	-1.5	+4.2	-0.2	-17.0	-20.9	-5.5	+10.1	+1.5	-3.4	+4.1	+4.2	-15.4	-22.1	-6.9	-9.6	+0.5	-3.1	-2.4	-0.6	
Apr.	+15.5	-8.5	-13.7	-0.7	+3.8	-0.1	-0.7	+1.8	-9.6	-18.7	+2.0	+10.8	-0.6	-5.5	+1.6	+2.3	-3.2	-14.6	-5.7	-5.5	+2.6	+2.1	-0.1	+1.1	
May	+18.9	-12.7	-12.7	+1.9	+0.6	+1.4	+0.9	+1.9	-8.3	-20.5	+5.7	+9.7	-3.5	-2.4	+1.9	+0.1	+3.3	-12.9	-7.8	-1.2	+1.8	+0.4	-1.2	+0.7	
June	+16.4	-16.0	-14.7	+2.1	+1.1	-0.5	+1.0	+2.5	-6.2	-23.5	+4.5	+11.5	-3.5	-3.0	+0.9	0.0	+0.7	-16.1	-7.7	-2.5	+3.1	+0.9	-1.0	+0.5	
July	+16.2	-12.6	-13.2	+2.2	+2.4	-0.3	-0.1	+1.2	-4.5	-24.0	+3.6	+12.5	-1.7	-3.5	-0.5	+0.9	+2.7	-10.3	-7.3	-2.3	+1.7	+0.3	-0.3	-0.3	
Aug.	+19.2	-10.3	-11.1	+4.3	+2.0	-2.1	+1.3	+1.9	-9.3	-20.2	+6.7	+10.0	-3.5	-4.8	+0.2	+1.6	+2.8	-10.1	-8.9	-0.1	+2.8	+0.6	-0.2	-0.7	
Sept.	+18.4	-5.3	-10.3	+2.6	+2.4	-2.6	+0.7	+2.5	-11.1	-13.4	+6.3	+11.2	-3.6	+7.3	+1.7	+0.8	-1.0	-13.3	-8.4	-2.3	+2.8	+0.9	+0.3	-0.4	
Oct.	+14.3	+1.5	-8.9	+1.3	+3.4	-2.2	-0.6	0.0	-13.1	-8.3	+0.3	+9.0	-1.3	-3.4	+1.7	+1.5	-3.1	-15.4	-4.6	-2.3	+1.6	+2.0	+0.3	-0.2	
Nov.	+9.7	+2.6	-6.4	-0.7	+1.7	-3.1	0.0	+0.7	-14.8	-3.2	-3.1	+6.9	-1.9	-1.3	+1.2	+2.2	-3.0	-15.0	-2.2	-0.2	+0.5	+0.6	-1.6	+0.3	
Dec.	+5.8	+3.1	-4.4	-1.7	+1.9	-2.2	-0.3	+0.5	-12.1	+1.1	-1.2	+5.1	-0.9	-0.3	+0.4	+1.8	-1.2	-11.2	-2.4	-0.3	+0.5	+0.2	-0.1	-0.2	
Year	+11.8	-6.3	-10.9	+0.8	+2.4	-1.3	+0.6	+1.2	-11.0	-13.4	+1.9	+8.8	-1.5	-3.1	+1.4	+1.4	-1.4	-13.9	-5.9	-2.2	+1.7	+0.5	-0.6	-0.2	
Winter	+6.4	+2.7	-5.5	-0.8	+1.8	-1.7	+0.1	+0.7	-13.2	-3.0	-0.2	+5.1	-0.5	-1.0	+1.3	+1.4	-0.9	-12.8	-3.3	-0.1	+0.9	+0.5	-0.6	-0.6	
Equinox	+11.4	-8.5	-14.3	+0.7	+3.9	-1.6	+0.9	+1.0	-12.7	-15.3	+0.8	+10.3	-1.0	-4.9	+2.3	+2.2	-5.7	-16.3	-6.4	-4.9	+1.9	+0.4	-0.5	0.0	
Summer	+17.7	-12.9	-13.0	+2.6	+1.5	-0.4	+0.8	+1.9	-7.1	-22.1	+5.1	+10.9	-3.0	-3.5	+0.6	+0.7	+2.4	-12.4	-7.9	-1.6	+2.3	+0.5	-0.7	0.0	
	QUIET DAYS																								
Year	+12.4	-2.3	-8.6	+0.3	+2.6	-1.8	-0.3	+1.2	-4.0	-12.3	+3.3	+7.6	-3.1	-3.2	+0.7	+1.2	+3.9	-1.1	-3.4	-0.4	-1.8	+0.1	-0.7	-0.4	
Winter	+4.9	+0.7	-5.1	-0.3	+1.6	-1.6	-0.7	+1.2	-4.8	-4.4	+0.2	+2.9	-2.4	-1.0	+0.5	+0.5	+1.7	-2.1	-0.7	+0.2	+0.7	-0.1	-0.3	-0.2	
Equinox	+16.1	-0.2	-10.6	-0.6	+3.9	-1.8	-0.4	+1.4	-2.7	-12.5	+2.6	+9.4	-3.1	-5.3	+1.3	+2.4	+3.5	+0.3	-3.0	-0.9	+2.1	+0.5	-1.0	-0.4	
Summer	+16.0	-7.2	-10.1	+1.7	+2.4	-2.0	+0.2	+1.1	-4.4	-19.9	+7.2	+10.5	-3.6	-3.5	+0.3	+0.9	+6.4	-1.6	-6.5	-0.6	+2.4	0.0	-0.7	-0.5	
	DISTURBED DAYS																								
Year	+3.2	-21.8	-19.0	+3.7	+3.9	-1.3	+3.3	+1.2	-21.5	-15.9	-2.8	+10.1	+1.7	-4.3	+3.6	+1.8	-17.8	-41.6	-9.9	-4.7	+3.4	+2.3	-1.0	+0.8	
Winter	+7.1	+3.7	-6.8	-0.3	+3.0	-3.7	+0.9	-0.3	-22.5	+1.5	+0.2	+6.1	+1.6	-3.5	+0.6	+1.3	-7.4	-32.5	-10.3	+2.7	+3.1	+5.5	-0.9	-2.4	
Equinox	-16.8	-44.7	-33.0	+5.5	+6.7	-0.9	+7.2	-0.9	-30.1	-25.8	-10.3	+10.7	+6.8	-5.5	+8.6	+3.2	-39.0	-55.6	-10.8	-17.5	+3.1	-0.6	0.0	+2.9	
Summer	+16.0	-24.3	-17.2	+8.4	+1.8	+0.7	+1.6	+6.4	-11.7	-23.6	+1.7	+13.5	-3.5	-3.7	+1.7	+0.7	-7.0	-36.9	-8.7	+0.6	+3.9	+1.9	-2.2	+2.0	

## 1940

	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>
	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°
	ALL DAYS																							
Jan.	4·8	54	5·6	273	1·8	132	0·2	65	13·6	257	5·0	23	1·9	155	2·1	99	15·1	184	5·0	277	2·5	54	1·2	183
Feb.	6·5	76	5·7	270	2·4	121	1·4	35	14·2	248	4·1	34	1·1	213	2·0	59	10·0	179	3·5	280	1·2	141	1·7	227
Mar.	21·7	191	24·3	275	6·3	113	4·2	106	26·9	222	11·5	338	3·7	165	5·9	57	26·9	218	11·8	222	3·1	181	2·5	268
Apr.	17·7	122	13·7	274	3·8	101	1·9	353	21·0	211	11·0	17	5·6	196	2·8	47	15·0	196	7·9	232	3·3	61	1·1	7
May	22·8	127	12·8	285	1·5	33	2·1	39	22·2	205	11·2	37	4·2	246	1·9	101	13·3	169	7·9	268	1·9	88	1·4	313
June	22·9	137	14·9	284	1·2	123	2·7	35	24·3	198	12·3	28	4·6	239	0·9	101	16·2	181	8·1	258	3·2	84	1·1	308
July	20·5	131	13·4	286	2·4	106	1·2	10	24·4	194	13·0	22	3·9	215	1·0	346	10·7	169	7·7	259	1·7	91	0·4	234
Aug.	21·8	121	11·9	298	2·9	146	2·3	47	22·2	208	12·1	40	5·9	226	1·7	18	10·5	168	8·9	275	2·9	87	0·8	206
Sept.	19·1	109	10·6	291	3·6	147	2·6	29	17·4	223	12·8	36	8·2	216	1·9	78	13·3	187	8·7	261	3·0	83	0·5	161
Oct.	14·3	87	9·0	285	4·0	132	0·6	281	15·5	241	9·0	8	3·7	211	2·3	60	15·7	195	5·1	250	2·6	49	0·4	137
Nov.	10·0	78	6·4	271	3·5	162	0·7	11	15·2	261	7·5	342	2·3	245	2·5	41	15·3	194	2·2	272	0·7	48	1·6	292
Dec.	6·6	65	4·8	255	2·8	149	0·6	343	12·1	279	5·2	354	1·0	259	1·9	26	11·2	189	2·4	268	0·6	81	0·2	223
Year	13·4	121	11·0	281	2·7	127	1·3	39	17·3	233	9·0	19	3·5	215	2·0	57	14·0	189	6·3	256	1·8	85	0·7	261
Winter	6·9	71	5·6	268	2·5	143	0·7	22	13·5	261	5·1	4	1·2	217	1·9	55	12·8	218	3·3	275	1·1	74	0·9	237
Equinox	14·2	130	14·3	279	4·3	122	1·4	55	19·9	223	10·3	11	5·0	201	3·2	58	17·3	202	8·0	239	2·0	87	0·5	278
Summer	21·9	129	13·2	288	1·6	113	2·1	36	23·2	201	12·0	31	4·6	231	0·9	57	12·6	172	8·1	265	2·4	87	0·7	286
	QUIET DAYS																							
Year	12·6	104	8·6	278	3·2	134	1·3	359	12·9	201	8·3	30	4·5	233	1·4	41	4·1	110	3·4	269	1·8	96	0·8	255
Winter	5·0	85	5·1	273	2·3	144	1·3	343	6·6	231	2·9	10	2·6	257	0·7	54	4·0	143	0·7	292	0·7	112	0·4	248
Equinox	16·1	94	10·6	273	4·3	125	1·5	356	12·8	196	9·7	22	6·1	221	2·7	41	3·5	88	3·1	259	2·1	87	1·0	261
Summer	17·5	118	10·3	286	3·1	139	1·1	24	20·4	196	12·7	41	5·1	236	0·9	31	6·6	107	6·5	271	2·4	99	0·9	248
	DISTURBED DAYS																							
Year	22·0	175	19·4	287	4·1	118	3·5	82	26·8	237	10·5	351	4·6	168	4·0	77	45·3	206	11·0	251	4·1	66	1·3	322
Winter	8·0	66	6·8	274	4·8	151	1·0	123	22·6	277	6·1	8	3·9	165	1·5	38	33·3	196	10·7	291	6·3	39	2·6	213
Equinox	47·7	204	33·5	286	6·7	108	7·2	110	39·7	233	14·9	323	8·7	138	9·2	82	67·9	218	20·6	218	3·2	110	2·9	13
Summer	29·1	150	19·1	302	1·9	78	6·6	27	26·4	210	13·6	13	5·1	233	1·8	80	37·5	194	8·7	280	4·3	74	3·0	324







# VALENTIA OBSERVATORY



## VALENTIA OBSERVATORY

Latitude .. .. 51°56'N.  
Longitude .. .. 10°15'W.  
G.M.T. of Local Mean Noon 12h.41m.

Heights of instruments	above M.S.L.	above ground
	m.	m.
Barometer .. ..	13·7	..
Thermometer bulbs .. ..	..	1·3
Rain-gauge .. ..	9·1	..
Beckley rain-gauge rim	..	0·5
Sunshine recorder .. ..	..	12·8
Robinson cup anemograph	26	14
Pressure-tube anemograph	30	13

### NOTES ON THE METEOROLOGICAL SUMMARIES

*Weather of 1940.*— Notable features were the particularly dry period from May to September, the relatively sunny months of January and May and the high mean temperature over the period February to June.

*Pressure.*— No change in the values 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 0·4 mb. above normal. Of the monthly mean pressures five were higher and seven were lower than normal. The departures ranged from an excess of 10 mb. in December to a deficiency of 6 mb. in February. The extreme values recorded were 1041 mb. and 971 mb. on November 28 and November 16 respectively.

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 1871-1926 as computed by Dr. A. Crichton Mitchell\*. From 1935 onwards, these values have been adjusted for local mean time so as to agree with current data. The coefficients are given to the nearest 0·01 mb. and the phase angles to the nearest 1°.

*Temperature.*— Mean temperature for the year was 0·5°A. above normal. The greatest departures from normal were -0·7°A. in January and +2·1°A. in June. The highest temperature (297·6°A.) occurred on June 8 and the lowest (268·0°A.) on January 22.

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 of 1871-1926 as computed by Dr. A. Crichton Mitchell\*. From 1935 onwards, these values have been adjusted for local mean time so as to agree with current data. The coefficients are given to the nearest 0·01°A. and the phase angles to the nearest 1°.

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\* MITCHELL, A. CRICHTON; Diurnal variation of pressure and temperature at Cahirciveen (Valentia), 1871-1926. *Quart. J.R. met. Soc.*, London, 55, 1929, p. 310.



*Rainfall.*— The total rainfall for the year was 1,328 mm., this amount being 86 mm. below the average. The months of March to September and December were all below normal, August (8 mm.) being the driest month of that name since records commenced in 1866. October (186 mm.) was the wettest month. Amounts in excess of 25 mm. were measured on 7 days.

*Sunshine.*— Sunshine for the year totalled 1,615 hr. which is 17 per cent. above the average. June with a total of 286 hr. (57 per cent. of possible) was the brightest and December with 37 hr. (15 per cent. of possible) the dulllest month.

TABLE A - DIURNAL VARIATION OF BAROMETRIC PRESSURE FOURIER COEFFICIENTS  
VALENTIA OBSERVATORY, LONGITUDE 10°15'W.

Values of  $c_n$ ,  $a_n$  in the series  $\sum c_n \sin(15nt + a_n)$ ,  $t$  being local mean time reckoned in hours from midnight

	$c_1$		$a_1$		$c_2$		$a_2$		$c_3$		$a_3$		$c_4$		$a_4$	
	1940	1871-1926	1940	1871-1926	1940	1871-1926	1940	1871-1926	1940	1871-1926	1940	1871-1926	1940	1871-1926	1940	1871-1926
	mb.	mb.	°	°	mb.	mb.	°	°	mb.	mb.	°	°	mb.	mb.	°	°
January	0.36	0.10	203	162	0.29	0.32	189	153	0.15	0.16	50	250	0.07	0.07	313	208
February	0.15	0.12	164	194	0.33	0.34	180	148	0.10	0.11	22	346	0.07	0.04	135	92
March	0.48	0.12	228	157	0.38	0.36	176	150	0.10	0.04	35	262	0.05	0.04	60	50
April	0.14	0.10	342	191	0.25	0.31	182	149	0.05	0.03	235	171	0.04	0.04	57	11
May	0.14	0.17	213	180	0.25	0.27	189	147	0.08	0.07	220	165	0.05	0.02	127	347
June	0.15	0.20	116	199	0.23	0.25	165	146	0.09	0.08	200	161	0.01	0.00	350	340
July	0.34	0.24	214	183	0.23	0.25	182	143	0.07	0.08	200	161	0.03	0.01	27	11
August	0.11	0.25	215	188	0.25	0.28	172	144	0.06	0.05	206	163	0.03	0.03	50	345
September	0.14	0.19	248	203	0.29	0.34	171	153	0.00	0.00	322	50	0.05	0.04	61	6
October	0.27	0.20	123	198	0.22	0.34	201	160	0.05	0.07	64	359	0.02	0.01	121	56
November	0.15	0.08	41	184	0.17	0.34	200	161	0.16	0.13	50	6	0.07	0.03	220	167
December	0.25	0.13	152	191	0.25	0.32	185	160	0.15	0.16	42	358	0.09	0.07	254	198
Arithmetic mean	0.22	0.16			0.26	0.31			0.09	0.08			0.05	0.03		
Year	0.14	0.15	194	188	0.26	0.31	182	153	0.03	0.03	54	5	0.00	0.00	37	70
Winter	0.16	0.11	170	184	0.26	0.33	187	155	0.14	0.14	43	356	0.04	0.04	250	182
Equinox	0.13	0.15	216	191	0.28	0.34	181	153	0.02	0.02	36	351	0.04	0.03	67	25
Summer	0.15	0.21	199	188	0.25	0.26	178	145	0.07	0.07	206	162	0.01	0.02	52	350

TABLE B - DIURNAL VARIATION OF TEMPERATURE FOURIER COEFFICIENTS  
VALENTIA OBSERVATORY, LONGITUDE 10°15'W.

Values of  $c_n$ ,  $a_n$  in the series  $\sum c_n \sin(15nt + a_n)$ ,  $t$  being local mean time reckoned in hours from midnight

	$c_1$		$a_1$		$c_2$		$a_2$		$c_3$		$a_3$		$c_4$		$a_4$	
	1940	1871-1926	1940	1871-1926	1940	1871-1926	1940	1871-1926	1940	1871-1926	1940	1871-1926	1940	1871-1926	1940	1871-1926
	°A.	°A.	°	°	°A.	°A.	°	°	°A.	°A.	°	°	°A.	°A.	°	°
January	0.58	0.48	250	238	0.47	0.26	64	53	0.17	0.11	244	226	0.04	0.02	151	46
February	0.73	0.81	252	234	0.36	0.37	79	53	0.12	0.09	252	237	0.05	0.03	192	189
March	1.27	1.34	256	235	0.48	0.42	73	60	0.04	0.04	335	328	0.13	0.08	244	216
April	1.38	1.80	253	239	0.23	0.36	109	72	0.13	0.15	99	41	0.07	0.06	284	236
May	2.10	2.08	258	242	0.20	0.19	156	98	0.23	0.24	108	57	0.10	0.04	16	309
June	2.69	2.05	258	243	0.27	0.11	201	97	0.55	0.21	119	63	0.10	0.03	61	13
July	2.14	1.86	256	243	0.33	0.15	143	75	0.23	0.20	122	59	0.20	0.01	55	339
August	1.86	1.74	256	243	0.24	0.30	109	69	0.19	0.16	90	47	0.06	0.03	316	240
September	1.69	1.55	252	242	0.41	0.45	112	70	0.11	0.06	50	216	0.11	0.09	283	234
October	1.19	1.11	246	241	0.53	0.41	93	68	0.14	0.08	319	274	0.06	0.07	313	225
November	0.61	0.72	260	239	0.48	0.35	92	62	0.12	0.12	261	252	0.00	0.01	31	115
December	0.42	0.44	232	234	0.13	0.26	68	55	0.06	0.11	298	241	0.07	0.03	121	59
Arithmetic mean	1.39	1.33			0.34	0.30			0.17	0.13			0.08	0.04		
Year	1.31	1.33	262	240	0.27	0.30	99	66	0.05	0.05	118	38	0.01	0.02	318	234
Winter	0.58	0.61	250	236	0.35	0.31	77	56	0.12	0.10	252	232	0.03	0.13	147	92
Equinox	1.37	1.45	252	239	0.40	0.41	94	67	0.05	0.05	27	6	0.09	0.08	273	228
Summer	2.19	1.93	257	242	0.19	0.18	161	82	0.24	0.20	111	57	0.07	0.02	36	222

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



## TERRESTRIAL MAGNETISM

## NOTES ON THE MAGNETIC OBSERVATIONS FOR THE YEAR 1940

Absolute observations of declination, horizontal force and inclination were made weekly at Valentia Observatory during the year 1940. 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 1023 for declination, 1140 for horizontal force and 1431 for inclination, all according to Greenwich Mean Time. In the individual observations the greatest departure from the mean time in any element was 26 min. A departure of this magnitude occurred only once. The deflexion 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 1940 was computed from the mean deflexions for 30 cm. and 40 cm. for the seven years 1933-39 inclusive. The mean  $P$  so obtained was 7.43. 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 utilized 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  $8.7'$  as compared with 1939. From 1938 to 1939 the decrease was  $8.3'$  and in the previous twelve months  $9.3'$ . The average annual decrease for 5-yr. periods since 1910 is as follows:-

1910-15	1915-20	1920-25	1925-30	1930-35	1935-40
$8.2'$	$9.2'$	$11.1'$	$11.0'$	$10.7'$	$9.5'$

The rate of the eastward movement of the magnetic needle increased slowly up to about 1927, but is now apparently decreasing again.

Northerly inclination has increased  $0.1'$  as compared with 1939. The results of the past 10 yr. suggest that a minimum inclination was reached about 1935. From 1930 to 1935 the mean annual decrease was  $0.5'$ , while the mean annual increase from 1935 to 1940 was  $0.2'$ . It would, however, be premature to assume that inclination is increasing at a specified rate, as changes are small and irregular.

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, 1933, 1934, 1937 and to 1940 inclusive 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	Period	Annual change
1910-15	5y decrease (mean value)	1931-32	6y decrease
1915-20	6y decrease (mean value)	1932-33	2y increase
1920-25	2y increase (mean value)	1933-34	1y increase
1925-26	14y decrease	1934-35	8y decrease
1926-27	2y increase	1935-36	3y decrease
1927-28	11y decrease	1936-37	1y increase
1928-29	5y decrease	1937-38	6y increase
1929-30	8y decrease	1938-39	13y increase
1930-31	2y increase	1939-40	6y 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 5-yr. periods since 1910 is as follows:-

1910-15	1915-20	1920-25	1925-30	1930-35
49 $\gamma$	33 $\gamma$	32 $\gamma$	20 $\gamma$	22 $\gamma$

Total force, which until 1935 had continued to decrease but at an apparently diminishing rate, has this year shown an increase of 18 $\gamma$  on the value for 1939. Each year since 1935 has shown an increase on the value of the previous year the amount being 1 $\gamma$  in 1936, 15 $\gamma$  in 1937, 25 $\gamma$  in 1938 and 37 $\gamma$  in 1939. 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 of 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 31 $\gamma$  per annum in the total force up to 1935 obtained from the values in Table D is probably a close approximation to the true change. The continued increase observed since 1935 renders it probable that a minimum was reached in that year. This would correspond with the suggested minimum inclination referred to above.

TABLE C - ABSOLUTE MAGNETIC OBSERVATION, 1940  
VALENTIA OBSERVATORY, LATITUDE 51°56'N. LONGITUDE 10°15'W.

The mean times of observations were 10h. 23m. for declination, 11h. 40m. for horizontal force and 14h. 31m. for inclination. The greatest departure in an individual observation was 26 min. from the mean time mentioned.

	Westerly declination		Horizontal force	Northerly inclination			Westerly declination		Horizontal force	Northerly inclination	
	°	'	$\gamma$	°	'		°	'	$\gamma$	°	'
Jan. 11	15	50.3	17812	67	59.0	July 5	15	44.3	17838	67	57.5
19	15	50.1	17797	67	59.0	11	15	41.3	17823	67	58.2
25	15	49.6	17811	67	59.3	25	15	41.0	17824	67	58.4
Feb. 2	15	49.6	17825	67	58.8	Aug. 1	15	44.2	17869	67	58.3
8	15	49.7	17837	67	58.0	9	15	41.4	17784*	67	58.4
15	15	52.1	17843	67	57.2	15	15	42.0	17827	67	57.7
22	15	51.2	17829	67	57.9	22	15	43.1	17855	67	54.9
						29	15	42.8	17837	67	57.1
Mar. 7	15	45.1	17830	67	58.0	Sept. 5	15	44.8	17823	67	58.0
14	15	49.4	17825	67	58.6	12	15	45.5	17843	67	57.7
22	15	46.2	17809	67	58.1	19	15	41.2	17828	67	58.2
						27	15	42.2	—	—	—
Apr. 4	15*	51.8	17798	67	58.8	Oct. 3	15	48.9	17777	67	59.4
12	15	44.2	17814	67	59.4	11	15	40.6	17814	67	58.9
26	15	46.3	17789	67	59.5	17	15	43.1	17850	67	58.0
						24	15	42.2	17828	67	58.7
						31	15	45.8	17850	67	58.8
May 3	15	47.0	17810	67	57.6	Nov. 7	15	42.4	17814	67	59.9
9	15	45.7	17845	67	58.8	15	15	40.9	17838	67	58.0
16	15	46.5	17858	67	58.7	21	15	45.6	17813	67	58.9
24	15*	52.8	17803	67	58.9	29	15	46.4	17852	67*	59.5
31	15	45.6	17842	67	58.0						
June 7	15	49.7	17830	67	57.5	Dec. 6	15	43.9	17861	67	57.7
14	15	45.3	17864	67	58.3	12	15	42.7	17847	67	57.5
28	15	43.8	17799	67	59.2	20	15	43.6	17814	67	59.5
						27	15	39.7	17806*	67	58.0

\* Disturbance at these times. Values not used in computing means given in Table D.



TABLE D - MAGNETIC DATA FOR THE YEAR 1940  
 VALENTIA OBSERVATORY, LATITUDE 51°56'N. LONGITUDE 10°15'W.

	Declination (West)	Inclination (North)	Horizontal force	North	West	Vertical force	Total
1940	°	°	γ	γ	γ	γ	γ
January .. ..	15 50.0	67 59.1	17807	17131	4858	44040	47504
February .. ..	15 50.7	67 58.0	17833	17155	4869	44064	47536
March .. ..	15 46.9	67 58.2	17821	17149	4847	44042	47511
April .. ..	15 45.3	67 59.2	17800	17132	4833	44027	47489
May .. ..	15 46.2	67 58.4	17832	17161	4846	44077	47547
June .. ..	15 46.3	67 58.3	17831	17160	4847	44071	47541
July .. ..	15 42.2	67 58.0	17828	17162	4825	44051	47523
August .. ..	15 42.7	67 57.3	17847	17180	4833	44074	47550
September ..	15 43.4	67 58.0	17831	17164	4832	44060	47531
October .. ..	15 44.1	67 58.8	17824	17156	4834	44072	47540
November ..	15 43.8	67 58.9	17829	17161	4834	44088	47557
December ..	15 42.5	67 58.2	17841	17175	4830	44092	47564
Year 1940 .. ..	15 45.3	67 58.4	17827	17157	4841	44063	47533
Year 1939 .. ..	15 54.1	67 58.3	17821	17139	4882	44046	47515
Year 1938 .. ..	16 2.4	67 58.3	17808	17114	4920	44012	47478
Year 1937 .. ..	16 11.7	67 58.0	17802	17095	4965	43987	47453
Year 1936 .. ..	16 21.6	67 57.7	17801	17080	5014	43972	47438
Year 1935 .. ..	16 32.7	67 57.4	17804	17067	5070	43969	47437
Year 1930 .. ..	17 27.6	67 59.8	17813	16992	5345	44081	47546
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.



## PRESSURE AT STATION LEVEL

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Maximum, minimum and daily mean values in millibars for each day 0h. to 24h., G.M.T.  
The initial 9 or 10 of the values is omitted, i.e. 1005.61 is printed 05.61

161 VALENTIA OBSERVATORY:  $h_b$  (height of barometer cistern above M.S.L.) = 13.7 m.

1940

	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE		
	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean
	<i>millibars</i>																	
1	07.6	04.8	06.1	94.1	87.9	90.7	29.6	27.3	28.7	07.9	02.6	03.0	11.1	03.5	07.0	27.1	25.2	26.3
2	07.9	01.8	05.4	98.1	94.1	96.5	29.6	27.3	28.5	08.1	06.5	03.4	12.4	10.8	11.6	25.2	21.8	23.4
3	01.8	96.7	98.5	94.6	80.9	85.1	30.8	29.1	30.0	10.7	00.1	06.8	12.6	11.0	11.6	22.6	19.4	21.0
4	03.3	97.6	00.2	98.6	82.4	89.7	30.5	26.2	28.2	21.3	10.7	14.6	18.5	12.3	15.1	20.9	19.3	19.8
5	04.2	02.1	03.4	06.4	98.6	03.9	28.4	26.7	27.5	24.8	21.3	23.4	21.4	18.5	20.1	20.5	18.3	19.3
6	03.0	96.6	99.4	03.0	93.5	98.0	28.3	22.3	25.9	24.8	17.7	22.0	23.8	21.3	22.9	20.7	18.8	19.5
7	16.2	00.2	08.1	13.9	93.7	04.9	22.3	16.5	18.4	27.1	17.7	22.3	23.3	21.0	22.1	21.2	20.1	20.7
8	25.5	16.2	21.5	14.5	10.5	13.2	17.1	16.0	16.7	32.5	27.1	30.3	23.7	21.1	22.2	20.9	15.6	18.4
9	28.7	25.5	27.4	10.5	07.8	08.5	16.8	13.8	15.2	32.2	30.5	31.1	24.3	23.2	23.8	15.6	12.7	13.7
10	33.0	28.1	30.1	10.4	05.9	07.5	13.8	09.3	11.5	34.5	30.3	32.7	26.1	24.1	24.7	17.0	13.0	14.8
11	34.4	32.5	33.7	14.8	10.4	12.0	09.3	91.4	02.1	34.3	29.8	32.9	30.0	26.1	28.3	16.9	08.9	13.4
12	35.0	33.5	34.2	28.5	14.8	21.4	91.4	78.5	81.8	29.8	24.1	26.2	31.0	29.5	30.3	13.4	09.1	11.1
13	34.6	32.1	33.0	29.6	26.2	28.1	90.3	80.7	85.6	24.1	22.9	23.4	29.5	13.8	22.6	17.5	13.2	15.1
14	32.3	25.9	29.2	26.2	19.5	22.8	09.1	90.3	02.2	23.1	06.9	16.9	13.8	07.0	09.5	18.0	16.9	17.5
15	25.9	16.0	21.4	19.5	03.1	12.8	16.3	08.8	12.1	06.9	00.0	03.4	11.0	05.3	07.3	26.0	17.2	20.9
16	23.3	14.6	18.0	03.1	81.5	89.0	16.1	01.6	07.1	00.0	96.4	97.3	16.8	11.0	14.1	28.4	26.0	27.4
17	25.8	20.0	24.2	08.0	81.0	97.6	01.6	96.5	99.1	97.7	96.3	97.1	16.7	14.3	15.1	28.2	26.7	27.5
18	20.0	07.3	13.2	06.4	96.3	00.5	96.5	84.1	89.7	02.5	97.5	99.6	17.3	14.2	15.4	27.9	26.3	27.2
19	13.2	06.4	09.0	06.5	99.8	04.7	04.2	84.2	96.7	02.4	98.0	99.7	20.9	17.3	19.6	27.3	25.3	26.2
20	15.9	12.7	14.6	06.0	04.9	05.4	11.5	04.2	08.7	05.2	01.3	03.4	20.6	18.9	19.7	25.9	23.7	24.9
21	21.5	11.4	15.7	05.7	03.1	04.2	12.4	07.7	10.9	04.0	01.4	02.4	19.2	09.8	14.6	24.1	13.6	20.0
22	22.1	18.6	21.2	05.4	93.9	99.5	07.7	04.4	04.5	03.5	96.4	00.4	09.8	07.3	08.0	13.8	99.5	03.2
23	18.6	08.7	13.1	08.4	05.5	06.4	04.4	95.8	99.0	99.1	96.0	97.5	08.2	07.1	07.6	06.6	01.3	03.8
24	09.5	07.4	08.6	11.0	08.4	10.2	00.5	98.5	99.6	02.0	97.1	99.0	07.5	01.4	04.1	06.2	01.8	03.5
25	08.5	01.0	04.9	10.4	01.0	06.7	99.9	96.7	97.8	06.7	02.0	04.3	01.4	99.2	00.4	11.8	04.5	07.3
26	03.4	96.1	00.5	01.0	86.3	92.5	10.9	99.9	05.8	06.4	05.0	05.4	00.8	96.6	98.0	19.0	11.7	15.8
27	03.4	01.1	02.5	92.6	84.0	85.9	23.0	10.6	17.6	13.5	06.0	09.9	05.8	00.8	03.9	18.8	16.8	18.1
28	01.6	00.0	01.0	16.3	92.6	04.5	21.8	10.8	18.3	13.5	06.3	09.5	14.0	05.6	09.4	16.8	09.1	12.6
29	01.9	00.5	01.3	29.1	16.3	23.2	15.4	99.8	09.3	08.0	06.4	07.1	16.2	13.8	15.4	28.2	11.3	19.9
30	01.3	92.0	97.2				16.2	08.3	13.4	07.4	03.1	04.8	26.0	15.9	21.7	29.3	27.6	28.5
31	93.0	86.1	88.3				08.5	95.1	04.2				27.2	24.9	26.0			
Mean	15.37	09.47	12.41	09.40	99.44	04.32	13.36	05.24	09.56	13.80	07.91	11.01	17.45	13.12	15.23	20.53	15.82	18.02

	JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER		
	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean
	millibars																	
1	27.6	22.4	25.3	24.7	22.1	23.1	26.4	24.7	25.5	26.5	23.4	24.8	08.0	01.9	04.8	31.9	25.2	28.6
2	22.4	12.6	16.4	24.8	22.6	23.6	24.7	22.8	23.5	23.4	17.3	20.6	07.9	94.4	99.3	25.4	19.7	23.5
3	15.8	11.9	13.8	24.7	20.4	22.8	23.0	16.5	20.2	17.3	07.9	13.0	96.4	90.4	93.5	19.7	14.3	17.2
4	15.3	07.7	10.8	20.4	18.6	19.2	16.6	13.3	14.5	12.4	05.3	07.7	04.0	90.5	98.7	22.9	16.4	18.6
5	08.1	04.0	05.9	19.4	16.4	17.6	24.9	16.6	21.0	13.5	00.9	07.6	03.7	98.0	00.2	22.3	98.1	08.3
6	04.0	00.1	01.9	17.6	14.9	16.7	25.7	23.6	24.9	05.3	93.1	98.9	20.8	99.7	08.2	99.1	86.8	95.5
7	07.7	98.5	01.8	15.4	13.1	14.1	23.6	14.2	19.0	08.8	03.4	07.2	27.9	20.8	25.2	19.7	85.0	03.6
8	12.8	05.3	10.4	17.6	15.1	16.5	19.1	12.8	15.2	03.4	82.5	95.9	22.4	98.0	09.4	22.3	13.9	19.0
9	11.3	02.4	06.6	16.5	08.4	11.8	21.1	18.4	19.9	93.4	82.0	87.4	00.7	95.0	96.6	13.9	07.6	11.5
10	12.8	11.3	12.1	21.0	08.5	15.5	25.3	16.2	19.5	10.0	92.5	00.4	08.1	00.7	05.9	08.6	04.3	06.8
11	16.8	12.6	14.8	25.6	21.0	23.3	30.0	25.3	28.4	14.8	10.0	13.2	06.1	76.4	87.0	17.4	08.4	13.4
12	16.4	10.0	13.4	26.5	24.8	25.7	27.6	14.3	20.7	11.7	00.2	05.9	94.1	76.5	87.4	17.4	11.3	14.4
13	10.0	06.5	07.6	24.8	20.0	21.5	14.3	09.8	11.3	00.2	93.8	96.5	93.7	85.0	88.5	11.3	04.6	09.2
14	10.4	08.1	09.8	21.8	18.3	19.4	09.8	00.2	03.9	98.0	95.6	97.2	98.1	89.4	95.1	14.5	00.2	05.9
15	09.9	06.2	08.5	28.4	21.7	24.6	05.0	00.6	03.4	05.3	97.5	01.0	89.4	72.7	79.1	14.2	11.8	13.1
16	15.9	04.2	09.9	34.0	28.4	31.6	00.6	93.1	97.9	11.0	05.3	07.6	72.7	69.3	70.5	33.4	11.1	20.7
17	15.9	10.7	13.9	34.1	31.4	33.3	11.2	94.3	02.7	13.5	10.9	12.3	89.7	72.6	80.6	35.6	31.0	33.5
18	10.7	04.6	07.1	31.4	24.5	27.6	12.1	00.0	08.1	13.4	08.4	11.6	05.8	89.7	98.6	31.0	27.4	29.1
19	04.6	03.4	04.0	26.3	24.1	25.3	00.0	94.7	97.1	08.4	01.2	03.6	05.5	86.3	97.8	30.0	28.6	29.2
20	11.0	02.3	06.9	25.5	15.6	20.4	04.1	96.8	01.3	03.4	00.8	02.0	99.8	85.6	94.0	29.0	23.5	26.3
21	14.8	11.0	13.4	17.7	13.3	14.8	08.9	03.9	06.7	00.8	90.8	95.5	11.9	91.2	02.3	23.5	19.2	20.6
22	15.4	12.1	14.4	24.6	17.7	21.8	11.7	05.1	07.5	06.5	91.2	98.4	24.6	11.9	21.8	24.6	18.2	19.9
23	12.1	09.4	10.7	25.5	24.3	25.0	19.7	11.7	16.4	12.0	06.5	09.8	24.3	18.8	21.1	34.3	24.6	30.2
24	15.0	10.1	11.8	25.2	23.8	24.6	26.2	19.3	21.8	12.9	11.3	12.0	29.1	24.3	27.1	34.3	32.6	33.6
25	15.1	12.1	13.4	24.1	22.6	23.4	33.9	26.2	30.6	12.4	10.1	11.3	27.5	22.3	24.7	33.9	31.6	32.4
26	17.1	11.9	13.9	23.9	22.2	22.9	34.5	33.4	34.0	16.6	11.0	13.6	22.3	14.6	17.9	36.2	33.5	35.0
27	27.6	17.1	22.7	28.4	23.1	25.2	33.7	28.0	30.3	20.4	16.6	18.7	37.3	20.8	30.1	37.8	35.9	36.5
28	28.2	27.2	27.7	29.6	27.7	28.7	28.5	25.7	27.4	20.3	07.1	14.7	39.0	37.3	38.1	36.0	27.5	31.5
29	29.0	27.7	28.4	31.2	27.7	29.4	29.5	28.2	28.6	07.1	99.0	02.4	38.0	33.4	35.7	27.5	13.6	19.6
30	28.8	27.0	27.9	31.2	29.7	30.5	28.5	26.1	27.1	93.4	87.4	92.9	33.6	31.4	32.2	13.7	01.6	09.4
31	27.0	24.3	25.4	29.7	26.0	27.2				04.1	93.0	96.9				01.6	92.6	95.7
Mean	15.79	10.80	13.25	24.89	20.90	22.81	20.01	13.86	16.94	09.68	01.81	05.82	11.41	99.96	05.71	23.32	14.84	19.09
									Annual	16.25	09.43	12.90						



## PRESSURE AT STATION LEVEL

Monthly and annual means of hourly values in millibars at exact hours, G.M.T.

162 VALENTIA OBSERVATORY:  $h_b = 13.7$  m.

1940

Hour G.M.T.	0	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
	millibars																									
Jan.	12.86	12.62	12.40	12.35	12.18	11.93	11.76	11.92	12.23	12.58	12.65	12.83	12.65	12.42	12.22	12.29	12.36	12.40	12.55	12.61	12.69	12.69	12.57	12.45	12.31	12.41
Feb.	03.89	03.90	03.78	03.65	03.51	03.52	03.57	03.67	03.99	04.18	04.35	04.51	04.62	04.51	04.29	04.14	04.22	04.35	04.63	04.88	05.08	05.21	05.29	05.31	05.31	04.32
Mar.	10.11	09.93	09.75	09.41	09.17	08.98	08.94	09.14	09.53	09.76	09.97	10.09	10.04	10.02	09.80	09.55	09.42	09.37	09.51	09.57	09.57	09.61	09.43	09.22	09.01	09.56
Apr.	10.99	10.91	10.77	10.71	10.71	10.87	11.09	11.18	11.24	11.36	11.31	11.17	11.21	11.12	10.94	10.76	10.72	10.74	10.80	11.08	11.23	11.26	11.23	11.28	11.01	11.01
May	15.05	14.90	14.72	14.58	14.51	14.62	14.85	14.98	15.15	15.20	15.27	15.36	15.37	15.40	15.38	15.32	15.27	15.26	15.34	15.46	15.61	15.83	15.89	15.88	15.80	15.23
June	18.41	18.27	18.13	17.96	17.81	17.79	17.85	17.92	18.04	18.01	18.02	18.04	18.00	17.98	17.96	17.91	17.86	17.78	17.74	17.84	18.02	18.19	18.43	18.49	18.43	18.02
July	13.46	13.23	12.99	12.81	12.66	12.67	12.77	12.90	13.09	13.23	13.27	13.35	13.42	13.45	13.45	13.42	13.41	13.39	13.39	13.42	13.46	13.61	13.66	13.55	13.37	13.25
Aug.	23.00	22.86	22.69	22.53	22.35	22.35	22.48	22.65	22.80	22.93	22.94	23.02	22.99	22.95	22.93	22.82	22.68	22.65	22.67	22.70	22.91	23.09	23.18	23.13	23.05	22.81
Sept.	17.05	16.96	16.86	16.69	16.54	16.48	16.56	16.76	16.93	17.10	17.21	17.24	17.26	17.21	17.11	16.99	16.77	16.73	16.77	16.87	17.06	17.13	17.13	17.13	17.05	16.94
Oct.	06.54	06.42	06.28	06.07	05.90	05.83	05.78	05.76	05.89	05.93	05.84	05.74	05.69	05.56	05.42	05.33	05.37	05.45	05.69	05.81	05.90	05.91	05.95	05.95	05.82	05.82
Nov.	05.32	05.47	05.43	05.43	05.37	05.50	05.45	05.45	05.63	05.78	05.96	06.11	05.86	05.59	05.35	05.37	05.50	05.65	05.90	06.05	06.00	06.01	06.11	06.17	06.25	05.71
Dec.	20.00	19.75	19.52	19.46	19.27	19.02	18.90	18.83	18.89	19.07	19.27	19.39	19.17	18.88	18.63	18.58	18.78	18.84	18.98	19.08	19.09	19.08	19.11	19.06	18.98	19.09
Annual	13.06	12.99	12.83	12.69	12.55	12.50	12.53	12.63	12.83	12.96	13.05	13.13	13.07	12.98	12.85	12.77	12.75	12.76	12.87	12.97	13.09	13.18	13.22	13.18	13.10	12.90

The initial 9 or 10 of the value is omitted, i.e. 1001.42 is printed as 01.42.

## PRESSURE REDUCED TO MEAN SEA LEVEL

Monthly and annual means of hourly values in millibars at exact hours, G.M.T.

163 VALENTIA OBSERVATORY:  $h_b = 13.7$  m.

1940

Hour G.M.T.	0	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
	millibars																									
Jan.	14.56	14.32	14.09	14.04	13.87	13.62	13.45	13.61	13.92	14.28	14.35	14.53	14.35	14.11	13.91	13.98	14.05	14.09	14.25	14.31	14.39	14.39	14.27	14.14	14.00	14.11
Feb.	05.56	05.57	05.45	05.32	05.18	05.19	05.24	05.34	05.64	05.85	06.02	06.18	06.28	06.17	05.95	05.80	05.88	06.01	06.30	06.55	06.75	06.88	06.96	06.98	06.98	05.99
Mar.	11.79	11.61	11.43	11.09	10.85	10.66	10.62	10.82	11.21	11.44	11.64	11.76	11.71	11.69	11.47	11.22	11.09	11.04	11.18	11.24	11.25	11.29	11.11	10.90	10.69	11.23
Apr.	12.66	12.58	12.44	12.38	12.38	12.54	12.76	12.85	12.91	13.03	12.97	12.83	12.87	12.78	12.60	12.42	12.38	12.40	12.47	12.75	12.90	12.93	12.90	12.95	12.68	12.68
May	16.72	16.57	16.39	16.25	16.18	16.29	16.52	16.65	16.81	16.86	16.92	17.01	17.02	17.05	17.03	16.97	16.92	16.91	16.99	17.16	17.27	17.50	17.56	17.55	17.47	16.89
June	20.06	19.92	19.78	19.62	19.47	19.45	19.51	19.57	19.68	19.65	19.66	19.67	19.63	19.61	19.59	19.54	19.49	19.41	19.37	19.48	19.66	19.83	20.08	20.14	20.08	19.66
July	15.12	14.89	14.65	14.48	14.33	14.34	14.43	14.55	14.74	14.88	14.92	14.99	15.06	15.09	15.09	15.06	15.05	15.03	15.03	15.07	15.11	15.26	15.31	15.20	15.02	14.90
Aug.	24.66	24.52	24.35	24.19	24.01	24.01	24.14	24.31	24.45	24.58	24.59	24.67	24.63	24.59	24.57	24.46	24.32	24.29	24.32	24.35	24.56	24.74	24.84	24.79	24.71	24.46
Sept.	18.71	18.62	18.52	18.36	18.21	18.15	18.23	18.43	18.59	18.75	18.86	18.89	18.91	18.85	18.75	18.64	18.42	18.38	18.42	18.52	18.71	18.79	18.79	18.79	18.71	18.59
Oct.	08.20	08.08	07.94	07.73	07.56	07.49	07.44	07.42	07.55	07.59	07.49	07.39	07.34	07.21	07.00	06.97	07.02	07.10	07.34	07.46	07.55	07.56	07.60	07.60	07.47	07.47
Nov.	06.98	07.13	07.09	07.09	07.03	07.16	07.11	07.11	07.29	07.44	07.62	07.77	07.52	07.25	07.00	07.03	07.16	07.31	07.56	07.71	07.66	07.67	07.77	07.83	07.91	07.37
Dec.	21.69	21.44	21.21	21.15	20.96	20.71	20.59	20.52	20.58	20.76	20.96	21.08	20.86	20.57	20.31	20.27	20.47	20.53	20.67	20.77	20.78	20.77	20.80	20.75	20.67	20.78
Annual	14.73	14.67	14.51	14.37	14.23	14.18	14.21	14.31	14.50	14.63	14.72	14.80	14.74	14.64	14.51	14.43	14.41	14.43	14.54	14.64	14.76	14.85	14.89	14.86	14.78	14.57

The initial 9 or 10 of the value is omitted, i.e. 1001.42 is printed 01.42

The monthly and annual values of pressure reduced to mean sea level are computed from the corresponding monthly and annual means of pressure at station level and of temperature. See General Introduction to the Meteorological Tables, 1938.

## TEMPERATURE

Monthly and annual means of readings in degrees Absolute at exact hours, G.M.T.

164 VALENTIA OBSERVATORY: North-wall screen:  $h_t = 1.3$  m.

1940

	Hour G.M.T.																									
	0	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
	degrees													Absolute												
Jan.	78.88	78.99	79.03	78.90	78.90	78.88	78.83	78.85	78.64	78.50	78.79	79.19	79.73	80.17	80.28	80.30	80.15	79.75	79.30	79.06	78.85	78.78	78.86	78.92	78.84	79.23
Feb.	80.79	80.73	80.66	80.58	80.51	80.57	80.60	80.60	80.57	80.61	80.89	81.47	81.86	82.09	82.10	82.21	81.97	81.62	81.25	80.98	80.82	80.76	80.74	80.68	80.68	81.06
Mar.	80.74	80.77	80.66	80.67	80.71	80.77	80.75	80.64	80.74	81.15	81.83	82.55	82.91	83.18	83.22	83.30	83.21	82.91	82.41	81.75	81.38	81.25	81.04	81.03	80.97	81.65
Apr.	82.26	82.02	81.87	81.71	81.75	81.74	81.56	81.95	82.61	83.06	83.44	83.96	84.20	84.16	84.30	84.43	84.35	84.18	83.71	83.40	82.83	82.63	82.39	82.30	82.20	82.95
May	84.15	83.89	83.71	83.62	83.58	83.41	83.70	84.66	85.60	86.27	86.70	87.15	87.35	87.46	87.65	87.64	87.71	87.30	86.78	86.37	85.86	85.26	84.89	84.53	84.32	85.64
June	87.12	86.74	86.49	86.30	86.05	85.96	86.88	88.08	89.15	89.87	90.41	90.75	91.06	91.17	91.29	91.36	91.39	91.14	90.60	90.02	89.25	88.57	87.94	87.45	87.09	88.97
July	86.06	85.79	85.47	85.22	85.08	85.15	85.58	86.52	87.40	88.00	88.40	88.69	89.07	89.29	89.42	89.41	89.32	89.15	88.74	88.24	87.65	87.12	86.62	86.30	86.07	87.40
Aug.	87.69	87.53	87.44	87.34	87.24	87.23	87.25	87.77	88.49	89.25	89.88	90.23	90.50	90.75	90.80	90.88	90.79	90.57	90.10	89.58	88.97	88.47	88.22	87.99	87.77	88.96
Sept.	85.95	85.83	85.68	85.42	85.36	85.29	85.28	85.39	85.89	86.78	87.46	88.03	88.43	88.50	88.56	88.43	88.38	88.06	87.67	86.95	86.61	86.45	86.23	85.84	85.63	86.76
Oct.	83.41	83.21	83.24	83.27	83.13	82.81	82.73	82.83	82.81	83.27	84.08	84.72	85.21	85.49	85.62	85.58	85.22	84.89	84.36	84.08	84.08	83.84	83.74	83.56	83.49	83.97
Nov.	82.00	81.93	81.96	81.91	81.79	81.73	81.63	81.67	81.68	81.82	82.19	82.64	83.04	83.21	83.45	83.29	82.93	82.48	82.19	82.01	81.87	81.80	81.99	82.04	82.01	82.22
Dec.	80.95	80.85	80.78	80.65	80.57	80.71	80.67	80.73	80.62	80.61	80.78	80.99	81.08	81.42	81.57	81.51	81.33	81.15	81.16	81.11	81.02	80.89	80.63	80.76	80.68	80.93
Annual	83.33	83.19	83.09	82.97	82.89	82.86	82.96	83.31	83.69	84.10	84.58	85.03	85.37	85.58	85.69	85.70	85.57	85.27	84.86	84.47	84.11	83.82	83.61	83.46	83.32	84.15



## TEMPERATURE

129

Maximum, minimum and daily mean values in degrees Absolute for each day 0h. to 24h., G.M.T.  
The initial 2 or 3 of the values is omitted, i.e. 275.0° is printed 75.0°. Add 0.16° to obtain temperature  
in degrees Kelvin where  $T(^{\circ}\text{K.}) = t(^{\circ}\text{C.}) + 273.16$ .

165 VALENTIA OBSERVATORY: North-wall screen:  $h_t$  (height of thermometer bulb above ground) = 1.3 m.

1940

	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE		
	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean
	degrees Absolute																	
1	83.0	81.0	82.0	82.9	78.7	80.5	79.7	75.2	77.5	84.8	78.8	81.6	85.8	81.1	83.7	90.7	87.0	88.7
2	82.2	79.0	80.9	82.7	81.0	81.8	81.1	77.1	79.7	83.5	77.3	81.0	85.0	82.9	83.7	93.3	85.3	89.4
3	80.1	76.2	78.5	84.2	82.0	83.4	81.9	72.9	77.5	84.9	81.7	83.6	86.8	79.6	83.7	94.9	84.9	90.8
4	82.4	78.4	81.1	84.4	81.0	82.4	83.3	72.3	77.5	85.7	82.9	84.4	87.3	79.4	84.5	95.9	88.0	92.4
5	83.9	81.9	83.2	82.8	77.7	81.3	81.5	76.9	79.5	85.2	82.5	83.8	88.0	84.4	86.2	96.1	89.2	93.2
6	84.7	81.9	83.9	84.0	82.1	83.1	81.0	75.7	78.4	85.9	83.4	84.4	88.0	79.9	84.3	96.6	86.8	92.5
7	84.3	81.6	83.0	83.9	81.6	82.8	82.2	77.7	80.7	85.5	81.6	83.5	85.6	78.0	82.9	95.3	84.9	90.9
8	83.6	80.8	82.3	84.4	80.9	82.5	83.5	81.0	82.0	84.1	80.7	82.7	87.8	83.4	85.2	97.6	86.6	91.9
9	84.2	81.9	83.5	82.1	78.3	80.3	84.1	81.7	82.7	85.2	80.8	83.2	88.7	84.3	86.1	92.7	87.4	90.0
10	83.4	80.9	82.4	82.1	78.5	81.1	84.9	82.4	83.8	85.0	80.8	82.8	87.5	84.4	85.9	92.0	85.4	88.6
11	82.2	77.5	80.6	81.2	76.4	78.6	85.0	83.2	83.9	85.1	80.9	83.0	87.1	81.0	84.2	91.1	85.0	88.1
12	79.9	71.8	75.6	78.2	75.0	76.6	85.3	79.8	82.8	84.4	82.2	83.5	89.4	80.4	85.2	89.3	85.0	87.2
13	79.1	71.3	75.1	77.4	71.0	75.2	82.0	76.4	79.7	84.1	81.7	82.9	89.5	79.4	85.2	91.4	84.0	88.4
14	77.3	72.3	75.0	77.4	70.0	73.0	80.8	74.5	77.9	85.2	82.2	83.5	86.4	82.1	84.5	92.7	83.0	88.8
15	81.0	75.0	77.8	80.1	71.2	77.0	83.4	74.4	80.3	83.1	76.3	79.7	85.6	81.1	83.1	90.2	85.2	88.5
16	79.9	70.9	75.4	82.5	79.4	81.2	84.2	79.9	82.6	80.5	75.4	78.3	87.9	81.4	84.6	90.0	83.0	86.8
17	72.9	68.8	71.1	81.9	78.0	79.8	85.3	83.5	84.7	81.1	74.3	77.9	88.2	81.7	85.6	93.0	81.0	88.1
18	76.0	69.5	73.7	84.6	78.2	82.8	85.7	81.2	84.4	82.6	72.2	78.0	89.0	85.7	87.0	95.0	84.5	89.8
19	75.9	71.0	73.6	85.1	83.7	84.3	82.8	78.8	81.3	81.0	75.0	79.0	91.2	86.0	88.3	95.0	85.0	90.7
20	77.0	70.3	74.8	85.2	83.3	84.1	84.0	81.0	82.6	84.1	79.2	81.9	91.3	81.3	88.0	95.2	88.6	91.5
21	76.9	70.4	75.1	84.9	83.7	84.2	86.2	82.4	84.1	85.8	82.7	84.9	89.7	78.0	84.4	91.2	86.5	88.7
22	75.3	68.0	71.1	86.1	81.2	84.0	85.9	81.7	83.6	88.9	84.7	86.4	88.1	83.1	84.6	88.5	84.9	86.8
23	80.9	75.3	78.1	83.1	79.7	81.4	85.5	81.6	83.4	87.3	82.9	85.1	90.0	82.2	85.9	88.7	83.5	86.1
24	83.0	80.8	82.0	83.2	78.6	81.3	86.1	81.1	83.3	87.3	83.9	85.3	90.2	84.0	87.2	89.1	82.2	86.5
25	84.2	82.7	83.4	84.0	82.0	83.1	84.3	81.3	82.7	86.9	83.3	85.5	90.0	86.1	87.8	88.8	84.2	86.7
26	84.5	81.0	83.0	85.6	83.4	84.4	82.7	80.2	81.5	87.0	84.3	85.4	90.1	86.4	87.9	89.1	84.1	86.5
27	85.1	84.1	84.7	85.4	82.1	84.0	82.0	78.8	80.5	88.0	84.6	85.8	89.6	85.1	87.3	91.9	85.2	88.4
28	84.9	83.3	84.1	82.1	76.8	79.2	83.8	78.5	81.7	86.1	82.6	84.7	88.7	82.9	86.5	91.6	85.7	88.7
29	84.2	78.3	83.5	79.1	76.0	77.4	83.5	81.0	82.4	87.4	81.0	84.0	89.6	81.8	86.6	90.0	83.1	87.3
30	79.2	76.8	77.9				85.9	82.0	84.0	85.5	78.4	82.6	89.0	85.3	87.0	90.6	81.1	87.0
31	81.8	77.5	79.7				85.5	84.0	84.6				89.0	85.6	87.6			
Mean	81.1	76.8	79.2	82.8	79.0	81.1	83.6	79.3	81.7	85.0	80.6	82.9	88.4	82.5	85.6	92.3	85.0	89.0

	JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER		
	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean
	degrees Absolute																	
1	91.1	84.7	87.8	95.0	85.7	90.5	92.0	88.1	90.2	84.9	80.3	82.7	86.2	82.7	84.4	84.1	82.9	83.5
2	89.1	84.7	87.7	95.0	86.0	91.4	93.0	85.9	89.8	86.5	82.3	84.4	87.4	83.7	85.4	83.3	81.0	82.4
3	89.2	85.8	87.2	93.6	86.3	89.8	93.4	86.2	89.9	87.8	83.8	85.8	84.2	82.4	83.5	84.2	81.7	82.9
4	89.5	85.5	87.3	91.0	87.6	89.5	90.6	87.0	89.0	87.7	82.8	85.5	84.7	81.5	82.8	84.6	81.2	83.1
5	89.7	85.1	87.6	91.5	84.1	88.7	90.6	85.0	87.9	88.5	84.7	86.6	83.6	81.2	82.5	84.7	79.7	82.3
6	90.0	84.4	87.2	92.0	82.3	87.8	91.0	81.7	86.8	88.2	84.0	85.8	84.3	82.3	83.1	82.0	77.3	80.2
7	90.0	82.7	86.9	91.9	87.0	89.4	91.5	87.8	89.0	87.4	82.6	84.9	82.5	77.3	80.9	82.0	78.5	80.4
8	91.3	84.9	88.4	92.4	87.7	89.9	87.8	83.1	85.9	86.8	84.9	86.0	85.1	81.5	83.6	84.0	80.1	82.0
9	89.5	84.8	87.8	91.1	87.5	89.4	88.9	78.3	85.2	85.7	81.9	83.4	83.9	79.0	81.3	83.7	81.2	82.4
10	89.9	80.9	85.9	89.7	86.3	87.9	89.3	86.4	88.2	85.7	81.1	83.8	83.7	81.7	82.5	83.8	79.6	82.6
11	89.0	81.6	86.0	90.5	83.0	87.4	88.6	85.5	86.9	86.3	80.1	84.0	86.5	82.0	84.0	82.6	80.2	81.5
12	86.5	85.5	86.1	91.4	81.5	87.7	90.8	87.5	89.0	87.1	84.7	86.1	84.3	81.5	83.5	84.2	78.8	81.9
13	88.8	85.6	86.9	91.8	85.6	89.0	89.0	86.9	87.9	86.9	85.7	86.3	83.3	78.3	81.3	84.8	83.2	84.3
14	90.9	84.0	87.3	90.2	85.8	88.3	88.2	85.3	86.7	87.4	81.7	85.2	81.6	76.4	80.1	83.2	79.4	81.3
15	91.0	86.1	88.4	90.3	87.0	88.6	88.8	84.4	86.3	86.2	80.5	83.2	81.7	79.1	80.3	85.6	81.4	84.4
16	89.1	86.3	87.2	92.0	84.3	89.0	90.6	86.9	89.5	87.3	79.0	83.3	81.7	77.5	80.1	85.8	75.4	82.5
17	88.1	85.0	86.8	90.5	81.7	86.6	89.0	86.1	87.2	86.2	77.2	81.3	82.2	75.4	78.9	83.7	75.3	80.2
18	90.6	85.5	87.9	90.0	86.1	88.9	89.5	85.1	87.1	85.9	76.3	81.9	84.1	81.1	82.7	84.9	83.7	84.2
19	90.9	85.9	87.9	90.5	86.3	88.8	89.0	84.4	86.6	84.3	80.0	83.5	84.7	79.8	82.3	84.8	82.5	83.9
20	90.5	85.1	87.8	90.9	86.3	88.6	88.6	81.0	85.2	85.3	79.5	82.4	85.9	82.7	84.2	82.5	79.0	80.4
21	90.5	85.3	87.8	89.5	87.1	88.2	89.6	80.7	85.2	85.0	81.5	83.3	85.0	81.5	82.7	79.9	77.9	78.9
22	91.3	81.1	87.3	89.1	86.4	87.9	88.2	83.6	86.1	87.0	84.4	85.6	83.9	81.5	82.8	79.7	76.8	78.6
23	90.6	86.3	88.4	90.0	87.2	88.2	86.9	82.9	85.2	86.0	82.4	84.7	84.9	82.7	84.0	78.9	75.2	77.6
24	90.0	85.5	87.7	91.1	86.3	88.9	86.5	79.9	83.5	83.4	81.9	82.5	85.5	82.8	83.8	76.7	71.2	73.6
25	90.4	84.3	87.4	91.4	87.5	89.0	86.3	83.0	84.6	83.9	80.3	81.6	85.2	83.5	84.6	77.8	70.6	74.5
26	90.1	82.8	87.0	92.8	86.1	89.2	87.2	84.1	85.6	82.9	79.0	80.8	85.0	82.3	84.5	78.8	75.2	77.0
27	89.3	84.5	87.2	91.8	87.5	89.8	88.3	85.9	87.1	83.2	76.0	79.7	82.8	77.4	81.7	79.2	72.0	75.6
28	89.6	82.0	86.5	91.3	89.1	90.1	88.1	84.0	86.6	84.1	76.5	82.3	79.1	73.0	75.2	82.0	78.2	80.6
29	90.8	80.0	86.7	90.1	87.8	89.1	87.2	78.2	82.9	87.2	83.4	85.5	80.6	72.9	77.9	84.2	81.8	83.0
30	91.9	83.0	87.8	91.6	87.3	89.6	85.7	77.3	81.6	87.3	84.3	86.2	82.9	80.3	82.0	84.0	83.0	83.4
31	94.2	84.1	89.5	93.0	86.6	90.0				86.1	82.6	84.7				83.1	74.4	79.7
Mean	90.1	84.3	87.4	91.4	86.0	89.0	89.1	84.1	86.8	86.1	81.5	84.0	83.9	80.2	82.2	82.7	78.7	



Mean percentages from readings at exact hours 0h. to 24h., G.M.T.; vapour pressure from daily mean temperature and relative humidity

166 VALENTIA OBSERVATORY: North-wall screen:  $h_t = 1.3$  m.

	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.
1	%	mb.	%	mb.	%	mb.	%	mb.	%	mb.	%	mb.	%	mb.	%	mb.	%	mb.	%	mb.	%	mb.	%	mb.
2	66.5	7.7	83.4	8.7	64.2	5.4	77.0	8.6	82.1	10.6	87.5	15.6	83.8	14.2	82.1	16.5	87.0	17.1	76.0	9.2	87.0	11.8	88.4	11.2
3	58.5	6.2	74.7	8.5	59.3	5.8	82.5	8.9	81.6	10.5	79.5	14.8	92.7	15.6	80.1	17.0	80.3	15.4	72.3	9.8	90.7	13.1	87.5	10.3
4	53.7	4.9	84.7	10.7	70.4	5.9	82.5	10.6	79.6	10.3	73.6	15.0	80.9	13.2	82.9	15.9	84.3	16.2	79.8	11.8	94.6	12.0	92.6	11.3
5	76.9	8.3	91.4	10.6	77.7	6.6	86.4	11.7	89.9	12.2	67.8	15.3	81.0	13.2	88.6	16.7	90.9	16.6	85.5	12.4	82.3	10.0	83.1	10.3
6	81.5	10.1	86.0	9.4	69.1	6.7	91.3	11.8	91.8	14.0	65.8	15.6	79.0	13.2	75.1	13.5	83.8	14.2	87.2	13.6	79.4	9.5	78.4	9.2
7	91.6	12.0	89.6	11.1	62.3	5.6	92.1	12.4	72.6	9.7	70.2	16.0	80.4	13.1	80.9	13.6	81.5	12.9	87.2	12.9	73.9	9.2	69.0	7.0
8	88.3	10.9	88.2	10.7	82.0	8.6	75.2	9.6	87.0	10.6	79.4	16.4	78.4	12.5	81.3	15.2	86.1	15.7	80.1	11.2	77.7	8.3	73.2	7.5
9	91.6	10.7	85.4	10.2	83.6	9.6	67.6	8.2	81.9	11.7	77.7	17.0	77.6	13.6	82.9	16.0	66.8	10.0	89.3	13.4	90.5	11.6	85.3	9.8
10	81.5	10.4	70.9	7.3	84.4	10.2	85.8	10.7	78.3	11.9	84.6	16.4	81.8	13.8	90.1	16.9	80.4	11.5	80.1	10.1	86.5	9.5	78.2	9.2
11	75.5	8.9	81.5	8.8	85.0	11.0	72.8	8.8	74.6	11.1	77.0	13.7	79.0	11.8	76.9	13.0	73.9	12.8	73.9	9.6	71.2	8.5	78.1	9.4
12	68.6	7.2	96.1	8.8	93.6	12.2	83.5	10.3	65.8	8.8	76.1	13.1	78.1	11.7	75.0	12.3	64.4	10.3	88.0	11.6	87.4	11.5	85.3	9.5
13	69.2	5.1	74.8	5.9	92.8	11.3	90.9	11.6	71.9	10.3	73.2	11.9	81.4	12.3	83.6	14.0	90.3	16.5	89.8	13.6	71.0	9.0	80.5	9.2
14	66.4	4.7	66.9	4.8	78.7	7.7	79.5	9.7	78.4	11.2	77.8	13.6	88.1	14.0	82.9	15.1	70.7	10.2	82.0	12.5	71.7	7.9	93.5	12.5
15	81.7	5.8	78.9	4.8	70.4	6.1	74.4	9.5	72.9	9.9	84.7	15.2	84.6	13.8	88.8	15.4	88.5	13.9	78.9	11.2	76.6	7.8	83.6	9.2
16	80.9	7.0	79.1	6.4	80.8	8.3	69.1	6.8	70.6	8.8	77.0	13.6	85.8	15.0	91.5	16.3	79.6	12.2	90.0	11.2	85.6	8.8	90.5	12.2
17	63.8	4.6	87.5	9.6	84.1	10.1	66.7	5.9	72.6	9.9	65.4	10.4	81.7	13.3	82.5	15.0	93.5	17.6	89.5	11.2	83.4	8.5	81.1	9.7
18	65.3	3.5																						

\* Mean of the column.

## RELATIVE HUMIDITY

Monthly and annual means of values at exact hours, G.M.T.

