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AIR MINISTRY

METEOROLOGICAL OFFICE

THE OBSERVATORIES' YEAR BOOK 1939

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

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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 resulted in a regrettably long delay in the resumption of publication. In face of the formidable accumulation of arrears, and taking changed requirements into account, it was decided to adopt an abridged form as outlined below.

It was agreed 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 should serve as standards of reference for several years; and that only important departures from these standards, together with any requisite additional information, should be included in the relevant parts of the volumes for the years after 1938. The space devoted to the discussion of observations was reduced. Monthly tables of individual hourly values of meteorological elements were 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 was also discontinued. No major changes were made in the aerological, atmospheric electrical, magnetic or seismological tables.

The present volume, 1939, contains geophysical data for the observatories at Lerwick, Eskdalemuir, Valentia (which was transferred to the Irish Meteorological Service in October 1937) and Kew, meteorological data for Aberdeen, Eskdalemuir, Valentia and Kew, and in addition an aerological section giving the results of soundings of the upper atmosphere by means of sounding balloons.

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.

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ERRATA IN PREVIOUS VOLUMES

Observatories' Year Books, 1924 and 1929

1924

P.124, Table 131 (June), 24h., Mean; *for* "82·0" *read* "81·6".

1929

P.186, Table 170 (April), 24h., Mean (station level); *for* "988·45" *read* "988·48".

P.191, Table 181, December, Maximum, Mean; *for* "975·40" *read* "975·57".

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LERWICK

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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

Only changes of values or practice as given in the 1938 volume are mentioned.

ATMOSPHERIC ELECTRICITY

No changes were made in 1939.

TERRESTRIAL MAGNETISM

The average day-to-day change of temperature in the magnetograph house for each of the twelve months of 1939 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
0·34	0·39	0·28	0·40	0·23	0·45	0·28	0·27	0·29	0·35	0·36	0·39	0·33

There were 11 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 (1939), but are shown in the tables and repeated below. The values of the elements given in Table 59 and elsewhere in the volume have been corrected.

Corrections

H	−6γ throughout
D	−4·0′ throughout
V	varies from month to month as below

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
−23γ	−18γ	−17γ	−17γ	−17γ	−16γ	−15γ	−15γ	−13γ	−15γ	−16γ	−18γ

NOTES ON THE RESULTS

The factor to change variations of D expressed in minutes to units of force (γ) perpendicular to the magnetic meridian remained as in 1938 approximately 4·19.

Comparing the mean values for all days of 1939 with those for 1938 it is noted that H increased by 7γ, D (west) decreased by 10·1′ and V increased by 13γ. The ranges between the extreme values recorded during 1939 were H, 2087γ; D, 1°47·7′; and V, 1245γ.

Table I summarizes the magnetic character figures assigned locally, the international mean character figures and the mean values of the numerical index of disturbance $(HR_H + VR_V)10^{-4}$ for all, q and d days. Comparative totals and means are given for several earlier years.

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 range is shown in Table III.

The mean diurnal inequalities for all days, international quiet and disturbed days for the months, seasons and the year are given in Tables 52-54 and corresponding inequality ranges in Table 55. The average values of the diurnal inequality ranges for the year and the seasons for the period 1927-1937 (not the values of the range of the representative mean diurnal inequalities for this period) are given in Table IV along with the values for 1939 expressed as a percentage of the average values. The table may be compared with a similar table in the Eskdalemuir Section.

TABLE I

	Magnetic character figures			Mean character figures		Mean value of $\frac{HR_H + VR_V}{10000\gamma^2}$		
	Number of							
	0 days	1 days	2 days	Ler-wick	Inter-national	All days	q days	d days
January	22	9	0	0·29	0·51	296	94	638
February	11	13	11	0·75	0·87	944	157	2933
March	8	19	4	0·87	0·98	1085	327	2501
April	7	16	7	1·00	1·19	1663	285	4052
May	10	16	5	0·84	0·94	1550	257	3673
June	14	15	1	0·57	0·79	834	274	1649
July	14	15	2	0·61	0·84	1149	300	3075
August	20	6	5	0·52	0·67	1313	227	5379
September	21	7	2	0·37	0·67	811	296	2389
October	15	11	5	0·68	0·88	1418	256	4166
November	23	7	0	0·23	0·48	413	112	1137
December	21	9	1	0·35	0·64	567	123	1782
Year								
1939	186	143	36	0·59	0·77	1004	226	2781
1938	180	133	52	0·65	0·76	1004	224	2986
1937	119	197	49	0·81	0·73	843	229	2269
1936	133	206	27	0·71	0·65	603	173	1506
1935	100	245	20	0·78	0·67	564	175	1482
1934	168	173	24	0·61	0·56	465	155	1151
1933	157	169	39	0·59	0·64	563	166	1413
1932	97	230	39	0·84	0·71	644	182	1602
1931	121	212	32	0·75	0·66	589	196	1394
1930	64	235	66	1·01	0·83	1063	250	2515
1929	113	214	38	0·80	0·67	..	..	..

TABLE II - ABSOLUTE DAILY RANGE AND MEAN MONTHLY VALUES

	Mean absolute daily range						Mean daily range expressed as percentage of yearly mean					
	1939			Mean 1927-37			1939			Mean 1927-37		
	H	D	V	H	D	V	H	D	V	H	D	V
	γ	γ	γ	γ	γ	γ	%	%	%	%	%	%
January	44	62	50	66	76	65	21	50	33	56	83	66
February	196	153	141	108	98	100	95	123	93	91	107	102
March	198	137	171	130	101	118	96	110	113	109	110	120
April	364	166	243	155	102	120	177	134	161	130	111	122
May	362	150	220	164	97	109	176	120	146	138	105	111
June	156	97	130	133	84	89	76	78	86	112	91	91
July	239	108	172	130	84	90	116	87	114	109	91	92
August	310	155	185	124	87	91	150	124	122	104	95	93
September	172	118	121	122	97	112	84	95	80	103	106	114
October	287	176	215	138	110	125	139	142	142	116	120	127
November	60	72	70	81	84	83	29	57	46	68	91	85
December	83	91	96	75	83	78	40	73	64	63	90	80
Winter	96	95	89	82	85	82	47	76	59	69	93	84
Equinox	255	149	187	136	102	119	130	102	117	114	111	121
Summer	267	127	177	138	88	94	124	120	124	116	96	96
Year	206	124	151	119	92	98	..	..	..	..	..	..

TABLE III - FREQUENCY DISTRIBUTION OF ABSOLUTE DAILY RANGE

Range	Number of cases, 1939			Percentage distribution					
				H		D		V	
	H	D	V	1939	1927-37	1939	1927-37	1939	1927-37
γ				%	%	%	%	%	%
0 - 9	0	0	2	0·0	0·0	0·0	0·0	0·5	2·2
10 - 19	3	3	23	0·8	2·3	0·8	0·8	6·3	11·5
20 - 29	18	11	30	4·9	5·8	3·0	3·7	8·2	14·0
30 - 39	24	14	29	6·6	8·1	3·8	5·9	7·9	10·2
40 - 49	29	14	28	7·9	8·6	3·8	9·4	7·7	8·0
50 - 59	21	29	27	5·8	10·8	7·9	13·4	7·4	6·3
60 - 69	20	51	15	5·5	10·5	14·0	13·9	4·1	5·2
70 - 79	35	31	16	9·6	10·2	8·5	10·0	4·4	3·9
80 - 89	28	36	14	7·7	7·6	9·9	8·1	3·8	3·1
90 - 99	20	31	14	5·5	5·6	8·5	6·1	3·8	3·2
100 - 109	13	20	8	3·6	4·0	5·5	4·6	2·2	2·8
110 - 119	10	16	13	2·7	2·7	4·4	3·3	3·6	2·8
120 - 129	8	21	4	2·2	2·6	5·8	3·2	1·1	2·4
130 - 139	6	11	11	1·6	1·6	3·0	3·2	3·0	2·0
140 - 149	11	7	9	3·0	1·6	1·9	2·3	2·5	1·9
150 - 159	7	3	7	1·9	1·4	0·8	1·4	1·9	1·7
160 - 169	10	6	10	2·7	1·4	1·6	1·6	2·7	1·5
170 - 179	3	6	4	0·8	1·1	1·6	1·1	1·1	1·1
180 - 189	3	5	5	0·8	0·9	1·4	1·0	1·4	1·1
190 - 199	5	4	6	1·4	0·9	1·1	0·8	1·6	1·0
200 +	91	46	90	24·9	12·3	12·6	6·2	24·7	14·1
Days omitted	0	0	0	..	..	..	..	..	..

TABLE IV – AVERAGE RANGE OF DIURNAL INEQUALITY 1927-37
WITH 1939 AS PERCENTAGE OF THIS

		All days			International quiet days			International disturbed days		
		V	H	D	V	H	D	V	H	D
		γ	γ	′	γ	γ	′	γ	γ	′
Year	1927-37	41·1	43·2	8·48	8·0	34·3	7·84	110·4	89·1	12·35
	1939(%)	148	141	121	112	123	114	120	227	131
Winter	1927-37	32·0	19·9	7·08	6·0	13·9	4·22	97·0	61·6	12·85
	1939(%)	96	120	107	110	125	99	95	163	110
Equinox	1927-37	53·1	47·1	9·84	9·8	37·9	8·84	136·3	110·0	14·99
	1939(%)	142	161	124	151	125	108	129	240	136
Summer	1927-37	39·9	67·2	11·64	13·3	53·5	11·45	112·4	121·1	13·59
	1939(%)	206	128	115	120	116	117	188	252	161

TABLE V – RATIO OF RANGE OF INEQUALITY AT LERWICK TO THAT AT ESKDALEMUIR (1939)

Type of day	Element	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
q	D	1·01	1·09	1·01	0·91	1·08	1·04	1·09	1·07	0·97	0·88	0·91	1·13
d	D	1·25	1·64	1·22	1·56	1·68	1·09	1·23	1·82	1·44	1·37	1·20	1·25
q	H	0·78	1·14	1·05	1·00	1·13	1·10	1·15	1·16	1·07	0·88	0·93	0·98
d	H	0·83	2·21	2·75	1·96	3·68	1·66	1·57	3·52	2·35	3·11	1·18	2·63
q	V	1·92	0·91	1·28	0·73	0·63	0·83	0·94	0·89	0·86	1·78	1·36	1·67
d	V	2·18	0·90	1·31	0·92	1·43	1·95	1·50	1·22	1·35	1·34	2·27	1·99

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, 1939

No.	From	To	Horizontal force					Declination					Vertical force				
			Max.	Time	Min.	Time	Range	Max.	Time	Min.	Time	Range	Max.	Time	Min.	Time	Range
	d. h. m.	d. h.	γ	d. h. m.	γ	d. h. m.	γ	′	d. h. m.	′	d. h. m.	′	γ	d. h. m.	γ	d. h. m.	γ
1*	Feb. 5 19 51	Feb. 7 6	727	6 14 1	57	6 22 21	670	110·7	6 18 43	-14·2	7 2 52	124·9	1009	6 16 49	617	6 23 35	392
2	Feb. 24 14	Feb. 25 23	1071	24 17 29	-608	24 21 45	1679	112·0	24 19 16	-104·8	24 21 44	216·8	1134	25 0 18	416	24 19 52	718
3	Feb. 28 14	Mar. 7 5	512	3 23 44	94	4 2 25	418	40·7	3 23 57	-15·7	4 3 34	56·4	975	1 22 34	565	2 3 23	410
4	Mar. 21 5	Mar. 24 23	506	22 16 14	231	23 2 41	275	38·9	22 15 19	-2·2	23 21 41	41·1	931	21 19 1	685	23 2 44	246
5	Mar. 26 14	Apr. 5 22	949	28 18 32	-135	29 1 20	1084	74·8	28 18 37	-24·9	29 1 16	99·7	1034	28 22 36	480	28 18 36	554
6	Apr. 8 14	Apr. 12 13	552	11 17 50	122	10 0 55	430	48·1	10 23 43	-5·8	10 19 36	53·9	913	10 13 55	548	10 23 59	365
7*	Apr. 16 21 27	Apr. 22 22	1149	17 14 42	-442	17 4 16	1591	99·4	17 15 10	-41·3	17 6 22	140·7	1044	19 17 19	462	17 21 1	582
8	Apr. 22 22	Apr. 24 5	928	23 14 54	-357	23 6 45	1285	54·1	23 15 34	-25·9	23 7 0	80·0	1082	23 14 46	482	23 7 8	600
9	Apr. 24 11	Apr. 26 6	753	24 18 17	-331	24 20 23	1084	81·1	24 20 3	-58·4	25 0 56	139·5	1188	25 2 8	567	25 2 34	621
10*	Apr. 27 21 1	Apr. 28 5	425	27 21 26	-382	27 23 32	807	30·3	27 21 28	-19·9	27 23 54	50·2	851	27 21 2	367	27 23 27	484
11*	May 1 6 41	May 4 4	905	1 14 0	-386	1 23 54	1291	60·2	1 18 35	-52·2	1 23 59	112·4	1033	1 13 59	533	1 23 46	500
12*	May 5 20 44	May 9 24	699	6 15 52	-488	6 22 55	1187	66·0	7 1 31	-47·0	6 22 24	113·0	1021	6 15 49	466	7 1 38	555
13	May 21 13	May 27 6	608	25 15 54	102	22 1 34	506	42·9	21 17 52	-11·8	22 1 31	54·7	1004	21 16 35	572	24 2 57	432
14*	May 27 20 51	May 29 24	535	29 17 43	31	28 2 43	504	38·3	27 22 18	-16·0	28 2 25	54·3	941	29 13 23	528	28 2 40	413
15	June 1 14	June 2 24	553	2 17 35	319	2 4 2	234	34·7	1 14 45	9·7	2 6 54	25·0	919	2 19 16	762	2 4 12	157
16	June 13 1	June 15 1	556	14 13 16	154	14 9 50	402	40·3	14 10 4	-20·9	14 1 52	61·2	981	14 16 17	501	14 1 46	480
17*	July 3 0 38	July 6 12	873	5 15 36	-531	4 22 10	1404	66·7	4 22 13	-14·2	5 5 48	80·9	1325	4 22 13	496	5 5 47	829
18	July 11 8	July 12 24	530	12 14 59	361	11 10 54	169	36·2	11 14 4	9·8	11 8 3	26·4	901	12 18 9	785	11 14 5	116
19*	July 14 3 48	July 15 5	568	14 16 8	131	15 0 2	437	37·6	14 8 6	5·7	14 22 31	31·9	1011	14 17 6	684	15 0 16	327
20	July 16 10	July 18 7	608	16 19 4	288	17 0 20	320	37·5	16 17 55	-0·6	17 2 7	38·1	926	16 19 41	662	17 0 26	264
21*	July 19 21 17	July 23 4	661	21 13 34	42	20 0 14	619	45·8	20 17 16	1·6	20 4 27	44·2	1067	21 14 1	479	20 0 14	588
22	July 26 4	July 28 2	502	26 18 2	306	26 8 35	196	41·5	26 5 11	5·7	27 22 11	35·8	920	26 14 48	673	26 6 28	247
23	Aug. 10 2	Aug. 14 7	560	10 18 37	-495	12 4 25	1055	51·4	13 1 36	-41·3	12 3 46	92·7	948	10 20 4	264	12 4 22	684
24	Aug. 16 11	Aug. 19 20	1122	16 15 49	-240	16 23 15	1362	84·7	16 23 28	-20·5	17 2 27	105·2	1060	16 16 34	559	17 2 29	501
25*	Aug. 21 21 25	Aug. 25 7	1072	22 15 57	-938	22 3 0	2010	117·0	22 16 1	-110·7	22 3 25	227·7	1295	23 0 20	111	22 3 24	1184
26*	Sept. 2 21 43	Sept. 4 5	461	2 21 46	146	3 3 28	315	29·5	3 14 7	-46·9	3 3 19	76·4	904	3 21 25	584	3 3 13	320
27	Sept. 16 24	Sept. 18 2	941	17 16 36	-127	17 19 52	1068	87·9	17 17 59	-9·3	17 19 54	97·2	1031	17 16 22	699	17 19 56	332
28	Sept. 19 1	Sept. 20 20	674	19 15 22	-40	19 23 13	714	40·4	19 16 58	-23·5	20 0 6	63·9	1077	19 15 33	553	19 23 45	524
29	Oct. 3 7	Oct. 6 22	667	3 17 32	-803	4 1 48	1470	49·4	3 18 18	-108·8	4 3 23	158·2	1111	3 22 9	458	4 4 30	653
30	Oct. 8 21	Oct. 9 22	435	9 13 55	205	9 7 40	230	36·6	9 14 3	-4·2	9 1 19	40·8	953	9 14 29	761	9 1 47	192
31*	Oct. 13 2 5	Oct. 20 3	951	17 18 3	-782	13 22 54	1733	96·7	13 19 54	-69·8	13 23 14	166·5	1356	13 22 55	265	15 3 41	1091
32	Nov. 12 21	Nov. 15 4	574	13 14 16	242	14 1 31	332	39·5	13 14 19	-17·0	13 20 43	56·5	1011	13 14 11	652	14 1 27	359
33	Dec. 6 18	Dec. 9 2	590	6 20 36	57	7 2 47	533	43·2	7 3 52	-21·6	6 20 53	64·8	1048	7 18 5	599	7 4 3	449

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, 14000γ; D, 12°; V, 46000γ.

REMARKS ON THE AUTOGRAPHIC RECORDS, 1939

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

JANUARY (average character figure 0·29).— With only sporadic minor activity and a complete lack of major disturbance, January was an exceptionally quiet month. The minor activity was confined to the period 5d.–25d., the mild disturbance occurring in general between 18h. and 24h. and limited to ranges of less than 90γ in H, 30′ in D and 170γ in V. The periods 1d.–4d. and 25d.–27d. were particularly quiet.

FEBRUARY (average character figure 0·75).— This month brought a return to more disturbed magnetic conditions.

The first minor storm from 1d. 18h. to 2d. 4h. was of the usual type, with peaks in H and V followed by shallow bays. Further slight activity was in evidence on the following night, and after a lull of two quiet days a more severe storm began suddenly at 5d.19h.51m. The storm developed slowly for several hours, becoming more intense after 6d.13h., when H and V rose sharply. They remained well above normal until 18h., at which time the greatest activity began. H fell abruptly over 400γ while D and V executed some large rapid oscillations. Further rapid changes took place between 22h. and 24h., with troughs in all three elements, the intermediate period 19h.30m. to 22h. being relatively quiet. By 7d.6h. the storm had died down, and after a

few more very small disturbances a really quiet spell set in on the 11th. The traces were more irregular again from 16d. to 20d., but remained steady from then until the 24th.

The most severe storm of the month began gradually at 24d.14h. with rises in H and V. H reached a maximum of 15071γ at 17h.29m., and after a succession of very high peaks up to 19h.18m. fell in steps to its minimum value of 13392γ at 21h.45m. It recovered to a more normal value before midnight only to fall to a second deep trough with a minimum of 13421γ at 25d.1h.40m. After its initial rise to a peak at 17h.14m., V fell in an oscillatory manner to a trough centred at 19h.50m. It continued to oscillate, eventually reaching a maximum at 25d.0h.18m., the range for the whole disturbance being only 718γ. After a series of swings ranging up to 40′, D passed its maximum of 13°52′at 19h.16m., continued above normal until a final peak at 21h.14m., and then decreased over 3° in the next thirty minutes to its minimum of 10°15′ at 21h.44m. The range of 217′ is unusually large for Lerwick. Another trough in D from 25d.1h. to 2h. coincided with the second trough in H, but thereafter activity died down until at 25d.23h. conditions became suddenly quiet. The last few days of the month were quiet.

MARCH (average character figure 0·87).– March showed again an increase in general magnetic activity over the previous month, although there were no outstandingly severe storms.

The month opened with slightly disturbed conditions, there being troughs in H, D and V at 2d.3h. The activity continued in a suppressed manner throughout the rest of the 2nd and up till 22h. on the 3rd, when it broke out first in the form of slow oscillations and finally troughs between 4d.2h. and 4h. During this time a short-period oscillation was superimposed on the larger movements, giving the traces a broad hazy appearance. Smaller disturbances occurred on 4d., 5d., 8d., 9d., 11d. and 12d.,but the 13th and 14th were fairly quiet. Further minor activity prevailed from 15d. to 17d. while from 18d.2h. to 21d.5h. was the last semblance of quiet conditions, the remainder of the month being marked by practically continuous disturbance of a mild character. At 27d.18h. a typical storm commenced with peaks in H and V, followed shortly by irregular bays, lasting until 23h. The storm was renewed again at 28d.14h., and continued until 31d.4h. with gradually diminishing intensity. The most sudden large movements were between 27d.18h.25m. and 18h.45m., during which the maxima in H and D and the minimum in V for the month occurred. Between 18h.32m. and 18h.40m., in particular, H fell 725γ while there was a simultaneous sharp trough over 250γ deep in V.

APRIL (average character figure 1·00).– This was a very disturbed month, especially the latter fortnight.

The disturbed period which had been gradually dying down at the end of March, was still in evidence until the 5th, but the next three days were comparatively quiet. There were bays about 200γ deep in H and V and a hump in D centred at 10d.1h., and a very similar occurrence took place an hour earlier on the following night. The period 12d. to 16d. was again fairly quiet, but this ended abruptly at 17d.1h.57m., when the largest storm of the month began with sudden rises of 66γ and 8′ in H and D respectively. This was an unusual type of storm in that there was no marked peak in H before it plunged 900γ to its minimum at 4h.16m. Further troughs followed at 6h. and 8h., after which H began a rise which accelerated at 13h. to reach the maximum of 15149γ at 14h.42m. It had returned to normal by 19h., but between 20h. and 22h. it formed another deep trough. V was not so violently disturbed, but on the whole followed a similar course to H, except that the 14h. to 17h. peak was broken by a bay at 15h. D was also subnormal for the first few hours of the storm, and likewise rose to a peak from 14h. to 16h. Between 18h. and 22h. it oscillated slowly with ranges up to 80′. By 17d.22h. the storm had practically died out, but there was another smaller and more usual type of disturbance on the following afternoon and evening, with no outstanding features. Again at 19d.12h. a very similar disturbance began; it was marked by a period of somewhat more violent activity from 17h.10m. to 18h.10m., during which the maxima in H, V and D and the minimum in D occurred.

Disturbed conditions continued throughout 20d., 21d. and 22d., until at 23d.5h. a more severe storm began. A deep trough in H developed from 5h.30m. to 7h.30m., accompanied by shallower ones in D and V. The afternoon peak in H reached its maximum at 14h.54m., with a secondary one at 18h.49m. By 21h. quieter conditions appeared to be established, but another major disturbance began suddenly at 24d.17h.38m. (+94γ in H, +9′ in D, +8γ, −32γ in V). H rose to a peak lasting from 18h. to 19h.30m., the actual maximum occurring in an almost instantaneous swing of 64γ at 18h.17m. A fall of 310γ in 4 min. at 20h.2m. was continued in jumps to the minimum of 13669γ at 20h.23m. For the remainder of the storm H oscillated very irregularly, forming a hump at 22h.30m. and a bay about 600γ below normal from 24d.23h. to 25d.3h. V was above normal for most of the storm, the highest points being at 24d.20h.24m. and 25d.2h.8m. After a peak up to 13°21·1′ at 20h.3m., D fell rapidly to a minimum at 20h.35m., recovered to a normal value from 21h. to 23h., and oscillated through ranges of from 10′ to 50′ with smaller vibrations superimposed for the rest of the storm. The main storm was over by 25d.4h., but small rapid oscillations continued on top of an enhanced diurnal variation throughout the 25th. From 26d.5h. to 27d.21h. was quiet, but there were deep bays in H, V and D between 27d.22h. and 28d.1h., following a small "sudden commencement" at 27d.21h.1m. The remainder of the month was relatively quiet.

MAY (average character figure 0·84).— This was another very disturbed month.

The first and largest of the storms began suddenly at 1d.6h.41m. (+2′, −7′ in D). There was a second more complex "sudden commencement" at 11h.36m., with a rise of 98γ in H in 3 min. H continued to rise and formed a series of peaks from 13h. to 19h., the maximum being at 14h.0m. Passing its normal value shortly before 20h., it then fell to a low bay centred slightly before midnight. After a second shallower bay at 2d.1h.40m. it gradually recovered. V was similarly affected but on a smaller scale, the only violent movements being between 1d.23h.30m. and 24h.10m., when it executed a sharp trough. D also reached the low value of 10°7·8′ during this period of greater activity, but otherwise its movements were of fairly small range.

Disturbance continued in a modified form during 2d. and 3d., the most prominent feature being bays in H, V and D at 3d.1h.30m. The 4th was quiet, as was also the 5th until a "sudden commencement" at 20h.44m. (+136γ in H, +4′, −7′ in D, +16γ, −46γ in V). Several hours of slight disturbance followed, but it was not until 6d.12h. that larger movements began. H and V then formed their usual disturbed day afternoon peaks, with maxima at about 16h. H fell to a very deep trough with a minimum of 13512γ at 22h.55m., and, after a brief recovery, to a second equally deep one at 7d.1h.43m. The second bay was more conspicuous in V, while D passed the first minimum of 11°13·0′ somewhat earlier at 6d.22h.24m., executed a peak up to 13°6·0′ at 7d.1h.31m. and fell to a second trough between 2h. and 4h. Less severe disturbance continued throughout 7d., and there were well formed bays in the early hours of the 8th. Shallower bays, most conspicuous in H and V, at 9d.3h.30m., were the last features of this highly disturbed spell, for by 9d.18h. it was fairly quiet.

Quiet conditions prevailed until 16d. when there were shallow bays in H, V and D from 3h. to 8h. Minor disturbance with occasional spasms of more violent activity then continued until 30d. A typical minor storm lasted from 21d.14h. to 22d.14h., and there was a more isolated trough in H and D at 22d.23h.20m. 23d., 24d. and 25d. were all of the usual mildly disturbed type, with peaks in H and V from 14h. to 20h. and bays or troughs between 22h. and 3h. on the following morning. After a quieter break from 26d.4h. to 27d.20h. a small "sudden commencement" at 27d.20h.51m. led to bays in H, V and D. A last burst of minor activity broke out from 28d.22h. to 29d.22h., and the last two days of the month were very quiet.

JUNE (average character figure 0·57).— Although there were no major storms during June there was practically continuous minor activity.

The first five days were all slightly disturbed, but with no features of particular interest. From 6d. to 12d. it was much quieter, but even on the quietest days there were appreciable irregularities. A more definite storm began gradually in the early hours of the 13th, but there were no large or rapid movements. Troughs in H about 150γ deep at 14d.0h.50m. and 1h.50m. were followed by a broader bay of the same depth from 8h. to 10h. From noon until 17h. H was 100γ above normal, but the following night was quieter. There was a well marked bay in V at 14d.1h. to 2h., accompanied by a more irregular depression in D. Minor disturbance was more or less continuous from the 14th until the end of the month, the quietest breaks being 16d.20h. to 18d.1h., 24d.16h. to 26d.20h. and 27d.20h. to 28d.11h. There was a well marked "sudden commencement" at 26d.20h.20m. (−5γ, +64γ in H, +3′ in D, +6γ, −22γ in V), but it was followed by only very slight disturbance.

JULY (average character figure 0·61).– The month was moderately active.

The quiet opening was terminated by a small "sudden commencement" at 3d.0h.38m. This was followed by several hours of only slight activity, but at 3d.11h. H and V began to rise more quickly. H was about 200γ above normal from 13h. to 19h. with prominent peaks at 13h.45m. and 18h.15m., the latter being the greater. There was a similar formation in V, but here the earlier peak was much higher than the second one. The disturbance appeared to be over by 3d.20h., but it was renewed suddenly at 4d.14h.8m. (−9γ, +73γ in H). H again rose to form a series of peaks, but fell sharply at 21h. in to a very deep trough, the minimum of 13469γ being at 22h.10m. After a brief recovery from 4d.23h. to 5d.2h. it executed a broader shallower bay between 5d.5h. and 5d.9h. Further higher peaks followed in the afternoon, the maximum being at 15h.36m. The night bay from 6d.1h. to 4h. formed as usual, after which the disturbance quickly died away. The principal feature in the V trace was a sharp peak up to 46736γ at 4d.22h.36m.; otherwise the movements were small irregular departures from the normal disturbed day diurnal variation. The period of most violent disturbance centred at 4d.22h. was also shown in D, but there were no very large swings or outstanding features during the whole storm.

Quiet conditions set in at 6d.6h. and continued until 11d.13h., the quietest period of the month. Small humps occurred in H and V at 11d.14h. and 12d.15h. to 18h., but otherwise these days were also quiet. Following two small "sudden commencements" at 14d.3h.48m. and 14d.12h.7m. there was a typical minor storm between 14d.14h. and 15d.2h. H and V followed almost parallel courses, with peaks at about 17h. and troughs at midnight. The remainder of the 15th was quiet, but there was further minor activity on the 16th and 17th, and again at 19d.23h., when there were troughs in H and V. Mild disturbance occurred on the 20th and 21st with no outstanding movements, apart from a small "sudden commencement" at 21d.9h.57m. There was nothing of note in the remainder of the month, although conditions could seldom be called really quiet.

AUGUST (average character figure 0·52).– Although there were three separate violent storms, the intermediary periods were relatively free from minor activity, in contrast to the preceding months.

The first nine days were very quiet, there being no sign of disturbance until the 10th, when the diurnal variation had three times its usual range. More severe disturbance began suddenly at 12d.1h.40m. with complex movements in H and V, but a marked decrease of 5′ followed immediately by an increase of 20′ in D. Deep troughs formed in H and V from 3h. to 5h., the minima of 46264γ and 13505γ being at 4h.22m. and 4h.25m. respectively. D was also mainly below normal but there were two peaks at 4h.27m. and 4h.39m. Milder disturbance continued throughout the 12th, and there was another deep trough in H at 13d.1h. Conditions became gradually quieter after 13d.5h., and continued so until 16d.13h when another storm began with rises in H and V. H rose to the unusually high value of 15122γ at 15h.49m., and formed a deep trough at 23h. There was also a peak up to 13°24·7′ in D at 23h.28m., but there were no outstanding features in V. For a storm with such large ranges (1362γ in H, 437γ in V, 78·3′ in D) there was remarkably little of the usual rapid oscillatory movements superimposed on the larger changes.

After a fairly quiet spell, an exceptionally violent storm began in the early hours of the 22nd. Almost without warning, H fell over 1000γ shortly after 1h., to form a very deep bay from 2h. to 4h. V also fell initially, but rose to a peak at 2h.10m. only to fall to the very low value of 46111γ at 3h.24m. After some oscillations of about 40′ range, D formed a deep trough, the minimum of 10°9·3′ being at 3h.25m. All the large movements were over by 4h., but small oscillations continued until severe disturbance re-developed after noon. H rose to its usual afternoon peak, being 500γ above normal from 15h. to 18h., with a maximum of 15072γ at 15h.57m. It then fell rapidly to a series of ever deepening troughs, the lowest being 13066γ at 23d.0h.28m. The movements in V tended to oscillate more about a normal value, there being a series of peaks and troughs from 13h. until 24h. After the maximum of 47295γ at 23d.0h.20m., however, it fell rapidly, and was about 350γ below normal until 6h. D was also very disturbed, there being a sudden swing of 83′ to its maximum of 13°57′ at 16h.1m. followed by an oscillatory decrease until 23h.40m. Another high peak occurred at 23d.0h.28m. and large changes of up to 2° continued until 5h. Disturbance became less violent in all three elements after 23d.6h., but it took a further 24 hr. for the storm to die out completely. The rest of the month was quiet.

SEPTEMBER (average character figure 0·37).— This was a relatively quiet month.

The quiet spell carrying on from the end of August was first broken by a "sudden commencement" at 2d.21h.43m. (+52γ in H). Only minor disturbance followed, the chief features being bays in H, V and D centred at about 3d.3h., the one in D being relatively deep. Calm conditions were re-established by 3d.23h., and continued until the 16th apart from slight irregularities, especially on the 9th.

More severe disturbance developed slowly after 17d.3h., the large changes beginning with rises in all three elements at 14h. H formed a high peak from 16h. to 18h., about 450γ above normal, falling thereafter over 1000γ to a narrow trough with a minimum at 19h. 52m. D followed an almost parallel course, the range being 1°37·2′, while V was not so greatly affected. All was quiet by 18d.2h., but there was another more common type of disturbance on the 19th and 20th. H and V were above normal from 19d.15h. until 20h. and then formed broad bays which lasted until 20d.6h. There was no marked peak in D, but several troughs occurred between 19d.23h. and 20d.3h. Conditions became more settled after 20d.6h. and were quiet by 20h. The only further activity in the month was very mild disturbance on the 26th; the 28th and 29th were especially quiet.

OCTOBER (average character figure 0·68).— After three weeks of stormy conditions, the month ended quietly.

The first severe disturbance developed gradually during the afternoon of the 3rd with moderate peaks in H and V. H fell to a trough at 22h. and a slightly deeper one at 24h. but the largest movements were between 4d.1h. and 4h. when it formed a very deep bay with a minimum of 13197γ at 1h.48m. V executed a second peak at 22h., and was also most violently disturbed between 4d.1h. and 4h. although there were no very extreme values. D was only slightly affected until 4d.1h. when it fell rapidly only to swing back over 2° to a peak at 2h.0m. The minimum of 10°11·2′ occurred in a very sharp trough at 3h.23m. Minor disturbance continued with some quiet spells of a few hours duration until the 9th, and the next three days were quiet.

The second major storm began suddenly at 13d.2h.5m., (+51γ in H, −2′, +9′ in D). After a few hours of oscillations of the "giant pulsation" type, H and V began to rise at 16h. Both passed through a series of peaks until 19h., when V fell to its minimum at 19h.42m. It then rose to form two more pronounced peaks, during the second of which the maximum of 47356γ occurred at 22h.55m. H also began to fall shortly after 19h., but it recovered several times before plunging to its minimum in a sharp trough at 22h.54m. The movements in D were not so large nor so rapid as in H, but there were some oscillations with ranges up to 50′ in the initial part of the storm leading up to a maximum of 13°36·7′ at 19h.54m.

Considerable disturbance with no outstanding features continued throughout the 14th, and there were some deep bays in all three elements between 0h. and 5h. on the 15th. The afternoon of the 16th was marked by three separate peaks in H at 15h.19m., 16h.49m. and 18h.45m. which were also shown as smaller peaks in V and troughs in D. An unusually sharp peak in H occurred between 17h.51m. and 18h.7m. on the 17th, the field increasing 460γ and decreasing 540γ in this short time. Simultaneous swings occurred in V and D, the largest changes being 420γ in 4 min. and 96′ in 1 min. respectively.

After two more days of minor activity, conditions became much quieter at 19d.21h., and there was nothing of note in the remainder of the month.

NOVEMBER (average character figure 0·27).– With 23 days classed as "0" and no "2" days, this month was unusually quiet.

The first ten days were free from all but the slightest irregularities, but there was some minor activity between 11d.18h. and 15d.4h., the 13th being the nearest approach to what might be described as a disturbed day. There were no noteworthy features, however, and the remainder of the month was quiet apart from some even slighter disturbance between 24d.14h. and 26d.4h.

DECEMBER (average character figure 0·35).– Apart from slight disturbance between the 5th and 9th the month was again very quiet.

The month opened with the quiet conditions which had characterized November. The first signs of activity were slightly enhanced afternoon peaks in all elements on the 5th. More definite disturbance broke out fairly suddenly at 6d.20m., with rises in H and V. The peaks which formed between then and 21h. gave way to a trough centred at 22h. and two sharper troughs between 7d.2h. and 4h. D was about 20′ subnormal most of the time, but there were three definite peaks, the last one at 7d.3h.50m. being the greatest. Slight disturbance continued throughout the 7th and 8th, but after a shallow bay in D at 9d.18h.20m. quiet conditions were re-established.

The only other mild disturbances in the month occurred between 16d.22h. and 16d.24h. and between 21d.14h. and 22d.22h. The period 18d. to 20d. was especially quiet.

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

1 LERWICK 1939

	JANUARY, factor 1·25				FEBRUARY, factor 1·27				MARCH, factor 1·29			
	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.
	volts per metre											
1	90	62	155	317	76	104	95	123	40	163	150	133
2	311	Z±	199	140	85	145	157	233	150	150	170	370
3	106	249	295	522	233	227	715	22	206	20	393	496
4	65	149	233	199	-142	113	126	82	200	300	223	<-1299
5	202	40	190	162	35	91	129	120	<-666	190	117	-20
6	221	72	>513	261	101	123	120	277	103	97	-183	Z±
7	140	-295	103	199	129	91	129	123	233	Z±	83	107
8	81	103	190	Z±	120	126	167	-535	523	107	93	87
9	72	<-498	<-653	414	526	356	113	76	13	0	113	170
10	249	128	Z±	168	85	123	217	189	73	167	137	160
11	90	137	62	>1042	132	117	-740	110	170	273	<-1182	83
12	124	106	65	81	-135	120	123	95	63	90	130	123
13	65	-3	(124)	118	69	170	110	98	100	130	147	133
14	96	106	264	504	50	104	123	129	-174	61	82	96
15	124	177	16	162	91	82	132	>362	61	75	100	82
16	236	109	96	128	13	63	432	Z±	<-765	146	93	121
17	40	118	143	249	>866	>551	224	624	71	82	121	128
18	115	121	56	68	88	91	120	151	-598	78	85	89
19	90	118	165	124	-186	189	-13	151	64	53	43	71
20	84	96	68	-451	113	189	157	312	43	61	75	100
21	233	227	109	31	157	145	148	129	552	125	117	<-1424
22	84	90	267	140	76	82	88	47	57	107	132	171
23	47	-62	-187	90	110	378	148	35	117	146	36	199
24	62	68	<62	<404	22	>630	>740	148	132	142	110	167
25	-124	152	239	152	157	0	95	Z±	139	153	135	221
26	<47	109	155	<-47	<-221	-214	198	<-95	96	75	146	210
27	0	109	146	143	208	Z±	180	217	-285	103	132	117
28	90	128	162	140	98	82	139	>268	78	125	146	231
29	87	84	190	155					117	4	75	78
30	93	103	128	199					171	57	146	142
31	87	159	183	121					139	110	224	246
(a)	114	120	163	230	152	173	197	172	143	113	129	160
(b)	95	93	140	154	86	154	112	98	58	94	130	167
Mean	(a) 157		(b) 121		(a) 173		(b) 113		(a) 136		(b) 112	

	APRIL, factor 1·31				MAY, factor 1·36				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.
	volts per metre											
1	138	145	225	174	73	60	143	190	64	89	144	163
2	132	142	129	206	80	97	83	123	118	249	118	121
3	100	187	193	241	90	57	87	127	223	396	255	271
4	200	403	Z±	Z±	90	10	333	196	144	262	246	188
5	-81	81	-93	119	107	103	216	283	89	102	140	191
6	71	106	113	Z±	123	167	176	157	226	102	175	118
7	Z±	81	87	109	140	120	256	230	80	99	115	0
8	171	<-950	148	167	167	120	236	286	-48	64	99	163
9	126	93	122	164	210	140	476	403	105	6	32	179
10	87	132	171	206	117	323	196	193	140	105	112	159
11	241	409	390	444	117	83	93	77	131	86	121	41
12	306	241	409	132	30	77	200	216	64	-64	108	67
13	287	171	167	232	93	113	180	113	99	105	<-431	108
14	177	222	367	184	220	67	160	273	80	150	137	112
15	148	84	<-563	322	-17	-333	170	163	191	408	466	469
16	138	177	328	161	90	87	93	77	108	128	89	447
17	-97	42	55	100	60	67	97	157	121	236	485	223
18	74	68	90	126	110	147	143	147	300	405	530	616
19	87	58	77	87	97	53	103	203	941	616	188	348
20	100	100	138	119	93	110	<-416	143	306	338	287	274
21	48	77	129	174	137	133	190	320	635	469	195	163
22	0	-122	93	106	233	223	140	196	195	156	153	188
23	68	103	106	155	256	433	260	376	265	147	144	150
24	61	90	151	132	117	160	117	163	112	115	169	134
25	100	113	122	142	150	173	127	167	115	118	159	147
26	119	119	122	93	143	90	100	160	121	64	159	166
27	129	<-306	122	113	163	93	160	150	153	159	201	204
28	-64	84	138	145	87	93	157	363	<-622	Z-	201	338
29	106	151	174	184	216	143	163	147	418	134	172	144
30	87	68	161	119	143	170	147	280	108	124	172	137
31					57	190	140	130				
(a)	127	139	168	166	127	130	171	200	202	194	192	201
(b)	97	123	165	164	123	115	171	202	197	188	192	199
Mean	(a) 150		(b) 137		(a) 157		(b) 153		(a) 197		(b) 194	

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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	JULY, factor 1·30				AUGUST, factor 1·29				SEPTEMBER, factor 1·32			
	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.
	volts per metre											
1	106	131	118	149	90	105	93	130	105	90	130	171
2	-31	236	152	174	112	65	152	155	149	74	133	118
3	84	131	121	180	143	171	143	167	155	143	189	183
4	249	323	336	190	71	233	90	174	254	369	198	186
5	314	351	364	277	164	205	139	189	143	527	164	267
6	180	448	277	454	31	152	158	171	267	335	446	378
7	355	193	155	<-389	344	527	118	189	322	409	741	573
8	115	221	168	348	<-1039	-260	161	127	381	295	167	155
9	140	255	128	93	74	279	201	372	112	124	115	195
10	75	87	106	112	<-573	471	130	298	164	158	223	183
11	47	106	128	124	130	115	189	15	59	133	139	155
12	159	155	146	59	180	143	102	211	99	109	93	180
13	93	177	137	233	127	171	130	372	223	143	105	136
14	168	171	140	109	161	449	456	-31	93	109	124	167
15	-84	118	90	81	143	155	189	205	143	112	152	186
16	65	-684	187	59	96	149	102	208	71	118	248	233
17	50	96	252	249	102	139	186	217	118	167	158	214
18	274	155	199	168	384	688	496	446	136	139	177	146
19	227	613	728	470	167	96	155	146	164	127	171	201
20	243	435	155	221	81	105	195	62	139	155	211	211
21	171	498	143	494	87	87	84	96	220	171	105	112
22	504	302	252	494	201	71	109	155	201	161	112	152
23	249	174	168	221	161	143	201	99	77	84	112	118
24	137	128	171	-118	319	205	260	171	74	105	99	74
25	414	560	155	6	84	93	99	236	74	90	133	136
26	249	550	124	292	211	412	217	214	99	93	109	136
27	100	152	221	218	217	139	167	254	74	93	93	124
28	199	230	314	16	248	158	329	670	74	77	93	124
29	827	513	196	323	434	384	217	124	<-109	130	211	124
30	261	233	715	323	109	248	167	155	93	99	87	139
31	407	557	252	75	102	171	53	139				
(a)	223	277	219	214	165	218	177	206	148	165	175	183
(b)	200	247	221	203	165	209	179	197	148	166	173	185
Mean	(a) 233		(b) 218		(a) 191		(b) 187		(a) 168		(b) 168	

	OCTOBER, factor 1·35				NOVEMBER, factor 1·37				DECEMBER, 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.
	volts per metre											
1	239	108	89	159	109	129	-	-	111	294	54	85
2	99	102	-41	137	-	-	148	81	120	41	92	145
3	83	118	124	150	58	93	84	77	63	209	136	142
4	112	144	159	172	3	126	93	32	126	-79	66	142
5	144	191	214	214	103	132	161	126	111	139	-95	114
6	172	207	211	191	61	126	93	145	73	95	136	142
7	153	153	179	166	142	351	451	-403	85	120	158	120
8	134	131	128	121	200	209	306	309	155	275	344	-190
9	64	108	153	150	158	119	-209	64	-1438	98	183	-120
10	128	112	96	121	93	184	158	270	16	-6	111	281
11	102	<-574	112	83	100	97	135	109	161	139	114	155
12	48	-89	182	<-718	64	90	113	90	158	183	171	-60
13	<-367	<-654	166	105	74	93	-563	251	88	57	149	145
14	77	128	108	73	203	109	145	109	136	171	57	95
15	96	77	-415	86	-345	142	129	-48	174	<95	171	107
16	32	121	131	137	55	-100	-26	129	126	117	136	139
17	93	115	112	118	132	116	138	229	79	164	145	107
18	61	121	207	118	90	6	97	10	76	66	111	269
19	57	80	204	112	87	109	77	97	117	111	88	76
20	156	144	166	172	74	116	58	97	57	92	111	130
21	102	144	80	144	97	119	87	119	-6	57	123	171
22	96	118	64	70	155	-126	142	258	246	142	32	133
23	61	134	131	153	998	52	55	193	142	139	130	158
24	<-1440	112	93	252	-161	200	338	138	104	95	107	193
25	172	124	159	172	97	97	122	-64	111	107	63	76
26	115	287	258	211	167	<97	55	64	88	70	<-13	202
27	124	147	153	175	103	174	97	61	177	142	133	202
28	93	159	163	115	>547	145	81	71	288	155	253	164
29	93	124	169	246	74	52	177	254	88	Z±	190	133
30	102	131	153	223	238	602	113	135	202	139	139	193
31	93	150	159	163					85	174	145	183
(a)	107	135	149	150	159	144	141	135	123	132	133	150
(b)	109	136	123	151	114	126	99	107	63	123	121	121
Mean	(a) 135		(b) 130		(a) 145		(b) 111		(a) 135		(b) 107	

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)	149	162	168	181	
(b)	121	148	152	162	
	(a) 165		(b) 146		

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. 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	Non-cyclic change†	No. of days used	Mean
	volts per metre																										v./m.
	0a days only*																										
Jan.	-43	-40	-49	-50	-56	-45	-37	-26	-12	+5	+23	+48	+30	+19	+44	+51	+37	+33	+29	+23	+23	+25	-13	-21	+4	5	135
Feb.	-17	-21	-33	-39	-33	-27	-25	-22	+3	-13	-10	-15	-9	-7	-3	+19	+45	+57	+52	+27	+42	+29	+13	-16	+30	2	125
Mar.	-28	-43	-44	-50	-53	-50	-40	-22	-16	-33	-24	-7	+9	+8	+17	+26	+39	+63	+67	+61	+49	+41	+24	+7	+11	4	139
Apr.	-12	-21	-27	-35	-18	-11	-2	-10	-16	-22	-20	-9	-4	+10	+13	+20	+17	+39	+21	+24	+28	+39	+11	-13	-4	11	159
May	+14	+5	-23	-38	-43	-45	-47	-23	-18	-24	-27	-25	-25	-8	+16	+22	+26	+31	+37	+49	+56	+42	+35	+15	-6	13	142
June	+1	-7	+12	-3	-2	-1	-5	+13	+36	+2	-24	-23	-19	-10	-3	-12	-5	+2	-2	-6	-4	+21	+23	+14	-14	13	239
July	+11	-11	+31	-22	-31	-12	+34	+29	+86	+30	+72	+48	+24	-6	-8	-47	-87	-103	-63	-50	-8	+27	+23	+32	-12	9	290
Aug.	+9	+11	+4	-13	-17	-13	+22	+42	+43	+13	+4	-13	0	-4	-16	-41	-34	-37	-21	+7	+25	+7	+7	+12	+13	16	195
Sept.	-27	-25	-24	-25	-18	-28	+10	+18	+8	-27	-18	-2	-4	+7	+16	+20	+18	+25	+42	+17	+19	+14	+5	-21	+4	19	181
Oct.	-23	-28	-25	-31	-36	-41	-34	-19	-6	-3	+8	-7	-4	0	+13	+24	+24	+38	+49	+59	+28	+34	-1	-20	+15	7	164
Nov.	-57	-67	-67	-70	-103	-90	+96	-55	-37	-48	+41	+58	+91	+9	-13	+40	+46	+79	+107	+95	+12	-5	-19	-41	-18	2	197
Dec.	-20	-24	-13	-32	-20	-19	-2	-10	-6	+2	+6	+5	+17	+3	-7	+13	+26	+18	+32	+29	+19	+4	-11	-10	-4	7	124
Year	-16	-23	-21	-34	-36	-32	-3	-7	+5	-10	+3	+5	+9	+2	+6	+11	+13	+20	+29	+28	+24	+23	+8	-5	+2	108	174
Winter	-34	-38	-41	-48	-53	-45	+8	-28	-13	-13	+15	+24	+32	+6	+5	+31	+39	+47	+55	+43	+24	+13	-7	-22	+3	16	145
Equinox	-23	-29	-30	-35	-31	-33	-17	-8	-7	-21	-13	-6	-1	+6	+15	+23	+25	+41	+45	+40	+31	+32	+10	-12	+7	41	161
Summer	+9	-1	+6	-19	-23	-18	+1	+15	+37	+5	+6	-3	-5	-7	-3	-19	-25	-27	-12	0	+17	+24	+22	+18	-5	51	217
	1a and 2a days only*																										
Jan.	-19	-35	-27	-17	-27	-21	-12	-5	+11	+16	+6	+5	-52	+6	+6	0	0	+37	+38	+14	+36	+29	+5	+6	+11	3	113
Feb.	-31	-36	-25	-10	-33	-17	+1	-2	+12	-17	-19	+3	+32	+40	+75	+45	+28	+12	-9	-7	-15	-5	-18	-5	+11	7	134
Mar.	-2	+5	-31	-14	-8	-13	-24	-14	-19	-38	-25	-7	-3	+3	-1	+25	+27	+31	+58	+27	+21	+30	-3	-22	+52	6	108
Apr.	-40	-35	-50	-29	-31	-23	-13	-13	-22	-38	-18	+24	+33	+51	+41	0	+6	+17	+37	+23	-5	+24	+28	+34	-3	4	146
May	+13	-18	-24	-34	-21	-21	-46	+5	+3	-9	-9	-8	+10	+4	+9	+18	-8	+11	+22	-6	+23	+39	+33	+14	+5	8	135
June	-12	-35	-2	-31	-21	-17	-42	-55	-23	-23	-18	+19	+11	+29	+35	+18	+23	+22	+24	+20	+41	+12	+21	+3	-49	5	136
July	-11	-39	-52	+10	+6	+32	+46	+39	+59	+23	-38	-37	-5	-42	-39	-47	+16	+29	+19	+21	+17	-15	-6	+13	+5	12	193
Aug.	-31	-85	-88	-61	-71	-40	-6	-40	-1	-24	+19	+30	-19	+52	+58	+86	+70	+43	+40	+69	-1	-28	+27	+5	-102	6	156
Sept.	+17	+19	+16	+6	0	+7	+3	-2	-9	-8	-18	-28	-29	-2	-12	-16	+4	+4	+10	+30	+17	+9	-33	+14	+64	5	120
Oct.	-14	-32	-32	-38	-31	-33	-21	-8	+7	-6	+3	-11	-20	+27	+17	+27	+51	+35	+29	+26	+19	+22	+4	-22	-5	10	117
Nov.	-7	+27	+9	+7	+11	-1	+1	+1	-6	+37	+151	+4	-1	+9	+11	+21	-3	-32	-91	-145	-45	+13	-3	+31	+29	2	117
Dec.	0	-5	-20	-37	-38	-41	-27	-20	-21	-11	-15	+12	+23	+22	+13	+27	+14	+15	+25	+31	+59	+15	-7	-15	-29	6	111
Year	-11	-22	-27	-21	-22	-16	-12	-9	-1	-8	+2	+1	-2	+17	+18	+17	+19	+19	+17	+9	+14	+12	+4	+5	-1	74	132
Winter	-14	-12	-16	-14	-22	-20	-9	-7	-1	+6	+31	+6	+1	+19	+26	+23	+10	+8	-9	-27	+9	+13	-6	+4	+5	18	119
Equinox	-10	-11	-24	-19	-17	-15	-14	-9	-11	-23	-15	-5	-5	+20	+11	+9	+22	+22	+33	+27	+13	+21	-1	+1	+27	25	123
Summer	-10	-44	-41	-29	-27	-11	-12	-13	+9	-8	-11	+1	-1	+11	+16	+19	+25	+26	+26	+26	+20	+2	+19	+9	-35	31	155

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*.