167 VALENTIA OBSERVATORY:  $h_f = 1.3$  m.

	Hour G. M. T.													25.10												
	0	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*
Jan.	80.2	80.1	80.2	80.5	80.7	81.1	81.2	80.9	81.1	81.3	79.5	78.6	76.7	75.7	74.9	74.6	74.1	74.5	76.8	78.3	78.5	79.5	79.5	80.0	81.2	78.7
Feb.	86.2	86.8	87.1	86.5	86.5	85.9	85.6	84.5	84.7	85.9	85.5	83.9	82.3	81.9	81.9	81.1	81.5	82.5	83.0	84.2	85.7	86.0	85.6	85.7	85.2	84.6
Mar.	82.6	81.9	82.0	81.3	80.9	80.3	81.0	82.1	82.0	81.4	78.6	76.0	75.5	73.7	74.4	74.4	75.2	76.2	77.8	80.1	81.6	81.5	82.1	82.5	83.5	79.4
Apr.	85.7	85.0	85.4	84.5	83.9	83.1	84.4	83.5	82.3	81.2	79.9	78.4	76.8	79.0	78.6	77.5	76.7	77.1	78.9	80.4	83.6	84.9	84.5	84.1	85.5	81.6
May	84.0	85.1	84.9	84.3	84.4	85.1	84.5	81.8	78.3	76.5	74.8	72.5	73.5	72.3	72.7	73.5	72.8	74.2	76.5	78.2	79.8	81.3	82.5	83.2	84.3	79.1
June	83.1	83.6	84.0	84.1	84.0	85.1	84.3	81.4	77.4	74.8	73.3	71.3	71.1	70.6	69.7	69.0	67.2	67.0	70.2	72.9	75.6	78.2	81.2	82.2	84.9	76.7
July	85.1	85.7	87.0	86.7	87.2	88.7	88.2	86.7	84.4	80.5	78.5	77.5	75.8	74.5	73.6	73.2	73.5	73.7	75.8	77.3	79.7	82.6	84.1	84.9	85.2	81.0
Aug.	87.5	88.2	88.4	88.1	88.8	87.8	88.2	88.3	86.0	83.4	81.0	79.7	79.2	78.7	79.9	78.8	79.1	79.5	81.8	83.1	84.3	86.5	87.5	87.9	87.5	84.2
Sept.	84.6	83.7	84.9	84.7	85.5	85.7	85.3	85.6	85.8	82.1	78.9	75.1	73.4	72.6	72.4	73.5	73.6	73.5	77.8	80.1	82.1	82.0	82.3	83.2	84.4	80.4
Oct.	82.1	83.2	83.3	83.5	84.7	85.2	85.5	85.3	84.9	85.3	84.5	82.6	79.8	77.9	78.5	77.8	79.2	79.8	80.7	81.9	81.6	80.7	81.1	82.0	82.1	82.1
Nov.	82.1	82.9	82.3	81.3	82.5	82.3	83.1	82.8	83.6	83.0	81.8	82.5	80.9	81.0	79.8	80.0	81.3	82.8	83.0	82.8	83.8	84.2	83.1	81.8	82.2	82.3
Dec.	83.4	83.2	83.5	83.3	84.8	83.8	84.3	85.2	85.7	85.5	83.9	83.1	82.7	80.9	80.7	81.2	81.0	81.4	81.9	82.4	82.0	82.4	82.5	82.5	82.9	83.0
Annual	83.9	84.1	84.4	84.1	84.5	84.5	84.6	84.0	83.0	81.7	80.0	78.4	77.3	76.5	76.4	76.2	76.2	77.0	78.7	80.1	81.4	82.5	83.0	83.3	83.9	81.1

## ' VAPOUR PRESSURE

Monthly and annual means of values at exact hours, G.M.T., computed from corresponding mean values of temperature and relative humidity

168 VALENTIA OBSERVATORY:  $h_f = 1.3$  m.

	Hour G.M.T.																										Mean*
	0	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.	7.5	7.5	7.5	7.5	7.5	7.6	7.5	7.5	7.4	7.3	7.3	7.5	millibars	7.6	7.7	7.7	7.6	7.5	7.4	7.3	7.4	7.3	7.3	7.4	7.4	7.5	7.5
Feb.	9.1	9.1	9.2	9.0	9.0	9.0	8.8	8.8	8.9	9.0	9.1	9.3	9.4	9.5	9.5	9.5	9.4	9.2	9.1	9.1	9.1	9.1	9.0	9.0	9.0	9.1	
Mar.	8.7	8.7	8.6	8.6	8.5	8.5	8.5	8.6	8.6	8.8	8.9	9.1	9.2	9.2	9.3	9.3	9.4	9.3	9.2	9.1	8.9	8.9	8.8	8.9	9.0	8.9	
Apr.	10.0	9.8	9.8	9.6	9.5	9.4	9.5	9.6	9.9	10.1	10.1	10.3	10.3	10.6	10.5	10.5	10.3	10.3	10.2	10.2	10.2	10.2	10.0	9.9	10.0	10.0	
May	11.2	11.2	11.0	10.8	10.8	10.8	10.9	11.0	11.5	11.7	11.8	11.7	12.1	12.0	12.2	12.2	12.2	12.1	12.1	12.0	11.9	11.7	11.5	11.3	11.3	11.6	
June	13.4	13.2	13.0	12.8	12.7	12.8	13.4	14.0	14.3	14.4	14.6	14.5	14.8	14.8	14.6	14.6	14.2	14.0	14.2	14.0	13.9	13.8	13.6	13.4	13.9		
July	12.8	12.7	12.6	12.4	12.4	12.6	13.0	13.4	13.8	13.8	13.8	13.9	13.9	13.8	13.8	13.7	13.6	13.6	13.6	13.4	13.4	13.3	13.2	13.0	12.9	13.3	
Aug.	14.8	14.7	14.5	14.4	14.4	14.3	14.4	14.9	15.2	15.5	15.6	15.7	15.9	16.0	16.3	16.2	16.2	16.0	16.0	15.8	15.4	15.2	15.2	15.0	14.8	15.3	
Sept.	12.7	12.4	12.5	12.2	12.4	12.3	12.2	12.3	12.8	13.0	13.1	12.8	12.9	12.8	12.9	12.9	12.9	13.0	13.0	12.8	12.8	12.7	12.6	12.3	12.4	12.7	
Oct.	10.4	10.4	10.4	10.4	10.5	10.4	10.4	10.4	10.3	10.7	11.2	11.4	11.4	11.3	11.5	11.4	11.3	11.1	10.9	10.8	10.8	10.5	10.5	10.6	10.4	10.8	
Nov.	9.4	9.5	9.5	9.3	9.3	9.3	9.3	9.4	9.5	9.4	9.6	9.9	9.9	10.1	10.2	10.0	9.9	9.8	9.7	9.5	9.6	9.6	9.6	9.4	9.5	9.6	
Dec.	8.8	8.8	8.9	8.7	8.9	8.8	8.9	9.0	9.0	9.0	8.9	8.9	8.9	8.9	9.0	9.1	8.9	8.9	8.9	8.9	8.8	8.8	8.6	8.7	8.7	8.9	
Annual	10.7	10.5	10.4	10.3	10.3	10.3	10.4	10.6	10.7	10.8	10.9	11.0	11.1	11.2	11.3	11.2	11.1	11.0	11.0	10.9	10.8	10.7	10.7	10.6	10.6	10.8	

\* Mean of values,  $1, 2, \dots, 23, \frac{1}{2}(0 + 24)$ .



# RAINFALL

131

Amount in millimetres, duration in hours and maximum rate of fall for each day 0h. to 24h., G.M.T.

169 VALENTIA OBSERVATORY:  $h_r$  (height of receiving surface above M.S.L.) = height of station above M.S.L. + height of receiving surface above ground = 9.1 m. + 0.5 m.

1940

	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE		
	Amount	Dura- tion	Max. rate	Amount	Dura- tion	Max. rate	Amount	Dura- tion	Max. rate	Amount	Dura- tion	Max. rate	Amount	Dura- tion	Max. rate	Amount	Dura- tion	Max. rate
	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.
1	0.9	2.1	...	0.1	0.2	...	0.0	0.0	...	7.0	4.4	30	4.0	2.4	34	0.4	0.9	...
2	0.0	0.0	...	0.0	0.0	...	0.0	0.0	...	5.4	5.4	10	0.0	0.0	...	0.0	0.0	...
3	0.0	0.0	...	11.6	7.3	17	0.0	0.0	...	1.6	0.6	14	0.0	0.0	...	0.0	0.0	...
4	0.0	0.0	...	0.5	0.6	...	0.0	0.0	...	1.3	1.7	...	0.8	2.4	...	0.0	0.0	...
5	0.8	0.6	...	0.3	0.2	...	0.0	0.0	...	0.8	3.1	...	0.9	3.0	5	0.0	0.0	...
6	27.2	12.9	18	15.8	18.5	8	0.0	0.0	...	2.2	1.8	5	0.0	0.0	...	0.0	0.0	...
7	8.2	2.4	40	19.2	4.2	23	2.5	5.2	...	2.9	2.4	1	0.0	0.0	...	0.0	0.0	...
8	0.1	0.2	...	0.0	0.0	...	0.0	0.0	...	0.0	0.0	...	0.0	0.0	...	0.0	0.0	...
9	0.0	0.0	...	0.0	0.0	...	0.6	0.8	...	0.0	0.0	...	0.0	0.0	...	8.8	2.7	23
10	0.0	0.0	...	6.9	5.7	26	0.2	0.4	...	0.1	0.2	...	0.0	0.0	...	0.0	0.0	...
11	0.0	0.0	...	0.1	0.0	...	3.0	3.2	5	0.3	0.3	...	0.0	0.0	...	6.0	4.5	40
12	0.0	0.0	...	0.0	0.0	...	6.2	9.2	2	0.8	1.3	7	0.0	0.0	...	0.4	0.3	7
13	0.0	0.0	...	0.0	0.0	...	0.1	0.2	...	0.8	1.5	4	0.0	0.0	...	0.3	0.1	2
14	0.0	0.0	...	0.0	0.0	...	0.1	0.1	...	0.0	0.0	...	0.6	0.4	8	0.0	0.0	...
15	0.8	0.5	...	11.5	8.4	19	0.1	0.1	...	2.5	2.0	17	1.3	0.9	8	5.0	3.5	3
16	0.0	0.0	...	42.3	13.9	41	7.1	7.2	6	1.5	1.9	...	0.0	0.0	...	0.0	0.0	...
17	1.4	1.5	3	0.5	0.5	...	9.7	12.6	11	3.0	1.7	17	0.1	0.2	...	0.0	0.0	...
18	9.2	10.5	4	16.2	11.4	19	6.3	2.7	26	0.0	0.0	...	1.5	1.6	5	0.0	0.0	...
19	0.0	0.0	...	8.7	4.3	11	6.4	3.1	20	18.5	6.2	33	0.0	0.0	...	0.0	0.0	...
20	1.2	0.8	3	0.0	0.0	...	3.4	3.4	1	2.7	3.8	1	0.0	0.0	...	0.0	0.0	...
21	0.0	0.0	...	0.0	0.0	...	0.6	0.3	7	3.2	4.1	3	1.1	1.2	6	0.0	0.0	...
22	0.0	0.0	...	6.9	4.3	6	4.8	2.5	17	4.7	5.7	7	1.4	2.6	...	3.3	1.7	32
23	37.4	16.5	8	1.1	0.6	8	5.7	1.3	20	3.4	3.2	4	0.0	0.0	...	0.9	0.8	...
24	11.5	10.3	5	0.0	0.0	...	0.3	0.4	...	1.0	1.4	3	11.6	5.2	23	0.0	0.0	...
25	22.9	15.2	33	0.8	1.3	4	0.8	2.8	...	0.1	0.5	...	7.6	6.0	30	1.6	0.6	37
26	13.8	9.8	44	20.8	12.5	20	0.8	0.3	13	4.4	5.5	11	7.3	3.2	30	2.1	1.8	40
27	10.4	9.7	9	7.2	9.4	9	2.5	1.1	30	0.4	1.2	...	1.1	0.6	6	0.1	0.1	...
28	4.1	3.7	4	9.1	9.7	7	0.9	0.9	11	9.6	5.8	25	0.2	0.1	1	24.9	9.4	47
29	8.3	7.3	10	0.0	0.0	...	9.5	5.4	6	0.0	0.0	...	0.5	1.5	...	0.8	0.5	40
30	0.0	0.0	...				4.4	3.1	27	2.1	1.5	2	2.4	3.1	6	0.0	0.0	...
31	5.6	4.1	6				8.8	7.6	18				0.0	0.0	...			
Total	163.8	108.1	-	179.6	113.0	-	84.8	73.9	-	80.3	67.2	-	42.4	34.4	-	54.6	26.9	-

	JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER		
	Amount	Dura- tion	Max. rate	Amount	Dura- tion	Max. rate	Amount	Dura- tion	Max. rate	Amount	Dura- tion	Max. rate	Amount	Dura- tion	Max. rate	Amount	Dura- tion	Max. rate
	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.
1	0.0	0.0	...	0.0	0.0	...	0.0	0.0	...	0.0	0.0	...	8.0	3.6	56	1.3	2.1	...
2	2.3	7.2	3	0.0	0.0	...	0.0	0.0	...	0.0	0.0	...	27.8	14.7	62	4.3	6.6	18
3	0.9	2.0	2	0.0	0.0	...	0.0	0.0	...	2.8	3.0	9	8.7	10.4	9	5.7	5.4	4
4	0.5	0.6	...	1.0	0.9	2	8.7	7.7	13	5.7	7.2	23	2.5	0.7	29	2.9	2.9	13
5	0.1	0.1	...	0.0	0.0	...	0.0	0.0	...	21.2	10.1	11	8.9	3.6	30	7.9	7.2	20
6	4.3	1.7	37	0.0	0.0	...	0.0	0.0	...	24.3	7.9	17	4.4	2.7	20	3.4	2.4	10
7	4.5	1.4	34	0.0	0.0	...	0.7	0.7	...	0.2	0.2	...	0.4	0.2	...	8.6	3.7	45
8	5.0	2.9	15	0.0	0.0	...	2.6	0.9	25	8.3	4.1	18	26.7	10.0	28	6.6	7.6	7
9	1.5	1.5	7	1.1	0.8	3	0.7	0.2	8	17.5	10.4	77	2.3	1.7	24	5.9	2.4	30
10	1.5	0.4	...	0.7	0.5	3	1.3	1.5	5	6.5	2.5	56	2.5	1.4	18	3.6	2.1	28
11	1.8	1.4	13	0.0	0.0	...	0.0	0.0	...	0.3	0.3	...	21.6	10.2	19	1.7	1.3	18
12	5.0	5.1	27	0.0	0.0	...	1.0	1.0	13	17.4	9.0	14	3.1	1.7	20	4.9	4.4	5
13	9.2	5.1	32	0.6	0.6	...	0.4	0.4	6	22.9	17.0	13	1.7	0.9	13	13.0	8.2	17
14	0.6	1.7	...	0.3	0.2	5	10.1	7.8	19	0.4	0.2	3	5.7	3.4	34	18.5	7.8	20
15	3.2	1.8	1	0.5	1.2	...	4.0	4.7	3	0.1	0.1	...	11.5	5.8	30	3.5	6.8	1
16	8.1	5.4	7	0.0	0.0	...	17.5	9.3	47	0.0	0.0	...	7.0	2.8	21	6.2	4.4	40
17	3.0	5.2	4	0.0	0.0	...	4.5	1.5	51	0.0	0.0	...	3.2	2.4	18	5.8	4.3	8
18	2.8	2.5	15	0.2	0.2	...	7.9	2.1	46	0.1	0.1	...	2.3	0.8	19	5.2	3.4	23
19	1.8	0.9	93	0.0	0.0	...	4.6	1.6	61	29.7	12.7	20	12.0	10.5	4	4.3	16.8	...
20	4.7	1.7	79	0.0	0.0	...	0.8	0.9	14	2.1	2.6	17	11.6	5.3	27	1.6	6.3	...
21	0.0	0.0	...	0.6	0.6	...	0.0	0.0	...	23.2	10.3	52	1.3	1.7	8	0.0	0.0	...
22	0.0	0.0	...	0.0	0.0	...	5.1	2.4	36	8.6	6.8	18	0.2	0.1	14	0.0	0.0	...
23	3.8	3.8	19	0.0	0.0	...	0.1	0.1	4	0.1	0.1	...	6.5	1.9	25	0.0	0.0	...
24	1.7	0.3	48	0.3	0.4	...	2.1	1.3	26	0.0	0.0	...	0.0	0.0	...	0.0	0.0	...
25	0.0	0.0	...	0.8	0.5	3	0.0	0.0	...	0.0	0.0	...	0.2	0.3	...	0.1	0.0	...
26	0.8	0.6	7	0.2	0.1	4	0.0	0.0	...	0.0	0.0	...	1.1	1.3	5	0.0	0.0	...
27	0.1	0.1	...	2.8	1.9	3	0.2	0.1	...	0.0	0.0	...	0.2	0.1	...	0.0	0.0	...
28	0.0	0.0	...	0.5	0.5	...	0.0	0.0	...	0.0	0.0	...	0.0	0.0	...	1.0	1.3	...
29	0.0	0.0	...	0.5	2.0	...	0.0	0.0	...	9.2	5.3	17	0.2	0.3	...	9.4	8.6	4
30	0.0	0.0	...	0.0	0.0	...	0.0	0.0	...	30.9	11.1	69	4.2	6.4	15	4.9	2.9	10
31	0.0	0.0	...	0.0	0.0	...				3.7	2.1	30				21.5	17.4	15
Total	67.2	53.4	-	10.1	10.4	-	72.3	44.2	-	235.2	123.1	-	185.8	104.9	-	151.8	136.3	-







## DURATION OF BRIGHT SUNSHINE AND PERCENTAGE OF POSSIBLE FOR EACH DAY

133

173 VALENTIA OBSERVATORY:  $h_s$  (height of recorder above ground) = 12.8 m.

1940

	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	Duration	Per cent. of possible	Duration	Per cent. of possible	Duration	Per cent. of possible	Duration	Per cent. of possible	Duration	Per cent. of possible	Duration	Per cent. of possible	Duration	Per cent. of possible	Duration	Per cent. of possible	Duration	Per cent. of possible	Duration	Per cent. of possible	Duration	Per cent. of possible	Duration	Per cent. of possible
1	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%
2	1.5	20	2.6	29	5.4	50	4.8	37	9.1	61	0.5	3	6.4	39	5.0	32	0.2	1	...	...	3.8	39	...	...
3	0.6	8	3.1	34	9.3	86	1.6	12	0.3	2	13.7	84	...	...	12.7	83	4.2	31	2.4	21	...	...	4.9	61
4	0.1	1	...	...	9.4	86	3.0	23	11.1	75	13.9	85	4.5	27	9.9	64	5.8	43	1.1	10	...	...	2.4	30
5	...	...	2.3	25	9.5	87	2.9	22	0.1	1	14.1	86	0.2	1	0.2	1	0.1	1	2.8	25	5.8	61	...	...
	...	...	3.9	42	9.4	85	...	...	...	...	12.3	75	2.7	16	9.8	64	11.4	86	...	...	1.5	16	...	...
6	...	...	...	...	0.5	4	...	...	12.3	82	14.7	89	12.0	73	5.0	33	1.6	12	2.2	20	2.3	25	2.4	30
7	4.9	62	6.5	69	0.3	3	9.1	69	0.3	2	13.9	84	13.4	81	7.3	48	1.5	11	7.1	63	7.0	76	...	...
8	...	...	6.9	73	...	...	5.1	38	6.0	39	14.2	86	9.4	57	4.1	27	8.5	65	...	...	...	...	...	...
9	0.2	3	0.4	4	0.1	1	4.7	35	10.1	66	4.2	25	5.1	31	0.4	3	1.6	12	1.6	14	5.3	58	...	...
10	0.3	4	...	...	2.3	20	7.3	54	11.9	78	12.2	74	11.0	67	6.4	43	2.7	21	6.5	59	3.4	37	...	...
11	6.0	75	0.7	7	...	...	3.6	27	14.3	93	3.9	24	8.6	53	7.8	52	5.6	43	2.1	19	...	...	...	...
12	6.6	82	5.9	61	0.8	7	1.1	8	14.5	94	8.9	54	...	...	0.9	6	...	...	...	...	...	...	...	...
13	6.2	77	7.9	81	0.2	2	1.6	12	14.1	91	10.9	66	1.4	9	3.1	21	1.9	15	...	...	(3.1)* (35)	...	...	...
14	5.6	69	7.9	81	9.6	82	4.0	29	11.6	75	3.3	20	5.8	36	...	...	...	...	1.4	13	4.9	55	0.6	8
15	...	...	...	...	4.6	39	7.3	53	10.7	69	7.5	45	7.0	43	...	...	1.1	9	4.7	44	4.3	49	...	...
16	6.3	77	2.9	29	...	...	7.7	56	13.7	88	14.4	87	3.4	21	7.3	50	...	...	7.9	74	2.1	24	2.6	34
17	5.7	69	2.2	22	...	...	5.0	36	0.1	1	14.3	86	0.1	1	11.1	76	3.7	29	9.2	87	1.7	20	0.3	4
18	5.2	63	...	...	...	...	12.8	92	0.8	5	13.4	80	2.0	12	...	...	2.9	23	3.7	35	3.8	44	0.1	1
19	6.4	77	...	...	6.4	53	0.3	2	8.5	54	15.1	91	8.6	54	9.8	68	7.2	58	...	...	...	...	...	...
20	3.5	42	1.6	16	3.9	32	1.2	9	14.7	93	11.8	71	9.3	58	...	...	8.5	69	5.7	55	1.0	12	4.3	56
21	6.6	78	...	...	3.1	26	0.1	1	8.4	53	13.2	79	12.9	81	2.0	14	9.6	78	0.8	8	...	...	0.4	5
22	6.6	78	...	...	4.9	40	8.0	56	1.1	7	8.6	52	13.3	83	10.8	76	5.0	41	2.8	27	4.5	53	2.2	29
23	...	...	5.5	53	6.7	55	8.1	57	11.2	70	11.8	71	7.0	44	1.6	11	8.6	71	5.6	55	3.9	46	1.2	16
24	...	...	3.5	33	3.2	26	4.5	31	4.3	27	1.4	8	9.1	57	0.6	4	7.9	65	...	...	1.1	13	5.7	74
25	...	...	1.9	18	2.8	23	4.5	31	4.4	27	8.0	48	3.6	23	0.8	6	8.6	72	6.7	67	0.1	1	...	...
26	1.9	22	0.6	6	7.5	60	...	...	4.6	29	7.7	46	8.4	53	4.0	29	2.1	18	1.6	16	...	...	6.2	81
27	...	...	...	...	9.0	72	3.9	27	8.9	55	1.3	8	12.3	78	2.2	16	1.1	9	7.4	74	4.2	51	3.7	48
28	0.1	1	...	...	1.5	12	0.1	1	10.1	63	0.4	2	14.5	93	0.1	1	7.5	63	2.3	23	6.4	78	...	...
29	...	...	0.9	8	5.4	43	11.2	76	6.6	41	12.3	74	14.1	90	9.8	71	10.0	85	2.4	24	...	...	...	...
30	1.7	19	...	...	3.2	25	3.6	24	11.8	73	4.0	24	11.8	76	3.0	22	0.3	3	2.1	22	...	...	...	...
31	0.3	3	...	...	...	...	...	...	...	...	...	...	10.2	66	9.9	72	...	...	4.2	43	...	...	...	...
Mean	2.46	-	2.32	-	3.84	-	4.24	-	7.60	-	9.53	-	7.36	-	4.70	-	4.31	-	3.04	-	2.34	-	1.19	-
Annual Mean												4.41												

\* Estimated value: sphere out of position.

DURATION OF BRIGHT SUNSHINE  
Monthly and annual totals between exact hours, local apparent time174 VALENTIA OBSERVATORY:  $h_s$  = 12.8 m.

1940

	Hour L.A.T.																				Total	Per cent. of possible
	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			
hours																						
Jan.	-	-	-	-	...	0.1	9.0	11.8	13.0		12.7	12.4	12.2	5.1	...	-	-	-	-		76.3	30
Feb.	-	-	-	...	...	3.6	7.7	9.3	12.0		10.1	9.0	8.0	6.0	1.5	...	-	-	-		67.2	24
Mar.	-	-	...	0.2	3.8	10.1	14.7	14.0	13.3		13.6	13.5	12.1	11.2	10.2	2.3	...	-	-		119.0	32
Apr.	-	...	1.3	6.2	8.6	8.8	12.0	11.4	10.4		12.4	11.8	11.7	11.8	12.2	5.9	2.6	...	-		127.1	31
May	...	1.2	10.5	12.7	13.7	17.0	19.2	17.6	19.5		18.9	19.2	18.8	20.1	17.2	15.1	11.8	3.1	...		235.6	49
June	...	4.1	18.1	17.9	18.3	17.4	18.0	19.2	19.8		22.4	22.3	22.2	21.0	20.6	20.1	17.0	7.5	...		285.9	57
July	...	2.6	9.9	12.0	13.1	14.7	15.1	15.3	17.6		18.6	19.1	20.3	19.1	16.5	16.2	12.3	5.7	...		228.1	46
Aug.	-	...	1.1	6.3	6.1	8.5	11.5	10.3	12.2		15.1	13.9	14.7	15.1	14.4	10.4	5.9	0.1	-		145.6	32
Sept.	-	-	...	0.9	6.6	11.2	12.8	14.3	14.5		13.6	13.9	13.4	12.6	9.5	5.8	0.1	-	-		129.2	34
Oct.	-	-	-	...	0.8	7.3	10.6	12.7	12.8		11.4	13.6	11.8	9.2	4.1	...	-	-	-		94.3	28
Nov.	-	-	-	-	...	1.8	8.6	11.0	10.5		11.7	12.4	9.3	4.8	0.1	-	-	-	-		70.2	27
Dec.	-	-	-	-	-	...	3.2	5.5	6.7		7.9	7.6	5.1	1.0	-	-	-	-	-		37.0	15
Annual	-	7.9	40.9	56.2	71.0	100.5	142.4	152.4	162.3		168.4	168.7	159.6	137.0	106.3	75.8	49.7	16.4	-		1615.5	36



## WIND

Mean speed and highest instantaneous speed recorded each day (0h. to 24h., G.M.T.) by the pressure-tube anemograph

175 VALENTIA OBSERVATORY:  $h_a$  (height of anemograph above M.S.L.) = height of ground above M.S.L. + height of anemograph above ground  
= 17 m. + 13 m.

1940

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
	Mean Max. gust	Mean Max. gust	Mean Max. gust	Mean Max. gust	Mean Max. gust	Mean Max. gust	Mean Max. gust	Mean Max. gust	Mean Max. gust	Mean Max. gust	Mean Max. gust	Mean Max. gust
1	12.4 25	3.0 10	5.9 17	7.1 23	3.8 10	metres per second	2.3 8	2.0 7	2.7 6	1.4 6	6.4 18	7.3 15
2	9.6 23	7.5 18	6.2 18	6.0 21	6.2 12	4.5 13	5.3 12	2.5 8	1.9 7	1.7 7	10.8 35	4.2 12
3	7.3 18	8.5 26	2.1 10	6.4 17	2.4 9	4.7 16	6.6 16	3.0 9	5.3 13	4.8 13	2.4 8	5.1 17
4	6.5 16	4.7 10	1.6 8	6.6 16	4.1 11	5.3 12	5.5 15	3.8 9	4.7 14	5.7 19	4.9 12	6.8 23
5	8.4 20	4.7 16	5.0 12	3.2 12	3.1 8	6.3 15	5.0 13	2.2 8	2.9 10	9.0 26	5.4 17	10.3 36
6	7.3 26	9.9 28	3.9 11	6.0 17	4.9 14	2.2 10	4.6 12	2.2 10	2.0 8	4.0 14	10.6 22	14.7 34
7	6.4 17	5.2 19	5.4 12	7.2 17	2.6 8	1.3 7	3.4 11	2.5 8	4.9 13	5.4 17	4.5 15	11.6 32
8	3.5 9	5.7 14	5.7 14	7.0 15	3.9 9	3.9 14	4.4 16	4.6 11	7.3 22	5.7 17	8.5 23	6.4 18
9	6.8 17	5.9 14	6.0 13	4.7 13	4.1 12	5.0 12	5.5 22	7.6 17	4.5 13	7.8 21	2.4 12	9.5 28
10	7.2 16	7.8 22	5.7 14	3.4 11	5.3 13	3.1 11	2.2 7	8.2 18	7.3 16	6.2 18	8.6 22	11.7 29
11	4.7 12	0.5 -	6.2 14	2.6 9	6.8 15	5.0 13	6.1 17	2.6 8	4.5 10	4.1 13	11.4 31	8.5 26
12	1.5 7	4.6 14	4.3 12	4.8 12	2.3 10	5.4 15	9.4 21	3.6 9	7.2 19	10.4 23	13.2 34	5.9 18
13	2.3 10	3.8 12	3.7 13	6.1 14	4.2 10	3.7 14	5.1 12	5.3 16	7.9 20	10.1 28	4.8 16	6.7 13
14	1.5 6	1.4 7	4.0 18	7.9 19	5.2 12	3.8 12	2.2 9	3.9 12	4.8 14	3.2 13	5.1 17	5.2 18
15	1.7 17	7.1 27	3.4 13	8.4 20	4.1 11	6.3 14	2.9 9	3.3 15	4.4 15	1.1 5	4.2 20	12.1 23
16	7.0 19	8.7 27	9.0 25	5.3 18	2.9 8	5.2 12	6.3 17	3.2 9	10.0 23	2.0 7	5.5 20	8.2 26
17	3.1 10	6.6 23	6.7 16	2.9 10	6.0 13	3.0 11	3.4 12	2.2 7	10.3 27	2.1 7	2.5 11	6.7 19
18	3.9 11	8.3 22	10.6 25	2.0 7	7.1 15	3.0 -	3.5 9	4.2 13	6.9 20	2.5 10	7.3 19	8.7 18
19	2.8 10	6.4 18	10.7 27	5.1 16	5.2 14	4.3 -	5.6 14	6.3 13	8.8 20	2.2 10	5.7 17	1.1 8
20	3.9 16	10.1 20	7.4 22	4.5 16	4.5 14	5.4 -	7.3 17	5.1 15	2.7 12	4.0 12	10.0 28	4.1 14
21	6.4 21	10.2 21	6.7 16	7.9 22	2.8 11	5.3 14	4.1 11	8.6 18	2.8 9	7.1 18	7.0 27	6.7 17
22	1.7 10	7.0 19	6.5 14	8.0 19	2.2 12	10.1 23	2.4 8	7.3 14	5.5 14	6.9 18	6.5 17	8.1 19
23	9.3 20	4.7 14	8.9 25	5.4 14	2.4 7	8.9 22	5.3 13	5.9 13	4.2 11	5.0 13	7.6 19	4.9 14
24	5.1 14	4.3 13	3.7 10	8.1 20	7.0 18	4.7 16	4.5 12	2.2 7	3.9 15	6.1 13	6.1 15	1.7 9
25	8.6 18	9.8 21	6.9 17	6.0 13	7.0 14	7.1 20	1.9 7	3.9 9	6.1 15	4.9 14	10.1 21	1.3 6
26	9.1 22	10.6 25	9.3 22	4.8 10	6.7 16	5.5 15	4.1 12	2.6 8	3.4 9	4.1 12	10.1 21	2.2 9
27	7.4 15	6.7 15	5.4 18	3.1 9	6.6 15	5.9 18	5.8 13	2.4 7	5.3 15	2.4 8	7.8 19	1.6 8
28	6.4 13	10.7 20	4.3 15	5.6 16	4.3 10	11.0 23	3.6 10	3.1 9	5.4 14	7.1 24	2.1 4	5.8 12
29	7.6 18	11.1 23	8.5 23	3.4 8	5.0 13	4.9 16	2.7 9	5.7 12	1.8 8	10.2 24	5.0 14	7.1 14
30	10.8 22		9.5 21	1.9 10	4.8 11	3.7 11	2.5 9	2.4 8	1.6 5	10.5 34	6.7 14	4.9 15
31	6.2 16		9.7 23		4.5 11		2.4 10	5.7 17		6.1 20		6.3 21

## WIND

Monthly and annual means of mean wind speed between exact hours, G.M.T.