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	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
		hr.		hr.		hr.		hr.		hr.		hr.
1	1b	1·1	0a	···	1b	2·0	0a	···	1a	1·0	0a	···
2	1c	2·5	0a	···	1a	0·3	0a	···	0a	···	0a	···
3	1b	0·3	1a	0·5	1a	0·9	1b	0·6	1a	1·7	0a	···
4	0a	···	1b	1·2	2b	5·3	1c	2·3	1b	1·5	0a	···
5	1c	2·9	1a	0·3	2c	6·5	2c	5·8	0a	···	0a	···
6	1c	2·3	1b	2·4	1c	1·8	1c	2·0	0a	···	1b	0·2
7	2c	6·2	1b	1·8	1b	1·3	1b	1·1	0a	···	1b	1·0
8	1b	0·8	1b	2·9	1c	2·7	2b	3·3	0a	···	1c	1·4
9	2c	6·7	1b	1·7	1b	2·1	0a	···	1b	2·3	1b	1·9
10	1c	1·7	1b	1·2	0a	···	0a	···	1a	0·3	1b	1·1
11	2c	3·3	2b	5·7	2b	6·3	0a	···	1a	0·1	1b	1·5
12	1b	1·7	1b	2·5	1a	0·3	1a	0·1	1a	0·1	1b	2·4
13	2b	6·6	1a	0·1	1b	0·4	0a	···	1a	1·2	1b	2·2
14	1b	0·5	1a	0·9	1a	2·9	0b	···	2b	3·7	0a	···
15	2b	6·5	1b	0·6	1a	1·6	2b	5·9	2b	3·7	1b	0·3
16	1b	2·9	1c	1·7	2b	3·9	2c	5·7	0a	···	1b	2·3
17	1a	0·3	1c	3·0	0a	···	2b	3·4	0a	···	0a	···
18	1a	0·2	1b	0·3	2b	4·8	1a	0·7	1b	0·4	0a	···
19	0a	···	2b	3·7	1a	0·5	0a	···	1b	1·2	0a	···
20	2b	5·2	1a	0·1	1b	1·7	1b	2·3	1b	1·0	0a	···
21	2b	3·9	1a	0·1	2c	3·9	2c	4·9	2b	3·1	0a	···
22	1b	0·2	1a	0·8	1b	1·1	2b	3·8	1a	0·1	0a	···
23	2b	6·2	2c	3·9	1b	1·9	1a	0·1	1b	0·4	1a	0·3
24	1b	1·3	2c	4·0	1b	0·5	0a	···	1a	0·3	1a	1·2
25	1b	2·5	1c	2·4	1b	0·3	1c	1·6	0a	···	1a	0·5
26	1c	2·9	2c	3·9	1b	0·6	0a	···	2b	3·2	1a	1·1
27	1c	2·8	1c	2·4	1b	2·1	1b	1·2	0a	···	1a	0·3
28	1a	0·4	1b	2·0	0a	···	1a	1·9	0a	···	2b	8·3
29	0a	···			2b	3·5	0a	···	0a	···	1b	0·2
30	0a	···			1a	0·4	0a	···	0a	···	0a	···
31	0a	···			0a	···			0a	···		
Total	34	71·9	31	50·1	34	59·6	25	46·7	22	25·3	18	26·2
No. of days used	31	31	28	28	31	31	30	30	31	31	30	30
Mean	1·10	2·3	1·11	1·8	1·10	1·9	0·83	1·6	0·71	0·8	0·60	0·9

	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
		hr.		hr.		hr.		hr.		hr.		hr.
1	1a	0·1	0a	···	0a	···	1b	1·1	(1a)	(0·1)	1a	0·3
2	1a	0·7	1a	1·2	1a	0·2	1a	1·3	(1b)	(2·9)	1a	0·3
3	1a	0·3	0a	···	0a	···	1a	0·6	1b	1·5	1b	0·1
4	0a	···	0a	···	0a	···	0a	···	(1a)	(2·5)	2b	5·2
5	0a	···	0a	···	0a	···	0a	···	2b	6·1	1b	1·3
6	1a	0·1	1a	0·8	0a	···	0a	···	1b	2·7	0a	···
7	1b	2·8	0a	···	0a	···	0a	···	1b	0·8	1b	0·8
8	1a	1·1	2b	9·7	1b	1·9	1a	0·6	0a	···	2b	4·2
9	1a	1·5	1b	1·2	1a	0·1	2b	3·1	1b	2·7	2b	10·6
10	0a	···	2c	3·5	1b	0·8	1b	1·5	1b	1·6	2b	4·5
11	1a	0·6	1b	1·6	0a	···	2c	4·5	1b	1·3	0a	···
12	0a	···	1b	1·4	1a	0·3	2c	8·7	1b	0·3	2b	3·4
13	1a	0·6	0a	···	0a	···	2c	5·1	2b	7·4	1a	0·7
14	1a	0·6	2a	3·5	1a	0·2	1b	2·1	1b	2·2	1b	0·9
15	1b	0·8	1b	1·0	0a	···	2c	4·8	2c	5·7	1b	1·9
16	2b	8·3	1a	0·1	0a	···	1a	0·6	2b	3·5	1a	0·2
17	1b	1·7	0a	···	0a	···	1a	0·3	1a	0·2	0a	···
18	1a	0·1	0a	···	0a	···	1a	1·3	2b	3·6	1a	0·2
19	0a	···	1a	0·3	0a	···	1a	0·4	1b	0·3	1a	0·1
20	1a	0·3	1a	0·1	0a	···	0a	···	0a	···	0a	···
21	0a	···	0a	···	0a	···	1b	2·0	1b	1·4	1b	1·7
22	0a	···	1b	1·3	0a	···	1b	0·8	2b	4·8	1b	0·5
23	1b	1·6	0a	···	0a	···	1b	0·7	1c	2·3	1b	1·3
24	1b	2·3	0a	···	0a	···	1b	1·1	1c	1·5	0a	···
25	1b	2·2	1b	0·1	1b	0·3	1c	1·3	2a	3·1	0a	···
26	1a	0·5	1b	0·1	1a	0·2	1b	0·6	2c	4·3	1b	0·9
27	1b	0·2	0a	···	0a	···	1a	0·6	1b	0·6	1b	1·0
28	1b	2·7	0a	···	1b	0·1	1a	0·3	2c	3·4	1b	0·5
29	0a	···	0a	···	1b	1·3	0a	···	2b	3·7	1b	2·9
30	1b	1·8	0a	···	1b	1·4	0a	···	1b	0·2	0a	···
31	0a	···	0a	···			1a	0·1			1a	0·1
Total	23	30·9	18	25·9	11	6·8	29	43·5	38	70·7	29	43·6
No. of days used	31	31	31	31	30	30	31	31	30	30	31	31
Mean	0·74	1·0	0·58	0·8	0·37	0·2	0·94	1·4	1·27	2·4	0·94	1·4

Annual values: Character 0 1 2
No. of days used 109 200 56

Mean character figure 0·85 (365 days)

Duration: Total 501·2 hr.
No. of days 365
Mean 1·37 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 1939

	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 q	407	412	414	417	419	422	421	422	420	413	411	409	413	412	408	405	411	413	413	413	413	409	409	412	413
2	414	413	413	413	415	425	426	423	422	419	414	412	409	411	412	413	415	418	419	422	424	421	417	413	417
3 q	411	413	416	416	420	419	419	417	411	407	406	408	407	411	406	406	406	409	413	414	415	414	414	414	412
4	414	413	413	416	417	419	422	418	411	404	402	404	405	408	408	408	411	414	417	420	422	423	423	417	414
5 d	417	420	424	426	420	415	418	421	419	415	413	415	419	417	413	416	417	421	413	412	418	430	422	406	418
6	407	408	413	413	411	412	412	412	409	404	402	397	397	406	409	413	410	407	406	411	413	416	407	405	408
7	406	418	405	406	409	409	411	413	411	403	399	404	409	407	410	410	408	412	417	406	413	402	403	406	408
8	395	402	404	409	405	408	411	408	403	397	395	395	401	404	403	402	399	401	405	411	406	401	405	419	404
9 d	400	399	402	405	419	420	399	391	391	390	387	385	400	404	400	403	404	409	410	415	412	422	407	396	403
10	401	403	400	409	424	412	412	417	410	402	397	396	387	390	400	400	404	411	413	410	404	410	407	399	405
11	398	401	404	411	414	408	406	405	405	402	394	389	388	400	408	411	405	402	407	411	420	407	405	402	404
12	400	406	408	408	409	407	405	409	409	405	402	400	411	412	405	408	411	415	415	416	415	412	409	408	409
13	408	405	402	408	409	410	411	408	405	402	405	410	413	412	413	421	413	413	414	416	418	415	411	419	411
14	406	412	412	413	413	414	422	420	413	408	407	403	401	403	395	403	404	413	416	415	413	404	394	396	408
15	407	409	410	408	410	420	415	413	407	394	399	392	387	388	394	404	411	415	414	411	410	410	408	406	406
16	411	406	409	411	413	413	416	417	415	405	402	400	400	405	406	411	411	411	416	410	411	391	401	400	408
17 d	393	385	368	386	406	404	401	402	402	403	404	382	374	392	394	396	401	406	412	407	405	410	397	407	397
18	402	396	405	409	415	406	394	405	408	406	404	400	395	397	398	398	401	405	409	411	410	407	417	401	404
19	405	407	405	406	407	410	412	409	407	410	409	403	398	398	401	404	404	408	413	411	404	412	398	395	406
20	393	392	409	406	418	406	416	422	417	410	400	398	397	401	402	408	408	411	411	410	402	408	410	405	407
21 d	403	392	398	405	413	417	420	417	419	407	401	396	401	396	406	396	406	405	397	402	408	406	408	408	405
22 d	409	409	410	415	416	421	422	417	417	415	408	401	398	398	402	408	412	413	401	400	406	400	397	403	408
23	397	398	401	399	408	399	409	414	413	388	392	396	401	402	387	395	397	405	410	407	404	411	413	410	402
24	410	411	411	414	413	426	421	418	406	404	399	394	393	394	395	398	405	410	411	408	405	406	416	400	407
25	402	408	411	416	418	415	416	415	413	408	401	399	397	404	405	404	407	411	413	413	411	412	410	411	409
26 q	410	411	412	414	417	419	420	418	415	409	405	402	402	403	408	407	409	413	415	416	416	416	415	414	412
27 q	414	414	415	416	417	419	420	418	413	405	400	399	401	405	408	409	411	415	419	420	421	421	420	419	413
28	418	418	418	420	421	424	430	429	426	424	420	411	405	407	413	419	415	416	409	406	418	417	417	412	417
29	395	391	404	412	417	418	416	416	413	407	402	401	400	402	405	405	411	414	419	419	418	412	409	406	409
30 q	407	409	413	416	417	422	418	418	416	408	402	396	393	398	406	406	408	409	414	419	419	417	417	417	411
31	416	416	417	418	423	424	425	419	418	401	396	391	391	396	401	403	406	410	414	416	417	417	415	416	411
Mean	406	406	408	411	415	415	415	415	412	406	403	400	400	403	404	406	408	411	412	412	413	412	410	408	409

Corrections to be applied to all values: H, −6γ; D, −4·0′; V, −23γ.

MAGNETIC DECLINATION (WEST)

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

5 LERWICK (D) — 12° + — JANUARY 1939

	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	28·4	30·0	30·7	30·9	30·8	30·5	30·5	30·6	29·7	30·3	31·5	31·4	32·5	32·4	31·5	30·1	31·6	32·7	32·7	31·8	31·0	30·1	29·0	30·1	30·9
2	30·8	31·5	31·4	31·7	31·4	30·7	30·7	30·2	30·8	32·0	32·8	34·3	34·7	35·5	34·9	35·4	33·2	32·3	31·3	30·6	30·5	30·7	30·7	30·4	32·0
3 q	30·9	32·5	32·3	31·2	30·7	30·4	30·0	29·8	29·9	30·8	32·0	33·0	33·6	33·3	32·4	32·6	32·3	32·4	31·7	30·9	30·7	29·9	30·4	30·8	31·4
4	30·9	31·5	31·5	31·5	31·4	31·0	31·2	29·7	29·3	29·2	30·3	31·7	33·0	32·9	32·6	32·8	33·6	33·4	33·0	31·5	31·0	30·7	31·6	30·9	31·5
5 d	31·5	31·8	32·0	32·6	31·2	30·0	29·5	29·6	29·8	31·1	32·0	33·0	33·8	35·2	34·9	36·0	37·1	34·2	35·5	32·7	29·4	27·0	27·5	26·7	31·8
6	27·9	29·0	28·8	29·1	29·0	30·1	29·9	29·7	29·5	29·7	30·9	32·4	33·7	35·6	33·8	34·0	37·0	33·8	36·7	32·7	29·4	22·1	27·9	27·2	30·8
7	29·1	27·2	28·8	28·9	28·4	28·6	29·1	29·5	30·3	30·6	30·0	33·6	33·9	32·7	32·1	32·0	34·0	32·4	32·1	31·4	27·1	26·6	27·6	27·0	30·1
8	24·5	27·8	24·9	26·0	27·9	28·9	28·2	28·7	29·5	30·7	31·0	32·1	33·1	32·4	33·0	33·3	34·6	34·0	32·1	32·4	23·1	28·7	27·9	25·9	29·6
9 d	24·0	21·9	21·4	24·5	24·9	27·3	31·6	32·8	31·9	31·8	32·8	30·3	30·8	30·6	30·1	31·1	32·1	32·9	33·8	31·3	34·9	26·8	27·9	26·9	29·3
10	27·8	27·9	27·7	29·2	30·2	29·1	29·2	30·3	30·6	31·6	32·3	35·5	35·8	34·1	34·1	32·6	31·9	30·7	30·8	30·8	25·4	24·5	29·2	28·0	30·4
11	27·2	27·3	26·2	27·8	28·1	27·6	28·2	29·2	30·3	31·5	32·0	32·8	32·8	31·9	32·3	33·6	31·9	35·8	33·2	33·2	28·6	29·8	29·2	28·4	30·4
12	25·7	27·0	29·2	27·9	29·3	29·8	29·6	29·5	29·9	31·2	31·8	32·6	34·8	34·1	33·0	32·2	32·7	32·0	31·2	30·7	30·6	29·6	29·1	30·7	30·6
13	29·3	28·0	28·0	28·3	29·5	29·6	29·1	29·5	30·2	31·3	32·4	33·7	33·7	33·4	33·0	33·5	33·8	32·3	31·4	30·6	30·8	30·6	29·7	26·1	30·7
14	29·5	24·0	24·5	27·2	26·5	29·1	29·8	29·9	30·5	31·6	33·0	34·2	36·1	35·9	35·7	33·7	34·2	30·9	30·5	30·3	30·5	20·8	19·0	28·4	29·8
15	30·6	31·0	30·7	31·8	33·9	31·6	31·1	30·8	32·1	31·1	31·2	33·5	34·4	35·4	35·3	33·0	32·3	31·3	31·2	30·3	30·0	29·9	30·5	30·4	31·8
16	30·6	29·1	29·2	29·6	30·1	30·2	30·2	30·1	30·4	31·2	32·7	33·5	34·1	33·2	32·3	32·4	33·9	34·3	32·8	33·1	27·0	30·2	29·5	29·3	31·2
17 d	24·8	23·0	18·3	25·9	28·3	32·3	31·4	30·0	29·8	28·9	30·5	32·8	34·2	33·1	34·5	32·3	31·5	31·3	30·9	30·5	28·6	22·9	28·8	28·9	29·3
18	26·0	22·8	27·0	28·3	30·2	34·1	39·4	36·5	29·3	29·6	30·4	30·6	31·6	33·0	32·8	32·6	32·1	31·9	31·6	30·8	30·7	30·5	23·9	28·7	30·6
19	29·8	29·9	29·4	30·0	30·5	31·1	29·9	29·3	29·4	29·6	30·6	30·9	31·7	32·0	32·3	32·1	32·0	32·0	31·6	30·6	29·3	27·4	26·2	23·7	30·1
20	25·4	27·6	22·5	25·7	25·5	30·2	33·5	31·5	31·0	30·8	30·4	31·0	32·4	33·2	32·4	33·3	32·3	31·7	32·3	32·6	30·9	29·0	30·0	28·6	30·2
21 d	25·2	25·2	28·9	28·3	30·2	30·5	30·3	30·6	30·6	32·8	34·3	33·3	34·8	34·2	35·8	35·6	37·9	35·5	21·1	31·4	30·5	29·9	29·5	29·9	31·1
22 d	29·8	29·9	30·8	32·3	31·8	31·8	31·0	30·6	31·8	30·9	31·1	31·2	32·3	32·3	31·5	32·5	32·1	31·9	27·2	22·6	30·0	28·2	16·0	27·3	29·9
23	23·9	27·8	27·0	28·2	30·3	31·4	31·0	30·9	31·5	31·2	33·3	34·4	32·8	33·7	31·8	30·3	32·1	30·7	29·9	29·5	27·4	26·9	29·5	29·9	30·2
24	29·9	30·4	30·0	30·2	30·8	32·5	31·3	29·5	29·4	28·0	28·8	30·2	33·2	32·2	31·6	31·7	30·9	30·7	30·5	30·3	30·2	29·7	27·5	27·7	30·3
25	32·8	30·3	28·6	29·0	29·6	29·7	30·3	29·8	29·8	30·6	30·4	32·5	31·7	31·6	31·7	31·5	30·9	30·8	30·8	30·2	29·9	29·6	29·9	29·8	30·5
26 q	29·9	29·9	29·5	29·7	29·9	30·1	30·0	29·8	29·8	30·0	30·8	31·9	32·8	32·7	32·3	31·9	32·0	31·7	31·1	30·8	30·4	30·0	29·8	29·6	30·7
27 q	29·6	29·5	29·6	29·4	30·0	30·1	29·9	29·5	28·9	29·5	30·6	32·1	33·0	33·4	32·9	32·6	31·9	31·9	31·6	31·0	30·6	30·1	29·7	29·7	30·7
28	29·7	29·7	29·9	30·4	30·2	30·7	29·8	29·7	30·0	30·7	30·9	31·7	32·5	33·5	33·4	33·8	34·0	33·1	34·1	32·6	31·0	30·3	28·9	19·3	30·8
29	16·1	21·6	26·6	28·5	30·4	30·9	30·6	30·2	29·5	29·6	29·8	30·9	32·0	32·6	32·0	31·9	31·8	32·0	32·1	31·9	32·5	31·3	27·2	26·4	29·5
30 q	27·1	28·4	29·5	29·6	29·2	29·8	29·9	29·1	28·9	29·3	29·9	31·5	33·0	33·8	34·3	33·4	32·8	33·0	31·9	31·3	31·0	30·6	30·6	30·6	30·8
31	30·5	30·3	30·3	31·5	29·6	29·8	29·6	29·1	29·3	30·0	31·1	31·3	33·7	33·6	34·2	34·0	32·9	32·4	31·7	31·0	30·9	30·7	30·1	29·8	31·1
Mean	28·0	28·2	28·2	29·2	29·7	30·3	30·5	30·2	30·1	30·6	31·3	32·4	33·3	33·3	33·0	32·8	33·0	32·5	31·6	31·0	29·8	28·6	28·2	28·3	30·6

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

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT

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

6 LERWICK (V) — 46,000γ (0·46 C.G.S. unit) + — JANUARY 1939

	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 q	837	833	833	833	832	832	832	832	833	837	839	839	836	836	837	839	838	836	838	838	838	841	840	837	836
2	834	834	833	833	830	825	824	826	827	829	833	834	834	834	834	836	837	834	833	833	832	833	833	836	832
3 q	836	832	824	828	827	828	828	831	833	834	836	836	838	838	839	838	836	833	832	833	833	835	835	835	833
4	834	834	834	833	831	829	828	828	832	833	834	836	834	834	836	836	835	834	833	831	829	830	830	833	833
5 d	834	831	828	827	827	828	827	824	824	825	827	827	828	830	832	834	841	842	848	849	842	806	780	813	828
6	834	837	831	833	834	833	832	830	831	831	833	837	838	839	839	840	848	859	859	860	852	845	836	836	839
7	838	837	839	839	837	836	833	830	831	832	834	833	833	836	838	840	843	842	839	848	825	825	830	831	835
8	836	827	828	820	832	833	833	833	834	835	836	836	833	835	841	843	849	854	859	851	816	833	841	833	836
9 d	838	843	842	838	824	824	829	828	835	849	847	845	844	844	845	845	845	846	851	855	856	855	828	848	842
10	847	842	839	828	801	813	826	826	828	833	837	837	840	839	840	845	848	846	844	847	856	850	845	845	838
11	845	844	838	828	819	829	833	835	836	835	835	835	838	835	838	847	856	860	858	858	856	839	847	850	841
12	852	848	843	839	838	839	841	839	839	839	838	834	830	833	839	841	843	841	841	840	842	846	846	845	841
13	841	840	839	835	837	837	837	839	841	839	837	834	833	835	834	836	841	844	841	840	839	840	844	843	839
14	829	829	834	833	834	834	833	835	838	839	838	837	837	838	849	857	847	842	838	835	836	843	841	835	838
15	835	835	834	831	817	810	822	828	830	837	840	841	842	844	844	845	845	843	843	840	839	838	838	835	836
16	826	829	833	833	832	831	831	832	833	838	837	833	831	834	835	839	839	840	840	850	828	852	874	867	838
17 d	860	827	732	758	756	783	807	825	833	842	845	850	850	846	847	845	845	843	841	846	855	859	861	852	829
18	850	847	841	838	826	810	802	806	824	834	843	846	843	838	839	839	839	838	836	835	835	838	835	837	834
19	839	839	840	839	835	832	829	833	834	834	838	841	844	843	841	843	843	840	838	839	844	834	831	820	837
20	814	776	789	810	815	813	796	805	813	820	828	834	835	838	840	841	842	841	844	848	858	849	840	834	826
21 d	835	834	823	823	830	835	834	834	832	835	836	839	840	853	865	870	874	903	931	873	852	844	838	835	849
22 d	834	834	836	834	834	831	833	835	832	834	837	840	840	843	844	844	844	845	864	880	846	840	841	785	839
23	788	800	818	823	821	827	827	834	836	844	842	839	835	841	858	867	864	857	852	852	852	840	834	834	837
24	833	831	833	834	831	808	811	819	830	836	839	840	840	842	841	839	839	841	842	842	842	840	821	829	833
25	824	826	834	835	834	835	834	836	839	839	841	841	841	838	838	841	841	841	841	839	839	838	836	835	837
26 q	835	835	835	835	835	835	835	836	836	839	839	838	837	837	836	837	839	839	839	838	837	836	835	835	837
27 q	834	833	830	830	831	833	834	835	836	839	839	835	834	830	830	830	832	832	835	835	835	835	835	833	834
28	832	830	830	829	829	829	828	829	828	828	830	832	832	830	829	829	834	838	849	855	845	843	842	846	834
29	840	839	830	830	830	832	834	835	835	836	837	839	834	831	830	830	830	832	832	835	837	844	850	849	835
30 q	841	838	834	832	830	829	830	831	833	838	840	840	839	834	831	832	835	836	836	835	835	835	835	835	835
31	834	832	831	827	822	823	824	828	830	838	836	840	840	840	839	839	836	836	835	834	834	835	836	837	834
Mean	835	832	829	829	826	826	827	830	832	836	837	838	837	838	840	842	843	844	846	845	841	839	837	836	836

Corrections to be applied to all values: H, −6γ; D, −4·0′; V, −23γ.

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

7 LERWICK — JANUARY 1939

	TERRESTRIAL MAGNETIC ELEMENTS																		Magnetic character of day (0-2)	Temperature in magnet house 200 +
	Horizontal force						Declination						Vertical force						$\frac{HR_H + VR_V}{10{,}000\gamma^2}$ §	
	Maximum 14,000γ +			Minimum 14,000γ +		Range	Maximum 12° +			Minimum 12° +		Range	Maximum 46,000γ +			Minimum 46,000γ +		Range		
	h. m.		γ	h. m.		γ	h. m.	′	′	h. m.		′	h. m.		γ	h. m.		γ		°A
1 q	8 0		425	0 8		23	12 53	33·5	27·8	0 0		5·7	21 40		844	6 25		13	94	0	75·2
2	5 40		429	12 34		24	15 11	36·5	29·2	7 59		7·3	16 5		838	6 42		15	105	0	75·0
3 q	4 17		425	14 48		21	2 0	34·9	29·0	21 10		5·9	15 3		839	2 30		17	110	0	74·6
4	19 59		427	10 39		26	16 20	33·8	28·9	9 34		4·9	15 59		837	6 57		9	79	0	74·1
5 d	21 50		473	23 26		79	16 47	38·3	19·8	21 50		18·5	18 58		853	22 26		80	488	1	73·6
6	21 42		425	12 0		34	18 6	40·5	19·9	21 37		20·6	19 45		862	2 49		36	217	0	73·2
7	20 29		431	10 25		38	12 5	35·8	23·0	20 50		12·8	19 43		855	20 38		47	275	0	73·1
8	19 39		434	20 4		60	19 57	41·8	17·0	20 29		24·8	19 35		845	20 14		46	301	1	73·9
9 d	21 54		450	11 30		70	20 38	36·6	16·1	21 47		20·5	21 18		863	22 20		44	307	1	75·1
10	4 47		435	12 58		60	12 36	38·3	21·3	21 30		17·0	20 31		859	4 50		67	400	0	75·5
11	21 3		456	21 26		72	21 18	38·1	16·8	20 49		21·3	20 31		865	4 20		49	333	1	75·2
12	19 47		421	0 4		27	12 48	35·9	24·8	0 20		11·1	0 19		855	12 12		26	161	0	75·1
13	23 52		433	10 10		34	12 5	35·4	24·8	23 45		10·6	23 30		849	12 21		18	133	0	75·2
14	6 54		424	22 50		41	13 9	38·7	10·5	21 45		28·2	15 43		861	1 0		40	246	0	75·1
15	5 4		423	12 23		38	14 28	36·2	29·3	3 4		6·9	15 2		846	5 6		39	238	0	74·7
16	20 32		447	20 49		76	20 44	38·7	19·9	20 24		18·8	22 16		880	20 44		79	479	1	75·0
17 d	21 45		422	1 55		89	1 59	41·0	11·7	2 22		29·3	0 30		864	2 18		152	839	1	75·4
18	22 31		423	6 55		35	6 58	42·2	20·5	1 19		21·7	0 15		855	5 54		55	307	0	75·6
19	21 44		422	23 40		34	14 37	32·6	22·2	23 51		10·4	20 52		844	23 50		33	203	0	75·5
20	6 48		431	1 17		57	6 24	35·6	20·8	2 43		14·8	20 37		862	1 36		113	611	1	75·7
21 d	18 22		431	13 44		52	16 19	39·7	10·7	18 27		29·0	18 26		973	2 55		165	847	1	76·3
22 d	5 10		425	23 0		49	4 54	34·4	6·1	22 38		28·3	19 4		900	23 41		136	707	1	77·0
23	22 56		418	14 30		42	13 59	35·4	19·8	0 35		15·6	15 3		868	0 0		90	481	0	76·9
24	22 8		438	13 54		47	12 23	34·8	24·8	22 36		10·0	13 56		845	5 45		41	260	0	76·6
25	5 1		421	12 19		29	0 30	35·8	28·1	2 46		7·7	12 26		842	0 50		23	150	0	76·0
26 q	6 5		421	13 8		22	12 40	33·3	29·2	2 37		4·1	10 25		840	1 49		6	60	0	75·8
27 q	21 10		422	10 50		24	13 22	33·5	28·8	8 51		4·7	10 0		840	15 29		10	82	0	75·5
28	6 49		431	19 15		31	18 22	35·2	17·3	24 0		17·9	19 15		857	9 17		30	185	0	75·2
29	19 40		421	1 2		42	13 38	32·9	15·1	0 20		17·8	23 6		855	3 13		26	182	0	75·0
30 q	5 21		425	12 33		33	13 45	35·1	26·7	0 55		8·4	0 6		845	5 54		16	123	0	75·0
31	6 8		427	12 36		40	12 47	35·5	28·6	7 40		6·9	11 58		842	4 12		23	166	0	75·2
Mean	− −		430	− −		44	− −	36·5	21·6	− −		14·9	− −		858	− −		50	296	0·29	75·2

§ For explanation see p. 3.

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 1939

	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	413	415	411	410	410	411	411	413	416	419	419	414	414	403	400	404	411	421	426	463	442	435	407	399	416
2	277	267	350	384	392	391	390	391	399	400	393	388	390	398	397	390	395	422	414	384	403	418	415	395	385
3	394	387	387	395	390	392	398	400	402	403	399	394	394	401	402	415	415	414	417	414	415	411	399	399	402
4	398	403	400	397	400	399	399	397	402	403	394	375	391	394	397	393	399	404	405	406	404	403	405	405	399
5	402	404	405	402	401	402	399	402	401	409	398	397	399	403	400	399	399	405	409	416	425	437	414	405	406
6 d	393	388	397	408	409	406	384	406	410	409	372	379	388	530	520	450	544	564	505	314	347	321	205	169	401
7 d	284	252	220	289	331	355	365	377	385	383	373	382	387	388	399	409	408	404	411	404	399	391	391	390	366
8	389	388	389	387	389	390	394	399	400	397	391	381	376	377	383	390	397	402	407	401	405	420	379	395	393
9	394	394	395	393	394	401	405	406	405	400	397	388	382	392	388	395	405	410	397	415	416	407	403	410	400
10	394	397	390	394	395	396	399	403	401	390	388	391	393	389	391	385	412	407	405	400	409	409	408	411	398
11	409	398	362	360	401	412	406	405	410	402	386	378	387	388	395	391	397	400	400	404	405	402	405	405	396
12 q	407	405	408	407	407	407	407	407	407	404	401	399	398	396	393	393	400	402	407	412	414	414	413	413	405
13 q	412	410	408	408	408	409	411	415	416	408	401	399	397	397	401	403	406	413	416	419	413	402	403	409	408
14	411	414	413	413	418	417	422	414	411	407	399	393	391	394	397	404	409	405	406	401	408	417	416	418	408
15	415	422	413	403	414	424	433	422	417	411	406	398	398	399	405	397	403	411	414	413	415	414	417	416	412
16	411	411	407	374	375	405	413	410	403	407	397	394	391	394	397	408	395	400	407	408	408	396	401	407	401
17	409	407	404	405	402	411	415	398	395	387	397	395	389	385	400	397	398	402	404	400	401	408	402	402	401
18	392	406	405	405	407	408	412	399	401	398	397	393	392	388	398	411	399	411	412	407	405	413	416	401	403
19	401	403	402	406	402	405	419	415	407	403	390	385	385	392	394	402	409	411	411	414	413	407	405	408	404
20	407	408	403	401	409	412	412	408	402	393	386	382	386	397	400	396	403	395	401	403	405	414	417	405	402
21 q	408	406	403	405	404	413	413	411	407	398	388	383	385	391	399	406	410	411	414	414	414	415	414	413	405
22 q	414	413	413	414	416	417	415	413	407	404	403	397	395	402	410	413	419	417	411	417	412	413	412	412	411
23	423	403	397	400	405	408	408	408	406	402	399	391	394	413	413	416	423	424	424	425	432	423	420	416	411
24 d	411	402	406	412	419	416	413	405	397	391	396	407	406	391	411	441	535	864	766	554	354	-126	-126	218	398
25 d	31	-275	159	375	331	278	197	175	316	348	440	413	401	414	482	451	483	438	404	395	375	368	354	371	322
26	378	376	372	373	375	376	377	374	365	360	360	356	360	365	366	370	377	386	389	388	387	390	403	390	376
27 q	391	392	391	391	391	392	394	392	390	382	377	374	379	394	379	385	386	394	399	399	400	400	401	401	391
28	400	400	396	396	398	399	400	399	398	393	386	385	379	385	393	424	419	423	400	407	409	399	386	385	398
Mean	381	368	382	393	396	398	397	395	399	397	394	390	390	399	404	405	416	431	424	411	405	386	378	388	397

Corrections to be applied to all values: H, −6γ; D, −4·0′; V, −18γ.

MAGNETIC DECLINATION (WEST)

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

9 LERWICK (D) — 12° + — FEBRUARY 1939

	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	29·2	28·0	27·0	27·7	28·9	29·6	29·3	29·0	29·4	30·5	31·5	32·4	36·1	36·2	38·8	39·2	37·3	36·0	38·2	40·1	34·1	26·2	20·4	19·0	31·4
2	25·2	19·5	16·5	25·8	27·2	26·9	27·5	29·2	29·1	30·5	32·3	32·8	32·7	34·1	33·9	33·3	33·0	38·5	23·9	34·9	31·4	27·8	17·0	24·9	28·7
3	26·7	24·6	23·7	21·0	19·3	22·4	24·8	26·8	28·6	30·3	31·2	32·9	35·4	35·8	35·5	36·3	37·8	36·5	37·8	36·0	35·8	24·7	27·9	28·8	30·0
4	25·7	25·3	25·7	26·3	29·0	28·0	28·2	30·0	29·6	30·0	32·5	32·0	32·8	32·4	33·5	32·2	31·4	31·9	31·3	29·9	29·4	29·4	28·2	27·2	29·7
5	25·9	27·0	25·0	26·7	27·1	27·8	27·0	27·3	27·8	30·4	31·3	33·8	31·0	31·6	33·3	33·9	33·7	31·6	33·2	33·5	34·6	31·1	25·0	29·1	29·9
6 d	27·8	25·7	25·3	28·6	26·2	26·9	35·4	28·1	27·7	30·3	31·9	31·8	31·8	34·9	33·6	32·4	31·7	29·3	37·1	36·9	26·6	23·6	16·1	16·4	29·0
7 d	9·7	3·1	−5·4	8·9	17·4	23·2	27·5	29·4	31·7	34·1	31·8	32·4	34·9	36·7	36·9	35·5	33·5	38·6	26·7	28·8	31·4	27·9	27·1	26·9	26·2
8	23·5	23·1	24·9	27·8	28·5	28·1	28·9	28·9	28·9	28·9	28·9	29·0	30·4	32·2	32·3	31·4	31·6	32·2	32·9	31·9	35·0	30·2	21·5	23·1	28·9
9	25·8	25·0	24·4	25·2	27·0	28·4	28·6	28·8	29·5	30·2	32·9	34·1	33·9	35·5	33·2	32·8	33·9	32·7	27·8	35·0	34·3	25·5	26·1	21·9	29·7
10	18·8	25·4	24·0	23·0	23·9	26·2	28·3	28·9	27·8	28·6	29·7	31·4	36·3	36·4	37·4	35·0	36·0	32·9	30·6	31·3	29·4	30·1	28·7	26·6	29·4
11	24·3	25·4	32·3	28·1	24·3	27·4	30·1	30·0	29·7	29·8	31·3	31·6	33·9	34·3	34·8	32·0	29·9	29·8	28·2	28·1	28·8	28·5	28·4	28·7	29·6
12 q	29·6	29·6	29·4	28·2	28·3	28·6	28·9	29·3	30·1	30·3	30·4	31·0	32·5	33·3	33·1	32·8	32·2	32·2	31·8	30·9	30·3	29·6	29·5	29·3	30·5
13 q	29·3	28·9	29·2	29·1	29·0	28·9	28·8	28·8	29·0	28·9	29·3	30·8	31·8	32·2	32·8	32·3	32·1	31·7	32·6	31·6	31·5	25·8	23·9	29·3	29·9
14	30·0	29·7	30·1	29·2	29·3	29·0	28·0	29·9	29·4	29·5	30·4	32·0	32·2	32·0	32·0	31·2	30·2	30·4	31·1	27·2	29·6	30·1	30·2	30·1	30·1
15	29·3	30·0	19·8	24·5	29·9	27·7	28·3	29·2	29·3	30·3	31·9	33·7	34·0	34·8	36·1	34·2	31·7	32·7	31·6	30·0	27·5	28·9	27·6	27·9	30·0
16	28·7	29·1	30·1	30·0	32·9	28·0	29·9	31·3	29·2	30·2	30·9	33·8	34·8	35·3	33·0	37·2	33·6	26·9	29·8	29·4	28·5	21·8	27·0	29·3	30·4
17	29·4	29·5	28·0	28·6	30·5	30·8	30·0	31·0	34·4	36·2	30·1	31·5	32·5	31·0	35·0	30·7	22·1	30·1	30·2	28·9	16·9	25·1	25·6	30·3	29·5
18	29·8	29·7	27·7	27·8	27·8	28·4	29·7	30·4	33·7	33·1	31·1	32·3	33·7	32·0	30·8	31·9	30·8	29·3	30·1	30·5	28·9	27·2	22·3	17·0	29·4
19	21·9	25·9	27·5	28·1	27·9	31·8	31·5	31·6	29·0	30·3	31·3	33·0	34·6	32·8	32·1	31·4	30·0	30·5	30·6	29·4	17·3	26·2	28·0	28·5	29·2
20	29·0	29·0	30·5	32·3	28·2	27·4	27·5	27·5	26·9	26·8	27·9	30·0	32·2	34·5	33·0	29·1	25·7	29·5	29·5	28·6	28·1	27·2	26·8	28·4	29·0
21 q	28·7	30·2	30·4	30·3	30·9	29·3	28·7	28·3	27·7	27·8	29·4	31·5	32·6	32·8	32·4	31·4	30·7	30·0	29·7	29·6	29·5	29·6	29·3	29·0	30·0
22 q	29·1	29·5	29·6	29·7	29·4	28·4	27·9	27·9	27·9	29·5	32·2	33·3	34·3	34·3	33·8	33·4	32·7	33·0	32·2	32·7	31·8	30·4	28·6	28·8	30·9
23	29·1	23·5	19·9	22·7	25·5	25·4	26·9	27·5	27·9	28·9	30·9	32·1	32·9	35·5	34·3	34·2	35·1	34·7	34·9	34·4	34·3	26·0	25·8	26·5	29·5
24 d	24·1	22·8	22·4	19·1	24·3	26·8	27·6	27·5	26·9	28·1	31·5	34·9	37·7	38·6	41·3	41·4	40·1	42·7	63·9	73·1	63·7	−6·6	8·4	24·1	32·7
25 d	11·6	−36·1	−0·1	19·2	21·7	28·0	42·5	47·4	33·2	30·0	32·9	35·7	37·0	36·8	30·9	27·8	33·0	38·8	27·2	29·9	24·6	25·6	26·1	25·1	26·2
26	26·3	27·2	26·5	25·6	26·6	26·1	26·5	26·3	26·1	26·8	28·4	30·4	31·3	31·5	30·2	29·2	29·2	29·2	29·5	29·0	29·1	29·3	24·0	26·1	27·9
27 q	26·6	26·8	26·8	26·8	26·9	26·9	26·9	27·1	26·7	27·2	28·4	29·9	32·0	34·9	31·5	31·2	30·2	29·8	29·7	29·3	29·0	28·5	28·0	26·6	28·7
28	27·3	27·3	27·2	27·5	27·4	26·9	26·7	26·0	25·9	27·0	27·2	31·2	31·6	34·0	34·9	37·3	34·9	32·1	30·4	30·5	30·7	24·9	21·3	23·8	28·9
Mean	25·8	23·7	24·2	26·0	27·0	27·6	29·0	29·4	29·0	29·8	30·7	32·2	33·5	34·2	33·9	33·2	32·3	32·6	32·2	32·9	30·8	26·2	25·0	26·2	29·5

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

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT

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

10 LERWICK (V) — 46,000γ (0·46 C.G.S. unit) + — FEBRUARY 1939

	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	838	834	833	833	831	830	830	830	829	829	829	831	834	841	845	841	841	839	864	929	961	941	890	865	853
2	874	782	788	803	834	842	841	839	842	847	845	846	845	848	853	853	853	862	923	900	919	899	890	851	853
3	852	852	843	829	792	795	814	825	831	835	839	844	848	848	854	858	859	858	864	868	872	866	864	861	845
4	861	858	854	851	848	846	843	840	837	841	843	853	852	848	850	855	852	851	847	847	848	845	840	833	848
5	836	837	840	842	841	833	830	830	830	827	834	836	841	845	851	856	858	859	853	851	875	907	868	864	848
6 d	827	827	821	836	840	825	797	807	822	827	847	870	899	952	952	931	990	983	918	865	883	886	834	750	866
7 d	753	745	728	751	763	791	817	831	839	843	853	853	863	887	886	896	917	921	920	906	905	886	872	857	845
8	844	848	851	854	857	857	855	853	853	852	852	852	853	852	852	852	853	854	857	877	889	896	882	869	859
9	863	860	857	855	853	847	846	846	846	845	842	846	849	845	842	843	854	856	899	916	934	913	893	862	863
10	863	852	837	815	825	840	848	852	854	857	854	852	851	851	846	852	861	934	937	893	865	849	837	807	855
11	774	810	782	714	787	815	829	837	842	847	854	865	865	859	857	858	856	852	854	854	852	849	847	844	833
12 q	841	841	838	839	841	842	842	842	840	840	842	841	838	839	841	844	845	847	846	846	844	843	843	842	842
13 q	842	842	841	838	838	837	837	835	834	838	840	837	837	837	837	838	838	838	837	838	846	858	851	842	840
14	837	834	830	831	830	831	829	830	831	835	837	840	844	843	843	840	842	848	846	856	848	841	838	837	839
15	836	809	796	813	811	810	814	823	827	833	837	838	838	839	847	854	859	849	847	847	845	844	840	837	833
16	839	839	834	788	741	789	816	818	828	831	835	838	841	846	874	873	890	883	864	858	854	845	836	837	837
17	840	841	838	837	836	823	823	826	829	831	842	848	861	875	884	901	899	864	849	849	856	835	834	825	848
18	794	808	829	832	832	831	828	831	830	830	832	834	835	840	843	846	857	851	846	846	845	830	789	792	830
19	812	818	824	828	825	807	804	808	820	825	829	835	841	850	854	851	852	848	842	839	848	838	837	835	832
20	836	834	830	820	824	831	833	835	837	838	837	836	833	837	842	854	870	868	858	854	847	835	825	826	839
21 q	825	828	833	835	838	838	839	837	835	831	829	828	827	830	833	837	839	839	838	838	837	836	835	834	834
22 q	834	835	837	838	838	837	837	836	835	832	827	830	829	829	832	836	842	846	847	843	849	849	848	844	838
23	824	807	817	830	835	836	836	833	833	833	833	833	832	827	829	831	836	841	842	845	856	883	855	843	836
24 d	832	825	817	821	832	838	839	840	837	831	823	818	822	834	844	889	969	838	710	627	705	803	863	961	826
25 d	1010	863	842	833	862	850	817	843	852	887	895	889	903	906	953	945	966	996	962	930	925	839	803	835	892
26	855	863	866	864	862	862	862	866	868	870	866	860	859	859	857	859	857	860	861	862	866	872	848	832	861
27 q	844	850	853	851	851	851	850	850	849	846	845	843	843	850	856	851	851	851	851	851	853	855	853	850	850
28	848	844	845	842	839	842	843	844	844	839	840	838	838	838	841	853	886	947	914	909	916	889	875	853	861
Mean	841	832	829	826	829	831	832	835	838	840	842	844	847	852	857	861	871	871	864	859	866	862	850	842	847

Corrections to be applied to all values: H, −6γ; D, −4·0′; V, −18γ.

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

11 LERWICK — FEBRUARY 1939

	TERRESTRIAL MAGNETIC ELEMENTS																$\frac{HR_H + VR_V}{10{,}000\gamma^2}$ §	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.	′		′	h. m.	′	h. m.	γ		γ	h. m.	γ				°A
1 d	19 41	513		359	22 56	154	19 54	52·2		14·1	23 26	38·1	20 32	982		828	1 46	154	943	1		75·5
2	18 9	485		197	0 51	288	17 45	43·9		8·9	22 43	35·0	18 13	989		745	1 40	244	1557	1		75·7
3	21 5	445		380	3 15	65	18 20	40·3		17·4	4 20	22·9	21 8	890		781	4 50	109	604	1		75·8
4	22 50	413		365	11 33	48	10 56	45·4		22·4	3 15	23·0	0 26	866		832	23 45	34	228	0		76·2
5	21 51	461		389	22 34	72	21 34	42·9		17·6	22 14	25·3	21 46	940		825	9 42	115	642	1		77·2
6 d	14 1	733		63	22 21	670	18 43	114·7		−6·2	22 39	120·9	16 49	1027		635	23 35	392	2800	2		78·2
7 d	18 53	425		166	2 30	259	17 21	40·5		−10·2	2 52	50·7	18 35	955		699	2 21	256	1571	2		78·9
8	21 25	462		365	22 27	97	20 50	42·6		19·2	22 30	23·4	21 25	920		842	0 35	78	505	1		79·3
9	21 7	454		375	22 0	79	19 42	44·7		14·0	23 56	30·7	20 23	942		841	14 58	101	587	1		79·4
10	17 20	425		380	0 13	45	17 17	41·8		14·2	0 18	27·6	17 27	958		765	24 0	193	968	1		79·3
11	5 58	422		335	2 49	87	2 56	43·6		20·2	3 58	23·4	11 41	867		689	3 22	178	958	1		79·4
12 q	21 19	416		386	15 1	30	13 0	34·3		27·7	3 37	6·6	17 55	848		837	2 50	11	94	0		79·8
13 q	20 11	424		396	12 55	28	18 2	33·3		19·9	21 54	13·4	21 52	867		833	8 29	34	199	0		79·7
14	6 29	425		386	12 54	39	14 4	34·0		23·2	19 32	10·8	19 28	865		826	3 0	39	239	0		78·8
15	6 34	442		387	15 8	55	13 49	39·0		16·9	2 50	22·1	16 20	865		782	1 53	83	467	0		78·8
16	15 45	427		309	4 0	118	4 4	42·6		16·7	21 32	25·9	17 16	901		733	4 19	168	956	1		79·1
17	6 2	422		367	16 20	55	14 37	36·9		7·9	20 28	29·0	16 35	912		812	24 0	100	547	1		78·2
18	21 55	446		382	23 12	64	8 48	37·9		11·9	23 49	26·0	16 49	861		783	0 28	78	457	1		77·0
19	20 35	424		375	12 58	49	12 29	36·4		11·7	20 33	24·7	20 17	857		794	5 51	63	366	0		76·8
20	21 57	425		380	11 11	45	3 16	35·2		22·0	16 4	13·2	17 9	874		816	3 51	58	336	0		77·0
21 q	18 58	416		380	11 29	36	12 51	33·3		27·0	8 48	6·3	6 2	841		823	0 11	18	136	0		77·1
22 q	17 10	423		390	11 46	33	13 44	35·9		27·3	8 16	8·6	20 32	853		826	11 0	27	174	0		77·7
23	0 26	437		390	11 25	47	13 45	38·3		17·9	2 42	20·4	21 26	897		804	1 17	93	503	1		78·0
24 d	17 29	1077		−602	21 45	1679	19 16	116·0		−100·8	21 44	216·8	22 56	1098		434	19 52	664	5526	2		77·6
25 d	14 52	589		−573	1 40	1162	7 15	52·3		−76·6	1 39	128·9	0 18	1152		692	1 31	460	3826	2		77·4
26	22 23	427		354	11 29	73	13 25	32·3		18·1	22 52	14·2	22 10	878		828	23 47	50	339	0		77·4
27 q	23 4	411		370	14 26	41	13 38	36·6		25·8	8 10	10·8	14 30	859		833	0 0	26	181	0		76·9
28	17 10	456		378	12 27	78	17 23	41·0		18·1	22 15	22·9	17 27	966		836	4 40	130	720	1		76·6
Mean	− −	476		280	− −	196	− −	45·3		8·8	− −	36·5	− −	919		777	− −	141	944	0·75		77·8

§ For explanation see p. 3.