176 VALENTIA OBSERVATORY:  $h_a$  = 17 m. + 13 m.

1940

	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
	metres per second																								
Jan.	6.1	6.2	6.3	6.3	6.2	6.0	5.9	6.2	5.9	5.9	6.2	6.2	6.0	6.1	6.0	6.0	5.8	5.6	5.6	5.7	6.0	6.2	5.9	6.0	6.0
Feb.	6.6	6.2	6.4	6.4	6.5	7.0	6.7	6.6	6.7	6.8	6.9	7.2	7.2	7.2	7.1	7.0	6.9	6.8	6.6	6.5	6.4	6.5	6.8	6.9	6.7
Mar.	5.9	5.8	6.0	6.2	6.2	6.0	5.4	5.8	6.3	6.9	7.0	7.3	7.0	6.8	6.8	6.6	6.2	5.6	5.5	5.6	5.9	6.1	6.2	6.2	6.2
Apr.	5.0	4.6	4.7	4.9	4.8	4.6	4.4	4.7	4.9	5.0	5.7	6.1	6.2	6.4	6.4	6.7	6.9	6.3	5.7	5.2	5.1	5.0	5.0	4.9	5.4
May	3.5	3.5	3.7	3.6	3.7	3.5	3.5	4.3	4.7	5.1	5.4	5.7	5.7	6.0	6.3	6.2	6.0	5.4	4.9	4.4	3.7	3.8	3.9	3.5	4.6
June	3.3	3.5	3.3	3.4	3.4	3.4	4.0	4.6	5.5	5.6	6.1	6.4	6.8	7.1	7.1	7.2	6.9	6.5	6.0	5.5	4.7	4.3	3.7	3.4	5.1
July	3.5	3.3	3.4	3.3	3.6	3.2	3.3	3.4	3.6	4.3	4.9	5.1	5.5	5.9	6.1	6.2	6.0	5.6	5.4	4.9	4.2	3.6	3.6	3.6	4.4
Aug.	3.3	3.3	3.5	3.3	3.6	3.5	3.4	3.8	4.3	4.6	5.0	5.3	5.6	5.6	5.5	5.5	5.0	4.8	4.3	3.6	3.3	2.9	2.9	3.1	4.1
Sept.	4.2	4.5	4.3	4.2	4.3	4.4	4.3	4.4	4.6	5.1	5.6	6.1	6.2	6.3	6.2	6.1	6.1	5.9	5.4	4.9	4.5	4.5	4.5	4.1	5.0
Oct.	5.1	5.0	4.9	4.7	4.6	4.6	4.6	4.4	4.4	4.5	5.3	5.5	5.9	6.3	6.2	6.0	5.9	5.7	5.5	5.6	5.7	5.8	5.6	5.3	5.3
Nov.	6.9	6.9	7.1	6.9	6.8	6.5	6.3	6.3	6.4	6.2	6.8	7.2	7.3	7.8	7.6	7.0	6.8	6.6	6.4	6.2	6.1	6.2	6.7	6.9	6.7
Dec.	6.3	6.3	6.1	6.2	6.2	5.9	6.1	6.4	6.1	6.5	6.9	6.8	6.8	7.2	7.3	7.4	7.2	7.0	7.0	6.7	6.8	6.8	6.9	6.4	6.6
Annual	5.0	4.9	5.0	4.9	5.0	4.9	4.9	5.0	5.2	5.5	6.0	6.2	6.4	6.6	6.5	6.5	6.3	6.0	5.7	5.4	5.2	5.1	5.1	5.0	5.5

## DISTRIBUTION OF WIND SPEED, EXTREME VELOCITIES AS RECORDED BY PRESSURE-TUBE ANEMOGRAPH

177 VALENTIA OBSERVATORY:  $h_a$  = 17 m. + 13 m.

1940

	DISTRIBUTION OF WIND SPEED								EXTREME VELOCITIES				
	More than 17·1 m./sec.		10·8 to 17·1 m./sec.		5·5 to 10·7 m./sec.	1·6 to 5·4 m./sec.	Less than 1·6 m./sec.	No record	Highest hourly wind			Highest gust	
	Dates of occurrence	Duration	No. of days	Duration	Duration	Duration	Duration	Duration	Veer from N.	Speed	Hour ended	Speed	Date
		hr.		hr.	hr.	hr.	hr.	hr.	°	m./sec.	day h.	m./sec.	day h. m.
Jan.	—	0	12	75	352	224	93	0	100	16	1 23	26	6 03 39
Feb.	—	0	14	109	313	193	81	0	170	15	16 7	28	6 15 45
Mar.	—	0	9	77	359	248	60	0	160	15	16 13	27	19 13 27
Apr.	—	0	5	11	341	304	64	0	180	13	1 1	23	1 00 29
May	—	0	0	0	298	349	97	0	180	10	18 16	18	24 22 00
June	—	0	3	34	307	258	121	0	165	15	28 12	23	28 15 27
July	—	0	2	5	238	372	129	0	205	12	9 3	22	9 02 31
Aug.	—	0	1	2	190	432	120	0	180	12	31 9	18	10 03 01
Sept.	—	0	5	25	279	320	96	0	260	14	17 10	27	17 09 30
Oct.	—	0	7	60	264	310	110	0	205	16	5 17	34	30 15 52
Nov.	2, 11, 12, } 20, 21 }	13	14	86	337	236	48	0	220	21	2 11	35	2 12 38
Dec.	5, 7	3	10	116	333	206	86	0	330	21	7 4	36	5 21 57
Year	7 days	16	82	600	3611	3452	1105	0	330	21	Dec. 7 4	36	Dec. 5 21 57



## TEMPERATURE IN THE GROUND AT DEPTHS OF 30 CM. (1ft.) AND 122 CM. (4ft.) AT 9h. G.M.T.

135

178 VALENTIA OBSERVATORY

1940

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
	30 cm. 122 cm.	30 cm. 122 cm.	30 cm. 122 cm.	30 cm. 122 cm.	30 cm. 122 cm.	30 cm. 122 cm.	30 cm. 122 cm.	30 cm. 122 cm.	30 cm. 122 cm.	30 cm. 122 cm.	30 cm. 122 cm.	30 cm. 122 cm.
	<i>degrees Absolute</i>											
1	79.0 80.3	79.7 80.5	80.1 81.8	83.2 82.3	85.2 84.0	88.6 86.1	89.4 88.0	90.5 88.2	90.2 88.7	85.6 87.0	83.9 84.8	80.9 82.8
2	79.2 80.5	79.1 80.5	79.4 81.7	82.4 82.6	85.5 84.0	89.0 86.4	89.6 88.0	90.8 88.4	90.2 88.8	85.3 86.9	84.0 84.9	81.6 82.7
3	78.7 80.7	80.0 80.6	78.9 81.6	82.3 82.7	85.1 84.1	89.9 86.4	89.0 88.0	91.0 88.3	90.1 88.8	85.8 86.9	84.2 84.8	81.6 82.7
4	78.1 80.7	80.7 80.5	78.7 81.3	83.1 82.5	85.5 84.0	90.7 86.6	89.1 88.0	91.0 88.2	90.2 88.9	86.1 86.8	84.0 84.9	81.8 82.7
5	79.0 80.8	80.7 80.7	79.0 81.2	83.2 82.6	85.9 84.2	91.1 86.9	89.0 88.0	90.3 88.6	89.6 89.0	85.8 86.7	83.4 84.8	81.9 83.0
6	80.0 80.8	80.7 80.7	79.0 81.0	83.6 82.7	86.0 84.3	91.4 87.0	89.0 88.0	90.1 88.6	89.1 88.8	86.0 86.7	83.0 84.9	81.1 83.0
7	81.0 80.6	81.2 80.8	79.2 81.0	83.6 82.7	86.0 84.4	91.6 87.3	89.0 88.0	90.5 88.8	89.4 88.8	86.0 86.8	83.0 84.9	80.3 83.0
8	80.7 80.9	81.0 81.0	80.0 81.0	83.3 82.8	85.7 84.5	91.9 87.5	89.6 88.0	90.6 88.7	89.0 88.6	86.0 86.7	82.2 84.6	80.8 82.9
9	80.8 81.0	80.9 81.0	80.8 81.0	83.1 82.8	86.4 84.5	92.0 87.5	90.0 88.0	90.3 88.7	87.7 88.4	86.0 86.6	82.8 84.4	81.0 82.8
10	81.0 81.0	80.0 81.0	81.3 81.0	83.6 82.9	86.8 84.6	91.2 87.9	89.2 88.0	89.7 88.8	88.1 88.5	85.0 86.6	82.1 84.2	81.1 82.8
11	80.6 81.2	79.9 81.0	82.0 81.0	83.8 82.9	86.7 84.7	91.0 87.9	89.0 88.0	89.2 88.8	88.0 88.2	84.4 86.3	82.1 84.1	80.8 82.6
12	79.3 81.3	79.6 81.0	82.4 81.2	84.1 83.0	86.2 84.9	90.0 88.0	88.8 88.0	89.2 88.8	88.2 88.1	85.0 86.1	82.7 84.0	80.4 82.5
13	77.9 81.3	78.2 81.0	82.2 81.4	84.4 83.0	86.8 84.9	89.9 88.0	88.0 88.0	89.5 88.8	88.4 88.1	85.3 86.1	82.1 84.0	81.1 82.4
14	76.9 81.1	77.4 81.0	81.1 81.6	84.0 83.1	87.1 85.0	90.1 88.0	88.0 88.0	89.2 88.6	87.9 88.0	85.2 86.1	81.6 84.0	82.0 82.3
15	76.6 81.0	76.7 80.8	80.4 81.6	83.8 83.1	86.8 85.0	90.9 88.0	88.8 87.9	89.1 88.5	87.7 88.0	85.0 86.0	81.1 83.8	81.2 82.2
16	77.4 80.8	78.0 80.5	81.0 81.6	82.5 83.2	86.6 85.0	90.0 88.0	89.1 87.9	89.3 88.3	88.1 88.0	85.1 86.0	80.8 83.7	82.4 82.2
17	76.4 80.6	79.3 80.4	81.9 81.4	82.0 83.1	87.0 85.0	90.0 88.0	88.8 87.9	89.2 88.5	88.1 88.0	84.8 86.0	80.6 83.6	81.0 82.4
18	74.6 80.5	79.2 80.2	83.0 81.6	82.0 83.1	86.9 85.1	90.2 88.0	88.9 87.9	89.3 88.2	87.6 88.0	84.0 86.0	80.7 83.5	81.0 82.5
19	74.4 80.3	81.0 80.2	82.3 81.8	82.2 83.1	87.2 85.2	91.0 88.0	89.0 87.9	89.2 88.5	87.5 88.0	84.6 86.0	80.7 83.2	82.1 82.5
20	75.3 80.1	81.7 80.3	81.4 81.8	81.9 83.0	87.8 85.4	91.5 88.1	88.0 87.9	89.3 88.3	87.0 87.9	84.0 85.9	81.8 83.1	82.5 82.5
21	75.1 80.0	82.0 80.6	82.0 81.9	82.7 82.9	87.4 85.5	91.5 88.2	89.1 88.0	89.0 88.2	86.9 87.9	83.9 85.8	82.2 83.1	81.2 82.6
22	75.0 79.7	82.1 80.8	82.8 81.9	83.6 83.0	87.6 85.6	91.1 88.3	88.0 87.9	88.8 88.6	86.9 87.7	83.9 85.7	81.9 83.1	80.0 82.6
23	75.0 79.6	81.9 81.0	82.8 82.0	84.9 83.0	86.9 85.7	89.8 88.3	90.0 88.0	89.0 88.2	86.7 87.5	84.2 85.5	82.1 83.1	79.4 82.5
24	75.7 79.2	81.1 81.1	82.7 82.1	85.2 83.0	87.2 85.7	89.3 88.5	90.0 88.0	89.1 88.2	86.2 87.6	84.1 85.3	82.2 83.1	78.2 82.2
25	77.8 79.1	81.5 81.1	83.0 82.1	85.0 83.2	87.9 85.8	89.0 88.5	89.5 88.0	89.5 88.2	86.0 87.7	83.5 85.3	82.6 83.1	77.1 82.0
26	79.4 79.1	82.0 81.3	82.9 82.2	85.6 83.3	88.2 85.7	88.9 88.1	89.4 88.1	89.4 88.2	85.6 87.1	83.0 85.2	83.0 83.1	77.2 81.9
27	80.0 79.2	82.8 81.4	82.1 82.2	85.7 83.6	88.6 85.8	89.0 88.1	89.2 88.1	89.8 88.2	86.3 87.2	82.3 85.1	82.8 83.2	77.0 81.7
28	81.1 79.7	82.7 81.7	81.9 82.3	86.0 83.7	88.1 85.9	89.3 88.1	89.0 88.0	90.0 88.2	86.8 87.0	81.7 85.0	81.0 83.2	77.0 81.3
29	81.3 80.0	80.9 81.8	82.7 82.3	85.2 83.8	88.3 86.0	88.9 88.0	89.0 88.1	90.0 88.3	86.1 87.0	82.2 85.0	79.3 83.1	78.7 81.0
30	80.9 80.1		82.6 82.3	85.1 84.0	88.3 86.0	89.0 88.0	89.4 88.2	90.3 88.3	85.8 87.0	84.0 84.9	79.9 83.0	80.1 81.0
31	79.5 80.3		83.1 82.3		88.9 86.1		89.6 88.0	90.0 88.7		84.0 84.9		81.0 81.0
Mean	78.3 80.4	80.4 80.8	81.4 81.7	83.7 83.0	86.9 85.1	90.3 87.7	89.1 88.0	89.7 88.4	87.8 88.0	84.6 86.0	82.1 83.8	80.4 82.3
Year							84.6 84.6					

## MINIMUM TEMPERATURE "ON THE GRASS" DURING THE INTERVAL 18h. TO 7h., G.M.T.

179 VALENTIA OBSERVATORY

1940

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
	<i>degrees Absolute</i>											
1	78.5	75.2	73.4	78.0	76.3	86.3	81.2	82.9	84.3	76.3	79.2	81.3
2	79.2	77.3	72.3	74.7	79.9	80.1	80.6	81.7	86.2	80.8	80.1	78.0
3	69.7	79.9	69.1	79.4	75.2	80.9	84.7	83.7	83.6	81.9	81.9	80.5
4	77.4	79.7	69.4	82.8	76.4	82.7	83.5	84.4	84.8	79.1	85.1	79.1
5	79.8	75.3	71.9	79.1	83.7	84.2	83.8	82.3	81.2	81.4	78.7	78.0
6	80.9	80.2	73.6	82.7	79.7	83.1	81.3	78.6	78.0	83.7	78.1	76.6
7	78.3	81.3	74.5	78.9	74.1	80.8	79.8	85.3	85.8	79.1	72.9	74.8
8	76.9	79.1	79.1	79.2	82.1	81.7	80.2	84.7	81.9	81.4	77.9	76.4
9	76.3	78.1	80.2	76.9	81.0	85.8	85.8	88.1	75.7	80.8	75.8	79.1
10	80.0	75.8	80.8	77.6	79.8	81.7	79.4	84.0	85.3	78.8	73.3	79.9
11	76.9	73.4	81.3	77.1	76.4	79.7	75.7	79.7	82.4	76.3	79.1	77.5
12	67.5	72.4	82.2	81.4	74.6	81.8	82.7	79.1	82.9	81.3	80.1	75.8
13	66.3	72.0	77.6	79.5	75.2	82.6	84.1	85.3	85.7	84.7	76.9	82.1
14	69.7	67.2	70.8	79.9	80.9	78.5	78.5	80.8	83.0	80.8	76.8	79.4
15	68.1	69.1	71.8	76.6	76.2	87.4	85.1	84.7	81.7	76.2	73.1	78.0
16	73.9	78.0	76.3	72.0	75.0	79.2	85.8	87.4	84.7	76.9	74.4	84.2
17	65.1	79.2	83.0	71.2	78.7	77.6	82.5	77.7	83.1	73.6	72.2	69.9
18	66.3	75.7	83.5	68.6	83.3	77.4	84.5	81.1	82.4	72.8	74.7	80.3
19	68.0	82.1	76.9	71.9	84.7	80.8	84.3	86.2	81.8	81.9	74.1	83.1
20	68.0	82.3	78.1	75.8	80.8	86.0	82.7	82.7	78.8	75.1	81.0	80.2
21	73.6	83.1	80.8	79.1	73.1	82.4	83.0	83.9	77.7	76.9	80.4	77.4
22	65.2	82.1	80.2	81.8	81.5	83.4	77.7	83.4	78.9	81.4	75.8	75.2
23	68.1	76.3	77.5	81.2	79.7	81.8	84.7	84.8	80.7	80.2	81.3	74.8
24	78.6	76.3	78.3	81.2	78.5	76.4	81.9	80.5	74.2	77.5	80.7	67.5
25	81.3	79.9	79.7	80.7	85.0	82.6	78.6	86.2	80.2	77.4	82.2	66.1
26	78.7	82.2	79.4	83.8	84.5	81.4	79.1	80.2	80.3	75.2	83.3	71.1
27	80.8	82.7	77.1	83.9	83.0	83.6	81.8	82.7	80.8	73.1	78.7	68.6
28	83.3	78.8	73.1	77.9	82.9	86.9	75.2	86.2	84.0	72.2	68.6	74.7
29	81.7	75.2	80.2	76.9	78.9	81.3	75.4	86.3	73.1	82.2	68.6	80.2
30	76.5		78.0	75.7	84.1	77.9	78.7	86.9	73.6	85.2	77.2	82.3
31	76.3		82.4		83.6		81.5	81.9		81.7		81.8
Mean	74.6	77.6	77.2	78.2	79.7	81.9	81.4	83.3	81.2	78.9	77.3	77.2
Year							79.1					

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

The minimum "on the grass" refers to the interval from 18h. on the previous day to 7h. on the day to which it is entered.

Add 0.16° to obtain temperature in degrees Kelvin where  $T(^{\circ}\text{K.}) = t(^{\circ}\text{C.}) + 273.16$ .







# KEW OBSERVATORY



# KEW OBSERVATORY

Latitude .. .. . 51°28'N.  
Longitude .. .. . 0°19'W.  
G.M.T. of Local Mean Noon 12h. 1m.

Heights of instruments	above M.S.L.	above ground
	m.	m.
Barometer .. .. .	10·4	..
Thermometer bulbs .. ..	..	3·0
Rain-gauge site .. ..	5·5	..
Beckley rain-gauge rim	..	0·53
Sunshine recorded .. ..	..	13·3
Pressure-tube anemograph	28	23

## INTRODUCTION

Full details of the site, instruments, procedure and tabulation are given in the *Observatories' Year Book* for 1938. Changes and additions only are mentioned here.

## METEOROLOGY

### NOTES ON THE INSTRUMENTS

*Pressure.*— The photographic barograph is mounted in the galvanometer room of the underground Seismograph House. It was transferred there on May 15, 1939 from the position in the north room of the basement of the Main Observatory Building which it had occupied since the inception of the record in 1862.

*Solar radiation.*— The tabulations of the radiation received on a surface perpendicular to the solar beam (Tables 192 and 194) were made on the assumption that the thermopile of the Gorczynski pyrheliograph had maintained its sensitivity. Subsequent investigation indicated that a progressive decrease in sensitivity had occurred and that all tabulations from 1938 onwards needed correction. The tabulated values for 1940 should be multiplied by the factor 1·16\*.

### IDENTIFICATION NUMBERS OF INSTRUMENTS IN USE IN 1940

During 1940 thermometer No. 788 was used as the control dry-bulb thermometer and No. 738 as the control wet-bulb thermometer; 1836 and 1846 were used as the measuring glasses for the control rain-gauge.

### Thermometer corrections 1940

	No. 788 N.P.L. 1933	No. 738 N.P.L. 1938	M.O. 5. N.P.L. 1913	M.O. 10 N.P.L. 1913	M.O. 18011 N.P.L. 1929
	°F.	°F.	°A.	°A.	°F.
Certified	2 +0·1	2 +0·2	260 +0·1	260 +0·3	2 0·0
	12 +0·1	12 +0·1	273 0·0	273 +0·1	22 0·0
	32 0·0	32 0·0	280 0·0	280 +0·2	32 0·0
	52 -0·1	52 -0·1	290 0·0	290 +0·1	52 0·0
	72 0·0	72 -0·1	300 0·0	300 0·0	72 0·0
	92 0·0	92 -0·2	310 0·0	316 +0·1	.. ..
Applied	0·0	0·0	0·0	+0·1	0·0

\* STAGG, J.M.; Solar radiation at Kew Observatory. *Geophys. Mem., London*, 11, No. 86, 1950.



## NOTES ON THE METEOROLOGICAL SUMMARIES

The mean temperature for the year,  $282.9^{\circ}\text{A}$ . ( $49.8^{\circ}\text{F}$ .) agrees well with the average for the period 1871–1915,  $282.8^{\circ}\text{A}$ . ( $49.6^{\circ}\text{F}$ .). January with a mean temperature of  $272.8^{\circ}\text{A}$ . ( $31.7^{\circ}\text{F}$ .) was remarkable for its intense cold being  $7.4^{\circ}\text{F}$ . below the average for the same period. The lowest reading of the grass minimum thermometer was  $257.7^{\circ}\text{A}$ . ( $4.4^{\circ}\text{F}$ .) on January 20 whilst the lowest temperature in the north-wall screen,  $264.4^{\circ}\text{A}$ . ( $16.5^{\circ}\text{F}$ .), was recorded between 8h. and 9h. on the same day. There were 9 "ice days", i.e. days with a maximum temperature in the screen of  $273.0^{\circ}\text{A}$ . ( $32.0^{\circ}\text{F}$ .) or less, 7 in January and 2 in February. The maximum temperature in the north-wall screen was  $302.8^{\circ}\text{A}$ . ( $85.6^{\circ}\text{F}$ .) registered about 17h. on June 8. There were 3 days, all in June, when the maximum thermometer exceeded  $300.0^{\circ}\text{A}$ . ( $80.6^{\circ}\text{F}$ .). June 1940, with a mean temperature of  $290.3^{\circ}\text{A}$ . ( $63.1^{\circ}\text{F}$ .), being  $4.2^{\circ}\text{F}$ . above the average for the period 1871–1915, was the warmest June on record.

The rainfall for the year 659 mm., was 9 per cent. above the average (606 mm.) for the standard period 1881–1915. March 86 mm. and November 172 mm. were the wettest months; August 2 mm. and December 29 mm. the driest. Indeed the total for August was the smallest ever in any August since records commenced in 1871.

The sunshine for the year, 1636 hours, was 167 hours above the average for the period 1906–35, although February with 25 hours was the lowest total for that month since records commenced in 1880. The sunniest months were May 247 hours, June 277 hours, July 207 hours, and August 208 hours.

The highest wind speed recorded in a gust was 28 m./sec. (63 m.p.h.) on December 6. The highest on record is 33 m./sec. (73 m.p.h.) on November 23, 1938.

*Diurnal variation of pressure and temperature; harmonic analysis.*— Notes on the tables will be found in the *Observatories' Year Book*, 1938.

TABLE A - DIURNAL VARIATION OF BAROMETRIC PRESSURE FOURIER COEFFICIENTS  
KEW OBSERVATORY, LONGITUDE  $0^{\circ}19' \text{W}$ .

Values of  $c_n$ ,  $a_n$  in the series  $\sum c_n \sin(15nt + a_n)$ ,  $t$  being local mean time reckoned in hours from midnight

	$c_1$		$a_1$		$c_2$		$a_2$		$c_3$		$a_3$		$c_4$		$a_4$	
	1940	1871-1926	1940	1871-1926	1940	1871-1926	1940	1871-1926	1940	1871-1926	1940	1871-1926	1940	1871-1926	1940	1871-1926
	mb.	mb.	°	°	mb.	mb.	°	°	mb.	mb.	°	°	mb.	mb.	°	°
January	0.07	0.02	54	315	0.29	0.31	164	151	0.17	0.17	346	346	0.10	0.07	238	202
February	0.17	0.05	142	73	0.32	0.36	142	146	0.14	0.12	319	340	0.05	0.03	104	108
March	0.18	0.11	86	38	0.35	0.40	142	149	0.10	0.07	326	332	0.08	0.04	21	25
April	0.21	0.28	41	31	0.27	0.40	141	151	0.08	0.03	143	185	0.15	0.04	285	353
May	0.48	0.32	21	27	0.33	0.35	150	148	0.10	0.09	144	161	0.04	0.02	286	319
June	0.51	0.30	14	17	0.32	0.32	139	143	0.11	0.09	158	160	0.03	0.01	263	260
July	0.23	0.26	46	16	0.28	0.31	136	140	0.10	0.10	144	153	0.01	0.01	251	281
August	0.45	0.21	10	20	0.36	0.34	142	144	0.08	0.06	176	155	0.05	0.04	318	309
September	0.38	0.12	31	6	0.43	0.40	149	152	0.02	0.01	356	350	0.05	0.04	314	332
October	0.22	0.06	359	76	0.43	0.38	152	160	0.12	0.09	350	359	0.04	0.01	283	22
November	0.61	0.03	272	124	0.14	0.34	166	160	0.19	0.13	344	358	0.07	0.03	223	183
December	0.16	0.08	207	137	0.28	0.31	144	152	0.20	0.15	360	353	0.03	0.07	93	205
Arithmetic mean	0.31	0.15			0.32	0.35			0.12	0.09			0.06	0.03		
Year	0.18	0.14	14	29	0.32	0.35	35	150	0.04	0.03	355	359	0.03	0.01	283	280
Winter	0.14	0.03	248	111	0.26	0.33	152	152	0.17	0.14	344	350	0.03	0.05	206	208
Equinox	0.22	0.14	35	32	0.37	0.39	147	153	0.04	0.04	350	345	0.06	0.03	310	359
Summer	0.41	0.27	19	20	0.32	0.33	142	144	0.09	0.08	154	157	0.03	0.02	290	305

"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  
KEW OBSERVATORY, LONGITUDE 0°19'W.Values of  $c_n$ ,  $a_n$  in the series  $\sum c_n \sin(15nt + a_n)$ ,  $t$  being local mean time reckoned in hours from midnight

	$c_1$		$a_1$		$c_2$		$a_2$		$c_3$		$a_3$		$c_4$		$a_4$	
	1940	1871-1926	1940	1871-1926	1940	1871-1926	1940	1871-1926	1940	1871-1926	1940	1871-1926	1940	1871-1926	1940	1871-1926
	°A.	°A.	°	°	°A.	°A.	°	°	°A.	°A.	°	°	°A.	°A.	°	°
January	1.08	0.99	203	221	0.47	0.43	32	35	0.15	0.17	217	208	0.05	0.01	157	3
February	1.11	1.53	214	221	0.28	0.57	46	34	0.14	0.12	230	211	0.03	0.06	178	169
March	2.23	2.45	215	222	0.60	0.63	41	40	0.05	0.07	40	334	0.18	0.11	185	197
April	2.78	3.21	225	226	0.40	0.48	63	51	0.18	0.22	9	24	0.01	0.07	2	218
May	4.23	3.72	222	227	0.08	0.15	70	74	0.38	0.31	16	35	0.10	0.04	57	20
June	4.16	3.72	221	226	0.08	0.02	98	84	0.32	0.26	10	35	0.14	0.10	61	33
July	3.03	3.68	222	225	0.09	0.06	240	50	0.31	0.29	27	31	0.06	0.07	31	28
August	3.73	3.54	218	226	0.44	0.34	19	52	0.36	0.30	20	28	0.09	0.03	166	218
September	3.49	3.22	220	228	0.50	0.71	46	49	0.30	0.14	11	24	0.14	0.16	194	213
October	2.02	2.32	226	229	0.58	0.76	48	50	0.04	0.10	288	248	0.11	0.12	214	200
November	1.32	1.39	225	226	0.61	0.57	49	44	0.27	0.18	247	232	0.07	0.02	136	141
December	0.76	0.90	222	226	0.37	0.40	35	41	0.16	0.16	198	215	0.01	0.04	304	38
Arithmetic mean	2.49	2.56			0.37	0.43			0.22	0.19			0.08	0.07		
Year	2.49	2.56	220	226	0.35	0.42	43	45	0.11	0.08	360	17	0.04	0.02	150	195
Winter	1.05	1.20	216	223	0.43	0.49	41	39	0.17	0.15	226	217	0.04	0.01	154	121
Equinox	2.62	2.80	221	226	0.52	0.64	48	47	0.13	0.09	8	4	0.09	0.11	198	207
Summer	3.79	3.67	220	226	0.11	0.14	29	59	0.34	0.29	18	32	0.07	0.04	70	27

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

## ATMOSPHERIC ELECTRICITY

Although there were no changes during 1940 in the method and procedure for observing potential gradient, air-earth current and conductivity, the Kelvin Electrograph was removed, on April 2, from the position in the Clinical House which it had occupied since 1915. After a thorough overhaul it was installed, on April 5, in the Thermograph Room of the main Observatory Building. This new position, nearly opposite the former and but 18 metres distant, is the original site where the instrument first recorded prior to its transfer to the Clinical House. The radio active collector is now 90 cm. from the west window of the building through which the boom projects and 348 cm. above ground level. In its former position the values were 121 cm. and 187 cm. respectively. Experience has shown the two exposures to be practically identical. The collector, freshly coated with polonium, is renewed every three months.

In 1940 the mean value of the current for the year, allowing equal weight for each month, was  $96 \times 10^{-18}$  amp. cm.<sup>-2</sup>. The mean value of the conductivity for the year was  $44 \times 10^{-18}$  ohm<sup>-1</sup> cm.<sup>-1</sup>.

The mean factor for the year for the Kelvin electrograph was 2.74, giving an equivalent height for the collector of 36.5 cm. In 1940 there were 156, 158 and 52 days of electrical character 0, 1 and 2 respectively. The extreme hourly values of potential gradient in Table 202 are 1,820 v./m. at 9h. on January 1 and -925 v./m. at 21h. on November 16.

During the following months there were not 10 "quiet days" and other spells of 24 hr. were used.

	1940	Calendar days	Other spells	Total
February		7	2	9
March		7	1	8
April		5	2	7
November		6	3	9
December		5	4	9

The *Observatories' Year Book, 1938* should be consulted for an explanation of the figures in the foregoing paragraphs.



## ATMOSPHERIC POLLUTION

The Owens atmospheric pollution recorder was out of action from February 4 to March 6 and again from November 9 to December 6.

During 1940 the highest estimate of pollution was 1.8 mg./m.<sup>3</sup>, this value occurring on January 1 from 11h. to 12h. There were 14 days on which the pollution reached 1.0 mg./m.<sup>3</sup>, the number of hours credited with 1.0 mg./m.<sup>3</sup> or more being 54.

## SEISMOLOGY

The Seismological Diary and Table of Microseisms, which have been printed in the *Observatories' Year Book* from 1922 to 1939, are now omitted and will not be included in future. Such seismological data as are available for Kew Observatory and published in the *International Seismological Summary*.

There was no change during 1940 in the instruments or procedure, except that distribution of the Monthly Bulletin ceased in May 1940\*. The Galitzin Seismographs were restandardised in 1940, the constants and the dates of their determination being as follows:-

Component	$l$	$T_1$	1940	$T_0$	$\mu^2$	$\frac{kA}{\pi l} = \left(\frac{V}{T}\right) T \rightarrow 0$
	mm.	sec.		sec.		sec. <sup>-1</sup>
N	118	24.5	Nov. 29	8.2	0.00	74.3
E	118	24.0	Nov. 27	8.0	0.00	81.5
Z	360	14.4	Dec. 14	14.3	0.00	75.9

The total number of shocks recorded during the year was 230. The phases of 51 of these were sufficiently well defined to allow an estimate of the epicentral distance to be computed. 2 British earthquakes were recorded during the year.

\* It was resumed in 1947.