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 1939

	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	388	365	363	389	393	400	399	402	393	374	378	378	378	411	395	439	438	422	439	435	454	442	452	368	404
2	373	359	319	213	341	352	368	385	386	375	378	376	377	385	394	394	391	395	398	401	398	401	397	397	373
3	378	393	392	384	388	387	403	407	407	386	384	384	391	413	418	421	426	395	399	391	386	363	339	411	394
4	290	292	175	304	345	376	364	382	364	370	357	356	361	386	414	424	432	428	421	407	390	335	352	357	362
5	366	392	386	398	397	399	401	395	384	369	364	366	373	392	394	411	411	412	437	420	400	408	415	388	395
6	395	397	396	393	395	404	396	401	386	357	357	363	390	384	395	417	406	405	406	414	407	397	394	395	394
7 q	393	407	387	390	392	398	400	399	389	380	381	376	378	386	400	405	405	404	412	412	408	409	408	398	397
8	395	400	403	402	366	404	398	391	386	385	379	378	383	394	401	402	409	424	412	411	414	417	419	416	400
9	411	409	406	400	405	417	425	409	370	379	386	381	382	386	383	404	400	418	410	421	420	405	408	403	402
10	403	394	394	401	403	405	404	399	401	392	387	386	382	380	398	390	406	401	410	414	420	414	402	409	400
11	408	406	404	405	407	412	416	398	403	385	373	377	386	396	395	423	421	411	407	411	414	407	390	361	401
12	416	398	401	396	394	408	415	402	398	390	385	383	385	387	407	411	393	402	409	407	402	404	405	403	400
13 q	395	402	404	406	407	409	410	409	393	363	360	365	383	389	387	392	399	403	411	414	414	414	416	414	398
14	414	413	415	418	415	416	418	417	412	402	395	398	386	395	406	409	401	405	416	413	411	411	417	412	409
15	412	414	412	412	412	412	416	413	402	395	398	380	383	404	408	424	404	396	414	415	418	414	415	413	408
16	410	406	381	363	407	414	411	411	397	365	359	380	399	397	411	411	418	414	415	410	427	411	396	380	400
17	389	401	403	389	388	389	380	390	385	380	376	374	378	386	402	401	408	411	414	418	420	410	414	416	397
18 q	429	407	404	407	410	410	413	411	402	386	381	378	380	389	398	403	404	409	414	417	416	415	414	415	405
19 q	412	412	409	410	412	412	412	410	403	392	385	383	387	394	402	408	412	412	414	426	421	420	423	421	408
20	415	416	390	415	415	420	422	417	404	391	383	386	393	403	410	415	423	404	413	416	415	415	415	419	409
21	420	420	418	419	419	421	427	407	390	386	350	351	373	378	386	396	400	417	455	429	412	408	407	404	404
22 d	406	408	399	374	390	392	398	403	392	363	349	349	373	372	382	441	474	433	448	409	407	382	405	388	397
23	387	357	294	356	384	395	398	395	392	366	371	376	376	390	420	421	422	402	404	416	409	436	385	392	389
24	412	406	398	399	400	399	403	400	387	377	373	369	376	396	415	414	413	421	423	413	411	424	408	412	402
25 q	405	400	401	407	403	414	413	404	394	384	383	382	382	385	381	394	408	411	414	417	417	416	409	415	402
26	403	405	395	410	408	410	407	409	403	387	383	374	373	377	403	412	421	430	445	429	425	399	408	417	406
27 d	407	403	335	368	411	424	428	412	401	383	372	366	374	386	398	416	442	455	550	469	506	415	306	388	409
28 d	374	343	383	406	403	387	396	390	369	357	342	363	373	390	548	684	844	714	597	265	250	196	143	173	404
29 d	167	13	228	158	292	357	326	306	340	357	393	403	425	420	501	516	480	441	454	390	335	310	294	322	343
30 d	331	304	287	314	338	342	374	385	380	375	373	376	383	400	426	441	475	499	446	437	346	382	325	378	380
31	256	289	298	288	393	395	390	382	378	375	360	364	377	379	399	403	391	409	424	427	413	401	397	386	374
Mean	383	375	370	374	395	399	401	398	390	378	374	375	382	391	409	424	432	426	430	412	406	396	383	389	396

Corrections to be applied to all values: H, −6γ; D, −4·0′; V, −17γ.

MAGNETIC DECLINATION (WEST)

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

13 LERWICK (D) — 12° + — MARCH 1939

	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	25·4	31·4	26·9	25·5	25·5	23·3	26·6	25·7	25·6	27·8	29·3	30·8	33·4	38·8	39·2	40·6	41·7	39·0	39·1	38·3	35·4	30·6	22·0	12·1	30·6
2	23·8	22·2	14·8	10·0	14·6	25·9	26·4	26·5	25·1	25·4	27·9	34·0	34·8	38·5	33·5	32·3	30·7	29·8	29·1	30·1	28·6	27·8	27·0	27·2	26·9
3	29·8	29·4	26·7	25·6	26·8	26·2	27·5	26·4	28·4	26·8	30·1	33·6	36·0	40·4	41·3	38·0	32·1	26·4	28·5	26·0	24·2	26·1	24·3	18·0	29·1
4	18·5	14·2	22·1	−1·9	8·4	17·9	23·8	24·7	23·3	29·5	32·2	33·8	34·6	35·4	33·3	31·8	35·1	32·8	27·3	25·9	25·3	26·7	21·8	17·3	24·7
5	19·1	21·4	23·6	23·5	24·6	24·8	26·6	27·7	29·5	29·9	32·4	34·8	36·0	35·8	33·6	35·1	35·2	32·8	32·9	25·1	27·2	28·6	19·0	19·2	28·3
6	23·8	27·4	26·3	26·1	26·4	24·8	26·5	26·4	28·3	32·9	33·2	35·0	37·1	38·4	36·9	36·7	31·7	27·3	30·2	27·9	22·0	21·9	23·2	26·6	29·0
7 q	25·9	25·1	22·7	22·7	27·5	24·4	25·4	25·8	26·3	27·4	30·1	32·5	34·9	34·6	33·7	31·8	30·4	28·7	29·1	30·0	29·8	28·4	28·6	29·3	28·5
8	23·9	17·1	20·7	20·5	22·8	26·7	25·9	25·6	23·4	25·6	28·3	33·3	35·8	36·4	35·9	34·0	32·9	33·2	33·5	29·3	31·9	29·1	29·1	29·1	28·5
9	28·0	26·6	25·9	30·1	26·8	26·1	28·0	29·2	35·0	36·4	33·7	34·1	34·3	34·9	32·5	31·6	30·6	30·6	28·4	22·3	23·9	27·9	27·3	27·6	29·7
10	27·8	25·8	23·1	28·2	27·2	27·4	28·2	26·4	25·9	26·4	27·9	30·4	34·3	34·9	35·0	32·1	30·8	30·0	28·9	29·3	29·0	22·4	25·2	27·6	28·5
11	28·2	27·7	27·3	27·7	27·9	27·9	28·6	28·6	28·9	30·1	31·0	32·3	33·2	35·1	34·3	33·5	24·1	28·8	30·7	30·1	29·6	27·7	24·2	21·6	29·1
12	18·8	22·8	26·0	27·9	29·5	29·1	28·4	28·0	26·0	27·3	27·6	30·4	32·5	33·3	34·6	34·8	33·0	32·0	30·0	19·0	21·9	28·3	24·7	19·1	27·7
13 q	23·6	27·6	27·3	26·8	26·8	27·4	28·0	27·9	29·0	30·8	34·3	32·3	33·5	34·6	33·2	31·7	31·1	30·4	30·0	29·9	30·2	30·2	29·4	28·0	29·7
14	27·2	27·3	26·8	26·7	27·4	27·0	27·0	26·8	27·0	28·0	31·1	35·5	38·4	35·2	33·9	33·6	32·5	30·9	30·9	30·4	29·4	26·7	26·9	29·1	29·8
15	28·9	29·0	27·3	26·7	26·3	27·5	27·9	25·4	26·1	27·7	32·2	33·9	35·6	35·4	32·9	32·3	30·7	25·8	29·9	29·5	27·0	28·0	29·7	27·2	29·3
16	22·4	28·0	30·3	32·6	22·2	25·1	25·8	27·5	30·8	32·5	35·7	33·7	36·6	34·0	32·1	31·2	24·3	25·7	29·5	30·2	22·9	24·8	25·5	34·4	29·1
17	26·7	29·4	24·7	24·4	28·2	29·1	30·6	28·9	25·0	25·5	27·8	30·9	32·9	34·2	35·5	34·1	31·5	30·8	28·6	20·6	25·2	28·5	28·9	27·5	28·7
18 q	28·8	27·3	27·4	27·2	27·1	27·0	26·8	26·1	25·9	27·6	29·1	31·6	32·5	33·5	32·9	31·6	29·8	29·3	29·3	29·3	29·2	28·2	28·8	28·4	28·9
19 q	28·4	28·5	28·2	28·5	27·8	27·8	26·8	25·4	25·3	27·0	29·1	31·5	33·7	34·4	34·1	32·1	30·5	30·2	30·1	29·5	29·7	28·2	23·8	26·2	29·0
20	28·5	28·1	32·6	25·2	24·1	25·2	25·7	24·7	24·0	24·9	27·6	31·6	34·8	35·8	35·3	33·4	32·3	30·3	29·4	29·5	29·5	29·1	29·0	28·2	29·1
21	27·3	27·3	27·0	27·0	27·0	27·6	29·9	31·7	29·0	29·8	30·0	35·1	36·5	36·9	35·2	33·6	30·9	31·4	33·0	23·1	27·5	27·9	29·8	29·2	30·2
22 d	27·8	27·4	27·7	32·6	26·3	20·8	23·3	23·4	23·1	24·4	29·2	31·8	38·5	38·5	37·2	40·7	28·1	31·1	21·1	24·4	22·8	24·1	23·3	22·4	27·9
23	27·6	27·0	31·2	27·1	22·8	26·5	26·6	26·0	24·5	26·7	27·0	30·8	34·4	37·5	38·9	36·1	35·0	32·6	31·0	30·0	26·5	18·2	18·8	24·2	28·6
24	25·6	28·1	26·6	28·3	28·6	28·3	26·8	24·3	24·1	26·1	26·9	30·3	34·5	37·7	33·7	33·0	33·7	31·7	29·7	28·7	28·2	26·5	28·2	28·0	29·1
25 q	27·4	26·9	28·1	27·5	26·2	26·6	26·1	24·7	24·1	25·8	29·2	31·9	34·1	35·5	33·2	32·0	31·8	30·9	29·4	29·2	29·5	29·0	27·2	20·1	28·6
26	20·2	23·0	23·3	25·2	23·5	23·4	24·2	23·4	22·9	26·6	28·7	32·3	37·0	37·8	39·1	38·8	36·9	34·5	22·2	27·7	21·5	18·1	24·2	22·0	27·4
27 d	21·7	30·1	31·3	16·7	12·6	21·4	23·7	25·9	26·0	27·0	28·5	32·6	35·0	36·7	37·4	36·7	36·1	35·6	41·2	25·9	36·4	23·2	19·1	20·1	28·4
28 d	20·3	25·3	24·9	23·4	21·2	23·5	26·0	22·1	22·6	26·8	31·7	34·1	38·6	44·3	42·8	44·6	48·2	42·5	42·1	30·6	24·9	12·5	8·1	4·6	28·6
29 d	−1·9	−7·9	11·1	11·5	23·4	20·9	33·0	27·1	30·8	28·1	29·1	29·6	29·3	32·4	32·1	31·2	21·6	26·3	28·7	34·4	16·7	16·1	21·8	20·1	22·7
30 d	14·1	14·4	24·9	19·2	20·0	21·1	25·1	27·0	24·8	26·5	26·7	29·2	32·3	34·1	33·2	35·3	33·0	26·4	31·5	29·2	26·1	13·9	17·5	20·5	25·3
31	29·1	24·1	19·2	21·3	23·3	23·6	22·7	21·1	22·5	26·2	26·7	30·0	31·6	33·7	36·5	33·1	31·9	31·2	29·1	22·1	25·2	23·1	21·3	15·8	26·0
Mean	24·1	24·6	25·4	24·0	24·3	25·3	26·7	26·1	26·2	27·9	29·8	32·4	34·7	36·1	35·3	34·4	32·2	30·9	30·5	28·0	27·0	25·2	24·4	23·6	28·3

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

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT

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

14 LERWICK (V) — 46,000γ (0·46 C.G.S. unit) + — MARCH 1939

	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	852	840	804	825	842	844	848	851	851	857	854	855	851	853	863	879	916	935	932	956	969	939	940	867	876
2	838	814	700	640	737	815	801	832	850	861	861	866	869	868	875	868	861	856	855	856	863	854	850	851	831
3	836	824	839	845	839	824	810	830	834	841	843	846	848	863	889	902	922	915	887	886	874	846	811	801	852
4	716	714	742	711	718	758	794	828	837	833	843	849	847	861	889	904	901	916	898	862	862	804	745	798	818
5	812	819	833	838	839	844	842	840	843	850	854	847	846	857	860	865	878	883	909	872	869	863	863	843	853
6	849	855	856	850	838	835	838	839	845	849	854	859	877	877	866	878	891	893	863	857	862	849	838	844	857
7 q	847	821	822	839	836	838	844	844	845	849	845	844	840	841	844	850	855	861	856	855	860	859	851	827	845
8	788	794	803	814	791	719	764	799	821	825	834	837	840	838	840	846	848	852	877	885	872	867	857	851	828
9	846	839	835	812	801	813	820	828	837	821	821	828	838	849	856	860	870	890	904	868	839	845	844	844	842
10	840	801	807	828	837	840	845	850	846	845	842	840	845	851	853	852	856	860	852	849	850	841	843	840	842
11	842	844	845	845	845	845	843	849	842	847	845	840	839	846	850	851	903	886	866	854	850	855	841	794	849
12	777	811	830	830	816	824	833	841	845	846	847	847	848	846	848	871	876	869	870	876	866	851	843	795	842
13 q	803	829	841	842	844	843	843	844	846	852	847	851	851	846	850	846	846	845	844	845	845	846	846	846	843
14	845	844	842	840	839	839	839	841	841	843	838	834	839	839	846	856	869	857	854	856	857	856	844	843	846
15	844	840	841	841	840	837	827	827	834	835	834	841	840	838	850	856	891	910	870	862	858	849	846	840	848
16	824	835	827	734	795	814	825	828	832	845	844	840	847	870	866	858	873	868	856	857	839	838	828	761	833
17	715	738	796	816	823	813	804	813	826	831	834	835	838	840	849	859	857	858	862	858	835	835	836	834	825
18 q	814	827	838	840	840	840	839	840	842	846	845	845	845	844	846	851	850	845	842	841	842	843	843	841	841
19 q	844	845	846	843	841	840	840	841	840	839	840	838	834	838	843	846	846	845	841	839	843	842	833	830	841
20	836	835	819	773	819	826	829	835	836	839	835	829	828	829	831	837	846	854	846	841	840	839	839	835	832
21	834	835	837	839	839	836	825	823	822	826	841	841	851	846	846	853	854	850	889	924	881	859	846	842	847
22 d	842	843	835	775	766	781	791	806	818	825	830	845	865	891	882	892	917	923	873	838	843	815	758	794	835
23	812	784	739	721	776	816	836	842	846	849	847	843	841	843	861	905	913	884	857	850	859	800	812	810	831
24	820	823	834	836	839	840	841	843	841	839	839	836	840	847	877	876	862	870	885	887	862	827	812	822	846
25 q	829	835	823	809	829	829	829	833	836	839	835	830	829	828	833	838	844	852	856	852	850	848	849	834	836
26	799	817	827	811	828	835	839	839	840	841	839	839	839	838	839	850	861	879	893	880	892	855	841	802	843
27 d	812	798	695	689	752	791	809	821	826	835	837	838	837	839	842	847	863	890	939	905	903	842	655	760	818
28 d	800	786	786	825	822	835	838	840	843	841	847	835	841	853	905	954	934	930	897	853	933	931	964	756	860
29 d	663	681	677	747	762	791	815	822	835	874	858	889	946	924	919	950	925	906	913	793	746	744	758	754	821
30 d	779	773	785	791	803	812	820	836	855	865	871	864	858	879	887	887	910	896	905	919	858	778	774	811	842
31	746	727	735	754	806	844	853	858	854	858	861	857	857	859	865	887	882	859	865	861	860	852	774	760	831
Mean	810	809	804	800	813	821	827	834	839	843	844	845	849	853	860	870	878	879	876	866	861	844	829	817	840

Corrections to be applied to all values: H, −6γ; D, −4·0′; V, −17γ.

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

15 LERWICK — MARCH 1939

	TERRESTRIAL MAGNETIC ELEMENTS																	$\frac{HR_H + VR_V}{10{,}000\gamma^2}$ §	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.	′		h. m.	′		h. m.	γ		γ	h. m.	γ			°A
1	22 21	501		339	2 0	162	16 56	44·3		0·7	23 4	43·6	22 34	992		795	2 9	197	1155	1	76·8
2	21 45	421		120	3 4	301	13 17	41·3		−0·6	3 26	41·9	14 15	880		582	3 23	298	1828	1	77·0
3	23 44	518		283	22 14	235	23 57	44·7		−0·8	23 40	45·5	16 24	938		703	23 54	235	1438	1	77·4
4	18 43	457		100	2 25	357	0 12	40·1		−11·7	3 34	51·8	18 1	923		657	3 56	266	1759	1	78·1
5	19 1	490		350	0 20	140	13 31	37·6		13·7	22 42	23·9	18 53	934		834	0 54	100	670	1	78·6
6	15 37	427		350	10 9	77	13 31	40·6		17·8	20 52	22·8	16 59	912		833	5 57	79	481	0	78·7
7 q	1 13	425		372	12 4	53	12 43	37·0		20·8	2 11	16·2	21 4	866		807	1 53	59	352	0	78·8
8	17 41	429		337	4 49	92	13 3	38·5		14·3	1 25	24·2	19 16	896		702	5 9	194	1040	1	78·1
9	6 27	441		358	8 34	83	8 27	42·6		13·9	19 5	28·7	18 47	914		784	4 1	130	728	1	77·8
10	21 18	443		368	13 5	75	14 21	36·7		19·0	2 3	17·7	21 13	863		767	1 59	96	557	0	77·4
11	15 54	455		333	23 30	122	13 26	37·9		14·4	16 36	23·5	16 44	923		783	23 38	140	831	1	77·4
12	15 29	435		378	12 1	57	14 52	36·8		10·1	19 47	26·7	15 48	886		768	0 17	118	634	1	77·8
13 q	22 41	421		349	11 10	72	10 37	35·8		18·5	0 0	17·3	12 6	855		789	0 0	66	413	0	77·9
14	22 8	437		377	12 3	60	12 27	40·0		23·2	22 14	16·8	16 21	873		828	11 39	45	297	0	78·3
15	16 2	440		374	11 50	66	13 33	38·2		22·9	17 9	15·3	17 26	929		814	24 0	115	633	1	78·0
16	20 29	455		324	3 10	131	12 44	42·7		11·4	20 21	31·3	17 5	882		714	3 21	168	975	1	77·4
17	19 47	436		358	0 20	78	14 10	37·0		12·6	19 46	24·4	19 25	866		694	1 0	172	917	1	77·4
18 q	0 14	449		372	11 55	77	13 25	34·1		25·3	8 19	8·8	16 11	852		806	0 30	46	326	0	77·3
19 q	19 7	438		381	11 6	57	14 8	35·0		20·5	22 45	14·5	16 1	848		825	22 50	23	190	0	77·8
20	16 11	440		351	2 44	89	2 44	39·3		21·2	3 36	18·1	17 40	857		754	3 19	103	610	1	77·3
21	19 0	484		324	10 51	160	12 53	38·9		19·3	19 12	19·6	19 1	948		817	9 33	131	843	1	77·4
22 d	16 14	512		321	21 50	191	15 19	42·9		9·1	20 45	33·8	16 5	946		743	22 22	203	1225	1	77·3
23	21 8	489		237	2 41	252	14 20	39·8		1·8	21 41	38·0	16 18	921		702	2 44	219	1388	1	77·7
24	21 35	458		362	11 13	96	13 40	39·2		17·0	21 28	22·2	19 47	891		801	22 2	90	559	1	77·7
25 q	23 45	452		376	12 25	76	13 45	36·8		10·0	23 45	26·8	18 47	857		805	3 11	52	352	0	77·6
26	18 15	465		371	12 31	94	14 53	40·1		11·1	20 48	29·0	18 26	906		792	0 20	114	669	1	77·3
27 d	18 56	696		185	22 18	511	22 17	50·8		0·6	22 32	50·2	18 37	978		577	22 15	401	2613	2	77·4
28 d	18 32	955		−14	23 6	969	18 37	78·8		−18·6	23 9	97·4	22 36	1051		497	18 36	554	3988	2	77·1
29 d	15 3	620		−129	1 20	749	19 32	67·1		−20·9	1 16	88·0	15 56	1022		569	1 13	453	3199	2	77·5
30 d	17 10	554		194	20 40	360	20 31	52·1		−17·4	21 4	69·5	20 41	951		745	20 28	206	1482	2	77·8
31	19 23	440		139	0 42	301	0 32	39·3		11·5	22 16	27·8	16 10	891		664	0 37	227	1495	1	78·1
Mean	− −	487		288	− −	198	− −	42·1		9·4	− −	32·8	− −	911		740	− −	171	1085	0·87	77·7

§ For explanation see p. 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 1939

	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	309	346	310	349	352	362	393	388	353	352	367	368	353	374	405	423	449	460	448	416	398	392	385	359	380
2	361	345	379	328	386	406	397	391	381	371	362	357	367	389	408	407	431	435	440	422	423	402	392	402	391
3	404	400	390	376	391	400	397	388	349	356	364	363	372	376	387	425	414	432	431	420	413	402	370	351	390
4	388	395	389	356	400	407	406	389	376	373	372	368	378	393	390	403	403	423	460	470	441	349	355	395	395
5	400	394	374	347	394	408	411	405	388	392	371	367	365	408	376	398	408	412	417	414	413	406	408	408	395
6 q	408	408	407	408	411	412	400	409	398	384	375	376	379	375	391	396	407	414	416	419	418	418	420	421	403
7 q	418	415	415	416	417	420	415	414	403	388	377	359	365	377	389	424	415	407	417	417	414	414	415	419	405
8	417	413	409	408	404	412	413	408	402	391	380	377	379	387	404	413	418	441	456	422	441	424	426	426	411
9	419	402	399	414	416	422	423	415	407	397	385	380	390	390	398	413	427	434	449	433	418	419	404	419	411
10	285	359	403	407	394	390	414	399	351	351	368	377	389	400	419	423	448	431	424	439	414	402	410	346	393
11	325	403	407	399	392	404	408	402	385	364	357	360	375	390	405	404	443	486	495	436	408	390	391	395	401
12	385	362	363	321	380	372	377	364	360	385	372	368	368	393	391	397	408	422	424	421	421	420	414	410	387
13 q	415	400	407	405	403	406	399	368	379	376	362	354	372	368	387	400	406	419	434	427	419	423	415	415	398
14	409	400	385	402	416	410	409	400	389	377	358	363	379	382	396	411	401	421	430	433	430	414	414	415	402
15 q	410	409	408	408	410	409	408	402	396	385	373	376	380	390	402	412	424	420	424	423	419	416	415	414	406
16 q	413	410	407	405	409	410	409	403	390	371	367	365	369	376	382	390	399	408	413	419	422	437	451	448	403
17 d	442	439	455	207	−236	209	182	143	322	362	376	462	462	542	938	936	765	778	499	343	209	133	373	373	405
18 d	371	355	356	351	357	362	358	312	307	356	347	344	409	464	537	612	547	525	471	379	380	343	239	245	389
19	357	329	325	379	372	376	385	396	390	381	370	372	413	448	527	604	600	584	518	469	415	355	343	328	418
20	288	240	298	340	289	354	384	366	338	329	335	357	357	374	421	400	499	492	431	429	408	368	339	318	365
21	364	346	314	367	379	391	380	384	367	345	356	375	368	397	442	473	501	525	445	425	412	378	377	391	396
22	353	301	358	385	388	383	378	371	359	351	346	348	387	427	457	506	538	528	466	398	397	392	370	348	397
23 d	315	373	393	340	334	267	−151	158	287	282	352	469	510	527	721	782	682	543	618	465	392	384	366	337	406
24 d	353	361	367	385	384	376	382	374	359	347	342	340	346	359	376	384	399	480	665	505	−1	77	254	−151	336
25 d	−129	−102	−142	275	346	342	327	300	305	337	354	376	425	378	439	480	502	466	472	431	390	381	367	226	314
26	173	325	323	353	360	384	381	376	367	357	350	345	353	365	383	394	409	398	418	406	397	401	399	393	367
27	393	391	393	392	393	391	390	381	365	351	346	347	358	373	378	415	424	436	424	408	401	415	329	−23	370
28	269	349	358	403	393	378	375	382	369	358	359	353	364	399	403	406	442	441	444	443	430	390	344	363	384
29	394	396	388	337	370	394	387	372	355	348	338	358	361	378	394	422	413	462	460	435	425	404	398	380	390
30	384	385	388	396	398	393	386	378	369	362	358	360	382	399	422	416	443	472	459	435	413	402	398	399	400
Mean	350	358	361	369	363	382	367	368	366	363	361	369	383	400	439	459	462	467	459	427	393	378	379	346	390

Corrections to be applied to all values: H, −6γ; D, −4·0′; V, −17γ.

MAGNETIC DECLINATION (WEST)

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

17 LERWICK (D) — 12° + — APRIL 1939

	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	12·7	13·7	12·3	20·9	24·0	27·2	31·5	32·4	31·3	34·6	32·9	33·9	34·1	35·5	38·0	32·1	35·2	27·2	30·5	20·8	23·3	21·0	21·3	26·2	27·2
2	20·5	17·2	16·5	20·6	28·5	27·5	24·9	23·7	23·6	26·1	29·2	31·7	34·5	35·4	34·7	35·8	35·8	26·2	26·2	27·9	25·1	23·8	20·1	15·3	26·3
3	23·4	24·0	24·6	19·5	19·1	23·8	23·9	22·7	27·1	30·1	28·6	31·7	35·4	37·2	36·5	38·0	34·9	33·1	24·6	24·3	27·2	24·1	21·3	22·0	27·4
4	15·1	20·5	22·2	28·1	20·3	22·1	24·9	24·8	26·2	28·7	29·3	30·6	32·4	34·7	34·2	33·3	32·3	32·1	34·0	33·1	35·1	18·0	21·4	23·4	27·4
5	25·8	26·7	22·6	30·6	30·2	25·2	24·0	23·7	23·2	23·7	27·9	33·1	36·3	40·5	37·8	34·7	31·3	30·0	29·1	28·6	29·0	27·7	28·2	27·7	29·1
6 q	27·3	26·9	27·1	27·2	27·9	29·0	27·5	25·6	24·8	24·3	24·7	27·6	32·8	34·6	34·1	32·3	30·5	29·6	29·4	28·9	29·0	28·8	28·5	27·9	28·6
7 q	27·2	27·4	28·0	25·9	26·0	26·3	26·9	28·6	26·9	23·3	24·4	28·0	32·4	35·9	36·0	35·8	33·1	31·0	29·5	29·5	28·0	27·8	28·6	28·3	28·9
8	27·7	28·0	27·6	27·1	26·3	27·8	26·0	24·9	25·0	26·5	27·5	31·1	35·6	37·9	37·2	33·8	31·3	31·5	29·1	28·8	30·0	24·3	31·1	26·1	29·3
9	27·6	27·3	29·3	24·2	23·4	23·7	23·7	26·0	24·7	26·7	29·2	31·4	35·5	36·5	35·5	33·1	31·4	31·2	17·0	27·8	28·2	24·9	25·0	24·0	27·8
10	32·4	20·6	20·1	23·0	26·2	29·5	27·9	23·9	24·8	32·0	30·6	30·6	33·5	28·4	32·2	29·1	26·2	27·9	28·4	15·1	25·7	28·2	29·1	39·5	27·7
11	25·7	23·2	24·4	25·5	27·6	25·4	23·1	23·1	27·1	27·5	30·4	30·7	33·2	36·1	33·1	29·2	26·8	21·3	18·2	26·2	18·2	25·3	22·4	23·7	26·1
12	27·9	31·9	29·4	34·1	27·6	28·9	27·2	27·0	25·6	27·6	28·5	30·4	33·0	30·9	30·0	29·3	28·3	28·4	28·8	29·1	29·2	24·7	25·7	25·4	28·7
13 q	29·5	31·2	25·4	23·8	23·9	24·6	24·8	25·9	24·5	25·2	27·0	29·2	34·1	35·7	35·1	32·8	31·8	30·3	27·0	26·0	27·5	28·3	27·9	28·9	28·3
14	28·6	30·5	30·1	28·6	25·6	23·4	23·7	23·0	23·0	24·3	28·8	33·2	36·8	38·4	37·0	34·7	31·8	29·5	29·4	28·9	27·2	26·0	24·7	24·1	28·8
15 q	28·1	28·8	28·6	27·5	25·8	24·6	24·0	23·6	22·4	24·7	27·4	29·6	32·2	34·0	33·6	30·7	29·5	28·1	27·9	27·8	25·8	27·7	29·1	29·0	27·9
16 q	29·3	28·7	28·0	27·1	26·3	24·3	23·8	23·5	23·1	23·3	26·4	29·9	33·0	34·7	34·2	32·5	30·8	29·7	29·1	29·0	29·1	30·2	31·0	28·2	28·5
17 d	28·8	26·0	21·9	20·1	−7·4	−1·4	−8·9	11·7	7·1	14·4	22·4	30·3	35·5	42·9	46·1	72·6	48·1	50·9	35·3	34·7	40·6	37·8	22·9	26·4	27·5
18 d	26·7	26·3	25·9	25·0	23·7	22·0	19·4	15·2	20·5	27·2	28·7	30·7	30·9	33·9	35·7	37·0	38·7	33·0	36·7	25·8	25·3	26·1	17·2	8·1	26·7
19	18·7	16·9	18·1	21·3	23·6	24·2	26·7	22·9	20·8	23·0	27·4	32·7	39·1	39·1	34·9	36·5	39·3	34·5	36·7	32·8	30·8	21·2	25·2	20·2	27·8
20	23·0	26·1	26·0	13·9	18·9	21·3	22·6	20·2	22·1	28·8	31·4	36·1	36·4	35·2	35·4	32·7	30·5	33·6	28·7	27·2	22·8	22·4	21·1	18·1	26·4
21	17·7	20·7	26·2	22·8	22·9	27·5	30·5	25·3	21·2	24·8	27·9	30·6	32·5	35·0	33·7	32·5	33·7	29·4	27·9	30·0	27·1	28·5	29·3	21·0	27·4
22	21·2	21·2	18·0	20·8	25·0	24·2	22·3	22·8	22·5	24·1	26·8	31·0	37·1	39·2	40·1	40·2	40·8	40·9	27·8	30·2	28·9	27·3	22·9	17·5	28·0
23 d	24·1	21·3	20·9	20·1	25·8	26·7	21·1	0·6	7·4	23·1	22·9	25·2	33·8	39·9	36·2	48·1	36·5	42·2	41·6	29·3	32·9	30·8	30·5	31·9	28·0
24 d	31·6	26·1	25·3	23·9	23·0	23·2	21·8	20·2	18·8	20·2	24·5	28·5	32·5	34·4	33·4	32·5	32·0	33·2	28·1	47·7	22·6	22·2	36·1	10·1	27·2
25 d	4·1	1·6	29·1	15·2	18·0	15·5	14·9	16·7	25·3	27·5	28·2	26·2	30·5	35·3	36·1	26·5	26·8	30·9	27·5	29·1	26·0	25·3	22·0	15·4	23·1
26	20·6	29·1	28·7	26·9	24·3	20·8	19·5	19·2	20·1	22·6	25·5	29·3	33·3	35·7	35·2	33·6	31·4	28·3	26·0	27·0	26·3	26·7	27·6	26·6	26·8
27	26·5	26·0	25·5	25·0	24·3	22·7	20·9	20·1	19·6	22·4	27·1	31·3	35·1	35·7	33·1	32·5	30·8	27·1	26·8	27·0	27·3	30·5	13·1	−4·1	25·3
28	10·1	21·2	23·0	18·6	17·0	19·9	21·2	21·7	21·1	24·1	27·1	30·4	32·8	35·0	32·6	29·3	30·9	30·3	28·6	25·1	23·0	22·9	20·5	26·3	24·7
29	25·7	25·2	24·3	27·3	23·2	19·7	19·7	17·1	18·0	20·2	25·3	30·1	33·0	33·3	31·5	31·8	30·8	31·0	29·6	25·9	26·2	27·2	28·3	26·5	26·3
30	25·9	27·8	26·6	25·0	23·3	22·1	21·7	22·1	23·3	24·9	27·1	29·7	33·4	34·7	35·0	33·0	32·7	34·1	28·8	29·9	28·5	28·8	28·1	27·7	28·1
Mean	23·8	24·1	24·5	24·0	23·1	23·4	22·7	21·9	22·4	25·2	27·5	30·5	34·0	35·9	35·3	34·9	32·8	31·5	28·9	28·5	27·5	26·3	25·3	23·0	27·4

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

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT

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

18 LERWICK (V) — 46,000γ (0·46 C.G.S. unit) + — APRIL 1939

	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	716	713	716	765	788	743	770	804	828	828	835	847	852	851	866	898	899	898	891	865	854	851	838	757	820
2	757	742	754	755	790	805	826	838	845	851	856	860	855	864	872	867	879	889	873	869	841	837	812	745	828
3	778	818	816	803	812	831	840	845	852	845	848	851	852	862	860	867	882	882	893	881	865	842	802	781	842
4	807	830	842	796	791	818	824	834	841	843	844	844	842	843	850	850	850	845	853	888	856	812	778	792	832
5	830	823	818	798	817	831	836	842	845	844	850	848	842	851	863	860	863	856	854	851	849	849	845	845	842
6 q	846	848	850	848	848	841	845	843	844	844	842	838	840	842	844	849	850	848	848	848	846	843	841	839	845
7 q	841	844	843	842	843	842	841	841	844	844	844	843	835	832	835	838	857	862	861	857	855	848	841	838	845
8	839	840	842	845	846	843	844	846	846	845	843	844	842	844	848	856	866	882	901	908	862	867	851	841	854
9	844	833	789	815	833	839	840	841	841	841	840	840	842	848	853	862	868	873	892	866	859	831	824	803	842
10	689	748	806	826	815	797	805	824	841	835	837	845	857	912	905	905	903	891	894	867	841	843	817	701	833
11	671	791	827	831	833	831	840	842	843	857	863	867	862	859	866	880	887	884	858	873	859	767	768	809	836
12	819	808	795	773	809	813	820	837	844	854	868	863	864	871	862	855	853	852	854	852	851	851	839	828	839
13 q	816	812	828	841	843	840	843	847	844	844	845	842	838	846	847	854	853	851	859	871	860	838	840	843	844
14	845	835	816	803	819	833	838	843	843	842	845	842	838	847	849	850	860	862	859	863	856	849	848	843	843
15 q	845	846	844	843	842	839	840	843	843	839	842	842	842	846	855	862	865	865	860	857	855	850	845	842	848
16 q	841	845	846	846	844	845	844	845	846	849	846	840	836	840	842	842	841	840	841	840	841	836	832	831	842
17 d	810	816	796	704	692	681	680	696	692	779	796	853	883	893	811	785	944	882	925	791	691	759	815	850	793
18 d	859	873	863	868	872	871	871	878	868	853	860	858	876	910	924	890	901	908	872	839	836	808	710	623	854
19	728	764	768	818	851	847	832	831	841	849	851	850	853	880	970	1006	989	866	891	928	915	862	810	792	858
20	740	727	716	761	745	755	812	837	854	874	877	888	893	885	903	933	934	925	927	903	894	843	783	741	840
21	752	759	725	777	809	804	804	823	844	857	854	873	899	913	946	950	947	952	943	914	902	841	843	839	857
22	821	805	825	833	858	867	872	874	872	868	865	858	850	865	893	924	975	985	911	849	858	857	832	799	867
23 d	724	714	780	755	731	708	591	605	707	787	810	881	960	973	1030	955	1032	1013	994	918	885	867	861	792	836
24 d	770	819	841	859	871	874	873	873	873	871	870	866	862	857	859	858	857	852	837	847	967	913	944	968	870
25 d	853	942	958	767	831	876	891	895	873	880	897	931	937	920	917	935	920	920	920	872	888	859	826	749	886
26	728	784	799	813	836	859	870	873	871	870	867	861	857	854	854	857	867	878	879	877	873	867	853	851	850
27	857	859	859	863	864	867	867	865	862	859	854	851	845	842	848	851	865	886	890	879	870	834	709	513	840
28	613	748	762	790	829	830	830	838	850	859	865	869	871	872	888	887	870	872	877	882	870	842	792	772	832
29	820	854	858	826	802	841	856	855	854	855	854	848	852	854	858	859	859	855	872	877	872	866	853	812	851
30	807	813	837	848	856	858	858	857	856	854	854	848	844	852	856	870	868	883	906	883	879	872	866	858	858
Mean	789	808	814	810	821	824	827	834	840	847	851	856	861	868	876	879	890	885	885	871	862	843	824	797	844

Corrections to be applied to all values: H, −6γ; D, −4·0′; V, −17γ.

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

19 LERWICK — APRIL 1939

	TERRESTRIAL MAGNETIC ELEMENTS												$\frac{HR_H + VR_V}{10{,}000\gamma^2}$ §	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.	′	′	h. m.	γ	γ	h. m.	γ			°A
1	19 12	507	262	0 57	245	14 49	39·8	9·0	19 9	30·8	17 10	947	689	0 57	258	1560	1	78·0
2	18 5	468	303	3 27	165	16 9	37·3	4·7	23 12	32·6	17 13	894	734	1 26	160	987	1	78·7
3	18 46	447	326	23 12	121	15 37	39·2	16·8	22 55	22·4	18 32	902	733	0 0	169	965	1	78·7
4	19 50	548	292	21 41	256	20 13	34·8	12·3	0 15	22·5	19 27	919	765	22 2	154	1090	1	78·6
5	13 15	428	315	3 30	113	13 15	42·0	19·7	6 18	22·3	14 9	868	767	3 30	101	636	1	78·2
6 q	23 53	428	366	13 8	62	12 54	35·8	22·2	7 37	13·6	17 11	852	835	11 56	17	169	0	77·8
7 q	15 29	437	353	11 44	84	15 29	37·1	21·1	8 23	16·0	17 27	865	831	13 26	34	280	0	77·5
8	18 29	483	371	12 17	112	13 24	38·5	17·5	21 11	21·0	19 4	925	835	23 38	90	582	1	77·9
9	19 2	473	371	13 17	102	13 33	39·2	7·2	18 48	32·0	18 21	906	772	2 34	134	774	1	78·3
10	16 11	483	128	0 55	355	23 43	52·1	−1·8	19 36	53·9	13 55	930	565	23 59	365	2219	1	78·3
11	17 50	558	205	0 5	353	0 0	43·3	3·7	17 44	39·6	17 38	904	566	0 4	338	2090	1	79·1
12	22 41	439	293	3 25	146	3 38	39·1	19·1	21 52	20·0	10 54	877	763	3 36	114	744	1	79·7
13 q	18 31	447	349	11 39	98	13 34	36·4	23·1	3 3	13·3	19 40	877	803	0 54	74	487	0	80·3
14	18 58	445	349	10 46	96	13 0	40·1	20·1	22 58	20·0	19 53	867	796	3 21	71	470	0	81·0
15 q	19 5	429	370	10 13	59	14 15	34·7	21·6	8 23	13·1	17 13	866	837	5 10	29	221	0	81·9
16 q	22 28	463	363	11 9	100	13 29	35·0	22·3	9 9	12·7	9 28	850	823	24 0	27	270	0	81·6
17 d	14 42	1155	−436	4 16	1591	15 10	103·4	−37·3	6 22	140·7	16 34	1008	479	21 1	529	4767	2	81·2
18 d	15 15	657	141	23 34	516	18 20	47·9	−8·0	23 33	55·9	17 11	1008	541	23 33	467	2929	2	80·4
19	17 21	781	283	24 0	498	17 45	66·9	−1·3	0 0	68·2	17 19	1061	672	0 8	389	2538	2	80·2
20	16 44	529	174	1 35	355	1 40	41·3	7·8	3 15	33·5	16 38	953	670	2 11	283	1835	1	80·3
21	17 16	560	276	2 36	284	13 34	36·5	15·8	0 32	20·7	17 3	959	690	2 35	269	1668	1	80·6
22	16 26	557	252	1 29	305	18 52	51·8	12·3	18 25	39·5	16 44	1007	787	24 0	220	1469	1	80·1
23 d	14 54	934	−351	6 45	1285	15 34	58·1	−21·9	7 0	80·0	14 46	1099	499	7 8	600	4658	2	80·0
24 d	18 17	759	−325	20 23	1084	20 3	85·1	−7·2	20 35	92·3	20 24	1151	675	20 2	476	3789	2	79·2
25 d	16 49	552	−289	2 24	841	2 27	56·3	−54·4	0 56	110·7	2 8	1205	584	2 34	621	4117	2	79·0
26	18 52	425	135	0 18	290	13 28	36·1	6·2	0 20	29·9	18 8	880	693	0 14	187	1293	1	78·9
27	17 28	446	−376	23 32	822	13 28	36·7	−15·9	23 54	52·6	18 6	894	384	23 27	510	3571	2	78·7
28	19 55	453	171	0 0	282	13 36	36·8	−6·4	0 0	43·2	14 55	894	493	0 5	401	2283	1	78·9
29	18 15	495	314	3 45	181	13 7	34·7	10·0	7 52	24·7	19 12	879	791	0 0	88	673	1	79·3
30	17 16	483	356	10 46	127	18 0	36·0	21·3	6 36	14·7	18 23	921	799	0 0	122	754	0	80·1
Mean	− −	542	178	− −	364	− −	45·1	5·3	− −	39·7	− −	939	696	− −	243	1663	1·00	79·4

§ For explanation see p. 3.

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 1939

	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	392	386	380	379	385	392	390	373	375	359	356	387	458	636	734	651	747	630	609	494	279	172	151	-66	419
2 d	53	-41	108	253	238	138	206	267	351	388	375	379	419	397	433	521	562	467	445	474	436	367	340	366	331
3	334	142	328	347	347	360	328	332	355	340	340	360	383	370	399	392	424	426	427	450	428	409	401	386	367
4	386	395	389	387	381	396	395	384	365	352	320	349	364	377	390	414	432	437	420	429	418	411	409	406	392
5	405	406	400	392	379	366	362	377	365	341	349	362	378	398	410	447	437	427	437	429	451	508	470	452	406
6 d	438	448	443	440	428	430	424	422	406	386	375	352	417	476	452	566	629	588	466	459	360	206	-24	-11	399
7 d	171	-122	-45	185	209	274	313	343	347	340	321	306	361	409	418	489	458	449	441	434	422	415	409	358	321
8 d	142	125	232	371	398	380	334	327	347	368	358	349	375	412	472	450	425	430	451	470	424	375	348	399	365
9	372	334	339	206	351	394	378	388	375	348	366	377	409	412	392	395	455	480	435	428	421	415	409	402	387
10	387	379	380	381	392	392	388	386	380	376	372	365	374	392	393	426	459	458	450	422	410	407	403	403	399
11 q	401	399	402	402	406	400	398	395	388	376	373	374	372	401	394	409	413	422	424	419	421	413	410	410	401
12 q	413	405	405	404	403	407	400	388	383	377	369	367	368	383	398	413	419	435	435	436	426	423	421	416	404
13 q	412	413	410	408	411	410	399	389	390	387	383	383	405	374	399	412	432	435	435	440	438	421	412	409	409
14 q	411	409	409	409	407	402	397	391	388	381	380	377	388	391	392	405	419	424	430	429	432	424	429	429	406
15	424	426	428	417	402	402	416	413	392	373	371	381	392	403	426	432	417	421	435	428	424	417	415	414	411
16	412	424	410	356	311	367	375	336	338	343	356	392	386	376	386	397	408	421	436	441	440	426	412	416	390
17	405	404	401	402	400	395	389	381	379	375	375	386	392	408	437	460	486	495	500	462	422	417	403	372	414
18	355	390	386	387	391	402	386	395	358	345	353	356	391	398	418	441	465	483	452	433	422	415	402	326	398
19	364	359	388	344	391	385	372	378	371	367	366	376	383	394	403	414	429	437	464	438	436	412	378	347	391
20	345	342	338	343	352	348	375	373	355	369	382	382	386	402	421	434	451	469	464	449	430	421	416	412	394
21	404	395	391	397	396	400	408	407	394	379	373	371	374	406	447	528	540	558	534	477	435	400	322	337	420
22	288	206	302	352	343	357	381	388	338	306	372	383	389	389	432	470	429	433	417	417	419	409	351	300	370
23	350	361	338	357	343	373	377	360	340	370	368	349	354	365	385	437	489	529	521	458	427	397	302	286	385
24	326	400	270	347	361	337	385	388	383	365	354	356	371	380	447	440	456	470	501	472	422	365	347	368	388
25	343	278	351	302	394	399	385	383	377	375	369	385	386	415	462	560	489	437	417	432	415	396	291	259	387
26	254	265	347	384	381	379	374	375	368	366	375	389	378	418	458	506	465	454	473	462	436	407	387	372	395
27	363	367	356	377	381	360	380	375	372	379	374	368	366	381	386	404	429	436	436	432	433	435	370	354	388
28	297	249	157	362	429	421	394	380	383	377	371	375	390	397	404	409	414	425	431	440	448	446	444	403	385
29	385	317	262	339	303	300	329	328	306	332	352	387	383	415	425	419	417	491	463	481	428	431	415	399	379
30	407	409	403	409	404	408	403	389	384	375	377	386	377	398	396	402	414	420	427	436	437	426	421	421	405
31 q	412	417	410	393	397	398	400	399	389	377	367	357	363	376	386	404	408	421	435	444	449	441	427	418	404
Mean	350	325	339	362	371	373	376	375	369	364	364	370	385	405	426	450	462	462	455	446	422	401	371	354	391

Corrections to be applied to all values: H, -6γ; D, -4·0′; V, -17γ.

MAGNETIC DECLINATION (WEST)

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

21 LERWICK (D) — 12° + — MAY 1939

	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	28·9	28·0	29·9	26·2	23·7	21·5	18·1	18·3	21·2	23·0	28·0	35·0	40·0	36·4	44·1	44·9	52·5	51·0	55·6	39·3	32·1	22·6	19·8	10·5	31·3
2 d	23·5	12·9	-1·5	15·9	16·1	19·0	17·2	30·0	33·6	22·1	27·0	30·4	34·1	33·3	31·8	33·0	29·0	29·1	29·1	27·8	25·8	24·1	23·0	21·9	24·5
3	22·4	22·0	15·8	15·9	20·9	19·6	18·3	21·1	25·7	29·4	29·3	29·7	32·1	32·0	31·5	27·8	25·2	26·0	26·8	27·6	24·3	26·4	29·0	30·9	25·4
4	22·5	23·8	23·7	22·1	19·9	19·9	20·7	20·5	20·1	22·8	24·3	29·1	32·0	32·8	31·5	31·1	29·2	29·1	28·3	26·4	28·1	28·6	28·1	27·1	25·9
5	27·2	27·0	27·3	27·4	25·8	25·6	28·5	24·5	21·5	24·1	26·0	28·8	32·9	35·3	35·6	34·1	31·7	31·2	32·1	30·9	31·1	37·0	34·8	28·0	29·5
6 d	28·1	24·7	23·8	21·7	19·1	17·5	17·1	20·7	20·7	24·3	25·3	32·5	35·4	37·0	35·4	41·9	40·8	40·7	32·4	31·3	27·0	26·8	-18·5	7·9	25·6
7 d	20·1	25·5	-7·5	-6·5	28·0	31·1	21·7	24·5	26·4	29·4	26·0	32·2	33·0	32·3	28·4	24·0	27·7	29·7	30·9	29·8	26·3	26·4	26·7	24·0	24·6
8 d	29·8	23·6	13·0	20·9	18·7	20·4	25·4	30·7	30·9	24·7	27·1	29·7	32·1	32·0	26·4	28·9	32·4	31·0	28·0	28·3	29·6	26·0	25·0	26·5	26·7
9	19·7	21·4	20·5	25·8	18·9	21·2	23·0	23·6	23·6	27·2	25·1	26·9	30·4	32·4	30·5	29·7	27·6	24·9	30·6	30·8	29·5	28·4	27·3	26·4	26·1
10	25·9	29·0	26·4	25·5	24·0	22·9	22·7	22·1	22·6	23·7	26·6	29·4	31·4	32·6	31·8	32·3	32·3	28·6	28·0	29·2	29·0	28·4	27·9	26·8	27·5
11 q	26·8	25·5	23·6	22·0	22·3	22·4	21·5	21·3	22·8	24·6	27·5	28·8	29·0	30·2	29·7	28·1	27·7	27·8	27·7	28·0	28·0	28·2	28·2	28·0	26·2
12 q	27·9	25·8	25·2	23·7	23·8	22·3	21·9	22·3	22·7	24·8	27·1	30·1	32·6	33·1	32·6	31·4	30·3	29·3	27·4	29·6	29·6	29·2	29·4	28·2	27·5
13 q	27·2	26·4	25·5	24·3	22·0	21·7	22·0	24·1	27·6	27·5	28·0	29·4	31·5	31·9	31·5	31·0	30·8	30·5	29·0	29·6	28·5	26·0	26·4	28·2	27·5
14 q	27·6	27·2	27·0	25·6	24·3	22·4	22·9	23·0	23·1	25·0	27·7	31·1	33·5	34·5	34·4	33·2	32·6	30·9	29·7	29·2	29·0	28·7	28·8	27·5	28·3
15	26·0	25·3	25·1	23·3	21·8	21·0	20·7	17·9	19·4	25·4	29·8	32·4	34·9	37·2	35·8	33·9	30·9	29·8	30·0	28·9	28·2	26·6	27·0	30·0	27·6
16	27·7	24·1	18·5	25·7	20·6	20·0	20·6	14·9	25·6	30·2	29·4	30·7	33·6	32·5	30·1	27·8	27·1	26·7	27·6	27·2	27·4	26·9	24·4	25·9	26·1
17	25·2	25·1	23·7	23·6	20·0	18·3	17·4	19·5	20·1	21·2	25·1	29·1	32·1	33·1	33·3	31·6	30·4	28·8	26·8	21·9	27·4	28·2	26·0	25·9	25·6
18	22·7	20·2	21·3	18·2	12·7	16·7	17·4	17·4	20·6	25·4	29·6	33·6	37·5	38·5	36·7	34·6	32·5	29·1	29·4	28·8	28·7	28·5	23·7	19·9	26·0
19	16·4	14·4	16·8	15·3	21·2	19·6	24·6	21·6	23·0	26·8	30·2	34·0	36·9	37·2	36·0	34·4	33·3	31·1	27·0	26·5	29·0	27·8	18·7	20·4	25·9
20	17·4	18·9	16·0	20·2	30·5	30·5	22·5	21·6	21·7	22·8	25·9	31·0	33·8	35·8	36·9	35·4	31·0	29·4	30·9	30·7	28·0	28·2	28·9	25·0	27·2
21	16·5	19·8	20·9	19·0	16·4	17·0	17·4	17·4	18·1	20·2	25·4	31·3	36·8	38·7	39·4	35·6	40·9	39·0	32·9	30·1	27·4	29·2	21·3	24·8	26·5
22	21·5	10·7	18·8	22·3	19·4	21·9	21·1	18·1	17·7	25·4	29·3	32·8	37·0	37·5	39·0	35·4	32·8	33·0	29·9	29·1	29·0	31·9	27·8	11·6	26·4
23	18·7	21·1	19·0	15·0	15·6	16·8	20·7	19·2	20·0	23·7	27·4	29·3	32·9	33·4	32·7	33·6	32·0	32·2	29·9	30·1	27·2	25·5	31·5	14·0	25·1
24	21·7	19·6	23·0	18·1	23·7	19·6	24·8	23·6	23·8	24·6	26·7	28·7	31·0	32·3	34·7	33·0	32·1	31·7	33·9	29·0	28·8	21·7	21·6	27·0	26·4
25	29·4	17·0	19·5	20·6	18·2	18·5	19·8	20·7	23·1	24·0	28·5	29·8	32·2	32·7	35·0	31·8	30·2	30·4	30·4	30·9	28·2	26·1	26·3	20·1	26·0
26	21·0	29·0	16·1	13·7	21·7	24·7	21·9	24·4	26·9	29·0	30·0	31·0	32·3	33·7	33·1	30·0	29·9	29·5	30·1	28·0	29·7	29·4	27·3	22·8	26·9
27	22·7	24·0	26·5	21·0	20·0	22·0	22·2	21·7	22·7	23·5	23·7	27·4	30·5	31·8	31·1	29·7	26·1	25·5	24·9	25·9	27·4	29·0	34·1	18·6	25·5
28	12·0	19·2	0·0	11·4	11·8	12·4	11·6	13·7	24·8	25·7	30·6	34·4	35·0	34·9	34·1	31·3	28·8	27·5	28·2	28·6	28·9	28·4	28·0	25·3	23·6
29	18·8	12·3	5·6	-2·8	7·6	8·1	10·4	15·6	27·5	33·1	32·5	31·4	34·7	32·5	32·9	32·5	32·5	34·9	29·2	29·3	27·5	25·1	30·6	29·5	23·8
30	27·5	25·9	26·5	24·4	23·7	22·2	22·7	24·4	24·9	27·7	27·9	30·4	32·0	32·9	31·5	29·4	27·8	27·7	28·0	29·0	28·8	28·9	28·0	27·7	27·5
31 q	26·5	25·7	24·8	25·0	23·9	18·9	17·3	18·1	21·1	22·1	25·0	29·3	33·6	35·1	34·1	32·6	30·8	29·1	28·1	28·4	28·5	26·7	22·0	24·3	26·3
Mean	23·5	22·4	19·2	19·5	20·5	20·5	20·5	21·2	23·3	25·3	27·5	30·6	33·4	34·1	33·6	32·4	31·6	30·8	30·1	29·0	28·3	27·6	25·3	23·7	26·4