## PRESSURE AT STATION LEVEL

Maximum, minimum and daily mean values in millibars for each day 0h. to 24h., G.M.T.  
The initial 9 or 10 of the values is omitted, i.e. 1005.6 is printed 05.6

180 KEW OBSERVATORY:  $h_b$ (height of barometer cistern above M.S.L.) = 10.4 m.

1940

	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE		
	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean
	<i>millibars</i>																	
1	21.8	17.4	20.2	01.1	92.9	95.9	33.9	30.3	32.6	16.6	07.3	11.3	05.5	02.9	04.1	26.3	23.7	25.2
2	20.8	10.7	17.0	09.9	01.1	06.3	33.8	31.4	32.5	12.2	05.6	09.3	07.2	05.2	05.9	26.3	24.4	24.8
3	10.7	04.7	06.7	09.7	98.8	04.9	31.8	28.3	30.1	09.0	98.7	03.2	08.2	05.9	07.1	27.0	25.3	26.2
4	08.6	04.2	06.2	02.1	95.0	97.1	28.3	19.4	23.4	10.4	03.7	06.7	16.1	08.2	11.7	27.1	24.7	25.8
5	14.6	08.5	11.6	12.7	02.1	07.7	25.2	20.4	22.8	26.8	10.4	19.0	18.7	16.1	17.6	25.4	21.7	23.6
6	15.8	12.9	14.3	15.6	12.6	14.1	26.4	24.6	25.3	29.5	26.8	28.2	21.7	18.1	19.5	21.8	20.5	21.1
7	15.8	12.1	14.0	12.6	02.2	05.6	24.8	21.3	22.9	28.5	19.5	23.6	21.9	18.9	20.7	23.1	21.5	22.1
8	26.9	15.8	21.2	17.5	06.6	13.4	22.7	20.6	21.4	24.4	19.2	21.1	21.1	19.2	19.8	23.1	18.3	20.8
9	36.0	26.9	32.5	16.4	11.4	13.5	21.8	18.9	20.6	25.6	23.5	24.3	22.0	20.6	21.3	18.5	14.5	16.3
10	38.2	35.4	36.7	19.7	14.0	17.7	19.7	14.3	17.0	32.9	25.6	29.1	22.0	18.9	20.7	14.7	11.7	13.0
11	38.6	35.9	37.3	18.5	13.7	15.5	14.3	01.0	08.5	33.0	25.1	30.1	28.7	21.4	25.0	14.0	11.2	12.6
12	35.9	33.5	34.5	27.5	17.4	22.3	01.0	85.1	90.7	25.1	15.4	18.7	29.3	27.4	28.5	11.3	08.1	09.5
13	35.2	33.3	34.2	27.1	19.4	23.6	88.3	82.2	84.9	17.8	14.1	16.5	28.5	16.5	22.4	16.0	08.6	11.6
14	33.3	24.1	29.3	21.5	18.8	19.9	08.9	81.1	93.3	14.1	01.0	09.6	16.5	05.2	10.5	17.8	15.8	16.8
15	24.1	09.6	17.0	20.5	19.1	19.8	16.7	08.9	10.9	01.0	94.4	96.1	05.2	96.9	99.9	17.4	15.3	16.5
16	14.2	05.4	08.2	20.2	97.7	11.9	22.0	16.7	19.4	97.8	94.9	96.2	14.1	99.7	07.3	22.2	17.4	20.3
17	21.7	14.2	19.5	11.0	92.8	98.6	18.4	08.3	10.7	03.4	97.8	00.8	19.5	14.1	16.7	24.0	21.3	22.1
18	21.1	14.8	18.3	15.2	01.6	10.4	09.5	99.7	06.0	03.3	91.5	97.7	22.5	19.4	20.5	24.6	23.0	23.9
19	18.1	13.1	14.6	15.8	98.5	06.1	05.8	96.3	00.1	11.0	92.7	05.8	23.6	22.5	23.0	24.3	20.7	22.6
20	23.0	18.1	21.7	20.4	15.8	18.3	11.4	05.8	08.0	14.2	11.0	12.6	23.6	17.8	20.8	22.1	19.3	21.1
21	21.2	08.0	13.8	20.3	15.9	18.4	15.1	11.4	14.0	16.6	13.4	15.2	17.9	10.4	14.7	22.1	10.4	17.2
22	17.1	07.9	11.8	15.9	10.7	12.3	15.0	09.5	11.8	15.4	08.4	11.9	10.8	08.1	09.5	10.4	94.0	99.4
23	23.2	17.1	20.9	11.1	05.6	08.9	10.7	07.8	09.3	08.4	01.6	03.7	12.7	10.3	10.9	98.3	92.8	94.6
24	22.9	21.0	21.7	16.3	06.1	10.6	08.4	02.5	06.3	06.7	02.4	03.9	15.4	12.2	13.7	99.8	97.5	98.7
25	22.1	20.8	21.5	16.9	13.8	15.6	02.5	92.0	96.8	10.9	06.7	09.6	14.9	08.8	11.3	07.0	99.0	02.5
26	20.8	11.6	15.8	13.8	04.0	09.5	97.7	89.2	91.9	10.7	08.5	09.4	10.2	07.1	08.4	16.8	06.8	11.2
27	15.6	10.6	12.9	04.0	98.7	00.9	12.4	97.7	05.8	13.5	09.6	10.9	11.5	10.1	10.9	25.2	16.8	21.2
28	17.1	15.5	16.2	15.2	98.6	03.5	17.8	12.0	13.7	15.6	13.5	14.4	11.4	08.6	10.0	26.2	24.1	25.0
29	15.9	11.6	14.3	30.3	15.2	23.9	17.8	04.1	12.1	13.8	08.7	10.8	16.7	10.1	13.0	25.4	22.1	23.1
30	11.6	99.8	06.0				21.3	05.3	16.0	08.7	02.1	05.0	21.4	16.7	19.4	27.9	25.4	27.1
31	99.8	93.0	95.1				21.4	16.6	19.7				25.8	21.4	24.4			
Mean	21.38	15.08	18.23	15.82	06.90	11.26	16.28	08.47	12.21	15.23	08.44	11.82	17.57	12.86	15.14	19.54	15.20	17.20

	JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER		
	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean
	millibars																	
1	27.9	21.6	24.5	26.5	23.3	25.0	27.2	22.3	24.6	23.5	19.5	21.4	11.4	05.2	09.3	36.1	29.3	32.9
2	21.7	10.8	16.0	26.1	23.8	25.0	23.9	21.4	22.7	20.2	16.0	18.5	12.4	98.9	07.1	29.3	26.0	26.9
3	10.8	05.1	07.0	26.6	23.1	25.0	24.0	20.8	22.3	16.0	10.5	12.4	98.9	92.1	95.7	27.1	19.8	23.3
4	08.8	07.3	07.9	23.2	17.5	20.1	21.3	17.7	19.3	12.3	09.0	11.0	09.6	87.1	95.0	20.2	10.7	17.0
5	08.4	04.7	06.3	17.8	12.5	14.8	21.6	18.1	19.2	17.2	10.5	14.8	11.2	91.8	04.6	15.6	86.9	07.4
6	06.4	01.8	04.2	13.5	12.0	12.7	23.4	20.8	21.9	10.5	94.9	02.9	07.1	91.8	98.6	87.0	82.2	85.0
7	04.8	01.4	02.4	14.5	12.0	12.9	21.0	11.3	16.4	14.3	96.8	08.6	25.5	07.1	18.6	04.1	81.4	89.5
8	17.2	04.8	10.9	17.0	14.1	15.4	11.3	06.9	08.6	13.3	99.7	07.9	25.3	13.3	21.1	19.1	04.1	13.7
9	17.7	15.7	17.0	17.0	12.1	15.1	18.7	10.1	14.8	99.7	85.9	92.6	13.3	94.4	02.5	17.0	03.4	07.2
10	15.7	08.3	11.4	13.2	07.1	09.4	18.4	13.7	15.9	07.1	96.8	00.8	02.5	96.5	99.3	06.2	94.0	98.5
11	11.7	06.9	08.9	22.3	13.2	17.8	26.0	18.2	22.6	19.3	07.1	14.2	02.8	77.2	93.9	08.4	96.6	00.3
12	11.2	09.0	09.9	24.4	22.2	23.6	25.9	12.9	20.6	20.7	16.8	19.0	88.1	72.4	79.0	24.0	08.4	16.7
13	10.4	08.8	09.8	24.0	19.5	21.8	12.9	01.1	05.3	16.8	08.2	12.4	91.6	68.9	86.2	27.4	24.0	26.3
14	11.1	09.6	10.1	20.1	17.1	18.7	03.8	95.0	99.8	08.2	04.8	06.1	95.7	70.6	89.9	25.7	12.9	17.3
15	11.1	05.1	07.7	25.0	18.7	21.6	04.9	93.8	98.7	13.5	06.9	10.2	95.8	83.9	91.6	28.4	15.0	24.1
16	06.6	04.3	05.6	31.0	25.0	28.2	05.5	02.5	04.3	13.5	05.0	10.2	83.9	69.4	78.7	32.8	28.1	29.5
17	09.7	06.3	08.0	32.1	28.1	30.1	06.8	96.2	01.6	12.1	05.2	08.5	80.1	69.4	77.0	41.0	32.7	38.4
18	09.4	06.5	07.5	28.1	18.0	23.0	13.2	06.8	11.5	13.7	12.0	12.7	93.8	78.6	85.1	41.0	27.1	35.3
19	11.0	07.9	09.4	20.3	16.5	17.9	11.5	99.5	05.0	12.4	09.5	10.6	04.7	93.8	01.1	27.1	24.0	25.2
20	12.9	09.2	10.2	20.0	05.3	14.3	06.2	98.2	01.7	09.9	06.3	07.9	08.9	92.9	00.5	26.1	23.9	25.1
21	12.9	11.6	12.2	05.3	00.3	02.7	13.2	05.9	08.3	07.1	04.2	06.2	10.4	04.5	07.8	25.6	23.8	24.7
22	14.0	11.4	12.1	16.7	02.2	10.2	14.3	08.0	11.5	09.5	06.8	08.1	30.4	01.6	16.7	29.2	23.6	26.3
23	14.1	10.1	12.1	18.4	12.4	15.1	16.7	10.7	14.2	10.5	08.3	09.1	30.4	26.9	28.5	32.3	29.2	31.1
24	13.0	09.5	11.7	22.7	18.4	20.4	19.5	16.5	17.4	10.8	09.1	09.8	32.8	26.8	29.7	31.5	29.4	30.3
25	13.1	08.0	11.3	24.9	22.4	23.9	27.9	19.5	23.9	10.8	08.6	10.1	34.0	30.8	32.3	32.9	30.8	32.0
26	14.6	06.4	10.7	25.1	21.7	23.3	29.8	27.2	28.4	14.1	10.4	12.0	30.8	22.2	27.2	33.2	32.0	32.4
27	23.3	13.7	16.6	27.1	21.3	23.2	29.4	18.4	23.5	19.5	14.1	16.8	28.1	18.1	21.7	35.0	32.0	33.3
28	26.0	23.3	24.6	29.0	23.6	27.1	23.9	18.0	19.6	20.5	19.3	19.9	34.0	28.1	32.4	35.5	31.6	33.9
29	25.2	23.3	24.3	27.4	19.6	22.2	25.9	23.8	24.7	20.2	16.6	18.3	35.4	31.8	33.1	31.6	16.4	24.3
30	24.9	23.1	24.1	30.3	27.4	29.3	25.5	23.2	24.3	16.6	04.2	11.7	37.2	35.3	36.3	16.4	00.9	05.4
31	25.5	23.8	24.5	30.5	26.8	28.7				05.2	91.2	00.8				00.9	91.6	95.3
Mean	14.55	10.30	12.24	22.58	17.33	19.95	18.45	11.95	15.09	13.51	06.91	10.49	12.20	99.38	06.69	24.12	15.22	19.63
	Annual									17.63	10.71	14.19						



PRESSURE AT STATION LEVEL  
Monthly and annual means of hourly values in millibars at exact hours, G.M.T.

143

181 KEW OBSERVATORY:  $h_b = 10.4$  m.

1940

	Hour G.M.T.																									
	0	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
	millibars																									
Jan.	18.63	18.53	18.61	18.58	18.45	18.17	18.09	18.31	18.57	18.71	18.77	18.63	18.26	17.85	17.71	17.71	17.83	17.87	17.97	18.13	18.20	18.22	18.17	18.02	17.84	18.23
Feb.	10.91	10.78	10.72	10.57	10.53	10.54	10.53	10.63	10.92	11.11	11.38	11.57	11.47	11.30	11.10	11.03	11.11	11.33	11.68	11.87	12.01	12.12	12.12	12.16	12.19	11.26
Mar.	12.76	12.69	12.63	12.29	12.06	12.02	12.07	12.19	12.35	12.36	12.52	12.38	12.34	12.14	11.87	11.60	11.57	11.65	12.01	12.23	12.39	12.35	12.40	12.39	12.32	12.21
Apr.	12.40	12.28	12.17	12.04	11.91	11.83	11.99	12.08	12.17	12.19	12.22	11.97	11.73	11.57	11.35	11.19	11.11	11.07	11.23	11.53	11.86	12.04	11.97	11.95	11.94	11.82
May	15.09	15.10	15.04	14.92	14.92	15.14	15.30	15.43	15.55	15.53	15.47	15.28	15.07	14.87	14.75	14.64	14.50	14.48	14.63	14.77	15.18	15.63	15.78	15.85	15.82	15.14
June	17.50	17.44	17.33	17.29	17.32	17.39	17.52	17.66	17.71	17.64	17.59	17.41	17.23	17.03	16.86	16.66	16.46	16.34	16.40	16.57	16.89	17.32	17.51	17.60	17.57	17.20
July	12.69	12.55	12.35	12.20	12.15	12.20	12.29	12.37	12.46	12.47	12.32	12.34	12.20	12.10	12.01	11.93	11.79	11.75	11.79	11.89	12.12	12.51	12.63	12.65	12.61	12.24
Aug.	20.19	20.13	20.07	19.98	19.94	20.04	20.20	20.39	20.46	20.45	20.33	20.24	20.07	19.84	19.67	19.38	19.17	19.09	19.16	19.40	19.81	20.08	20.25	20.31	20.25	19.95
Sept.	15.54	15.43	15.34	15.19	15.06	15.04	15.19	15.40	15.49	15.66	15.52	15.34	15.08	14.84	14.55	14.38	14.27	14.29	14.45	14.82	15.14	15.34	15.43	15.46	15.42	15.09
Oct.	10.94	10.88	10.75	10.56	10.53	10.45	10.43	10.71	11.04	11.18	11.21	11.05	10.67	10.31	10.04	09.83	09.73	09.84	10.01	10.19	10.39	10.45	10.43	10.39	10.35	10.49
Nov.	05.51	05.62	05.83	05.97	06.00	06.07	06.28	06.39	06.89	07.21	07.56	07.56	07.33	07.08	06.98	07.01	07.04	07.02	07.00	06.97	06.87	06.73	06.59	06.52	06.54	06.69
Dec.	20.43	20.23	20.13	19.99	19.40	19.55	19.55	19.60	19.81	20.07	20.24	20.19	19.85	19.55	19.33	19.28	19.31	19.30	19.42	19.70	19.31	19.17	19.17	19.20	19.12	19.63
Annual	14.42	14.34	14.29	14.17	14.06	14.07	14.15	14.30	14.49	14.58	14.63	14.53	14.31	14.07	13.88	13.75	13.69	13.70	13.84	14.03	14.21	14.36	14.40	14.40	14.36	14.19

The initial 9 or 10 of the value is omitted, i.e. 1001.42 is printed 01.42.

PRESSURE REDUCED TO MEAN SEA LEVEL  
Monthly and annual means of hourly values in millibars at exact hours, G.M.T.

182 KEW OBSERVATORY:  $h_b = 10.4$  m.

1940

	Hour G. M. T.												13	14	15	16	17	18	19	20	21	22	23	24	Mean	
	0	1	2	3	4	5	6	7	8	9	10	11														Noon
	millibars																									
Jan.	19.95	19.86	19.94	19.91	19.78	19.50	19.43	19.64	19.90	20.04	20.10	19.96	19.59	19.17	19.03	19.03	19.15	19.19	19.29	19.46	19.53	19.54	19.50	19.34	19.17	19.56
Feb.	12.22	12.09	12.03	11.87	11.83	11.85	11.84	11.94	12.23	12.42	12.68	12.87	12.77	12.59	12.39	12.32	12.40	12.63	12.99	13.17	13.31	13.42	13.42	13.47	13.50	12.56
Mar.	14.05	13.98	13.93	13.59	13.35	13.32	13.37	13.49	13.65	13.65	13.81	13.66	13.62	13.42	13.14	12.88	12.85	12.93	13.29	13.52	13.67	13.63	13.69	13.68	13.51	13.50
Apr.	13.68	13.56	13.45	13.33	13.20	13.12	13.28	13.36	13.45	13.46	13.49	13.23	13.00	12.83	12.61	12.45	12.37	12.34	12.49	12.80	13.13	13.31	13.25	13.23	13.23	13.09
May	16.37	16.37	16.32	16.19	16.20	16.42	16.57	16.70	16.81	16.79	16.72	16.53	16.31	16.12	15.99	15.88	15.74	15.73	15.87	16.02	16.43	16.89	17.04	17.12	17.09	16.40
June	18.75	18.69	18.59	18.55	18.59	18.65	18.78	18.92	18.96	18.88	18.83	18.65	18.46	18.26	18.09	17.89	17.68	17.57	17.63	17.80	18.13	18.57	18.76	18.85	18.83	18.44
July	13.95	13.80	13.60	13.46	13.41	13.46	13.55	13.62	13.71	13.71	13.56	13.58	13.43	13.34	13.24	13.16	13.02	12.98	13.02	13.13	13.36	13.75	13.88	13.91	13.87	13.48
Aug.	21.45	21.39	21.34	21.25	21.21	21.31	21.46	21.65	21.72	21.71	21.58	21.49	21.31	21.08	20.91	20.61	20.41	20.32	20.40	20.64	21.06	21.33	21.50	21.57	21.51	21.20
Sept.	16.81	16.70	16.61	16.46	16.33	16.31	16.46	16.67	16.75	16.92	16.78	16.59	16.32	16.09	15.79	15.62	15.51	15.53	15.69	16.07	16.39	16.60	16.69	16.73	16.68	16.35
Oct.	12.22	12.15	12.02	11.84	11.81	11.73	11.71	11.99	12.31	12.45	12.48	12.31	11.93	11.57	11.30	11.09	10.99	11.10	11.27	11.46	11.66	11.72	11.70	11.66	11.62	11.76
Nov.	06.79	06.89	07.11	07.25	07.27	07.35	07.56	07.67	08.17	08.49	08.84	08.83	08.60	08.35	08.25	08.28	08.31	08.30	08.27	08.25	08.15	08.01	07.87	07.80	07.82	07.97
Dec.	21.74	21.54	21.44	21.30	20.71	20.86	20.86	20.91	21.12	21.38	21.55	21.49	21.15	20.85	20.63	20.58	20.61	20.60	20.73	21.01	20.62	20.48	20.47	20.51	20.42	20.94
Annual	15.70	15.62	15.57	15.45	15.34	15.36	15.44	15.58	15.77	15.86	15.90	15.80	15.57	15.33	15.15	15.01	14.95	14.96	15.11	15.30	15.48	15.63	15.67	15.68	15.64	15.47

The initial 9 or 10 of the value is omitted, i.e. 1001.42 is printed 01.42.

The monthly and annual values of pressure reduced to mean sea level are computed from the corresponding monthly and annual means of pressure at station level and of temperature. See General Introduction to the Meteorological Tables, 1938.

TEMPERATURE  
Monthly and annual means of readings in degrees Absolute at exact hours, G.M.T.

183 KEW OBSERVATORY: North-wall screen:  $h_t = 3.0$  m.

1940

	Hour G.M.T.																								Mean	
	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23		24
	degrees												Absolute													
Jan.	72.50	72.38	72.27	72.09	72.05	71.89	71.65	71.66	71.50	71.63	72.45	73.03	73.59	73.92	74.18	74.29	74.08	73.77	73.46	73.20	73.07	73.01	72.91	72.75	72.58	72.41
Feb.	75.74	75.68	75.52	75.39	75.39	75.40	75.32	75.29	75.40	75.71	76.27	76.81	77.15	77.58	77.66	77.61	77.44	77.27	76.93	76.74	76.71	76.51	76.36	76.04	75.77	76.33
Mar.	78.66	78.10	77.83	77.62	77.40	77.28	77.10	77.29	77.77	78.66	79.62	80.42	81.04	81.61	81.97	82.15	82.04	81.70	80.91	80.31	79.81	79.47	79.21	78.88	78.92	79.46
Apr.	80.58	80.34	80.07	79.72	79.53	79.41	79.59	80.31	81.25	82.14	83.04	83.82	84.45	85.03	85.01	85.02	84.86	84.57	84.15	83.30	82.56	81.95	81.40	81.04	80.60	82.21
May	83.94	83.37	82.95	82.56	82.20	82.26	83.04	84.11	85.27	86.48	87.59	88.76	89.40	89.97	90.34	90.59	90.77	90.58	90.22	89.29	87.67	86.47	85.46	84.70	84.07	86.58
June	87.82	87.33	86.79	86.30	85.97	86.29	87.00	87.79	88.96	90.28	91.28	92.44	93.07	93.76	93.96	94.19	94.25	94.25	93.82	93.09	91.49	90.20	89.28	88.41	87.79	90.33
July	87.10	86.76	86.42	86.06	85.84	86.01	86.67	87.41	88.29	89.15	89.84	90.58	90.77	91.22	91.67	91.98	92.10	92.08	91.67	91.24	89.98	88.91	88.24	87.63	87.18	89.07
Aug.	87.77	87.31	86.97	86.74	86.42	86.03	86.33	87.14	87.74	89.33	90.34	91.31	92.04	92.76	93.27	93.70	93.85	93.72	93.08	91.85	90.46	89.48	88.77	88.29	87.78	89.78
Sept.	85.23	84.78	84.43	84.21	83.89	83.54	83.52	84.21	85.36	86.54	87.81	88.67	89.54	90.12	90.46	90.70	90.67	90.33	89.55	88.43	87.42	86.69	85.94	85.58	84.97	86.86
Oct.	82.12	81.95	81.82	81.62	81.59	81.50	81.29	81.44	82.14	82.94	83.80	84.43	85.11	85.53	85.65	85.68	85.40	84.81	84.21	83.63	83.12	82.97	82.65	82.39	82.12	83.33
Nov.	80.01	79.92	79.76	79.74	79.77	79.63	79.36	79.19	79.31	79.87	80.63	81.56	82.17	82.53	82.35	82.06	81.64	81.19	80.87	80.56	80.35	80.16	80.90	79.90	79.65	80.77
Dec.	76.93	76.83	76.77	76.83	76.72	76.76	76.62	76.69	76.70	76.81	77.14	77.65	78.09	78.49	78.56	78.51	78.21	77.89	77.57	77.32	77.35	77.30	77.25	77.15	77.08	77.77
Annual	81.55	81.24	80.98	80.73	80.57	80.51	80.63	81.05	81.64	82.48	83.61	84.13	84.71	85.22	85.44	85.56	85.46	85.19	84.72	84.09	83.35	82.77	82.30	81.91	81.56	82.22



## TEMPERATURE

Maximum, minimum and daily mean values in degrees Absolute for each day 0h. to 24h., G.M.T.  
The initial 2 or 3 of the values is omitted, i.e. 275.0° is printed 75.0°. Add 0.16° to obtain temperature  
in degrees Kelvin where  $T(^{\circ}\text{K.}) = t(^{\circ}\text{C.}) + 273.16$

184 KEW OBSERVATORY: North-wall screen:  $h_t$ (height of thermometer bulb above ground) = 3.0 m.

1940

	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE		
	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean
	degrees Absolute																	
1	74.9	70.0	72.5	74.3	72.9	73.8	78.4	74.0	76.2	86.7	79.1	83.1	90.7	82.2	85.5	95.6	85.4	90.8
2	74.0	70.6	71.9	73.6	72.3	72.8	78.8	73.4	76.0	84.6	78.1	81.1	90.5	81.2	85.6	95.7	86.5	91.3
3	75.3	69.6	72.8	77.7	72.9	74.6	80.6	72.0	75.4	85.2	79.3	81.7	90.8	80.4	85.4	95.6	84.2	90.2
4	76.9	74.4	75.9	79.8	76.1	77.6	82.8	72.8	77.9	87.6	79.8	83.2	93.6	80.4	85.8	94.8	85.3	90.1
5	77.2	70.0	74.6	81.1	76.9	78.6	79.3	73.9	77.4	83.1	76.7	80.3	94.3	81.0	87.7	96.2	85.2	90.7
6	79.8	70.8	75.5	80.7	75.9	78.1	79.3	73.1	75.9	82.0	73.9	77.7	89.4	81.4	85.0	98.5	87.4	93.2
7	82.9	78.5	80.9	81.9	78.3	80.0	79.2	70.7	74.6	83.1	72.0	78.8	91.5	78.0	84.8	00.1	88.2	94.1
8	81.3	75.4	78.9	80.4	74.6	77.5	80.7	71.0	75.6	83.7	77.4	80.3	89.3	82.3	85.1	02.8	84.3	93.7
9	78.9	73.0	75.5	74.6	72.0	72.9	83.1	74.6	78.1	83.0	77.4	80.1	91.6	79.8	85.5	01.2	87.8	93.2
10	74.4	71.3	72.8	74.3	70.5	72.0	84.8	75.4	79.9	80.7	75.2	78.0	93.4	79.4	87.3	90.3	86.0	88.3
11	75.4	70.2	72.7	75.3	69.3	72.4	86.9	78.1	81.9	85.3	72.6	80.0	88.5	79.7	85.1	96.6	84.7	90.6
12	76.3	71.3	73.3	72.2	67.3	70.0	83.7	79.7	82.1	85.4	78.9	82.1	90.4	77.6	84.4	92.7	86.4	89.6
13	74.8	68.1	71.5	73.8	68.2	72.0	85.1	80.3	82.9	84.7	76.5	80.9	93.9	79.5	86.7	92.7	86.5	89.3
14	73.2	68.2	71.2	71.9	69.7	71.1	80.3	72.8	75.7	85.5	80.8	82.6	92.7	82.5	87.4	96.2	85.3	90.7
15	73.0	69.0	71.4	73.2	71.4	72.3	82.6	71.6	77.5	83.4	76.3	80.3	96.2	83.7	89.7	96.3	86.0	91.3
16	73.8	68.2	71.5	77.0	69.9	73.7	82.2	74.9	78.4	81.6	75.0	77.6	90.7	82.8	87.6	91.3	87.1	89.0
17	71.3	65.9	68.4	74.0	71.2	72.7	84.0	78.2	81.2	84.1	73.3	78.3	91.7	81.5	85.9	96.4	86.6	90.9
18	73.8	65.4	70.1	74.9	68.8	72.5	88.3	83.5	85.3	84.0	74.3	79.6	91.9	80.0	86.0	98.0	85.8	92.2
19	75.0	67.6	72.0	79.9	74.6	76.4	84.9	79.3	82.3	85.3	76.6	81.1	90.3	80.5	86.1	95.9	83.5	90.4
20	70.6	64.4	67.2	81.4	75.1	77.8	85.6	78.5	81.5	89.5	80.7	84.8	92.8	80.6	86.7	95.8	86.1	89.9
21	72.5	65.3	69.2	82.3	77.2	80.1	85.6	78.7	82.0	91.9	81.0	86.0	90.3	78.9	85.2	94.5	85.4	88.9
22	74.1	71.6	72.9	82.9	76.7	80.5	84.0	81.1	82.2	91.5	84.0	87.5	90.3	82.6	85.8	91.2	83.7	86.5
23	73.1	67.7	71.3	82.8	80.6	81.9	85.4	80.5	82.6	93.5	84.6	87.2	91.6	79.4	86.1	89.6	84.4	86.7
24	74.8	66.2	71.3	83.9	77.8	80.9	86.4	78.1	82.4	86.3	83.2	84.7	90.7	83.6	86.7	95.8	86.7	90.5
25	76.6	73.2	74.5	83.3	77.4	80.6	86.7	80.1	83.1	89.1	80.0	84.5	95.9	82.2	89.8	92.5	84.7	88.9
26	76.1	73.4	74.7	82.6	76.2	79.3	81.3	78.2	79.0	91.5	80.8	85.5	90.9	84.0	88.1	92.3	84.5	87.9
27	74.7	72.5	73.9	85.0	81.2	82.7	82.1	76.1	78.8	92.3	83.0	85.9	91.7	84.0	88.1	93.1	84.3	88.1
28	72.6	71.9	72.2	83.0	77.9	82.0	79.7	74.1	76.5	88.7	82.8	84.7	90.3	84.3	87.1	95.8	85.5	90.4
29	72.1	70.0	70.9	78.0	74.9	76.8	80.8	71.7	76.9	88.3	82.9	84.5	91.9	83.2	87.1	96.2	84.1	91.3
30	72.8	70.1	71.2				85.3	79.5	82.2	87.7	82.8	84.2	93.3	83.5	88.5	96.5	86.4	91.3
31	75.0	72.6	74.1				84.0	79.1	81.9				92.7	84.3	88.6			
Mean	75.1	70.2	72.8	78.5	74.1	76.3	83.0	76.3	79.5	86.3	78.6	82.2	91.7	81.4	86.6	95.3	85.6	90.3

	JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER		
	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean
	degrees Absolute																	
1	98.0	83.7	91.1	96.2	87.0	90.5	99.2	86.9	92.2	86.6	78.7	82.6	86.3	80.4	83.0	76.6	69.9	73.2
2	98.6	85.6	92.3	94.4	86.6	89.5	96.3	85.0	90.7	88.1	80.6	84.1	86.5	81.4	84.2	80.6	70.2	76.8
3	94.4	87.5	90.7	96.3	87.4	90.6	98.4	86.7	91.6	84.1	81.7	83.0	87.2	81.9	83.9	80.3	77.4	79.0
4	91.0	84.3	87.8	99.5	86.9	92.3	99.4	84.9	92.2	87.5	80.6	84.5	87.8	79.8	83.3	83.1	79.8	81.5
5	94.9	86.0	90.2	97.7	86.8	92.3	99.1	85.6	92.3	88.9	83.7	86.3	85.7	76.0	81.2	83.3	77.3	79.4
6	91.8	87.4	88.7	95.2	88.6	91.2	96.2	85.8	90.7	89.4	87.2	88.2	83.6	79.4	81.3	82.3	76.5	78.9
7	92.8	85.5	88.8	95.4	87.1	91.0	96.3	83.4	89.6	88.3	82.6	85.5	83.4	76.9	80.0	79.8	75.4	77.3
8	94.5	85.4	89.9	95.5	86.0	90.8	92.3	85.0	88.9	88.6	80.5	85.3	82.4	73.0	78.6	79.2	75.0	76.8
9	93.4	84.3	89.7	96.3	87.5	91.2	88.3	81.3	84.7	88.1	83.1	86.0	82.9	80.3	81.6	82.0	76.8	79.5
10	95.5	88.3	91.5	94.1	87.1	90.6	91.9	81.0	86.8	85.8	79.1	83.0	82.7	76.7	79.9	81.0	76.6	78.6
11	91.6	85.7	88.5	92.1	85.2	88.3	88.5	81.1	84.9	87.0	75.9	80.5	86.3	76.6	80.8	79.0	75.2	77.2
12	90.4	83.3	87.3	92.9	82.1	87.7	90.5	79.3	86.1	87.3	74.9	81.0	85.2	81.1	82.5	78.3	70.2	75.3
13	91.9	84.3	88.7	94.3	84.2	89.6	91.1	83.8	87.9	88.6	79.3	83.8	82.8	75.6	80.7	76.6	70.5	74.0
14	94.9	81.7	88.4	93.7	86.6	90.0	89.1	82.4	85.4	85.9	82.7	84.1	81.3	74.1	78.1	79.1	75.4	77.0
15	91.2	84.7	88.3	94.9	86.5	90.2	88.8	81.5	84.9	88.9	83.6	85.9	82.3	72.1	78.3	80.7	78.2	79.3
16	89.7	87.3	88.2	94.4	83.3	89.4	90.6	80.2	85.8	87.8	82.8	85.3	81.3	79.0	80.3	83.2	80.2	82.0
17	92.2	85.7	88.6	99.0	85.5	92.0	91.5	86.5	89.4	87.7	80.4	84.8	81.8	77.4	79.5	82.9	71.5	77.5
18	90.3	84.3	87.5	99.2	86.6	92.6	91.1	85.4	87.8	86.0	79.4	83.1	80.2	77.5	79.2	80.3	72.3	76.2
19	93.1	86.7	89.6	92.2	86.1	89.7	90.9	85.4	87.4	89.3	84.5	86.5	80.5	76.8	79.3	81.4	78.1	79.4
20	92.9	86.6	89.8	92.8	83.7	88.5	90.4	84.5	87.1	90.3	84.1	86.6	85.6	78.1	82.3	78.8	74.6	77.3
21	93.4	86.0	88.8	90.9	86.5	88.7	90.3	80.7	84.9	87.3	80.3	84.8	87.3	82.0	85.2	76.5	73.3	74.5
22	93.7	84.3	89.1	90.5	84.2	87.3	90.4	80.0	85.8	85.2	79.0	82.0	85.2	76.1	81.5	74.8	72.7	73.7
23	92.7	85.9	88.9	89.5	82.6	86.1	90.4	82.7	86.4	84.6	79.0	82.0	82.4	74.2	79.1	75.9	73.2	73.9
24	89.4	83.2	86.8	93.7	79.8	87.2	87.8	78.1	83.7	83.0	79.1	81.5	84.6	79.2	82.0	77.6	74.0	76.0
25	92.6	81.2	87.4	93.3	83.5	88.9	87.3	80.3	83.5	83.8	76.7	80.0	82.7	76.2	80.5	75.4	74.0	74.8
26	94.1	85.4	89.0	94.3	85.3	90.3	87.7	78.1	82.8	81.7	78.0	79.8	83.4	80.8	82.2	76.7	74.3	75.1
27	91.3	84.7	87.3	94.6	86.2	89.9	91.4	77.4	85.1	82.2	77.0	79.4	83.4	77.0	81.0	79.1	75.2	77.3
28	93.6	82.6	88.4	93.8	82.2	88.3	87.6	80.6	84.5	81.8	78.0	79.6	79.5	73.7	76.4	78.4	73.2	76.7
29	93.2	83.8	88.9	92.6	85.7	90.2	86.1	79.4	82.9	81.6	72.8	77.2	79.1	73.3	75.9	81.0	74.8	78.4
30	92.1	86.9	89.5	93.6	82.1	87.7	86.4	80.1	83.3	83.3	72.8	79.2	77.6	69.7	73.7	83.5	80.2	82.2
31	96.6	87.2	91.7	98.2	82.8	90.7				87.9	81.6	84.7				82.6	75.5	78.8
Mean	93.1	85.1	89.1	94.6	85.2	89.8	91.5	82.4	87.0	86.3	80.0	83.2	83.4	77.2	80.5	79.7	74.9	77.3
									Annual	86.6	79.3	82.9						