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

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT

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

22 LERWICK (V) — 46,000γ (0·46 C.G.S. unit) + — MAY 1939

	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	849	848	840	842	844	845	848	851	842	841	843	839	873	996	940	971	976	984	977	921	780	760	724	743	866
2 d	714	705	712	808	822	754	737	756	782	853	878	896	907	938	924	946	1004	954	914	914	894	816	744	781	840
3	773	675	682	696	741	773	810	806	823	845	858	867	880	892	896	913	909	898	883	873	894	879	864	839	832
4	815	842	841	859	864	866	865	867	864	859	859	849	849	852	857	860	871	879	878	875	869	861	858	858	859
5	857	858	856	857	848	841	833	833	847	855	854	854	853	862	869	875	895	891	876	881	867	844	852	849	859
6 d	825	851	869	868	864	853	852	846	853	851	861	854	844	886	991	983	976	968	969	943	838	773	699	734	869
7 d	691	609	650	576	670	709	799	848	850	860	880	887	883	898	933	954	950	946	927	918	892	856	849	779	826
8 d	633	585	674	774	825	850	840	830	842	854	875	874	870	886	963	944	903	902	900	883	874	820	744	791	831
9	797	744	725	671	719	812	834	854	865	872	877	886	890	887	890	897	892	896	887	882	874	856	856	846	842
10	838	835	845	848	855	861	859	860	858	857	859	855	848	849	855	851	855	883	889	879	870	865	861	857	858
11 q	856	857	858	860	859	857	855	855	854	854	853	857	855	856	859	861	865	861	860	861	860	860	857	854	858
12 q	848	846	849	852	853	849	850	853	850	847	846	849	852	854	856	856	856	858	869	865	864	859	856	855	854
13 q	856	856	856	856	857	855	853	847	841	840	840	838	842	856	850	855	861	870	871	866	866	867	864	856	855
14 q	852	855	854	855	856	857	856	850	848	842	838	834	837	841	845	845	846	851	854	856	855	855	852	851	849
15	854	853	851	853	853	835	816	819	827	825	824	826	838	857	888	907	896	871	857	860	866	862	850	838	851
16	820	833	826	807	755	750	761	796	797	812	821	832	850	859	868	866	859	853	849	855	863	859	829	839	827
17	849	856	861	860	860	857	850	846	837	836	840	841	858	870	880	904	919	912	910	878	856	853	824	818	861
18	765	749	732	729	753	788	818	839	843	833	827	833	836	855	880	901	902	899	883	873	864	851	833	787	828
19	747	749	748	751	777	782	804	828	850	857	859	854	848	850	853	855	858	865	878	889	876	857	812	751	825
20	731	727	728	752	760	776	814	837	843	844	847	854	850	855	861	887	913	918	899	888	885	875	863	854	836
21	833	810	799	796	798	790	794	808	817	826	830	828	827	840	884	946	1007	985	959	913	901	861	771	799	851
22	697	687	720	781	809	803	794	832	858	861	892	879	859	867	884	924	926	892	882	874	864	834	805	800	834
23	780	767	740	766	776	794	822	835	842	845	859	866	866	868	859	870	906	937	903	876	835	827	758	686	828
24	674	788	714	689	726	768	808	843	847	851	854	850	854	854	863	904	908	899	877	879	823	801	791	755	817
25	758	696	709	696	787	829	845	854	855	852	855	851	856	866	875	889	893	882	868	860	858	831	774	744	824
26	687	670	710	737	726	741	784	830	848	851	863	866	865	866	883	896	897	879	872	844	839	844	826	803	818
27	786	801	781	776	803	813	826	841	843	836	840	845	851	855	858	856	863	859	857	860	858	838	757	750	827
28	670	672	618	722	816	844	849	845	838	837	841	846	851	855	857	858	859	857	854	852	851	852	849	848	818
29	832	778	757	717	728	706	762	802	815	805	823	842	884	936	891	882	883	879	915	894	853	838	852	839	830
30	856	866	861	858	855	855	860	858	858	857	858	860	860	860	862	869	872	868	863	858	859	858	857	857	860
31 q	859	859	859	855	839	838	836	833	836	842	845	846	848	852	852	852	856	852	853	852	855	852	853	853	849
Mean	787	778	778	786	803	811	824	836	841	845	852	853	858	872	881	893	899	895	888	878	861	844	819	810	841

Corrections to be applied to all values: H, −6γ; D, −4·0′; V, −17γ.

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

23 LERWICK — MAY 1939

	TERRESTRIAL MAGNETIC ELEMENTS																		Magnetic character of day (0-2)	Temperature in magnet house 200 +
	Horizontal force						Declination						Vertical force						$\frac{HR_H + VR_V}{10{,}000\gamma^2}$ §	
	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.	′	′	h. m.	′		h. m.	γ	γ	h. m.	γ			°A
1 d	14 0	911	−380	23 54	1291		18 35	64·2	−48·2	23 59	112·4		13 59	1050	550	23 46	500		4199	2	80·3
2 d	16 34	647	−373	0 0	1020		0 46	54·1	−37·0	0 0	91·1		16 27	1050	596	2 5	454		3594	2	80·3
3	19 29	471	−20	1 41	491		1 18	37·7	−3·0	1 58	40·7		15 35	918	600	1 29	318		2195	1	80·2
4	16 57	454	306	10 10	148		13 28	33·4	18·6	0 45	14·8		17 15	884	801	0 5	83		601	0	80·2
5	20 45	564	337	9 54	227		21 34	46·0	19·8	8 20	26·2		16 48	900	829	20 50	71		659	1	80·0
6 d	15 52	705	−482	22 55	1187		15 55	49·4	−43·0	22 24	92·4		15 49	1038	610	22 46	428		3712	2	80·3
7 d	15 50	517	−480	1 43	997		1 31	70·0	−31·0	3 12	101·0		15 33	963	483	1 38	480		3682	2	80·3
8 d	19 4	513	−32	1 4	545		1 5	49·7	−10·0	2 29	59·7		14 42	996	485	1 30	511		3176	2	81·0
9	17 15	504	102	3 32	402		3 32	40·7	12·8	4 37	27·9		17 14	903	609	4 0	294		1955	1	81·3
10	16 57	504	358	11 20	146		16 52	34·7	21·0	6 47	13·7		17 44	897	829	1 20	68		528	0	81·8
11 q	18 0	426	345	12 3	81		11 44	31·0	19·9	6 53	11·1		11 55	867	850	12 57	17		197	0	82·0
12 q	17 16	447	354	12 34	93		12 54	33·9	21·0	7 0	12·9		18 16	870	842	0 59	28		265	0	82·0
13 q	19 43	443	362	13 17	81		14 46	32·8	19·9	6 37	12·9		18 8	875	834	12 6	41		309	0	82·0
14 q	18 15	445	375	11 15	70		13 56	35·0	21·6	5 36	13·4		5 26	859	834	11 25	25		218	0	82·0
15	15 15	447	366	10 0	81		14 1	39·7	15·7	7 55	24·0		16 4	914	813	6 40	101		590	0	81·8
16	19 6	452	280	4 16	172		12 15	34·9	11·1	7 43	23·8		15 23	872	739	5 15	133		870	1	81·9
17	18 39	513	347	23 59	166		14 27	34·0	15·3	6 23	18·7		16 50	934	786	24 0	148		932	0	82·1
18	17 25	507	277	23 27	230		12 58	39·6	10·0	4 14	29·6		17 13	911	726	2 46	185		1197	1	82·0
19	18 31	480	316	3 25	164		12 50	37·7	10·1	1 24	27·6		19 23	895	722	3 25	173		1046	1	82·0
20	17 43	475	266	2 23	209		14 11	37·6	9·0	2 57	28·6		17 15	927	711	2 55	216		1312	1	82·0
21	17 46	600	277	22 55	323		17 52	46·9	14·0	0 10	32·9		16 35	1021	747	22 55	274		1747	1	82·1
22	15 45	491	108	1 34	383		14 1	40·2	−7·8	1 31	48·0		16 19	935	641	0 50	294		1928	1	82·0
23	18 25	552	198	23 44	354		22 45	43·8	4·3	23 9	39·5		17 40	957	593	24 0	364		2214	1	82·5
24	18 35	525	122	2 51	403		20 24	42·8	7·2	3 0	35·6		15 47	915	589	2 57	326		2106	1	83·2
25	15 54	614	129	23 0	485		15 18	39·0	6·0	1 49	33·0		16 45	901	663	3 29	238		1812	1	83·7
26	15 52	529	172	0 0	357		13 6	35·4	11·7	2 22	23·7		15 50	902	652	0 56	250		1684	1	84·1
27	21 46	460	303	24 0	157		22 18	42·3	16·8	24 0	25·5		17 14	864	717	24 0	147		914	1	83·8
28	22 30	464	37	2 43	427		11 54	37·7	−12·0	2 25	49·7		14 1	861	545	2 40	316		2094	1	84·0
29	17 43	541	198	2 36	343		20 4	41·8	38·6	2 57	3·2		13 23	958	682	5 32	276		1786	1	84·0
30	20 10	439	366	12 5	73		13 29	33·6	21·0	5 55	12·6		16 55	873	845	0 0	28		236	0	84·8
31 q	20 8	459	355	11 24	104		13 14	35·6	16·0	6 50	19·6		2 53	862	831	7 54	31		295	0	85·5
Mean	− −	519	158	− −	362		− −	41·1	5·5	− −	35·7		− −	922	702	− −	220		1550	0·84	82·1

§ For explanation see p. 3.

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 1939

	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	419	418	419	423	423	427	415	400	392	383	380	387	391	401	444	503	435	452	456	472	450	447	445	434	426
2	431	427	412	377	371	415	428	413	385	382	377	374	394	385	424	439	487	526	505	485	451	437	418	424	424
3	418	398	404	416	417	414	409	391	369	372	371	346	366	379	417	433	455	460	461	459	450	428	420	417	411
4	414	388	368	390	386	377	412	396	389	379	371	366	369	409	449	463	499	464	470	458	444	429	425	423	414
5	417	410	412	396	407	408	404	398	382	375	356	367	385	393	454	434	435	453	436	425	425	419	417	416	409
6	406	405	406	387	383	398	409	403	388	376	366	357	366	383	402	421	427	440	440	437	434	430	423	421	405
7 q	416	412	415	416	418	415	408	398	390	375	367	373	373	386	402	430	438	441	443	445	433	426	421	417	411
8 q	414	414	409	416	419	417	406	389	375	372	369	366	385	400	410	411	424	434	445	435	433	432	429	426	410
9 q	424	422	420	419	417	416	411	402	392	376	368	373	396	394	405	422	426	432	435	434	432	432	437	434	413
10	423	431	434	429	428	436	427	414	400	383	383	387	402	406	416	431	435	446	462	463	452	439	432	429	425
11 q	427	426	426	424	424	420	422	421	405	383	372	374	377	390	409	418	424	429	438	447	444	447	438	430	417
12	419	421	422	428	427	423	412	396	388	376	375	381	395	395	405	412	427	437	438	442	442	440	435	423	415
13	415	413	403	405	414	412	406	404	396	391	377	381	403	411	446	444	461	472	483	494	466	358	340	363	415
14 d	315	300	334	348	361	386	417	369	233	200	321	466	536	533	491	538	524	486	439	408	386	367	346	305	392
15	376	366	365	375	351	373	372	356	355	360	372	379	387	403	444	415	416	437	446	461	429	413	402	356	392
16 d	383	357	305	341	315	294	280	279	283	323	429	400	398	411	444	468	477	437	429	421	410	408	404	401	379
17	395	396	399	401	401	394	384	376	374	369	365	365	374	383	400	404	415	429	444	448	449	436	418	411	401
18	405	380	381	372	363	363	375	369	362	358	332	344	369	424	400	429	436	486	481	460	444	434	429	410	400
19 d	397	395	362	367	350	356	363	392	371	357	367	374	395	412	471	464	446	457	436	432	436	403	370	352	397
20	340	348	327	345	334	359	367	355	348	367	367	354	370	361	424	419	428	454	452	431	427	423	418	418	385
21	408	392	349	366	378	360	372	355	348	357	359	369	425	442	468	491	426	421	440	462	454	416	402	383	402
22	387	366	401	400	386	385	382	363	380	371	366	376	370	377	389	399	422	455	457	452	438	441	422	400	399
23	368	339	393	391	402	397	397	403	391	378	383	377	403	381	416	429	459	464	469	467	440	426	412	411	408
24	399	395	356	365	406	407	387	381	386	375	378	381	388	381	403	416	408	416	422	430	425	425	418	409	398
25 q	400	400	393	409	416	410	403	391	383	375	370	376	385	384	407	420	429	423	433	432	438	429	421	414	406
26	409	409	410	418	416	420	417	409	400	380	374	369	380	400	404	414	438	445	445	449	476	449	442	442	417
27 d	419	431	432	435	424	425	413	403	392	388	356	382	403	428	423	443	442	452	457	448	440	432	423	417	421
28	418	416	413	415	410	404	401	395	380	372	364	365	385	377	410	470	450	485	493	475	459	432	434	419	418
29 d	418	417	422	379	344	398	402	395	398	395	386	377	423	447	438	513	488	451	447	447	440	431	422	417	421
30	395	367	388	404	409	395	392	396	369	340	367	385	404	401	396	409	450	448	458	439	438	431	414	409	404
Mean	403	395	393	395	393	397	396	387	373	366	370	376	393	403	424	440	444	451	452	449	439	425	416	408	408

Corrections to be applied to all values: H, −6γ; D, −4·0′; V, −16γ.

MAGNETIC DECLINATION (WEST)

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

25 LERWICK (D) — 12° + — JUNE 1939

	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	27·3	28·7	24·5	22·3	22·0	20·0	18·4	17·6	18·7	20·5	25·4	30·3	34·0	34·1	36·0	34·9	33·0	34·6	34·2	34·8	31·6	28·0	28·1	28·7	27·8
2	30·7	22·2	25·5	23·9	24·3	21·6	18·9	17·7	21·1	23·7	28·4	32·1	34·0	34·8	36·4	34·9	33·5	31·3	32·9	30·8	30·2	30·5	27·4	27·6	28·1
3	27·1	26·6	24·9	22·1	21·4	21·1	20·8	21·4	24·9	20·8	22·1	27·6	29·1	32·0	31·4	29·9	28·7	26·6	27·5	28·3	28·5	26·4	28·3	28·7	26·1
4	30·8	32·6	28·7	24·1	25·4	24·9	19·6	20·5	20·8	19·4	23·6	26·3	31·6	33·4	32·6	33·2	27·6	30·1	29·0	27·2	27·2	27·8	28·1	29·5	27·3
5	29·4	29·0	27·3	29·7	23·7	22·0	19·1	16·3	20·4	21·6	26·3	30·2	32·9	33·6	35·3	32·6	31·2	28·5	29·8	29·0	28·7	28·5	28·0	27·4	27·5
6	25·1	25·4	26·9	26·6	27·7	25·4	21·9	19·1	18·1	20·7	24·4	28·1	30·8	32·4	33·0	32·9	30·3	27·9	26·1	27·7	29·1	29·9	27·8	28·8	26·9
7 q	30·7	29·4	25·9	23·0	21·2	20·3	19·6	18·6	18·5	21·9	24·9	27·8	29·4	31·1	30·7	30·4	29·9	29·2	28·2	28·7	29·7	29·0	28·8	28·4	26·5
8 q	27·7	28·5	28·8	23·5	21·9	20·0	18·2	19·8	22·5	23·9	26·0	28·6	31·1	33·5	33·1	33·7	33·1	30·8	29·5	27·9	28·0	28·0	28·4	28·0	27·3
9 q	27·5	27·1	25·2	23·7	22·7	21·7	20·8	18·5	19·0	20·4	23·7	27·8	30·7	31·9	32·8	31·6	30·4	30·0	28·7	28·0	27·9	28·3	29·3	30·5	26·6
10	26·3	26·0	24·0	25·9	22·3	17·9	16·6	16·7	18·4	22·1	24·8	28·6	31·6	33·7	34·0	33·9	32·7	31·8	30·8	31·6	32·3	32·1	30·8	29·8	27·3
11 q	27·7	27·5	25·4	25·6	23·3	20·9	19·9	19·1	17·5	19·9	23·3	26·0	30·3	31·7	32·1	30·9	29·7	28·8	28·1	28·4	28·6	26·6	27·5	28·2	26·1
12	25·6	25·9	28·3	25·0	18·9	17·6	17·0	18·1	20·7	22·9	27·1	31·2	34·9	35·0	34·4	33·0	30·9	30·5	29·7	29·5	29·9	29·8	30·0	28·0	27·2
13	28·8	29·3	20·9	14·9	15·3	18·4	16·3	20·9	22·7	23·1	28·8	31·8	34·0	34·8	36·6	35·2	31·0	34·5	38·4	40·6	38·0	37·3	28·0	26·2	28·6
14 d	17·3	9·4	3·3	7·5	8·2	19·0	17·0	16·0	20·7	24·5	32·9	30·2	30·6	29·9	35·8	38·8	33·3	36·0	33·1	33·5	30·0	29·2	29·9	26·0	24·7
15	21·9	17·6	17·7	17·8	21·3	20·7	18·5	19·9	20·9	23·9	26·2	29·0	28·8	28·9	32·0	30·7	31·6	29·0	27·1	27·3	27·5	27·5	24·4	27·2	24·9
16 d	23·7	18·4	20·4	24·5	31·9	24·8	23·0	22·6	25·3	24·2	27·8	30·7	36·7	34·3	33·2	32·7	29·2	30·4	29·5	30·6	29·0	29·1	28·5	27·9	27·9
17	27·9	25·2	22·7	21·7	20·9	18·9	18·8	18·4	20·5	22·8	25·4	28·9	31·1	31·6	30·8	29·3	29·8	30·5	31·0	32·0	31·2	29·4	25·6	25·2	26·2
18	25·5	25·7	20·0	10·9	11·8	14·5	19·5	18·7	23·5	24·0	29·2	35·0	36·8	37·9	36·8	35·6	33·4	33·2	30·3	25·8	30·4	29·8	28·6	36·0	27·2
19 d	23·9	18·1	14·1	16·7	17·4	20·0	18·7	16·6	14·2	16·9	22·3	28·0	33·9	34·7	34·0	34·3	31·3	30·0	27·5	28·9	26·9	30·3	28·0	13·9	24·2
20	14·1	21·6	21·6	24·7	25·3	25·5	22·1	23·8	21·6	21·2	23·2	26·6	31·0	31·8	33·7	32·6	32·3	31·1	29·9	28·9	29·0	27·9	26·0	26·4	26·3
21	24·8	26·0	30·3	26·4	26·8	20·9	19·4	14·5	20·2	22·9	23·8	26·3	27·9	31·6	33·8	26·5	30·5	29·9	31·0	30·4	23·4	26·9	25·5	27·9	26·1
22	24·8	24·7	21·5	18·5	24·2	23·0	18·5	20·0	18·9	23·2	24·9	26·7	27·9	28·6	29·4	29·5	29·7	28·0	27·1	28·0	28·8	27·3	26·6	25·2	25·2
23	24·4	28·1	21·6	16·7	17·5	16·9	16·8	16·4	19·3	19·4	21·4	26·6	32·4	34·0	33·1	32·6	31·2	29·4	29·4	27·6	28·0	26·7	25·6	25·1	25·0
24	24·5	23·9	27·4	25·3	19·0	19·1	17·0	17·3	19·1	21·2	21·8	26·4	30·5	31·6	33·9	32·4	31·2	30·1	29·0	28·3	27·6	28·3	22·2	26·9	25·6
25 q	23·4	22·5	21·9	23·6	22·2	21·8	22·2	21·9	20·1	20·6	21·1	24·7	29·7	32·2	32·6	31·8	32·2	30·3	29·3	27·6	27·7	25·0	22·4	25·7	25·5
26	25·5	24·5	22·9	21·9	17·9	15·7	15·7	15·4	16·3	21·8	24·2	28·0	30·3	32·6	33·6	32·6	32·8	32·0	29·8	28·7	31·8	27·2	27·5	28·8	25·7
27 d	24·6	24·1	25·1	23·7	26·9	23·8	22·1	24·3	22·0	17·9	28·4	33·8	34·7	35·3	35·7	34·6	30·8	27·6	27·3	28·4	28·7	30·2	28·3	26·6	27·7
28	25·6	24·7	23·4	22·5	22·8	22·3	20·8	20·7	20·7	23·0	26·8	30·4	30·9	31·7	32·2	34·3	30·3	33·0	28·8	31·1	30·0	29·0	23·9	23·3	26·8
29 d	25·0	21·0	24·5	32·6	24·0	26·2	22·5	23·9	25·0	26·7	29·0	30·8	30·6	29·1	32·5	29·0	23·5	28·7	27·7	28·9	29·1	29·6	29·4	28·3	27·4
30	31·9	33·1	25·8	20·7	19·2	21·2	21·9	20·4	20·8	25·6	27·4	30·9	32·6	32·2	31·3	30·8	30·7	29·6	28·5	28·0	30·2	29·6	27·7	23·0	27·2
Mean	25·8	24·9	23·3	22·2	21·6	20·9	19·4	19·2	20·4	22·0	25·5	29·0	31·7	32·7	33·4	32·5	30·9	30·4	29·6	29·5	29·3	28·8	27·4	27·1	26·6

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

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT

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

26 LERWICK (V) — 46,000γ (0·46 C.G.S. unit) + — JUNE 1939

	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	851	843	850	857	853	847	854	857	851	847	846	845	847	849	849	873	918	913	910	888	876	873	853	844	862
2	832	803	834	812	788	805	821	839	846	850	856	864	858	871	869	891	904	925	926	923	891	863	823	834	855
3	839	844	846	843	847	851	857	861	853	842	841	850	861	866	867	884	895	904	890	877	872	870	864	853	862
4	848	800	761	798	822	819	830	840	847	852	854	854	852	864	891	900	907	899	892	894	883	867	860	848	853
5	842	842	847	838	830	830	843	850	853	846	852	849	855	870	871	893	890	887	880	870	862	857	852	844	856
6	843	847	850	851	845	840	847	853	857	856	853	849	851	849	852	858	864	866	874	874	866	858	857	851	855
7 q	844	829	838	853	858	858	858	861	859	852	850	844	844	846	843	843	852	854	863	866	865	859	854	851	852
8 q	848	844	836	837	846	851	851	854	850	845	843	840	839	838	839	840	841	848	851	859	855	851	847	846	846
9 q	847	847	848	849	851	846	844	848	849	844	839	837	834	839	837	836	843	847	843	846	848	847	843	840	844
10	845	834	833	838	841	837	843	842	843	842	834	831	831	828	825	829	839	849	853	856	858	854	851	848	841
11 q	846	841	840	843	838	839	838	837	838	843	842	836	838	834	834	838	839	841	841	841	847	845	838	833	840
12	827	828	826	814	832	839	839	839	835	834	832	823	821	832	840	843	843	845	842	844	845	844	844	844	836
13	841	819	789	804	823	834	837	831	829	829	829	822	826	830	831	851	866	863	859	858	863	771	766	760	826
14 d	693	564	642	718	751	795	834	853	866	867	886	967	939	953	959	953	954	909	891	866	847	807	765	741	834
15	768	779	783	810	817	830	848	855	853	849	856	867	868	860	856	868	858	855	866	866	866	857	839	791	840
16 d	811	793	711	714	704	717	764	809	837	860	858	853	850	874	884	930	943	907	885	861	855	847	848	842	832
17	834	840	852	859	860	861	859	854	849	839	835	838	843	852	852	852	854	852	854	858	855	845	856	861	851
18	854	809	751	775	771	782	790	804	811	825	838	831	834	863	901	910	918	907	932	905	869	852	839	760	839
19 d	720	754	726	733	770	772	796	805	840	853	849	853	862	883	909	917	907	877	873	858	853	817	761	727	821
20	725	728	737	774	779	754	789	815	835	852	859	864	864	874	870	890	882	875	868	868	860	854	853	830	829
21	824	824	787	769	776	797	815	843	842	838	847	850	862	867	872	892	875	860	850	859	871	847	835	800	838
22	782	781	811	835	823	794	819	824	823	838	845	847	849	841	841	846	849	861	874	872	862	849	816	782	832
23	762	727	759	786	818	833	841	841	846	850	852	849	849	850	850	855	857	875	883	866	864	858	851	816	835
24	804	799	786	747	792	825	841	845	846	844	843	846	848	850	842	850	861	856	852	850	854	850	850	822	833
25 q	817	828	820	823	837	844	849	855	856	855	848	848	850	849	848	852	855	854	847	849	848	858	861	853	846
26	849	842	840	837	834	834	835	835	832	841	843	839	840	839	837	840	842	852	856	854	840	858	858	831	842
27 d	776	833	841	836	825	819	827	827	830	832	844	835	854	885	903	900	923	925	901	876	866	860	857	854	855
28	854	857	857	853	851	846	844	844	842	843	845	843	848	860	853	857	893	891	898	891	876	815	785	822	853
29 d	832	823	829	826	756	785	807	830	832	838	846	854	858	904	919	949	955	911	884	876	868	850	839	841	855
30	835	760	804	837	846	841	837	840	846	843	836	834	833	847	858	868	870	882	875	867	857	850	834	820	843
Mean	816	805	804	812	816	821	832	840	843	845	847	849	850	859	863	874	880	876	874	868	861	848	837	823	844

Corrections to be applied to all values: H, −6γ; D, −4·0′; V, −16γ.