## MEAN RELATIVE HUMIDITY AND VAPOUR PRESSURE FOR EACH DAY

145

Mean percentages from readings at exact hours 0h. to 24h., G.M.T.; vapour pressure from daily mean temperature and relative humidity

185 KEW OBSERVATORY: North-wall screen:  $h_t = 3.0$  m.

1940

	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.	Rel. hum.	Vap. press.
1	94.8	5.6	93.0	6.0	64.3	4.9	76.1	9.4	81.7	11.8	70.8	14.4	62.0	12.9	75.0	15.0	59.1	13.1	66.2	7.9	85.7	10.5	95.2	5.9
2	77.8	4.3	86.3	5.2	56.5	4.3	81.9	8.8	78.8	11.5	65.0	13.6	60.6	13.6	68.8	12.9	72.7	14.6	61.5	8.1	89.0	11.8	90.4	7.2
3	82.3	4.9	91.9	6.3	70.4	5.1	78.0	8.8	72.1	10.4	70.0	13.7	67.0	13.6	73.5	14.8	71.8	15.3	89.9	11.1	95.3	12.4	95.0	8.9
4	79.8	6.0	96.3	8.2	81.6	7.1	75.1	9.3	74.2	11.0	70.3	13.7	58.1	9.8	73.4	16.4	68.5	15.2	90.3	12.2	89.2	11.2	90.7	10.1
5	87.0	6.0	97.5	8.9	55.7	4.7	61.1	6.2	63.8	10.6	62.0	12.5	63.5	12.5	72.8	16.3	66.4	14.8	76.0	11.6	87.4	9.5	72.6	7.0
6	97.0	7.1	94.3	8.3	64.3	4.8	66.2	5.6	80.7	11.4	57.7	13.6	82.5	14.7	65.4	13.7	62.4	12.6	88.0	15.2	82.9	9.1	59.9	5.6
7	98.2	10.4	92.6	9.3	77.3	5.3	80.2	7.4	66.9	9.3	52.9	13.2	70.9	12.7	70.4	14.5	66.6	12.6	69.5	10.1	82.8	8.3	72.0	6.0
8	92.8	8.6	87.7	7.4	82.0	6.0	78.3	8.0	75.6	10.6	63.3	15.4	63.0	12.1	68.7	14.0	62.4	11.2	82.9	11.8	87.5	8.0	66.9	5.4
9	82.0	6.0	92.0	5.6	77.5	6.8	58.0	5.9	69.6	10.1	68.5	16.2	79.8	15.2	74.3	15.5	67.0	9.2	77.3	11.6	86.3	9.6	87.2	8.4
10	68.8	4.1	70.0	3.9	72.1	7.2	67.4	5.9	66.8	10.9	92.3	16.0	78.1	16.6	69.8	14.0	72.8	11.4	81.6	10.0	87.1	8.7	79.3	7.2
11	70.2	4.2	77.3	4.5	78.2	8.9	63.0	6.3	60.7	8.6	75.3	15.2	77.0	13.6	56.0	9.7	54.8	7.6	86.3	8.9	87.9	9.3	76.7	6.3
12	68.5	4.3	66.2	3.2	87.3	10.1	66.3	7.7	66.7	9.0	68.3	13.0	78.8	12.9	58.4	9.8	71.2	10.7	87.2	9.4	71.6	8.5	84.2	6.1
13	88.3	4.8	76.0	4.3	86.4	10.5	65.3	7.0	68.8	10.8	75.4	14.0	77.1	13.7	70.5	13.3	76.6	13.0	80.7	10.4	80.7	8.5	90.4	5.9
14	95.5	5.0	69.4	3.6	87.9	6.5	62.9	7.5	68.0	11.2	63.0	12.7	70.5	12.3	67.7	13.1	70.0	10.1	89.3	11.8	88.9	7.8	85.6	7.0
15	93.6	5.0	68.6	4.0	77.6	6.5	63.9	6.5	61.4	11.7	62.8	13.2	81.6	14.2	57.0	11.2	69.2	9.7	86.2	12.8	88.3	7.9	92.9	8.9
16	75.7	4.1	80.1	5.2	85.9	7.7	73.4	6.2	58.7	9.7	75.4	13.7	91.1	15.7	66.8	12.5	89.0	13.2	92.7	13.2	90.9	9.3	94.4	10.8
17	72.3	3.0	78.2	4.7	94.0	10.2	71.7	6.4	63.6	9.5	67.2	13.8	73.5	13.0	67.7	14.9	68.6	12.8	92.6	12.8	88.0	8.5	83.9	7.1
18	77.1	3.7	86.8	5.1	88.1	12.6	81.1	7.9	61.9	9.3	50.7	11.3	82.9	13.7	67.9	15.5	69.0	11.6	92.7	11.4	95.1	9.0	94.4	7.3
19	75.4	4.3	94.5	7.4	71.9	8.4	76.3	8.2	50.7	7.7	52.9	10.5	74.5	14.1	63.3	12.0	83.7	13.7	90.8	14.0	91.3	8.7	84.3	8.1
20	68.8	2.6	96.3	8.3	69.1	7.6	77.0	10.6	49.4	7.7	68.6	13.2	73.0	14.0	71.3	12.6	81.4	13.1	86.7	13.5	84.6	9.9	80.1	6.7
21	79.9	3.6	94.5	9.5	86.3	9.9	76.6	11.4	66.1	9.4	61.8	11.2	70.3	12.6	57.7	10.3	86.4	12.0	92.0	12.6	92.3	13.2	76.5	5.2
22	81.9	5.0	92.9	9.6	82.9	9.6	70.8	11.7	83.5	12.4	79.5	12.3	67.4	12.3	58.5	9.5	91.5	13.5	94.6	10.8	82.5	9.2	71.8	4.6
23	89.8	4.8	93.3	10.6	85.3	10.2	78.0	12.6	77.1	11.6	87.5	13.8	69.9	12.6	71.1	10.7	72.8	11.2	89.8	10.3	92.7	8.7	75.2	4.9
24	84.2	4.5	79.0	8.4	81.9	9.7	92.0	12.6	75.7	11.9	75.3	15.1	85.7	13.5	68.8	11.2	74.7	9.6	70.7	7.8	92.0	10.6	86.6	6.6
25	76.0	5.2	80.0	8.3	72.2	8.9	79.3	10.8	65.7	12.6	59.3	10.7	77.9	13.3	77.9	14.1	72.7	9.2	76.5	7.7	95.6	9.9	87.6	6.1
26	81.1	5.6	89.1	8.5	85.9	8.0	84.2	12.2	85.3	14.6	61.8	10.5	70.9	12.9	69.4	13.7	75.7	9.2	71.1	7.0	82.7	9.6	90.0	6.4
27	92.2	6.0	91.1	11.0	58.0	5.4	83.2	12.4	75.9	13.0	59.2	10.1	74.5	12.1	73.3	14.1	77.1	10.8	78.6	7.6	74.8	8.0	83.0	6.9
28	87.5	5.0	90.7	10.4	53.5	4.2	87.3	12.0	82.1	13.2	64.0	12.8	66.4	11.6	70.0	12.2	67.3	9.1	84.4	8.2	71.2	5.6	91.4	7.3
29	84.0	4.3	77.7	6.2	80.8	6.5	83.4	11.3	80.6	12.9	59.7	12.6	62.5	11.3	63.9	12.6	76.4	9.3	73.0	6.0	78.6	5.9	87.1	7.8
30	89.9	4.7			66.8	7.8	89.8	11.9	71.9	12.6	59.0	12.4	74.8	14.1	65.9	11.0	73.1	9.1	81.6	7.7	92.7	6.0	88.0	10.3
31	94.7	6.3			82.4	9.4			60.6	10.7			70.8	15.3	68.0	13.8			91.7	12.6			84.5	7.8
Mean*	83.5	5.1	85.7	7.0	76.3	7.6	74.9	8.9	69.8	10.9	66.7	13.1	72.9	13.3	67.9	13.1	72.4	11.6	83.0	10.5	86.5	9.1	83.8	7.1

\* Mean of the column.

## RELATIVE HUMIDITY

Monthly and annual means of values at exact hours, G.M.T.

186 KEW OBSERVATORY:  $h_t = 3.0$  m.

	Hour G. M. T.																									Mean*
	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24	
	per cent.																									
Jan.	85.9	86.9	86.6	87.5	86.7	87.2	86.5	86.4	86.3	86.9	83.6	81.7	78.9	77.1	76.0	77.6	79.1	79.8	81.9	82.8	83.8	84.3	84.5	85.3	85.7	83.5
Feb.	87.9	88.4	89.2	88.8	89.4	89.7	90.6	89.7	89.4	88.8	86.4	83.1	82.0	81.2	80.9	80.6	80.0	81.6	83.6	84.3	84.3	84.9	84.9	86.3	87.2	85.7
Mar.	82.5	84.0	84.4	85.1	86.2	85.8	85.5	84.9	83.1	78.3	72.9	69.1	67.6	64.9	63.7	63.5	63.9	64.9	70.4	73.8	76.0	78.0	79.9	81.7	82.7	76.3
Apr.	81.9	83.4	84.3	85.0	85.3	86.5	85.9	83.1	79.3	76.1	70.3	66.5	63.3	61.9	62.3	63.8	63.8	65.8	67.3	71.1	73.7	76.4	80.0	81.0	82.2	74.9
May	81.5	83.7	84.4	87.0	87.4	87.3	84.7	78.5	73.9	69.0	64.3	60.3	58.2	56.3	53.9	54.2	54.0	54.1	55.2	59.3	65.0	70.4	75.2	78.5	81.0	69.8
June	78.3	79.7	82.8	84.8	86.7	84.7	80.5	76.3	71.6	66.4	62.4	57.4	54.9	52.0	51.5	50.0	49.6	49.9	51.5	54.4	60.6	67.4	71.4	74.9	78.7	66.7
July	81.9	83.3	84.7	85.7	86.5	86.4	84.2	81.1	77.7	72.6	69.4	65.2	64.0	63.3	61.2	59.2	57.8	59.2	60.5	63.7	69.3	74.7	77.5	80.1	81.9	72.9
Aug.	78.5	80.3	81.6	81.9	82.2	83.2	81.8	79.3	75.3	68.7	64.1	59.3	56.1	53.9	52.2	50.9	51.0	50.5	53.4	59.3	65.4	70.3	74.0	75.5	78.0	67.9
Sept.	81.7	83.2	84.1	84.1	85.2	86.9	87.3	85.2	80.4	75.3	68.6	63.9	59.3	56.2	55.9	55.3	56.4	57.5	60.3	66.5	71.0	74.5	78.1	79.7	81.9	72.4
Oct.	87.9	87.9	87.8	88.1	88.8	88.9	90.3	89.8	88.7	85.4	81.4	79.2	74.1	72.8	71.4	71.1	72.8	77.6	80.9	82.7	84.7	85.6	86.9	86.8	88.0	83.0
Nov.	90.5	89.9	90.6	90.1	90.2	90.7	90.5	91.0	90.1	88.5	86.0	81.4	77.8	77.0	77.2	78.3	80.7	83.0	85.7	87.4	88.5	89.5	90.3	91.4	91.0	86.5
Dec.	84.6	85.0	84.9	84.9	85.7	84.9	86.4	86.1	86.1	85.1	84.3	81.9	80.4	79.1	78.1	79.2	80.9	81.9	83.9	84.9	85.6	86.2	86.5	85.3	83.5	83.8
Annual	83.6	84.6	85.4	86.1	86.7	86.8	86.1	84.3	81.8	78.4	74.4	70.7	68.0	66.3	65.3	65.3	65.8	67.1	69.5	72.5	75.6	78.5	80.8	82.2	83.5	76.9

## VAPOUR PRESSURE

Monthly and annual means of values at exact hours, G.M.T., computed from corresponding mean values of temperature and relative humidity

187 KEW OBSERVATORY:  $h_t = 3.0$  m.

1940

	Hour G.M.T.																									Mean*
	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24	
	millibars																									
Jan.	5.1	5.1	5.0	5.0	5.0	4.9	4.7	4.7	4.7	4.7	4.9	5.0	5.0	5.0	5.1	5.2	5.2	5.2	5.2	5.1	5.2	5.2	5.1	5.1	5.1	5.0
Feb.	6.5	6.6	6.6	6.5	6.5	6.5	6.5	6.5	6.5	6.6	6.7	6.7	6.8	6.9	6.9	6.9	6.7	6.8	6.8	6.7	6.7	6.7	6.6	6.6	6.5	6.7
Mar.	7.5	7.4	7.3	7.2	7.2	7.1	7.0	7.0	7.1	7.2	7.1	7.1	7.2	7.3	7.3	7.4	7.3	7.3	7.5	7.6	7.5	7.5	7.6	7.6	7.7	7.3
Apr.	8.5	8.6	8.5	8.3	8.3	8.3	8.4	8.5	8.7	8.8	8.7	8.6	8.6	8.7	8.7	9.0	8.9	9.0	8.9	8.9	8.8	8.7	8.8	8.7	8.6	8.7
May	10.7	10.6	10.3	10.4	10.2	10.2	10.4	10.4	10.5	10.7	10.7	10.8	10.9	10.9	10.7	10.9	11.0	10.9	10.8	11.0	10.8	10.9	10.9	10.8	10.7	10.7
June	13.2	13.0	13.0	13.0	13.0	12.9	12.9	12.8	13.0	13.1	13.1	13.0	12.9	12.7	12.8	12.6	12.5	12.6	12.7	12.8	12.9	13.2	13.2	13.1	13.2	12.9
July	13.2	13.1	13.0	12.9	12.8	12.9	13.2	13.3	13.5	13.3	13.3	13.1	13.0	13.2	13.2	13.0	12.8	13.1	13.0	13.4	13.4	13.5	13.4	13.3	13.2	13.2
Aug.	13.2	13.1	13.0	12.9	12.7	12.5	12.5	12.8	12.6	12.8	12.7	12.5	12.4	12.4	12.4	12.4	12.6	12.3	12.6	12.9	13.0	13.2	13.3	13.1	13.2	12.7
Sept.	11.6	11.5	11.4	11.2	11.1	11.1	11.1	11.3	11.5	11.7	11.6	11.3	11.2	11.0	11.1	11.2	11.4	11.4	11.4	11.6	11.7	11.7	11.7	11.6	11.5	11.4
Oct.	10.2	10.0	9.9	9.8	9.9	9.9	9.9	9.9	10.3	10.4	10.5	10.7	10.5	10.6	10.5	10.4	10.5	10.8	10.8	10.6	10.5	10.5	10.4	10.2	10.2	10.3
Nov.	9.1	8.9	8.9	8.9	8.9	8.9	8.9	8.7	8.6	8.8	9.0	9.1	9.0	9.2	9.1	9.0	9.1	9.0	9.1	9.1	9.1	9.1	9.0	9.1	8.9	9.0
Dec.	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.6	6.9	6.8	6.9	7.0	7.1	7.1	7.1	7.2	7.2	7.1	7.1	7.1	7.1	7.2	7.2	7.0	6.8	7.0
Annual	9.3	9.2	9.2	9.1	9.1	9.0	9.0	9.1	9.2	9.3	9.5	9.4	9.4	9.4	9.4	9.5	9.5	9.5	9.6	9.6	9.5	9.5	9.5	9.4	9.3	9.3



## RAINFALL

Amount in millimetres, duration in hours and maximum rate of fall for each day 0h. to 24h., G.M.T.

188 KEW OBSERVATORY:  $h_r$  (height of receiving surface above M.S.L.) = height of station above M.S.L. + height of receiving surface above ground = 5.5 m. + 0.53 m.

1940

	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE		
	Amount	Duration	Max. rate	Amount	Duration	Max. rate	Amount	Duration	Max. rate	Amount	Duration	Max. rate	Amount	Duration	Max. rate	Amount	Duration	Max. rate
	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.
1	...	...	...	0.9	(2.9)	...	...	...	...	...	...	...	...	...	...	...	...	...
2	...	...	...	...	...	...	...	...	...	2.7	1.7	18	...	...	...	...	...	...
3	...	...	...	1.9	3.0	12	...	...	...	1.2	1.0	8	...	...	...	...	...	...
4	...	...	...	6.0	7.9	4	...	...	...	1.5	1.2	6	...	...	...	...	...	...
5	...	...	...	0.4	0.1	...	...	...	...	...	...	...	...	...	...	...	...	...
6	1.0	3.6	...	...	...	...	...	...	...	...	...	...	0.7	0.8	1	...	...	...
7	9.6	6.5	12	2.6	2.6	8	...	...	...	...	...	...	...	...	...	...	...	...
8	0.4	0.1	...	0.7	2.2	...	...	...	...	0.8	0.9	2	1.0	3.9	...	...	...	...
9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15.8	1.6	65
10	...	...	...	...	...	...	...	...	...	0.5	0.2	6	...	...	...	0.1	...	...
11	...	...	...	...	...	...	0.3	0.7	7	...	...	...	...	...	...	...	...	...
12	...	...	...	0.2	(0.8)	...	2.0	1.8	14	0.4	1.1	...	...	...	...	...	...	...
13	...	...	...	...	...	...	14.3	2.1	40	...	...	...	...	...	...	3.4	0.8	33
14	...	...	...	0.2	(0.7)	...	17.4	10.7	6	0.1	0.3	...	...	...	...	...	...	...
15	...	...	...	...	...	...	1.1	0.6	10	3.4	2.2	44	2.9	1.6	8	...	...	...
16	0.3	0.8	...	2.2	(2.2)	...	0.9	1.1	...	2.0	1.5	4	...	...	...	1.5	2.8	...
17	...	...	...	...	...	...	13.0	9.5	13	0.1	...	...	...	...	...	...	...	...
18	...	...	...	3.3	5.1	...	5.2	2.9	4	4.3	2.2	7	...	...	...	...	...	...
19	...	...	...	8.9	10.6	4	0.3	0.2	15	3.1	1.9	11	...	...	...	...	...	...
20	...	...	...	3.8	6.0	...	...	...	...	0.3	0.4	...	...	...	...	...	...	...
21	0.5	(2.5)	...	...	...	...	0.2	0.8	6	...	...	...	...	...	...	...	...	...
22	...	...	...	...	...	...	0.1	0.1	...	...	...	...	19.1	8.0	12	2.8	6.9	5
23	...	...	...	1.2	0.8	10	0.7	0.8	4	1.6	2.5	2	0.9	0.1	24	4.1	4.7	5
24	...	...	...	...	...	...	...	...	...	6.0	8.8	4	...	...	...	...	...	...
25	...	...	...	...	...	...	1.4	0.9	2	...	...	...	0.1	0.1	...	...	...	...
26	7.8	2.6	18	0.3	0.4	2	27.8	16.4	6	1.1	1.6	...	3.0	3.0	16	2.9	0.5	22
27	(27.6)	(19.6)	...	7.0	4.2	31	...	...	...	...	...	...	...	...	...	...	...	...
28	(8.6)	(13.6)	...	0.3	0.8	...	...	...	...	2.3	1.0	16	1.5	1.1	4	...	...	...
29	(4.0)	(9.0)	...	0.7	2.5	...	1.5	3.1	...	...	...	...	1.6	0.6	7	...	...	...
30	(1.6)	(5.6)	...	...	...	...	...	...	...	9.5	2.1	27	...	...	...	...	...	...
31	(1.2)	(5.6)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	62.6	69.5	—	40.6	52.8	—	86.2	51.7	—	40.9	30.6	—	30.8	19.2	—	30.6	17.3	—

	JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER		
	Amount	Duration	Max. rate	Amount	Duration	Max. rate	Amount	Duration	Max. rate	Amount	Duration	Max. rate	Amount	Duration	Max. rate	Amount	Duration	Max. rate
	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.
1	...	...	...	...	...	...	...	...	...	...	...	...	1.8	1.0	3	0.1	...	...
2	...	...	...	...	...	...	...	...	...	...	...	...	6.4	5.3	7	...	...	...
3	1.4	2.2	8	...	...	...	...	...	...	5.4	6.3	5	35.4	22.8	26	1.7	2.4	7
4	...	...	...	...	...	...	...	...	...	2.7	2.7	2	4.6	3.7	72	1.2	0.6	43
5	...	...	...	...	...	...	...	...	...	...	...	...	3.3	3.0	2	1.0	1.3	1
6	4.3	4.9	15	...	...	...	...	...	...	4.7	4.1	13	4.8	4.6	1	0.8	0.1	24
7	2.3	1.1	10	...	...	...	...	...	...	...	...	...	0.2	0.2	...	0.1	0.1	7
8	...	...	...	...	...	...	0.4	0.1	1	...	...	...	0.3	0.5	...	...	...	...
9	...	...	...	...	...	...	0.5	0.4	...	4.9	3.8	22	2.2	3.4	2	5.7	3.0	2
10	3.4	1.9	2	1.4	0.3	25	0.6	0.8	1	3.3	1.3	8	1.0	1.0	1	1.0	1.1	2
11	6.8	1.9	45	...	...	...	...	...	...	...	...	...	24.4	8.6	89	...	...	...
12	1.9	2.7	3	...	...	...	...	...	...	...	...	...	0.8	0.6	5	...	...	...
13	0.2	0.2	1	...	...	...	8.5	3.1	55	...	...	...	16.0	7.2	4	...	...	...
14	...	...	...	...	...	...	...	...	...	0.5	0.6	...	5.7	3.4	3	4.9	4.9	6
15	8.2	7.9	22	...	...	...	0.2	0.1	5	1.2	0.8	9	1.9	1.4	9	...	...	...
16	7.1	7.6	3	...	...	...	3.1	4.4	2	17.0	6.4	12	18.7	9.2	25	0.7	0.7	1
17	1.8	3.4	1	...	...	...	0.8	1.7	18	...	...	...	21.2	6.2	36	...	...	...
18	3.7	1.3	60	...	...	...	...	...	...	2.8	3.1	3	8.6	5.4	8	0.3	0.3	...
19	...	...	...	...	...	...	17.9	5.7	88	0.4	0.6	1	...	...	...	3.3	5.0	3
20	2.2	1.0	23	0.6	0.3	7	0.4	0.2	18	0.1	...	...	4.1	2.4	10	...	...	...
21	10.2	0.7	129	...	...	...	...	...	...	2.1	2.1	6	6.6	3.6	6	...	...	...
22	...	...	...	...	...	...	2.5	1.0	33	0.1	...	...	3.3	2.2	4	...	...	...
23	0.1	0.2	7	0.2	0.3	8	...	...	...	0.3	0.5	2	...	...	...	0.1	1.1	...
24	6.2	4.8	3	...	...	...	...	...	...	...	...	...	0.1	0.1	...	0.4	0.5	1
25	...	...	...	...	...	...	...	...	...	...	...	...	0.2	...	...	...	...	...
26	2.2	3.2	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
27	6.4	0.9	46	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
28	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
29	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
30	...	...	...	...	...	...	...	...	...	1.4	1.5	2	...	...	...	6.7	4.2	2
31	...	...	...	...	...	...	...	...	...	14.4	6.3	30	...	...	...	0.5	1.1	...
Total	68.4	45.9	—	2.2	0.9	—	34.9	17.5	—	61.3	40.1	—	171.6	95.8	—	28.5	26.4	—



# RAINFALL

Monthly and annual totals of amounts in sixty-minute periods between exact hours, G.M.T.

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189 KEW OBSERVATORY:  $h_r = 5.5 \text{ m.} + 0.53 \text{ m.}$

1940

	Hour G.M.T.																								0-24
	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	
	<i>millimetres</i>																								
Jan.	4.4	4.2	5.8	4.2	2.6	3.4	3.0	2.2	1.2	0.7	0.9	1.1	0.2	0.7	0.6	5.0	2.6	1.4	2.9	2.6	1.4	2.9	4.6	4.0	62.6
Feb.	1.8	2.5	2.1	1.8	1.4	1.2	3.1	2.2	2.8	0.4	0.7	0.8	0.6	0.2	0.9	0.8	1.3	4.7	0.6	1.1	0.1	2.7	3.7	3.1	40.6
Mar.	3.6	4.5	5.6	5.6	5.3	3.3	4.0	5.0	7.4	5.8	2.3	1.5	2.9	3.3	1.8	2.6	12.8	0.8	1.3	0.9	1.4	...	0.5	4.0	86.2
Apr.	0.1	1.6	0.8	0.1	0.3	4.2	4.0	0.8	0.5	0.5	1.0	1.4	3.0	1.0	4.5	9.7	2.2	0.8	0.2	0.5	1.2	2.0	0.4	0.1	40.9
May	...	...	0.7	0.6	0.7	2.0	0.9	3.2	3.5	4.2	5.2	1.2	2.2	0.2	1.4	0.2	0.1	1.5	...	...	...	0.4	2.6	...	30.8
June	...	0.2	0.2	0.2	1.8	1.0	0.7	0.1	...	0.6	0.2	0.1	0.3	2.5	0.6	0.2	10.1	6.5	0.1	0.1	0.6	4.1	0.2	0.2	30.6
July	1.2	1.0	1.0	0.4	0.4	1.8	0.9	2.5	0.3	1.5	6.0	4.8	17.9	2.7	2.2	0.9	3.3	8.3	2.8	2.1	2.4	1.1	2.0	0.9	68.4
Aug.	...	...	...	...	...	...	...	...	0.4	0.9	...	0.1	...	...	...	...	...	...	0.2	0.2	...	...	0.2	0.2	2.2
Sept.	0.6	...	...	...	1.2	1.9	0.7	0.4	0.7	1.4	5.4	0.8	0.2	...	...	...	...	...	0.2	0.1	0.2	2.5	3.4	1.7	34.9
Oct.	0.3	...	1.6	0.5	1.0	2.0	1.5	5.6	0.8	1.1	3.1	1.1	1.6	5.6	3.0	4.3	5.3	5.0	2.7	4.4	5.3	1.5	1.7	2.3	61.3
Nov.	8.0	5.3	2.8	4.5	3.2	4.2	6.0	3.9	1.9	4.8	3.9	2.0	2.5	7.1	8.0	9.3	7.0	10.1	12.5	15.8	22.5	9.5	7.3	9.5	171.6
Dec.	1.2	3.1	5.2	4.4	2.3	0.8	0.2	...	0.1	0.1	...	...	...	0.1	0.6	1.1	1.4	3.0	1.2	0.6	0.5	1.8	0.7	0.1	28.5
Annual	21.2	22.4	25.8	23.5	20.9	24.6	24.7	26.2	20.3	26.0	24.1	14.3	37.2	24.4	26.6	36.2	47.6	42.1	24.6	28.4	35.6	28.5	27.3	26.1	658.6

# RAINFALL

Monthly and annual totals of durations in sixty-minute periods between exact hours, G.M.T.

190 KEW OBSERVATORY:  $h_r = 5.5 \text{ m.} + 0.53 \text{ m.}$

1940

	Hour G.M.T.																								0-24
	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	
	<i>hours</i>																								
Jan.	5.4	4.3	4.5	4.1	3.0	3.2	2.7	2.3	2.0	1.3	2.0	1.7	0.4	0.6	0.2	1.8	3.5	3.0	4.3	3.5	3.5	3.4	3.8	5.0	69.5
Feb.	2.7	2.8	3.7	2.2	2.1	1.5	3.2	2.2	2.9	1.0	1.5	1.0	1.4	1.0	1.9	2.4	1.9	2.7	2.1	1.2	0.5	2.0	4.9	4.0	52.8
Mar.	3.3	2.4	2.5	2.0	3.0	2.9	3.1	3.6	4.9	2.6	2.4	1.9	2.2	1.8	1.0	1.3	2.0	0.8	1.7	1.4	1.5	...	0.4	3.0	51.7
Apr.	0.3	1.5	0.7	...	0.8	2.8	2.8	2.1	0.2	0.4	1.0	1.4	1.6	1.6	2.5	2.8	1.8	1.5	0.5	0.4	0.7	1.8	1.1	0.3	30.6
May	...	...	0.9	1.6	1.4	1.9	1.4	0.9	1.1	1.2	1.8	1.9	1.5	0.3	0.6	0.4	...	0.6	...	...	...	0.9	0.8	...	19.2
June	...	0.6	0.5	0.9	1.0	1.0	0.6	0.1	...	0.8	0.4	0.1	0.3	0.8	0.8	0.3	1.6	2.0	0.5	0.5	0.9	1.6	1.0	1.0	17.3
July	1.7	2.3	1.3	1.3	0.5	2.1	1.8	1.5	0.3	1.2	2.3	3.2	4.9	1.8	2.0	1.6	2.8	2.9	2.1	2.1	1.1	1.4	2.1	1.6	45.9
Aug.	...	...	...	...	...	...	...	...	0.1	0.2	...	...	...	...	...	...	...	...	0.1	0.3	...	...	0.1	0.1	0.9
Sept.	0.5	...	...	0.3	1.0	1.1	0.8	1.5	1.6	2.0	1.0	0.3	0.8	0.7	1.1	0.9	0.5	...	0.1	0.1	0.1	1.0	1.0	1.1	17.5
Oct.	0.3	...	0.8	0.7	1.4	2.0	1.7	2.7	1.4	1.2	1.5	1.0	1.2	2.0	1.5	2.3	2.8	2.9	2.7	1.9	3.3	2.1	1.3	1.4	40.1
Nov.	3.5	3.4	3.4	3.7	1.6	3.1	4.8	3.4	3.1	2.9	2.3	1.7	2.0	4.1	4.0	4.7	5.3	4.4	5.1	7.3	6.9	5.6	5.1	4.4	95.8
Dec.	0.9	2.3	2.7	2.8	2.4	1.6	...	...	0.6	0.1	...	...	...	0.2	0.4	1.1	1.9	3.0	1.3	2.0	1.1	1.2	0.7	0.1	26.4
Annual	18.6	19.6	21.0	19.6	18.2	23.2	22.9	20.3	18.2	14.9	16.2	14.2	16.3	14.9	16.0	19.6	24.1	23.8	20.5	20.7	19.6	21.0	22.3	22.0	467.7

# NOTES ON RAINFALL

191 KEW OBSERVATORY

1940

## Dry Periods

The following definitions are adopted by the British Rainfall Organization

- 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. of rain or more

"Absolute drought": August 24-September 7

"Partial drought": July 28-September 12

"Dry spell": January 8-25; August 11-September 12

## Wet Periods

The following definitions are adopted by the British Rainfall Organization

- 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. of rain or more

"Rain spell": October 30-November 18

"Wet spell": No occasions

## Rainfall Duration

Hours	0.1-1.0	1.1-2.0	2.1-6.0	6.1-12.0	>12.0
Number of days	57	23	54	18	4

## Continuous or Heavy Falls

The fall of the longest duration occurred on March 25 when 28 mm. fell in 16 hr. 35 min.

## Heavy Falls in short periods

On March 13, 5 mm. fell in 8 min., 10 mm. in 28 min.; on June 9, 5 mm. fell in 9 min., 10 mm. in 36 min.

## Rate of Rainfall (Jardi recorder)

The highest instantaneous rate of rainfall registered by the Jardi recorder was 129 mm./hr. at 12h. 15m. on July 21. The maximum rate exceeded 50 mm./hr. on June 9, July 18 and 21, September 13 and 19, November 4 and 11.



**DURATION OF BRIGHT SUNSHINE AND TOTAL SOLAR RADIATION FOR EACH DAY**  
Solar radiation received on a surface perpendicular to the solar beam

192 KEW OBSERVATORY:  $h_s$  (height of recorder above ground) = 13.3 m.

1940

	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE		
	Total for day	Per cent. of pos- sible	Solar rad- iation	Total for day	Per cent. of pos- sible	Solar rad- iation	Total for day	Per cent. of pos- sible	Solar rad- iation	Total for day	Per cent. of pos- sible	Solar rad- iation	Total for day	Per cent. of pos- sible	Solar rad- iation	Total for day	Per cent. of pos- sible	Solar rad- iation
	hr.	%	J./cm. <sup>2</sup>	hr.	%	J./cm. <sup>2</sup>	hr.	%	J./cm. <sup>2</sup>	hr.	%	J./cm. <sup>2</sup>	hr.	%	J./cm. <sup>2</sup>	hr.	%	J./cm. <sup>2</sup>
1	...	...	...	...	...	...	8.5	78	1350	5.7	44	990	1.3	9	80	5.6	35	540
2	4.5	57	360	...	...	...	8.8	81	1180	3.4	26	380	2.8	19	180	14.3	88	1990
3	...	...	40	...	...	...	7.9	72	570	3.0	23	470	10.8	73	1420	12.4	76	2160
4	...	...	30	...	...	...	3.2	29	330	3.6	28	430	8.0	54	1160	12.0	74	2170
5	...	...	0	0.1	1	...	7.0	63	1070	6.2	47	530	12.8	85	2270	14.2	87	2760
6	...	...	...	0.1	1	...	4.3	38	500	11.0	83	1130	0.8	5	70	14.5	89	2480
7	...	...	...	...	...	...	5.1	45	480	3.1	23	560	10.8	71	1900	14.8	90	2690
8	4.2	52	40	...	...	...	1.7	15	140	1.2	9	130	1.0	7	70	13.1	80	2060
9	...	...	...	...	...	...	5.5	48	630	4.8	36	360	11.6	76	1360	8.3	51	830
10	4.6	57	320	4.9	51	470	3.6	31	380	1.6	12	90	9.1	59	1170	...	...	100
11	4.1	51	300	...	...	20	4.5	39	690	9.6	71	1460	7.9	52	820	10.7	65	1580
12	5.5	68	460	1.3	13	140	0.3	3	40	0.9	7	150	7.2	47	990	5.8	35	980
13	...	...	50	1.6	16	130	1.1	9	80	3.7	27	320	9.0	58	1050	0.8	5	150
14	...	...	...	4.5	46	540	0.6	5	50	3.6	26	390	13.7	89	2580	13.1	79	2070
15	0.4	5	100	...	...	...	5.6	48	40	7.3	53	1180	6.6	42	850	11.6	70	1310
16	3.4	41	370	0.8	8	80	0.5	4	10	7.0	51	1130	10.2	65	1690	1.4	8	110
17	5.8	70	690	...	...	0	...	...	...	10.4	75	2100	9.2	59	1180	5.0	30	570
18	5.2	62	570	...	...	0	0.2	2	80	...	...	10	11.8	75	1640	15.2	92	3010
19	1.8	21	140	0.1	1	0	6.8	57	650	6.3	45	1200	14.5	92	2820	8.3	50	1300
20	3.1	37	330	...	...	...	9.9	82	1380	0.5	4	50	13.5	86	2250	10.1	61	2060
21	0.5	6	40	...	...	...	0.1	1	20	9.5	67	1820	10.0	63	1650	10.7	65	1890
22	1.8	21	170	1.0	10	80	...	...	...	9.7	68	1430	4.0	25	460	2.3	14	260
23	1.8	21	170	...	...	...	3.2	26	290	0.3	2	40	9.4	59	1240	2.3	14	150
24	0.4	5	40	7.6	73	840	2.5	20	240	...	...	...	7.3	46	550	5.6	34	540
25	4.9	57	650	0.1	1	20	1.1	9	120	4.4	30	350	2.6	16	430	12.4	75	1890
26	...	...	...	1.5	14	120	...	...	...	3.9	27	410	4.1	25	540	12.7	77	2190
27	...	...	...	1.2	11	80	9.7	77	1540	5.5	38	920	10.6	66	1730	7.8	47	1120
28	...	...	...	...	...	...	9.2	73	1050	0.3	2	20	2.2	14	150	7.3	44	1090
29	...	...	...	...	...	...	0.1	1	30	1.4	9	120	4.1	25	300	14.0	85	2380
30	...	...	...	...	...	...	9.3	73	1210	...	...	20	9.9	61	1420	11.1	67	1860
31	...	...	...	...	...	...	1.0	8	80	...	...	...	9.7	60	1050	...	...	...
Mean	1.68		160	0.86		90	3.91		460	4.26		610	7.95		1130	9.25		1480

	JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER		
	Total for day	Per cent. of pos- sible	Solar rad- iation	Total for day	Per cent. of pos- sible	Solar rad- iation	Total for day	Per cent. of pos- sible	Solar rad- iation	Total for day	Per cent. of pos- sible	Solar rad- iation	Total for day	Per cent. of pos- sible	Solar rad- iation	Total for day	Per cent. of pos- sible	Solar rad- iation
	hr.	%	J./cm. <sup>2</sup>	hr.	%	J./cm. <sup>2</sup>	hr.	%	J./cm. <sup>2</sup>	hr.	%	J./cm. <sup>2</sup>	hr.	%	J./cm. <sup>2</sup>	hr.	%	J./cm. <sup>2</sup>
1	13.4	81	2390	9.8	64	1620	9.0	67	1370	5.1	44	610	6.5	68	850	...	...	0
2	11.8	72	1600	10.5	69	1550	8.2	61	1120	7.1	62	890	1.0	10	80	0.6	7	110
3	3.6	22	220	9.0	59	1330	10.4	78	1260	...	...	...	...	...	...	...	...	...
4	4.3	26	490	9.1	60	900	12.0	90	2050	1.6	14	190	2.7	29	130	1.0	12	100
5	7.3	45	740	8.5	56	1040	11.5	87	2040	3.5	31	350	3.5	37	280	1.4	17	150
6	0.8	5	70	9.5	63	1290	11.6	88	2050	...	...	...	...	...	...	5.9	74	500
7	11.0	68	1710	3.4	23	290	10.7	81	1940	8.8	79	1280	4.4	48	440	1.9	24	190
8	8.4	51	1340	5.4	36	500	2.9	22	290	2.8	25	370	4.3	47	510	5.1	64	540
9	3.9	24	310	8.2	55	1150	3.9	30	460	6.2	56	840	...	...	...	...	...	0
10	1.6	10	130	7.3	49	1390	0.3	2	30	4.0	36	610	3.2	35	340	1.0	13	130
11	8.8	54	1730	6.8	46	610	10.2	79	1410	6.3	58	280	...	...	...	0.6	8	80
12	7.9	49	1330	13.2	89	2540	2.1	16	320	4.9	45	510	0.7	8	80	4.4	56	420
13	9.6	59	1430	0.8	5	80	3.1	24	230	8.0	74	930	...	...	...	1.7	22	150
14	12.6	78	2050	2.9	20	340	3.2	25	290	0.4	4	20	6.6	74	720	0.4	5	50
15	0.1	1	30	9.5	65	1360	6.4	51	760	3.8	36	410	5.0	57	610	1.7	22	190
16	...	...	...	6.1	42	...	...	...	...	...	...	30	0.4	5	40	0.2	3	20
17	6.1	38	1080	10.5	73	...	6.8	54	920	4.1	39	390	5.2	60	750	3.5	45	260
18	2.7	17	280	8.5	59	...	7.3	59	1130	...	...	10	...	...	0	...	...	20
19	9.9	62	1380	4.1	29	380	3.2	26	430	3.8	36	380	0.1	1	10	4.7	61	340
20	8.9	56	1060	4.3	30	560	5.7	46	80	6.5	63	530	3.0	35	210	...	...	...
21	9.5	60	1810	0.6	4	80	1.9	16	170	0.1	1	0	2.4	28	260	1.7	22	120
22	10.1	64	1240	3.2	23	80	...	...	0	1.3	13	60	3.4	40	410	...	...	...
23	1.7	11	180	1.0	7	30	9.8	81	2000	...	...	...	0.7	8	100	...	...	...
24	...	...	20	8.8	63	1420	3.2	27	400	...	...	0	4.7	56	560	...	...	...
25	6.6	42	1050	...	...	...	4.8	40	650	4.6	46	430	...	...	10	...	...	...
26	8.1	52	1370	2.9	21	320	2.5	21	240	2.1	21	140	0.2	2	10	0.3	4	50
27	4.9	31	610	3.6	26	290	4.3	36	640	2.0	20	180	4.7	57	580	0.2	3	50
28	12.8	82	2070	7.4	54	980	7.8	66	860	0.7	7	100	6.2	75	760	...	...	...
29	10.0	65	1330	9.8	71	790	0.7	6	20	6.6	67	950	5.8	71	490	0.4	5	50
30	0.5	3	50	11.7	86	1920	0.4	3	50	...	...	...	1.9	23	210	...	...	...
31	9.9	64	1000	11.8	87	1930	...	...	0	...	...	...	...	...	...	...	...	...
Mean	6.67		970	6.72		880†	5.46		770	3.04		340	2.55		280	1.18		110
Annual Mean										4.47		610						

See Introduction for corrections to tabulated values of radiation.

† 28 days only. No record 16-18, clock out of order.



## DURATION OF BRIGHT SUNSHINE

Monthly and annual totals between exact hours, local apparent time

193 KEW OBSERVATORY:  $h_s$  (height of recorder above ground) = 13.3 m.

1940

	Hour L.A.T.																				Total	per cent. of possible
	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			
	<i>hours</i>																					%
Jan.	—	—	—	—	...	0.5	5.8	8.7	10.7		11.4	9.3	5.0	0.6	...	—	—	—	—		52.0	20
Feb.	—	—	—	...	0.8	1.0	2.7	3.0	5.0		4.8	4.4	2.6	0.4	0.1	...	—	—	—		24.8	9
Mar.	—	—	...	1.9	7.6	14.0	12.8	14.3	13.8		14.0	12.5	12.0	10.6	6.2	1.6	...	—	—		121.3	33
Apr.	—	...	1.0	8.3	9.9	12.2	12.0	13.7	14.3		12.5	12.4	11.2	9.7	7.6	3.1	...	...	—		127.9	31
May	...	0.6	7.4	14.2	15.2	17.6	19.3	20.8	22.3		20.8	19.8	19.0	18.2	17.7	17.0	14.6	2.0	...		246.5	51
June	...	3.7	11.7	15.4	17.9	19.4	20.3	20.7	18.6		20.1	18.5	19.6	20.6	21.0	21.3	20.2	8.4	...		277.4	56
July	...	2.0	8.7	12.8	13.7	14.2	16.8	17.9	15.5		16.4	14.9	15.8	13.6	16.6	12.4	12.6	2.9	...		206.8	41
Aug.	—	...	2.6	10.3	11.4	14.8	17.6	19.4	18.3		19.2	17.2	17.8	18.8	18.1	16.5	6.2	...	—		208.2	46
Sept.	—	—	...	5.6	12.8	15.9	16.3	17.5	16.3		16.9	15.2	14.0	13.1	12.3	7.7	0.3	—	—		163.9	43
Oct.	—	—	—	...	2.2	7.9	11.3	11.1	14.1		13.0	12.7	12.0	7.9	2.1	...	—	—	—		94.3	28
Nov.	—	—	—	—	...	3.4	10.5	13.0	12.4		13.8	12.9	8.6	2.0	...	—	—	—	—		76.6	29
Dec.	—	—	—	—	...	0.6	5.4	6.9	6.0		8.2	7.4	2.0	0.2	...	—	—	—	—		36.7	15
Annual	...	6.3	31.4	68.5	91.5	121.5	150.8	167.0	167.3		171.1	157.2	139.6	115.7	101.7	79.6	53.9	13.3	...		1636.4	37

## SOLAR RADIATION RECEIVED ON A SURFACE PERPENDICULAR TO THE SOLAR BEAM

Monthly and annual totals between exact hours, local apparent time

194 KEW OBSERVATORY:  $h_s$  = 13.3 m.

1940

	Hour L.A.T.																				Total
	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		
	<i>joules per square centimetre</i>																				
Jan.	—	—	—	—	...	50	380	770	1080		1050	820	540	180	...	—	—	—	—		4870
Feb.	—	—	—	...	30	120	200	270	440		470	480	350	130	30	...	—	—	—		2520
Mar.	—	—	...	190	790	1360	1500	1850	1820		1830	1400	1550	1040	700	200	...	—	—		14230
Apr.	—	...	190	910	1320	1500	1860	2090	2190		2000	1710	1560	1470	960	370	60	...	—		18190
May	...	130	860	1570	1870	2230	3060	3510	3720		3480	3430	2830	2520	2370	1910	1290	290	...		35070
June	...	450	1110	1910	2700	3310	3520	3940	3960		3910	3620	3410	3360	3220	2960	2180	730	...		44290
July	...	310	990	1610	2060	2010	2780	3210	2430		2320	2300	2110	2300	2440	1620	1320	290	...		30100
Aug.	—	...	310	1010	1250	1670	1820	2590	2710		2720	2360	2220	2220	1980	1380	490	40	—		24770 †
Sept.	—	—	50	700	1550	2130	2820	2840	2670		2770	2080	1800	1700	1310	750	40	—	—		23210
Oct.	—	—	—	10	340	830	1270	1070	1700		1610	1410	1140	800	280	30	—	—	—		10490
Nov.	—	—	—	—	...	250	940	1480	1590		1630	1420	780	350	...	—	—	—	—		8440
Dec.	—	—	—	—	...	100	420	680	630		700	580	310	100	...	—	—	—	—		3520
Annual	0	890	3510	7910	11910	15560	20570	24300	24940		24490	21610	18600	16170	13290	9220	5380	1350	0		219700

See Introduction for corrections to tabulated values.

† 28 days only.



## WIND

Mean speed and highest instantaneous speed recorded each day (0h. to 24h., G.M.T.) by the pressure-tube anemograph

195 KEW OBSERVATORY:  $h_a$  (height of anemograph above M.S.L.) = height of ground above M.S.L. + height of anemograph above ground  
= 5 m. + 23 m.

1940

	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	Mean	Max. gust	Mean	Max. gust	Mean	Max. gust	Mean	Max. gust	Mean	Max. gust	Mean	Max. gust	Mean	Max. gust	Mean	Max. gust	Mean	Max. gust	Mean	Max. gust	Mean	Max. gust	Mean	Max. gust
	metres per second																							
1	2.7	15	3.2	9	10.0	21	6.9	21	2.0	7	2.4	9	1.8	8	4.7	13	2.9	11	4.2	13	4.5	14	1.2	4
2	4.3	11	3.4	9	8.1	18	3.8	13	4.4	11	3.0	10	2.9	13	5.1	12	1.3	8	5.3	14	7.7	24	1.5	7
3	5.6	18	5.2	14	2.5	10	4.1	15	4.5	14	3.6	11	4.2	12	3.6	9	1.3	8	3.1	11	4.5	19	2.5	10
4	4.4	8	3.1	11	3.6	15	6.3	20	3.9	12	5.3	12	4.2	14	1.6	8	2.7	18	3.6	16	5.7	19	4.9	19
5	1.6	6	1.2	6	4.6	15	6.8	17	2.6	10	5.9	15	3.3	14	1.8	9	2.1	9	5.6	17	4.3	17	6.6	21
6	1.7	8	2.3	9	3.2	12	3.1	7	2.4	10	5.2	13	2.8	10	2.2	10	2.0	8	8.9	21	4.6	19	9.7	28
7	2.2	7	5.4	15	1.2	5	3.5	13	1.6	11	3.6	11	3.3	15	1.0	8	3.3	12	3.5	13	3.5	15	5.5	17
8	2.7	11	5.3	13	1.7	7	3.5	16	1.9	7	1.9	13	2.7	12	4.2	16	3.4	11	4.4	16	2.4	8	*	(17)
9	4.9	12	7.7	17	3.9	13	4.5	15	2.8	9	1.8	12	4.6	17	5.5	16	2.7	10	7.6	24	6.3	17	*	(13)
10	3.6	9	5.5	16	2.8	12	5.6	17	2.0	11	0.5	4	2.8	14	6.3	20	3.7	13	3.9	15	4.5	18	5.5	24
11	4.3	12	3.0	11	3.5	13	2.3	10	4.1	13	3.0	12	3.5	13	4.3	14	3.3	15	1.2	7	7.0	22	5.0	17
12	4.6	14	4.4	15	5.8	16	4.5	14	2.6	11	3.6	12	5.3	18	2.4	10	4.2	16	1.5	7	9.6	25	2.6	12
13	2.0	7	5.1	16	4.9	14	3.1	10	2.9	12	2.2	10	4.8	18	2.2	9	4.9	17	4.3	14	6.4	21	3.2	15
14	1.1	6	4.0	11	5.0	18	5.7	18	3.5	14	1.6	9	2.0	12	4.2	13	3.7	13	3.8	9	4.3	24	6.4	20
15	2.2	5	1.7	10	4.2	16	6.9	21	3.8	15	1.7	9	2.5	11	2.6	11	3.3	14	4.9	16	4.1	15	2.6	14
16	5.7	18	4.0	16	2.9	12	4.3	14	5.1	14	3.9	15	2.5	10	1.6	9	3.7	15	3.2	12	4.6	14	5.3	15
17	5.0	15	5.2	16	4.9	17	2.5	10	3.2	9	5.6	13	3.7	16	1.6	8	8.7	24	2.0	9	4.1	14	2.4	13
18	2.4	7	2.9	13	5.9	17	5.6	21	2.5	8	5.6	17	4.5	16	3.1	13	4.8	17	3.1	10	2.4	8	2.9	12
19	4.1	16	2.5	9	8.7	25	5.7	18	5.0	15	5.1	14	5.1	17	4.0	14	5.4	21	5.6	14	2.9	11	5.3	16
20	2.4	10	2.7	9	6.9	21	2.3	10	3.8	12	6.4	17	6.5	19	4.4	17	4.6	17	3.1	9	6.7	22	7.6	17
21	4.3	16	4.0	14	4.2	14	3.1	13	4.9	17	4.2	12	4.6	17	5.2	23	0.9	3	1.5	9	6.9	21	6.5	15
22	5.2	15	3.9	14	3.3	12	7.1	17	2.9	14	2.1	11	2.3	9	4.9	18	3.0	14	1.2	5	5.3	19	8.5	17
23	1.8	9	5.3	14	4.9	15	4.5	13	2.4	11	4.4	11	1.8	6	3.6	19	3.4	11	5.8	17	3.8	12	5.2	15
24	3.1	14	3.8	17	2.7	8	2.0	7	3.9	13	2.5	10	3.1	10	2.1	12	1.9	7	7.5	16	3.5	10	3.0	11
25	2.9	9	2.7	9	5.3	14	2.5	9	3.4	13	4.2	15	1.6	9	2.2	8	3.8	15	5.4	14	3.8	13	1.6	6
26	2.6	10	3.9	14	7.3	19	1.5	8	1.8	10	4.0	15	2.6	13	2.3	9	2.3	11	4.9	13	6.2	18	1.8	7
27	7.2	15	5.9	16	6.0	18	2.2	8	4.7	15	2.3	9	2.3	15	2.3	10	3.0	11	2.5	7	5.6	17	3.3	12
28	6.9	12	7.1	18	5.9	20	2.3	7	2.3	10	2.6	12	1.7	7	1.6	7	4.5	17	2.1	7	3.2	13	2.1	7
29	9.0	20	7.4	17	4.6	16	3.1	10	2.1	13	4.8	16	2.7	11	5.2	17	4.1	14	2.5	10	3.4	13	4.8	13
30	7.5	13			5.1	19	3.5	10	2.7	10	3.2	12	2.4	10	1.7	8	3.8	10	4.6	20	1.1	3	7.0	17
31	6.1	11			6.3	17			3.1	11			2.7	9	3.3	12			6.4	24			4.7	14

\* Out of order

## WIND

Monthly and annual means of mean wind speed between exact hours, G.M.T.

196 KEW OBSERVATORY:  $h_a$  = 5 m. + 23 m.

1940

	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	
	metres per second																									
Jan.	3.5	3.6	3.3	3.3	3.3	3.3	3.5	3.6	3.7	3.9	4.1	4.7	4.9	4.9	4.9	4.7	4.6	4.5	4.3	4.3	4.1	3.9	3.7	3.5	4.1	
Feb.	4.0	3.9	3.8	3.7	3.7	3.7	3.7	3.6	3.6	4.0	4.3	4.7	4.8	4.8	5.0	5.0	4.8	4.5	4.4	4.3	4.1	4.1	4.0	4.1	4.2	
Mar.	4.0	4.0	4.1	4.1	4.1	4.0	4.2	4.6	5.0	5.5	5.9	6.0	6.3	6.1	6.2	6.1	5.8	5.3	4.6	4.5	4.2	4.0	3.9	4.0	4.8	
Apr.	3.3	3.3	3.3	3.2	3.1	3.2	3.2	3.7	4.3	4.9	5.1	5.3	5.4	5.5	5.2	5.2	4.9	4.6	4.0	3.9	3.6	3.4	3.5	3.3	4.1	
May	2.2	2.1	1.9	1.9	1.9	1.9	2.2	2.6	2.8	3.3	3.8	4.2	4.5	4.6	4.7	4.6	4.6	4.4	3.9	3.7	3.2	2.7	2.4	2.1	3.2	
June	2.6	2.6	2.3	2.3	2.5	2.5	2.8	3.2	3.5	3.8	3.9	4.4	4.5	4.6	4.5	4.6	4.6	4.9	4.6	4.1	3.4	3.1	3.1	2.8	3.5	
July	2.1	2.1	2.1	2.1	2.2	2.2	2.6	3.1	3.4	3.8	4.0	4.5	4.5	4.3	4.5	4.7	4.7	4.4	3.8	3.6	2.7	2.5	2.3	2.2	3.3	
Aug.	2.4	2.4	2.3	2.3	2.3	2.3	2.5	3.0	3.4	3.6	3.9	4.0	4.2	4.4	4.4	4.4	4.4	4.1	3.6	3.0	3.0	2.8	2.7	2.6	3.3	
Sept.	2.4	2.4	2.6	2.5	2.4	2.5	2.7	3.0	3.3	4.0	4.5	4.7	4.9	4.6	4.8	4.6	4.3	4.1	3.8	3.2	3.2	2.9	2.7	2.5	3.4	
Oct.	3.5	3.5	3.4	3.3	3.3	3.2	3.1	3.4	3.9	4.7	4.8	5.1	5.3	5.3	5.3	5.2	4.8	4.5	4.3	4.1	3.9	3.7	3.5	3.4	4.1	
Nov.	4.7	4.6	4.4	4.5	4.3	4.1	4.2	4.4	4.6	4.6	5.1	5.4	5.7	5.6	5.4	4.8	4.6	4.7	4.8	4.9	4.8	4.7	4.6	4.6	4.8	
Dec.	3.9	4.2	4.4	4.0	4.1	4.1	4.4	4.4	4.4	4.4	4.3	4.5	5.0	5.2	5.2	5.0	5.0	4.5	4.6	4.6	4.8	4.6	4.3	4.4	4.5	
Annual	3.2	3.2	3.2	3.1	3.1	3.1	3.2	3.5	3.8	4.2	4.5	4.8	5.0	5.0	5.0	4.9	4.8	4.5	4.2	4.0	3.7	3.5	3.4	3.3	3.9	

## DISTRIBUTION OF WIND SPEED, EXTREME VELOCITIES AS RECORDED BY PRESSURE-TUBE ANEMOGRAPH

197 KEW OBSERVATORY:  $h_a$  = 5 m. + 23 m.

1940

	DISTRIBUTION OF WIND SPEED								EXTREME VELOCITIES				
	More than 17·1 m./sec.		10·8 to 17 1 m./sec.		5·5 to 10·7 m./sec.	1·6 to 5·4 m./sec.	Less than 1·6 m./sec.	No record	Highest hourly wind			Highest gust	
	Dates of occurrence	Duration	No. of days	Duration	Duration	Duration	Duration	Duration	Veer from N.	Speed	Hour ended	Speed	Date
		hr.		hr.	hr.	hr.	hr.	hr.	°	m./sec.	day h.	m./sec.	day h. m.
Jan.	—	0	1	7	211	412	114	0	80	12	29 15	20	29· 16 55
Feb.	—	0	0	0	192	413	91	0	65	10	9 15	18	28 11 10
Mar.	—	0	3	15	300	358	71	0	75	14	1 11	25	19 17 0
Apr.	—	0	2	6	194	447	73	0	210	13	1 14	21	18 13 5
May	—	0	0	0	85	492	167	0	80	9	21 23	17	21 22 10
June	—	0	0	0	140	443	137	0	15	9	20 18	17	20 17 45
July	—	0	0	0	95	525	124	0	220	10	12 15	19	20 14 55
Aug.	—	0	0	0	115	479	150	0	260	9	10 14	23	21 21 5
Sept.	—	0	0	0	100	480	140	0	255	11	17 11	24	17 14 40
Oct.	—	0	3	8	202	411	123	0	200	12	31 16	24	31 15 50
Nov.	—	0	5	15	234	406	65	0	220	13	2 18	25	12 9 10
Dec.	—	0	2	9	256	346	103	30	275	13	6 14	28	6 6 10
Year	—	0	16	60	2124	5212	1358	30	75	14	Mar. 1 11	28	Dec. 6 6 10



198 KEW OBSERVATORY

1940

	JANUARY 30 cm. 122 cm.	FEBRUARY 30 cm. 122 cm.	MARCH 30 cm. 122 cm.	APRIL 30 cm. 122 cm.	MAY 30 cm. 122 cm.	JUNE 30 cm. 122 cm.	JULY 30 cm. 122 cm.	AUGUST 30 cm. 122 cm.	SEPTEMBER 30 cm. 122 cm.	OCTOBER 30 cm. 122 cm.	NOVEMBER 30 cm. 122 cm.	DECEMBER 30 cm. 122 cm.
	<i>degrees Absolute</i>											
1	74.4 79.9	73.1 77.1	78.0 78.3	80.6 80.1	85.1 82.8	89.2 85.5	91.3 88.0	90.9 88.2	90.1 88.3	83.9 86.8	81.9 84.3	76.9 82.2
2	74.3 79.9	73.1 77.1	77.2 78.4	80.7 80.1	85.0 82.8	90.1 85.8	91.9 88.0	91.2 88.3	90.1 88.4	83.9 86.6	82.1 84.2	76.5 82.0
3	74.0 79.5	73.1 77.1	76.2 78.6	80.9 80.1	85.3 82.9	90.0 85.9	92.0 88.1	91.2 88.3	90.2 88.5	84.0 86.4	83.2 84.2	77.5 81.9
4	74.1 79.3	73.0 77.0	75.7 78.5	81.0 80.3	85.6 82.9	90.1 86.1	91.5 88.2	91.6 88.5	90.5 88.5	84.1 86.3	83.3 84.1	78.4 81.5
5	74.0 79.3	73.0 76.7	76.7 78.7	81.1 80.6	86.0 83.1	90.2 86.2	90.7 88.3	91.9 88.6	90.2 88.6	84.7 86.2	82.5 84.2	79.0 81.4
6	74.0 79.2	73.1 76.7	76.2 78.4	79.9 80.6	86.7 83.2	90.6 86.3	91.0 88.3	91.9 88.8	90.8 88.8	85.7 86.1	82.3 84.2	79.0 81.3
7	74.2 79.1	73.2 76.7	75.9 78.4	79.4 80.5	85.8 83.4	91.0 86.6	90.7 88.4	91.7 88.8	89.7 88.8	85.9 86.1	81.8 84.2	77.9 81.3
8	74.4 79.0	73.4 76.7	75.4 78.3	80.0 80.5	86.6 83.5	91.2 86.6	90.6 88.4	91.2 88.9	90.1 88.7	84.9 86.1	81.0 84.1	77.5 81.3
9	75.2 78.9	73.8 76.8	75.4 78.4	79.8 80.6	86.1 83.8	92.1 86.8	90.5 88.4	91.0 88.9	89.0 88.7	85.6 86.1	81.2 84.1	77.6 81.2
10	75.0 78.8	73.8 76.8	76.4 78.3	79.9 80.5	86.3 83.8	91.0 86.8	91.1 88.4	91.2 88.9	87.8 88.7	84.7 86.1	81.1 84.0	77.8 81.2
11	74.5 78.8	73.7 76.8	77.6 78.3	79.2 80.5	87.0 83.9	89.7 87.1	90.6 88.4	90.5 88.9	87.6 88.7	83.3 86.1	80.4 83.9	77.4 81.1
12	74.1 78.8	73.7 76.9	78.8 78.3	80.6 80.5	86.1 84.1	90.6 87.3	90.0 88.3	89.7 88.9	86.7 88.6	82.8 86.0	81.4 83.9	76.9 81.0
13	73.9 78.8	73.6 76.9	79.7 78.4	80.4 80.5	86.2 84.1	90.3 87.2	89.9 88.3	89.9 88.9	88.0 88.4	83.0 86.0	81.1 83.5	76.2 81.0
14	73.8 78.8	73.7 76.9	79.7 78.6	81.3 80.7	87.1 84.3	90.4 87.2	89.9 88.3	90.3 88.9	87.0 88.3	83.5 85.8	80.5 83.5	76.3 80.9
15	73.6 78.7	73.6 76.9	77.6 78.9	81.5 80.7	87.3 84.2	90.9 87.3	90.0 88.2	90.0 88.9	86.9 88.2	83.8 85.7	79.4 83.1	77.1 80.6
16	73.7 78.6	73.6 77.0	77.7 78.9	81.0 80.9	87.7 84.3	91.1 87.3	89.7 88.2	90.1 88.8	86.0 88.1	84.1 85.5	79.9 83.1	78.0 80.4
17	73.5 78.5	73.6 76.9	78.4 79.0	80.2 80.9	87.2 84.5	90.1 87.3	89.6 88.2	90.0 88.8	87.8 88.1	84.5 85.5	80.0 83.1	78.6 80.3
18	73.2 78.3	73.5 76.9	80.1 79.0	80.4 80.9	87.5 84.8	90.2 87.6	89.1 88.2	91.0 88.8	87.4 88.0	84.3 85.4	80.0 82.9	77.4 80.3
19	73.1 78.3	73.6 76.9	81.4 79.1	80.7 80.9	87.4 84.8	90.6 87.7	89.8 88.2	91.3 88.8	87.8 88.0	84.8 85.4	80.0 82.7	78.2 80.3
20	73.0 78.2	73.6 77.0	80.2 79.2	81.7 81.0	87.3 84.8	90.3 87.8	90.1 88.1	90.1 88.9	87.2 87.8	84.8 85.4	80.0 82.6	78.2 80.3
21	72.6 78.1	73.7 77.0	80.0 79.4	82.8 81.1	87.1 84.8	90.9 87.6	90.0 88.2	90.0 88.8	86.8 87.8	85.3 85.4	80.8 82.5	77.3 80.3
22	72.7 78.0	75.2 76.9	80.4 79.5	83.8 81.1	87.3 84.9	91.0 87.7	89.7 88.2	89.1 88.7	86.0 87.7	84.4 85.4	82.0 82.5	76.5 80.3
23	72.9 78.0	77.0 76.9	81.0 79.7	84.5 81.2	87.1 85.0	89.7 87.8	90.1 88.2	88.1 88.8	86.5 87.6	83.8 85.4	80.1 82.4	76.2 80.2
24	72.6 77.8	77.6 77.0	81.0 79.8	84.8 81.3	87.3 85.1	89.4 87.7	89.7 88.2	87.3 88.7	85.7 87.5	83.6 85.4	80.5 82.6	76.2 80.1
25	72.8 77.7	78.2 77.2	81.4 80.0	83.9 81.6	87.3 85.1	90.2 87.9	88.8 88.2	88.5 88.5	85.2 87.4	82.4 85.4	80.0 82.6	76.4 80.1
26	72.9 77.6	78.0 77.4	81.1 79.9	84.3 81.9	88.0 85.1	90.1 87.8	89.7 88.2	89.2 88.4	84.5 87.3	82.0 85.2	80.7 82.5	76.2 80.1
27	72.9 77.4	78.8 77.7	79.9 80.1	85.1 82.1	87.9 85.2	90.0 87.8	90.0 88.2	89.2 88.2	84.0 87.2	81.6 85.1	81.0 82.4	76.1 80.0
28	73.0 77.0	80.0 77.9	79.1 80.2	85.8 82.1	88.0 85.2	90.0 87.8	89.2 88.2	89.0 88.3	85.2 87.1	81.5 85.0	79.8 82.3	76.7 79.9
29	73.0 77.1	79.5 78.1	77.9 80.1	85.5 82.2	87.7 85.3	90.6 88.0	90.1 88.2	89.9 88.3	84.6 86.9	80.9 84.9	78.3 82.4	76.4 79.9
30	73.0 77.1		78.8 80.2	85.2 82.5	88.0 85.3	91.3 87.9	90.2 88.2	89.0 88.3	84.3 86.8	79.8 84.7	77.4 82.3	77.8 79.8
31	73.1 77.1		79.9 80.1		88.9 85.3		90.2 88.3	89.2 88.4		81.2 84.3		78.7 79.8
Mean	73.6 78.4	74.7 77.0	78.5 79.1	81.9 80.9	86.9 84.3	90.4 87.1	90.2 88.2	90.2 88.7	87.5 88.1	83.6 85.7	80.8 83.3	77.3 80.7
	Year						83.0 83.5					

## MINIMUM TEMPERATURE "ON THE GRASS" DURING THE INTERVAL 18h. TO 7h., G.M.T.

199 KEW OBSERVATORY

1940

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
	<i>degrees Absolute</i>											
1	69.8	73.1	73.8	78.9	80.9	80.6	77.1	83.1	81.7	70.1	74.7	65.4
2	67.4	71.5	72.4	70.2	77.4	81.0	80.7	85.9	77.0	73.3	77.6	64.2
3	61.6	71.9	68.8	78.6	78.1	76.7	85.3	84.7	81.4	78.6	82.8	72.6
4	71.8	73.7	66.9	74.8	78.5	79.2	80.3	81.2	78.2	74.3	81.7	77.3
5	73.7	75.1	74.7	76.3	74.2	81.3	81.5	81.0	78.2	80.5	68.6	73.8
6	67.0	74.1	67.4	67.0	76.8	84.1	85.1	82.9	79.8	85.8	74.1	74.4
7	77.2	77.6	63.7	65.9	71.4	83.1	81.9	81.3	74.2	79.7	72.7	72.1
8	72.5	76.4	65.1	71.8	81.2	79.0	81.8	80.6	83.0	72.3	68.0	69.8
9	72.8	72.4	68.1	70.7	74.2	82.4	77.5	84.2	76.8	81.5	71.2	71.8
10	67.4	68.5	72.5	70.9	72.5	81.9	87.4	86.3	71.4	73.3	72.3	71.3
11	63.7	64.6	73.4	64.0	79.0	79.1	85.7	81.6	76.7	69.4	71.4	72.1
12	67.0	67.1	73.7	78.2	70.5	81.9	79.6	74.1	71.8	69.8	78.1	66.7
13	61.2	64.2	79.2	70.7	72.9	84.6	85.2	76.0	87.0	70.8	77.6	64.5
14	62.4	67.5	73.5	78.8	78.4	79.8	75.7	81.5	77.6	79.7	72.0	72.9
15	66.9	70.2	65.4	78.2	76.7	80.9	78.7	81.3	76.4	76.8	65.7	75.2
16	64.6	63.7	70.2	70.3	83.7	86.1	86.8	75.9	72.6	77.5	74.1	73.4
17	63.6	71.4	77.3	65.7	78.8	85.9	85.7	79.2	87.4	76.9	74.7	66.0
18	59.1	58.7	82.9	67.8	72.9	80.3	80.8	79.7	81.8	74.7	72.4	66.3
19	61.9	73.0	81.1	75.7	71.9	79.0	84.1	87.0	83.0	83.7	73.5	76.8
20	57.7	74.2	75.8	78.9	77.3	84.2	86.7	76.8	81.0	79.1	69.5	76.1
21	58.9	71.4	74.8	74.1	70.7	84.6	83.0	84.3	73.6	82.9	75.0	70.4
22	70.2	73.6	78.5	76.0	83.0	76.3	79.2	81.4	74.1	74.6	81.8	70.3
23	63.9	79.2	77.3	83.1	74.2	83.6	80.9	77.9	79.9	71.8	65.8	73.1
24	59.1	74.9	72.0	82.5	79.1	84.7	80.8	70.6	70.3	80.2	77.5	72.2
25	72.1	77.3	76.5	73.5	76.8	79.7	77.0	76.8	73.0	71.2	70.2	72.4
26	67.5	74.7	77.5	74.0	77.8	80.6	84.2	78.3	70.3	74.1	78.9	72.0
27	73.0	78.7	72.8	81.9	78.1	80.3	81.0	82.9	70.2	73.6	78.6	66.1
28	72.1	80.0	70.9	81.7	79.9	79.6	75.7	75.8	78.8	72.3	66.3	75.0
29	70.2	75.7	64.1	82.4	76.3	78.1	78.6	76.9	71.9	64.1	65.2	65.7
30	70.1		76.8	81.8	78.7	81.9	80.3	73.1	76.3	63.9	64.1	77.4
31	70.8		73.9		80.4		82.5	76.9		80.9		78.1
Mean	67.0	72.2	72.9	74.8	76.8	81.3	81.6	80.0	77.2	75.4	73.2	71.5
	Year						75.3					

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

The minimum "on the grass" refers to the interval from 18h. on the previous day to 7h. on the day to which it is entered.

Add 0.16° to obtain temperature in degrees Kelvin where  $T(^{\circ}\text{K.}) = t(^{\circ}\text{C.}) + 273.16$ .



## ELECTRICAL OBSERVATIONS, UNDERGROUND LABORATORY, WILSON METHOD

Mean value for periods of twenty minutes about 14h. 30m.

$F$  = Potential gradient, unit 1 v./cm.  $\lambda+$  = Conductivity due to positive ions, unit  $10^{-18}$  ohms/cm.  
 $i$  = Air-earth current, unit  $10^{-18}$  amp./cm.<sup>2</sup>

200 KEW OBSERVATORY

1940

	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE		
	$F$	$\lambda+$	$i$	$F$	$\lambda+$	$i$	$F$	$\lambda+$	$i$	$F$	$\lambda+$	$i$	$F$	$\lambda+$	$i$	$F$	$\lambda+$	$i$
1	...	...	...	...	...	...	6.28	25	156	2.45	52	129	4.00	16	64	...	...	...
2	3.25	14	46	...	...	...	...	...	...	...	...	...	3.50	45	158	...	...	...
3	5.10	14	69	...	...	...	...	...	...	...	...	...	2.46	70	172	1.85	67	124
4	5.48	11	59	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5	9.75	8	79	...	...	...	1.56	36	57	...	...	...	...	...	...	1.63	84	133
6	...	...	...	...	...	...	1.97	31	60	...	...	...	...	...	...	...	...	...
7	...	...	...	...	...	...	2.70	32	86	...	...	...	...	...	...	1.71	112	190
8	5.36	16	83	...	...	...	5.47	15	85	...	...	...	3.49	49	172	...	...	...
9	...	...	...	...	...	...	...	...	...	1.97	27	53	1.29	104	134	...	...	...
10	3.97	27	108	...	...	...	...	...	...	2.97	37	109	...	...	...	...	...	...
11	7.78	8	65	...	...	...	2.68	39	105	1.53	37	56	...	...	...	...	...	...
12	4.89	25	122	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13	...	...	...	1.92	35	66	2.98	35	105	...	...	...	1.09	55	60	...	...	...
14	...	...	...	2.63	35	92	...	...	...	...	...	...	1.35	56	75	1.13	77	87
15	2.75	40	109	2.50	20	50	2.51	32	80	...	...	...	2.63	45	117	...	...	...
16	7.03	11	75	3.12	18	57	...	...	...	...	...	...	...	...	...	...	...	...
17	...	...	...	...	...	...	...	...	...	1.50	38	57	1.65	44	73	1.83	117	215
18	6.17	5	32	...	...	...	3.60	18	66	...	...	...	...	...	...	1.97	48	94
19	...	...	...	...	...	...	...	...	...	3.28	-	-	...	...	...	1.71	69	118
20	...	...	...	5.76	21	121	3.73	43	163	...	...	...	...	...	...	...	...	...
21	...	...	...	3.83	38	147	...	...	...	...	...	...	1.12	120	133	2.26	25	55
22	6.15	25	152	3.56	35	124	...	...	...	5.30	20	107	...	...	...	...	...	...
23	9.85	10	100	1.98	21	42	...	...	...	1.71	29	50	...	...	...	...	...	...
24	...	...	...	...	...	...	...	...	...	...	...	...	1.84	65	119	1.27	76	96
25	3.92	36	140	...	...	...	...	...	...	2.22	75	167	...	...	...	...	...	...
26	...	...	...	3.40	19	64	...	...	...	2.50	47	118	...	...	...	...	...	...
27	...	...	...	4.00	30	119	2.12	27	58	...	...	...	...	...	...	1.09	106	116
28	...	...	...	1.95	29	57	1.76	20	36	...	...	...	...	...	...	...	...	...
29	...	...	...	...	...	...	...	...	...	2.76	45	123	1.72	64	110	...	...	...
30	...	...	...	...	...	...	...	...	...	5.83	14	80	...	...	...	...	...	...
31	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mean	5.82	18	88	3.15	27	85	3.11	29	88	2.83	38	95	2.18	61	116	1.65	78	123
No. of days used	14	14	14	11	11	11	12	12	12	12	11	11	12	12	12	10	10	10

  

	JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER		
	$F$	$\lambda+$	$i$	$F$	$\lambda+$	$i$	$F$	$\lambda+$	$i$	$F$	$\lambda+$	$i$	$F$	$\lambda+$	$i$	$F$	$\lambda+$	$i$
1	2.02	80	163	...	...	...	...	...	...	1.00	32	30	3.69	44	164	...	...	...
2	1.09	77	84	...	...	...	1.57	75	118	...	...	...	...	...	...	...	...	...
3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4.11	8	35
5	1.78	99	177	...	...	...	...	...	...	...	...	...	...	...	...	4.54	17	76
6	...	...	...	1.32	62	82	1.65	53	88	...	...	...	...	...	...	2.67	45	119
7	...	...	...	1.59	95	152	...	...	...	2.09	48	100	4.65	13	59	...	...	...
8	...	...	...	...	...	...	...	...	...	2.73	35	94	4.26	-	-	...	...	...
9	...	...	...	1.38	107	148	1.24	71	88	2.17	53	116	...	...	...	...	...	...
10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
11	2.58	101	261	...	...	...	1.64	54	109	1.47	34	50	...	...	...	3.57	16	58
12	2.23	60	132	1.79	55	99	...	...	...	...	...	...	...	...	...	5.79	11	66
13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4.08	10	40
14	...	...	...	1.47	43	63	...	...	...	...	...	...	4.41	16	70	...	...	...
15	...	...	...	1.09	43	47	...	...	...	2.31	37	85	4.97	21	106	...	...	...
16	...	...	...	1.39	101	140	...	...	...	...	...	...	...	...	...	...	...	...
17	1.25	61	76	...	...	...	...	...	...	2.85	29	83	...	...	...	6.04	11	64
18	1.58	67	106	...	...	...	1.50	41	75	4.00	21	85	...	...	...	6.87	6	43
19	...	...	...	1.58	107	169	...	...	...	...	...	...	...	...	...	4.27	21	91
20	...	...	...	1.27	60	76	1.50	39	59	...	...	...	3.83	23	88	...	...	...
21	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
22	1.84	105	194	0.97	89	86	...	...	...	...	...	...	5.22	-	-	...	...	...
23	1.88	78	147	...	...	...	1.25	51	63	...	...	...	...	...	...	3.97	19	75
24	...	...	...	...	...	...	1.36	55	75	1.80	25	46	...	...	...	...	...	...
25	1.88	77	144	...	...	...	1.83	51	93	3.74	34	127	3.99	11	45	...	...	...
26	2.20	61	134	1.56	74	116	2.30	45	105	...	...	...	...	...	...	8.30	5	39
27	1.61	26	42	1.37	66	91	2.23	53	119	...	...	...	...	...	...	5.87	5	30
28	...	...	...	1.82	26	48	...	...	...	...	...	...	4.40	27	119	...	...	...
29	...	...	...	1.17	75	88	...	...	...	1.84	33	61	5.15	22	111	...	...	...
30	1.34	33	45	...	...	...	3.37	30	101	2.50	-	-	...	...	...	...	...	...
31	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mean	1.79	71	131	1.41	72	100	1.79	51	91	2.37	35	80	4.46	22	95	5.01	15	61
No. of days used	13	13	13	14	14	14	12	12	12	12	11	11	10	8	8	12	12	12

  

Year: Mean	2.97	44	96
No. of days used	144	140	140



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

153

201 KEW OBSERVATORY

1940

	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE	
	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient
1	0	hr. ...	2	hr. 3.1	0	hr. ...	0	hr. ...	1	hr. 0.7	0	hr. ...
2	0	...	1	0.5	0	...	1	(1.7)	2	7.2	0	...
3	1	0.1	1	2.0	0	...	1	(1.0)	1	2.4	0	...
4	0	...	2	8.7	1	(1.8)	1	(1.2)	1	0.5	0	...
5	0	...	1	0.3	1	2.1	0	...	0	...	0	...
6	2	3.7	0	...	1	0.9	0	...	1	2.4	0	...
7	2	3.7	2	4.9	1	0.9	0	...	0	...	0	...
8	1	0.4	2	6.5	0	...	1	2.8	1	1.7	1	0.6
9	2	7.3	0	...	0	...	1	0.3	0	...	1	2.4
10	0	...	0	...	0	...	1	0.4	1	0.6	1	2.6
11	1	1.8	1	0.1	1	0.9	0	...	0	...	0	...
12	1	1.0	1	0.1	1	1.1	1	0.1	0	...	1	0.6
13	2	3.9	0	...	1	1.9	0	...	0	...	1	1.4
14	1	0.9	1	0.1	2	8.4	1	1.1	0	...	0	...
15	1	2.3	0	...	1	1.1	1	(1.6)	1	2.2	1	0.2
16	2	4.5	1	0.7	1	1.3	1	2.8	1	0.3	2	7.1
17	0	...	1	1.3	2	7.1	0	...	0	...	2	7.0
18	0	...	2	3.6	1	1.4	2	3.0	0	...	0	...
19	1	0.8	1	1.0	1	1.0	2	5.8	1	0.1	0	...
20	1	2.5	0	...	1	0.1	1	1.4	0	...	1	2.1
21	2	7.3	0	...	1	0.2	0	...	1	0.1	1	0.2
22	2	4.1	0	...	1	0.3	1	0.2	2	3.5	1	2.2
23	0	...	1	0.9	1	1.2	1	2.4	1	0.5	2	11.2
24	0	...	0	...	0	...	2	6.8	0	...	1	1.8
25	0	...	1	0.2	1	(0.8)	0	...	1	0.9	0	...
26	1	1.0	0	...	2	(15.5)	1	2.1	2	3.1	1	2.6
27	2	7.1	2	3.2	1	1.0	1	1.6	0	...	0	...
28	0	...	1	0.8	0	...	2	3.1	1	1.2	0	...
29	2	3.9	1	0.7	2	3.3	1	0.9	1	2.7	0	...
30	2	3.0			1	1.0	1	1.1	0	...	0	...
31	0	...			0	...			0	...		
Total	-	59.3	-	38.7	-	53.3	-	41.4	-	30.1	-	42.0
No. of days used	-	31	-	29	-	31	-	30	-	31	-	30
Mean	-	1.9	-	1.3	-	1.7	-	1.4	-	1.0	-	1.4

	JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient	Character	Duration of negative potential gradient
1	0	hr. ...	0	hr. ...	0	hr. ...	0	hr. ...	1	hr. 0.9	0	hr. ...
2	0	...	0	...	0	...	0	...	2	6.4	0	...
3	1	0.5	0	...	0	...	2	11.2	2	5.4	1	2.3
4	0	...	0	...	0	...	1	1.6	1	1.5	1	2.0
5	0	...	0	...	1	0.3	0	...	1	2.9	1	1.7
6	2	3.3	1	1.5	0	...	1	2.4	2	6.6	1	0.9
7	1	0.6	0	...	0	...	0	...	1	0.5	1	0.4
8	1	0.5	0	...	1	0.1	0	...	1	0.3	0	...
9	0	...	0	...	1	1.2	1	1.5	2	5.8	1	2.8
10	1	2.2	1	0.3	0	...	1	2.0	1	1.7	1	1.5
11	1	2.4	0	...	0	...	1	0.2	2	8.2	1	0.1
12	1	1.0	0	...	1	0.1	0	...	1	1.4	0	...
13	1	0.4	0	...	1	1.3	0	...	2	6.3	1	0.4
14	0	...	0	...	1	0.7	1	0.7	1	2.5	2	3.4
15	2	3.9	0	...	1	0.8	1	0.9	1	2.4	0	...
16	2	6.7	0	...	1	0.1	2	5.2	2	8.3	1	0.1
17	1	0.9	0	...	1	0.2	0	...	2	5.6	0	...
18	1	2.4	0	...	0	...	1	0.6	2	3.8	0	...
19	0	...	0	...	2	4.8	1	2.0	1	0.1	2	6.5
20	1	1.6	1	0.5	1	0.3	0	...	1	1.6	1	0.2
21	1	1.8	0	...	0	...	1	0.6	1	0.7	0	...
22	0	...	1	0.3	1	0.2	1	1.7	2	3.6	1	0.2
23	0	...	1	0.4	0	...	1	0.6	0	...	1	0.3
24	0	...	1	0.5	0	...	0	...	0	...	1	1.9
25	0	...	0	...	0	...	1	0.5	0	...	0	...
26	1	2.1	0	...	0	...	1	1.4	0	...	0	...
27	2	3.3	0	...	0	...	0	...	0	...	0	...
28	0	...	0	...	0	...	0	...	0	...	0	...
29	0	...	1	0.1	2	3.5	0	...	0	...	1	0.1
30	1	0.1	0	...	1	2.2	1	0.8	1	(1.4)	2	3.0
31	0	...	0	...			2	4.9			1	0.1
Total	-	33.7	-	3.6	-	15.8	-	38.8	-	77.9	-	27.9
No. of days used	-	31	-	31	-	30	-	31	-	30	-	31
Mean	-	1.1	-	0.1	-	0.5	-	1.3	-	2.6	-	0.9

Annual values: Character 0 1 2  
No. of days used 156 158 52

Duration: Total 462.5  
No. of days 366  
Mean 1.3 hr.



POTENTIAL GRADIENT (reduced to level surface, Paddock site)  
Kelvin electrograph standardized by Wilson readings, underground laboratory  
Mean values for periods of sixty minutes between exact hours, G.M.T.

202 KEW OBSERVATORY

1940

	JANUARY, factor 2.72				FEBRUARY, factor 2.64				MARCH, factor 2.60			
	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.
					<i>volts per metre</i>							
1	1140	1820	655	490	105	450	-330	660	245	650	610	545
2	640	775	285	380	635	395	550	210	235	675	-	-
3	450	655	545	300	290	460	475	420	-	-	-	-
4	410	545	555	600	-490	210	675	580	-	-	90	170
5	380	760	900	1060	645	750	475	620	130	275	130	145
6	1770	1415	300	95	1110	740	580	450	310	170	210	210
7	-40	365	515	460	160	-120	530	55	25	570	235	80
8	315	790	475	410	-700	275	25	265	310	405	560	300
9	-150	-	165	120	185	460	420	330	310	340	195	470
10	110	365	395	420	330	490	315	660	365	350	365	560
11	190	285	665	815	460	515	475	290	210	245	300	430
12	845	1115	475	515	200	805	450	790	220	275	365	210
13	505	120	490	410	290	200	185	130	155	430	300	195
14	585	570	175	-110	80	500	330	370	Z-	480	375	455
15	325	530	270	245	265	500	240	500	610	585	245	Z±
16	-55	-15	40	245	385	515	305	160	520	520	325	155
17	165	640	760	545	130	345	475	580	50	-390	365	310
18	610	870	640	655	740	635	55	40	Z±	Z±	390	155
19	95	505	380	80	355	330	580	740	145	350	Z+	455
20	475	0	190	-40	65	420	660	635	260	390	340	470
21	150	870	15	-190	530	225	450	530	285	675	260	610
22	0	175	610	870	530	530	355	410	300	675	195	260
23	220	830	870	925	210	395	240	275	260	340	285	195
24	705	600	530	585	275	580	345	660	340	210	300	220
25	325	625	435	1170	200	395	305	-	115	375	440	325
26	380	545	80	720	-	-	330	265	-	-	-	65
27	Z±	80	460	315	65	305	355	Z-	310	495	180	300
28	325	315	420	325	160	210	345	475	285	325	155	260
29	205	490	600	-110	40	555	370	555	235	495	-15	65
30	-95	205	530	40					155	415	210	520
31	490	545	640	365					300	300	260	300
(a)	454	600	454	487	325	451	389	432	257	424	296	301
(b)	401	597	463	423	269	437	368	438	248	371	286	310
Mean	(a) 499		(b) 471		(a) 399		(b) 378		(a) 319		(b) 304	

  

	APRIL, factor 2.71				MAY, factor 2.69				JUNE, factor 2.56			
	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.
					<i>volts per metre</i>							
1	145	340	245	520	140	365	450	435	205	235	155	180
2	390	440	-	-	-30	0	325	425	155	235	80	155
3	-	-	-	-	15	140	225	140	105	155	155	155
4	-	-	-	-	85	100	185	255	130	105	-	145
5	-	-	-	300	155	225	155	185	135	335	135	80
6	380	380	150	230	70	325	55	340	55	80	190	135
7	190	205	190	285	140	325	125	170	105	200	160	135
8	175	205	40	300	55	225	365	365	80	295	95	95
9	135	310	190	270	170	495	125	255	55	135	Z-	95
10	270	Z±	245	325	225	425	125	140	135	135	255	80
11	490	530	150	120	140	85	70	115	240	215	65	190
12	190	0	190	120	155	125	100	170	160	215	105	120
13	190	245	135	285	195	210	115	155	175	190	145	-120
14	55	175	150	245	155	210	140	270	15	310	120	145
15	80	255	-	435	310	450	255	Z±	80	175	80	135
16	255	405	Z+	Z+	125	410	340	195	25	40	-65	40
17	650	1005	-	385	155	225	170	240	-15	0	200	215
18	510	370	Z±	-45	85	100	125	155	95	295	190	310
19	Z-	240	-85	425	155	140	30	155	215	335	190	270
20	225	410	240	100	195	170	85	125	190	280	145	-25
21	270	310	155	310	15	125	115	85	175	280	240	135
22	170	425	510	340	140	-40	225	340	25	120	120	25
23	225	325	155	Z±	410	480	225	295	-175	-200	-120	15
24	200	155	-170	340	140	170	170	310	15	80	135	80
25	325	510	225	385	225	255	140	100	120	215	135	105
26	215	310	225	495	+40	125	-40	425	175	190	Z±	145
27	240	340	255	300	195	170	170	240	120	240	120	120
28	340	410	355	240	30	310	75	205	120	190	105	190
29	115	170	285	385	205	205	75	155	80	145	105	145
30	225	510	Z±	130	125	205	100	100	40	200	120	135
31					205	255	125	205				
(a)	256	345	215	303	149	236	166	225	115	194	142	135
(b)	225	302	195	293	137	220	155	225	99	185	124	120
Mean	(a) 280		(b) 254		(a) 194		(b) 185		(a) 147		(b) 132	

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, Paddock site)  
Kelvin electrograph standardized by Wilson readings, underground laboratory  
Mean values for periods of sixty minutes between exact hours, G.M.T.

155

202 KEW OBSERVATORY

1940

	JULY, factor 2·81				AUGUST, factor 2·81				SEPTEMBER, factor 2·77			
	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.
					<i>volts per metre</i>							
1	15	235	175	90	175	235	205	265	145	235	130	85
2	15	175	105	120	175	205	190	235	85	420	160	115
3	160	175	135	120	145	135	385	280	130	320	130	145
4	160	175	75	135	135	205	120	160	190	380	145	190
5	175	205	135	175	135	220	135	175	145	290	115	60
6	160	160	145	120	-45	205	135	105	60	220	145	130
7	90	235	135	145	60	135	145	160	160	290	160	130
8	120	235	145	90	175	205	90	180	115	130	115	85
9	235	175	160	220	120	180	150	180	60	175	115	220
10	120	175	145	90	120	150	120	235	305	175	100	160
11	175	175	295	250	150	180	90	120	145	260	145	115
12	235	220	205	205	205	325	180	180	205	290	100	115
13	145	205	135	205	205	235	120	205	85	115	60	275
14	325	280	160	280	150	235	120	60	205	275	115	335
15	175	190	Z±	90	120	280	105	120	275	235	45	320
16	0	235	60	205	90	235	120	135	245	320	75	235
17	75	235	145	15	120	250	160	190	75	115	160	175
18	235	175	160	295	160	220	105	190	130	245	160	220
19	190	175	175	175	105	205	135	120	130	175	Z±	115
20	120	205	160	30	90	220	105	90	205	245	175	335
21	205	205	0	220	60	205	160	145	260	580	160	395
22	235	370	175	190	135	205	135	175	235	405	130	260
23	205	265	175	175	190	220	45	105	160	320	130	275
24	265	415	250	810	145	220	160	175	235	450	130	100
25	620	590	190	295	205	190	145	145	100	205	220	145
26	190	250	190	265	175	355	145	145	100	395	220	260
27	235	265	205	235	90	235	120	235	175	290	175	205
28	265	265	135	265	105	250	175	235	85	220	85	175
29	160	370	160	235	90	175	120	30	45	145	145	-15
30	220	160	120	265	120	295	135	145	60	100	290	305
31	75	280	235	325	105	235	145	295				
(a)	181	241	156	204	135	221	142	168	152	267	139	196
(b)	181	243	156	208	129	221	142	168	152	271	139	191
Mean	(a) 195		(b) 197		(a) 167		(b) 165		(a) 189		(b) 188	

	OCTOBER, factor 2·79				NOVEMBER, factor 2·89				DECEMBER, factor 2·84			
	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.
					<i>volts per metre</i>							
1	45	455	175	280	275	485	335	-180	1625	1075	865	820
2	160	365	130	335	240	485	-225	-75	640	865	565	430
3	90	130	500	-220	-60	195	365	45	150	270	-	445
4	220	485	160	160	135	210	365	260	180	300	400	15
5	145	350	295	235	350	-	395	-320	90	385	445	165
6	75	115	115	115	395	-380	275	30	0	270	315	360
7	130	365	235	600	45	275	470	320	135	360	415	195
8	265	295	250	365	-	-	470	395	225	520	415	745
9	Z-	205	205	350	225	210	-320	-15	-565	315	225	520
10	175	Z+	Z±	570	320	635	260	725	300	460	0	385
11	425	690	220	205	275	590	-150	-320	240	330	375	375
12	265	320	220	310	Z+	-195	305	365	315	655	535	475
13	265	235	145	220	165	485	575	Z-	1090	1700	360	430
14	175	250	-30	350	-45	695	410	545	150	415	105	0
15	145	160	235	335	455	575	470	-380	415	550	700	520
16	205	395	160	-380	195	515	Z+	-925	195	445	165	240
17	115	295	265	365	-180	665	380	Z±	285	595	595	315
18	470	440	350	190	150	575	Z±	240	1610	1520	655	345
19	75	-15	-	-	90	425	365	530	120	150	385	-30
20	-	-	310	350	180	-60	395	710	60	180	135	375
21	175	-30	350	310	120	210	425	180	180	150	150	240
22	410	380	235	175	Z±	-290	485	790	90	90	60	105
23	75	250	175	60	790	650	425	530	180	240	430	415
24	90	350	205	335	195	545	335	455	90	550	225	0
25	105	190	335	350	305	605	395	500	490	330	345	760
26	190	105	350	440	120	395	275	275	445	445	790	535
27	175	295	295	350	120	305	275	440	520	685	550	640
28	235	205	175	205	335	665	410	605	345	490	475	345
29	115	350	175	410	365	545	470	-	240	270	385	415
30	280	105	235	45	-	-	755	275	-135	225	240	385
31	130	350	-440	250					225	270	150	550
(a)	187	308	241	295	254	476	403	411	367	487	382	385
(b)	192	283	204	237	226	386	278	278	326	495	382	369
Mean	(a) 258		(b) 229		(a) 386		(b) 292		(a) 405		(b) 393	

The factor used for converting the potential at the collector to potential gradient in volts per metre in the open is given for each month.

Annual means	(a)	(b)	(a)	(b)
	236	354	260	295
	215	334	241	269
	(a) 286		(b) 266	



POTENTIAL GRADIENT (reduced to level surface): DIURNAL INEQUALITIES  
The departures from the mean of the day are adjusted for non-cyclic change†

203 KEW OBSERVATORY

Selected quiet days

1940

	Hour G. M. T.																								Non-cyclic change†	Mean
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
	volts per metre																									
Jan.	-54	-40	-96	-106	-73	-76	-47	+2	+77	+109	+73	+54	+34	+26	+14	+14	+29	+33	+44	+46	+53	-32	-52	-31	+62	536
Feb.	+50	+4	-54	-95	-111	-63	-51	+23	+35	+15	-24	-63	-27	-29	-52	-26	-12	+13	+33	+54	+50	+70	+128	+129	...	423
Mar.	-59	-51	-52	-73	-88	-55	-39	+6	+17	+41	+22	+27	+13	+6	+15	+10	-5	+35	+66	+94	+65	+39	+13	-44	...	335
Apr.	+35	+27	+28	+23	+15	+45	+92	+135	+96	-29	-48	-68	-81	-88	-94	-88	-88	-81	-42	+8	-2	+61	+93	+53	...	263
May	+8	-15	-40	-32	-38	-14	+17	+60	+37	+45	+14	-37	-33	-43	-35	-28	-16	-7	-12	+36	+47	+21	+35	+29	-62	175
June	-38	-48	-54	-52	-35	+12	+60	+90	+90	+42	+29	+10	-10	-19	-16	-10	-15	-23	-18	-3	+12	0	+2	-8	-9	155
July	-4	-5	-1	+11	+9	+30	+81	+78	+56	+23	-14	-40	-48	-45	-36	-46	-41	-42	-38	+12	+27	+22	+39	-3	-18	198
Aug.	-34	-49	-31	-29	-24	+4	+47	+78	+81	+73	+24	-1	-11	-22	-25	-39	-37	-30	-16	+20	+30	+10	-3	-19	+5	168
Sept.	-48	-56	-58	-46	-29	-26	+36	+118	+128	+77	+39	+9	-27	-42	-52	-37	-3	+1	+26	+27	+9	-4	-6	-39	-15	209
Oct.	-59	-73	-81	-76	-74	-67	-20	+73	+78	+50	+11	-4	-28	-41	-45	-13	+64	+56	+92	+85	+77	+18	-1	-19	+17	251
Nov.	-119	-131	-132	-124	-98	-66	+29	+45	+67	+44	+75	+29	-1	-22	-26	+12	+35	+63	+95	+126	+105	+63	-5	-68	...	404
Dec.	-109	-119	-120	-115	-105	-82	-26	+12	+47	+97	+87	+38	+22	+7	+32	+44	+91	+82	+78	+75	+39	+39	-20	-92	...	396
Year	-36	-46	-58	-59	-54	-30	+15	+60	+67	+49	+24	-4	-16	-26	-27	-17	0	+8	+26	+46	+43	+26	+19	-9	...	293
Winter	-58	-71	-101	-110	-97	-72	-24	+21	+57	+66	+53	+15	+7	-5	-8	+11	+36	+48	+63	+75	+62	+35	+13	-15	...	440
Equinox	-33	-38	-41	-43	-44	-26	+17	+83	+80	+35	+6	-9	-31	-41	-44	-32	-8	+3	+35	+53	+37	+29	+25	-12	...	265
Summer	-17	-29	-31	-25	-22	+8	+51	+77	+66	+46	+13	-17	-25	-32	-28	-31	-27	-25	-21	+10	+29	+13	+18	0	...	174

Winter: January, February, November, December

Equinox: March, April, September, October

Summer: May to August

† See p. 10. *Observatories' Year Book, 1938*

## AIR POLLUTION: HOURLY MEANS FOR EACH MONTH

204 KEW OBSERVATORY

Complete days only

1940

	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 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	Mean	No. of days used		
	milligrams per cubic metre																											
Jan.	0.29	0.21	0.22	0.19	0.18	0.18	0.20	0.27	0.34	0.38	0.38	0.39	0.36	0.34	0.37	0.34	0.41	0.42	0.45	0.40	0.42	0.40	0.37	0.29	0.32	29		
Feb.	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		
Mar.	0.03	0.03	0.03	0.02	0.02	0.02	0.04	0.08	0.10	0.09	0.06	0.04	0.04	0.05	0.04	0.05	0.06	0.07	0.09	0.10	0.07	0.06	0.05	0.03	0.05	25		
Apr.	0.03	0.03	0.03	0.03	0.04	0.05	0.07	0.09	0.07	0.05	0.06	0.05	0.05	0.04	0.03	0.04	0.07	0.09	0.11	0.13	0.11	0.07	0.05	0.05	0.06	20		
May	0.05	0.05	0.06	0.06	0.05	0.07	0.07	0.08	0.08	0.07	0.05	0.04	0.03	0.03	0.02	0.03	0.03	0.03	0.05	0.07	0.07	0.06	0.06	0.05	0.05	31		
June	0.03	0.03	0.03	0.04	0.04	0.04	0.06	0.06	0.06	0.04	0.04	0.04	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.02	0.03	30		
July	0.01	0.01	0.01	0.01	0.01	0.03	0.03	0.03	0.03	0.02	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.02	0.01	31		
Aug.	0.02	0.01	0.02	0.01	0.01	0.01	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.01	31		
Sept.	0.02	0.01	0.01	0.01	0.02	0.03	0.05	0.05	0.05	0.03	0.03	0.02	0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.04	0.03	0.03	0.02	0.02	0.02	30		
Oct.	0.02	0.03	0.03	0.02	0.02	0.05	0.07	0.12	0.13	0.13	0.12	0.07	0.07	0.06	0.05	0.07	0.08	0.09	0.09	0.10	0.08	0.07	0.05	0.03	0.07	31		
Nov.	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		
Dec.	0.13	0.11	0.14	0.13	0.14	0.17	0.21	0.28	0.31	0.34	0.32	0.30	0.26	0.26	0.24	0.28	0.35	0.37	0.33	0.32	0.29	0.26	0.21	0.16	0.25	25		
Year	0.06	0.05	0.06	0.05	0.05	0.07	0.08	0.11	0.12	0.12	0.11	0.10	0.09	0.08	0.08	0.09	0.11	0.11	0.12	0.12	0.11	0.10	0.09	0.07	0.09	283		
Winter	0.21	0.16	0.18	0.16	0.16	0.17	0.21	0.27	0.33	0.36	0.35	0.35	0.31	0.30	0.31	0.31	0.38	0.39	0.39	0.36	0.35	0.33	0.29	0.23	0.29	54		
Spring	0.03	0.03	0.03	0.03	0.03	0.03	0.05	0.09	0.09	0.07	0.06	0.05	0.05	0.05	0.03	0.05	0.07	0.08	0.10	0.11	0.09	0.07	0.05	0.04	0.05	45		
Autumn	0.02	0.02	0.02	0.01	0.02	0.04	0.06	0.09	0.09	0.08	0.07	0.05	0.04	0.03	0.03	0.05	0.05	0.05	0.06	0.07	0.05	0.05	0.03	0.03	0.05	61		
Summer	0.03	0.03	0.03	0.03	0.03	0.04	0.05	0.05	0.05	0.03	0.03	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.02	0.03	0.03	0.03	0.02	0.03	123		

\* Out of order.