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

27 LERWICK — JUNE 1939

	TERRESTRIAL MAGNETIC ELEMENTS																	Magnetic character of day (0-2)	Temperature in magnet house 200 +
	Horizontal force					Declination				Vertical force					$\frac{HR_H + VR_V}{10{,}000\gamma^2}$ §		
	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.	′	′	h. m.	′	h. m.	γ	γ	h. m.	γ			°A
1	15 10	532	377	10 48	155	14 45	38·7	16·3	7 25	22·4	16 47	928	838	1 30	90	644	1	85·5
2	17 35	559	325	4 2	234	0 45	38·0	13·7	6 54	24·3	19 16	935	778	4 12	157	1072	1	86·0
3	16 53	481	336	11 40	145	14 4	33·0	17·9	6 28	15·1	17 19	907	834	3 22	73	551	1	86·3
4	16 32	533	338	12 8	195	14 21	37·2	14·9	7 26	22·3	16 13	920	749	2 24	171	1081	1	86·8
5	14 35	481	343	10 40	138	14 34	37·6	12·1	7 29	25·5	15 41	899	821	4 51	78	564	0	87·2
6	17 16	455	353	11 46	102	15 17	33·6	17·3	8 52	16·3	18 30	878	832	5 0	46	362	0	87·9
7 q	17 54	452	364	12 15	88	1 3	33·0	16·9	7 25	16·1	20 28	868	827	1 22	41	319	0	88·4
8 q	18 17	452	360	11 29	92	13 35	34·9	17·9	6 45	17·0	19 15	859	832	2 55	27	258	0	87·8
9 q	22 45	445	364	10 51	81	14 22	33·0	17·8	7 54	15·2	4 57	852	833	12 26	19	206	0	86·5
10	18 55	469	375	10 15	94	13 49	34·7	14·8	7 13	19·9	20 20	859	822	14 55	37	308	0	85·4
11 q	21 57	457	366	11 5	91	14 17	32·7	16·6	8 26	16·1	21 44	849	827	23 51	22	234	0	85·0
12	19 10	444	370	10 32	74	12 59	36·3	16·0	6 33	20·3	17 42	847	811	3 18	36	275	0	84·3
13	19 55	501	290	22 18	211	21 20	42·9	12·7	4 28	30·2	20 40	872	731	23 59	141	964	1	83·6
14 d	13 16	562	160	9 50	402	10 4	44·3	−16·9	1 52	61·2	16 17	997	517	1 46	480	2825	2	83·1
15	19 16	465	334	0 0	131	14 16	34·8	14·9	1 47	19·9	12 9	873	756	0 4	117	737	1	83·4
16 d	16 40	504	261	6 55	243	12 35	38·7	8·8	2 52	29·9	16 31	961	684	4 37	277	1646	1	83·6
17	20 59	465	362	11 26	103	19 50	32·9	17·9	7 50	15·0	22 57	864	832	0 31	32	298	0	83·6
18	17 49	509	326	10 26	183	23 39	41·3	8·7	4 11	32·6	18 30	954	710	23 54	244	1406	1	84·4
19 d	15 13	490	319	23 23	171	12 53	36·7	5·6	23 58	31·1	15 50	928	707	0 20	221	1280	1	85·1
20	18 5	460	303	2 30	157	14 59	34·9	6·1	0 0	28·8	15 23	897	707	2 19	190	1115	1	85·4
21	15 12	524	330	2 33	194	14 27	36·8	12·0	7 48	24·8	15 42	896	755	2 53	141	939	1	85·4
22	19 3	475	338	1 29	137	5 2	32·8	16·2	8 33	16·6	18 18	877	759	0 1	118	749	0	85·6
23	19 20	504	283	1 11	221	14 0	34·9	14·3	5 59	20·6	18 19	897	710	1 11	187	1193	1	85·4
24	19 29	437	334	2 53	103	14 40	34·9	14·8	7 30	20·1	16 37	862	741	3 31	121	714	0	85·2
25 q	20 49	445	368	10 20	77	14 4	33·8	19·2	8 54	14·6	21 55	863	811	0 17	52	354	0	84·9
26	20 24	516	354	11 14	162	14 46	34·6	13·8	7 41	20·8	21 24	865	788	24 0	77	593	0	84·3
27 d	15 41	473	337	10 23	136	14 56	38·2	12·8	9 54	25·4	16 18	929	748	0 18	181	1043	1	84·1
28	18 29	511	353	12 4	158	17 40	37·0	12·1	22 2	24·9	18 19	910	757	22 5	153	944	1	84·4
29 d	15 37	545	291	4 34	254	3 50	38·8	16·8	8 39	22·0	15 43	977	745	4 18	232	1452	1	84·3
30	16 55	472	330	9 12	142	1 0	41·1	14·7	23 33	26·4	17 21	889	740	1 33	149	901	0	84·8
Mean	− −	487	331	− −	156	− −	36·4	13·2	− −	23·2	− −	897	767	− −	130	834	0·57	85·3

§ For explanation see p. 3.

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 1939

	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	401	405	404	399	399	396	382	365	367	364	348	371	399	413	414	420	437	431	433	450	437	429	423	415	404
2	413	401	404	416	414	394	392	399	391	379	374	387	389	402	427	403	420	448	452	448	439	433	415	410	410
3 d	420	415	423	385	407	426	418	393	356	349	358	398	434	616	625	648	561	523	533	414	405	421	402	408	447
4 d	383	387	395	382	388	388	387	377	372	365	360	365	392	399	442	488	526	599	554	534	451	137	80	413	399
5 d	403	374	318	226	256	112	105	124	131	227	311	322	459	535	627	723	659	561	542	469	404	336	324	291	368
6	230	98	114	134	297	341	342	343	337	326	351	343	354	372	388	389	394	401	408	412	416	405	401	393	333
7 q	392	388	381	385	390	389	385	379	375	366	363	364	377	390	398	392	394	405	411	410	418	413	408	405	391
8	405	399	398	398	401	402	401	394	387	376	376	368	367	401	432	438	445	458	479	463	434	428	418	412	412
9 q	402	382	388	408	411	407	402	394	384	371	362	369	378	386	397	403	417	420	425	425	427	422	420	417	401
10 q	414	405	407	415	414	409	403	394	382	376	371	382	398	411	414	414	420	423	430	432	432	428	425	423	409
11	423	423	424	423	419	413	406	402	392	378	371	380	408	440	442	405	424	440	463	439	434	428	420	422	417
12	420	418	419	417	413	402	394	392	390	390	385	386	414	446	443	466	483	522	465	424	408	402	400	403	421
13 q	405	404	405	401	401	391	383	382	373	360	356	351	350	360	381	394	416	432	452	446	438	440	433	425	399
14	423	422	420	425	441	429	415	359	410	402	376	388	370	405	428	520	546	495	461	432	425	419	339	269	417
15	252	374	392	368	372	386	379	368	360	365	366	359	366	390	404	395	421	428	434	442	435	419	405	409	387
16	409	407	385	382	406	406	395	391	376	348	349	356	376	396	388	411	440	491	506	544	454	387	386	351	406
17	350	355	350	376	400	385	362	348	346	358	365	370	361	384	400	414	412	449	457	456	441	433	405	410	391
18	376	383	396	405	410	400	391	383	374	362	369	370	381	390	397	424	433	427	459	444	435	425	411	409	402
19	405	394	405	411	406	396	379	380	388	382	370	361	375	389	403	418	437	451	449	444	430	438	419	355	404
20 d	261	350	398	411	385	280	354	382	374	345	317	342	364	450	512	521	561	497	459	431	423	377	408	408	400
21 d	403	402	403	392	400	402	392	386	376	362	354	333	418	480	405	393	463	490	428	417	408	403	399	395	404
22	394	373	306	342	322	372	371	368	364	362	353	353	361	356	386	410	422	419	427	437	447	431	408	371	381
23	355	380	378	400	408	401	390	382	378	365	359	362	370	391	390	398	406	415	413	421	419	406	402	399	391
24	402	405	415	420	417	408	402	391	384	376	379	388	411	376	398	421	410	408	405	417	428	434	433	421	406
25	416	417	416	420	420	380	347	389	378	374	385	378	374	379	405	416	420	423	428	432	425	417	413	414	403
26	416	417	418	421	393	356	345	347	325	344	366	392	387	369	383	438	461	474	486	474	445	416	399	399	403
27	396	380	368	339	354	391	384	368	366	366	365	367	374	386	415	434	424	448	445	437	437	420	408	385	394
28	377	389	402	404	405	403	382	386	391	377	361	350	367	392	394	418	440	459	446	444	423	420	410	403	402
29	403	399	402	402	394	395	394	383	372	361	365	371	382	408	417	419	412	428	429	434	422	410	408	407	401
30 q	407	408	408	409	391	401	402	394	383	374	369	376	389	404	414	416	418	429	425	422	425	417	416	410	404
31	410	408	411	407	410	416	408	397	397	385	365	356	358	376	395	403	417	421	427	427	438	427	421	412	404
Mean	386	386	386	385	392	383	377	372	367	362	362	366	384	409	425	440	450	455	453	443	430	407	395	396	400

Corrections to be applied to all values: H, −6γ; D, −4·0′; V, −15γ.

MAGNETIC DECLINATION (WEST)

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

29 LERWICK (D) — 12° + — JULY 1939

	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	26·8	24·9	23·3	23·0	21·9	21·5	21·5	23·5	21·2	23·9	26·4	30·2	31·9	32·0	33·4	30·3	28·5	28·4	29·3	29·3	28·3	27·6	29·2	28·6	26·9
2	26·0	27·4	21·2	19·6	22·7	23·3	24·6	18·9	17·8	21·7	24·7	26·7	28·3	30·4	31·1	30·1	29·2	28·2	26·9	27·4	28·9	29·1	27·3	27·2	25·8
3 d	27·7	26·2	22·7	29·2	15·0	18·2	20·7	22·0	26·4	28·4	29·2	30·1	26·7	25·8	41·0	48·9	42·6	40·5	31·7	35·9	32·6	31·4	30·3	35·1	29·9
4 d	33·8	23·4	19·5	17·3	17·2	18·1	17·8	17·8	19·4	20·7	22·8	25·7	28·5	32·1	35·3	37·2	36·5	37·2	36·2	41·3	32·5	29·8	31·6	21·8	27·2
5 d	23·1	18·6	18·7	18·9	16·5	14·1	33·7	29·8	26·1	16·8	22·8	27·1	35·3	34·8	46·6	46·2	46·5	51·4	52·6	42·4	39·0	23·8	21·5	22·9	30·4
6	13·8	3·5	20·2	19·2	17·2	20·1	22·7	20·1	16·5	15·0	15·7	21·8	26·9	30·2	30·4	29·2	27·0	26·3	25·7	26·0	26·5	26·7	27·7	26·8	22·3
7 q	25·1	23·4	24·0	21·3	20·2	18·7	18·2	18·6	20·3	23·1	25·0	27·7	30·3	29·9	29·7	30·0	29·6	28·4	27·0	26·9	27·2	26·8	26·5	26·8	25·2
8	26·4	25·9	24·3	21·3	19·2	17·7	17·9	18·1	17·8	20·0	23·4	27·1	29·6	30·4	30·4	29·5	28·6	28·6	30·4	30·1	30·4	29·2	29·1	29·0	25·6
9 q	25·8	26·3	24·8	18·5	18·1	17·0	16·7	17·1	18·8	22·5	25·9	30·5	33·8	35·0	32·2	30·1	30·0	28·8	28·6	28·7	28·9	28·5	26·6	26·1	25·8
10 q	27·1	27·3	27·2	21·1	17·5	16·6	16·0	17·5	19·1	21·7	24·3	26·2	29·4	28·8	27·4	28·5	29·3	29·4	29·7	29·3	28·6	27·8	26·2	25·3	25·1
11	24·2	23·6	23·1	21·3	18·9	17·2	15·6	14·7	15·0	18·0	22·4	27·2	32·4	38·1	34·6	32·8	30·5	31·6	32·4	28·1	28·5	27·7	26·3	24·9	25·4
12	24·8	23·8	23·2	21·4	19·6	17·5	18·2	19·7	20·5	22·2	26·2	29·9	34·9	36·5	34·8	34·5	34·6	35·0	27·9	29·5	29·2	28·8	27·1	24·1	26·8
13 q	23·8	24·4	23·4	23·4	21·9	20·3	18·3	19·1	20·8	24·0	27·6	32·0	34·7	35·2	32·6	29·5	28·1	26·9	26·6	26·2	27·9	29·8	29·6	26·7	26·4
14	26·8	27·7	25·6	22·1	22·7	27·3	27·0	36·1	33·9	25·9	26·7	31·3	34·2	36·6	31·9	30·7	29·8	27·8	27·6	28·2	29·0	20·6	13·5	14·3	27·4
15	23·2	23·6	21·2	19·7	17·3	17·7	14·8	15·1	17·7	20·3	21·8	26·2	30·5	31·8	32·4	30·2	31·2	31·3	30·9	30·1	28·4	28·0	30·6	22·2	24·8
16	22·8	22·6	23·8	25·5	17·8	14·8	14·9	17·4	18·9	21·9	25·3	31·0	32·7	32·9	33·7	33·6	33·6	35·8	35·2	28·3	17·8	16·7	23·7	27·5	25·3
17	19·5	14·7	10·1	21·2	17·8	15·5	18·7	24·3	21·2	20·3	23·4	28·1	30·8	31·2	30·2	28·3	26·5	29·2	29·4	28·1	26·9	24·9	25·0	21·0	23·6
18	23·2	26·4	17·9	15·3	18·1	18·1	17·8	16·6	15·8	18·8	23·1	28·9	33·6	33·4	33·6	34·4	33·2	30·6	26·5	27·1	26·4	26·2	24·4	23·9	24·7
19	24·0	25·3	23·6	22·0	21·5	21·2	21·1	20·3	19·2	21·3	24·5	28·8	32·8	34·7	35·0	34·7	32·8	29·8	30·6	28·6	28·2	27·9	21·8	17·2	26·1
20 d	21·8	12·5	11·3	9·4	8·5	17·2	24·0	21·2	18·7	24·0	28·1	30·2	29·8	26·7	30·9	32·0	38·2	40·8	33·0	29·6	25·4	28·7	26·2	26·0	24·8
21 d	24·3	22·7	24·2	24·1	21·6	19·5	18·2	17·6	19·8	22·8	23·4	23·7	26·6	28·3	35·6	39·1	32·2	26·5	25·9	28·6	29·7	30·5	29·6	26·9	25·9
22	25·6	26·4	25·2	22·3	22·3	22·9	25·9	24·5	21·9	23·5	26·0	30·5	31·3	30·2	29·2	28·5	28·4	28·2	27·5	27·6	27·2	27·2	24·9	28·0	26·5
23	26·8	19·4	16·9	18·5	16·1	16·6	16·5	18·0	18·7	22·7	23·1	24·9	27·4	29·1	29·3	28·5	26·5	26·2	25·5	26·4	26·6	25·8	25·3	24·6	23·3
24	24·1	23·6	21·6	20·1	19·3	17·6	17·4	18·9	21·7	24·3	26·0	30·2	32·8	34·4	32·1	30·3	29·3	27·4	26·7	27·4	28·2	27·4	27·2	25·9	25·6
25	23·7	24·1	20·0	21·0	20·9	23·8	26·9	29·0	27·3	25·0	24·8	26·7	29·5	29·2	28·6	26·7	25·0	24·8	27·2	27·4	27·4	26·2	26·5	25·4	25·7
26	24·8	24·0	23·2	21·8	22·5	31·9	34·3	28·6	27·0	37·5	34·2	31·5	35·2	35·0	35·1	32·4	28·9	26·4	29·0	29·7	28·1	26·9	27·0	24·5	29·1
27	23·8	26·3	24·5	22·4	23·4	20·5	19·2	20·1	22·2	23·1	25·5	27·4	29·6	29·1	27·4	26·6	25·5	25·0	27·0	27·2	27·0	25·6	15·0	19·9	24·3
28	20·3	22·2	20·9	20·4	20·3	20·5	25·2	26·7	23·2	23·7	25·9	29·5	32·3	32·1	31·2	28·2	25·1	25·8	26·1	27·6	27·3	27·7	25·5	21·5	25·4
29	22·2	21·3	20·8	21·2	23·0	21·7	18·8	16·3	17·5	19·8	21·7	24·7	29·5	31·0	29·5	27·9	27·4	26·8	25·0	22·8	25·3	26·5	26·2	25·5	23·9
30 q	26·3	27·2	25·2	23·0	23·9	22·8	20·6	19·1	20·6	23·8	26·4	29·6	32·4	33·1	31·8	29·3	27·4	23·8	25·6	26·3	26·2	26·0	25·8	24·8	25·9
31	24·6	22·9	23·2	22·7	21·9	21·8	19·1	19·6	21·8	22·8	25·0	28·7	32·7	33·4	30·8	28·5	27·5	25·4	25·9	26·0	25·7	25·3	23·7	23·5	25·1
Mean	24·4	23·0	21·8	20·9	19·5	19·7	20·7	20·8	20·9	22·6	24·9	28·2	31·2	32·0	32·5	31·8	30·6	30·1	29·3	29·0	28·0	26·9	25·8	24·8	25·8

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

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT

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

30 LERWICK (V) — 46,000γ (0·46 C.G.S. unit) + — JULY 1939

	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	806	827	838	847	846	850	854	852	845	844	858	840	848	867	868	874	877	873	862	858	866	862	855	848	853
2	832	822	818	841	844	840	832	841	850	846	841	843	855	844	848	868	865	865	868	865	859	850	834	834	846
3 d	836	833	830	798	759	807	826	836	841	842	844	847	908	1029	1004	974	922	925	852	845	883	865	863	821	866
4 d	796	825	842	851	859	863	870	870	863	862	865	862	863	861	857	862	896	882	918	879	862	944	946	851	869
5 d	864	841	781	727	676	606	634	705	768	835	933	941	986	1016	968	959	875	888	903	887	847	807	784	752	833
6	714	696	653	663	758	798	822	838	857	868	872	866	863	865	866	875	880	880	874	871	865	863	854	841	825
7 q	852	858	858	858	863	865	862	859	857	854	850	847	847	858	862	862	858	857	858	861	858	861	860	854	857
8	848	848	851	856	859	859	862	864	864	860	855	853	848	842	851	866	876	887	888	895	885	876	866	859	863
9 q	854	848	805	835	852	858	862	860	858	857	850	842	839	842	838	846	852	862	864	863	861	860	860	859	851
10 q	855	853	839	841	852	856	855	856	855	851	840	837	834	836	845	849	848	851	851	849	848	849	852	853	848
11	853	851	851	849	850	853	853	848	844	835	826	819	807	805	839	852	847	840	840	861	855	850	849	848	843
12	848	847	846	847	848	852	848	844	843	839	834	825	825	834	846	862	872	894	907	883	861	851	844	848	852
13 q	843	844	847	847	840	842	843	843	848	852	850	847	846	845	853	868	869	865	863	870	867	856	851	847	852
14	845	837	834	850	845	839	838	828	797	818	842	852	874	880	878	934	1009	963	917	895	874	868	767	741	859
15	732	790	843	852	835	846	853	850	849	849	847	856	856	862	863	859	852	852	848	846	856	863	817	827	842
16	849	851	842	811	820	839	845	838	840	843	843	837	839	857	855	849	856	861	894	893	807	764	793	746	836
17	696	699	756	778	802	833	838	834	829	841	843	845	849	847	855	868	875	864	860	863	862	823	787	784	822
18	775	746	765	794	818	836	848	853	848	849	849	843	844	849	850	856	871	882	881	875	886	857	845	840	839
19	839	827	827	843	851	851	852	846	843	847	844	839	836	839	848	857	862	870	865	869	868	835	781	737	841
20 d	569	686	751	802	816	763	719	798	832	841	851	847	872	955	1002	970	980	973	947	912	860	784	810	846	841
21 d	845	852	852	853	859	869	872	868	861	863	857	874	902	978	964	913	956	946	923	896	878	867	853	842	885
22	843	822	741	757	767	799	813	829	847	853	858	858	869	870	852	855	858	863	870	871	873	871	861	833	839
23	741	772	822	841	851	850	855	856	856	862	864	859	853	851	855	853	853	855	860	859	858	863	858	854	846
24	847	837	841	844	849	852	851	855	854	846	839	837	846	860	858	856	858	857	854	849	848	850	852	853	850
25	847	834	836	843	848	853	834	815	834	843	850	864	864	866	871	875	877	872	863	862	863	862	860	856	854
26	855	854	851	843	830	733	698	693	810	783	819	841	856	891	920	893	917	928	915	908	891	850	858	841	845
27	852	846	821	812	813	827	844	851	855	851	847	847	855	864	882	898	908	891	869	861	864	861	820	811	852
28	807	828	845	855	855	850	851	840	843	841	849	854	855	860	865	875	885	885	883	874	871	862	848	818	854
29	830	841	845	849	849	846	850	857	858	855	850	843	837	843	858	864	864	857	866	864	860	852	850	850	852
30 q	846	841	833	833	837	828	831	836	839	837	837	834	832	842	853	861	864	868	863	855	850	851	851	852	845
31	851	854	854	854	852	841	841	841	835	841	844	844	842	845	854	860	858	858	855	853	849	849	842	833	848
Mean	815	820	820	825	829	829	831	836	843	845	850	850	856	871	875	878	882	881	877	871	862	852	841	828	849

Corrections to be applied to all values: H, −6γ; D, −4·0′; V, −15γ.

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

31 LERWICK — JULY 1939

	TERRESTRIAL MAGNETIC ELEMENTS																		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	$\frac{HR_H + VR_V}{10{,}000\gamma^2}$ §	
	h. m.	γ		γ	h. m.	γ	h. m.	′		′	h. m.	′	h. m.	γ		γ	h. m.	γ			°A
1	19 29	455		333	10 42	122	14 41	34·9		18·6	8 23	16·3	16 36	880		797	0 5	83	564	0	85·2
2	18 20	461		368	10 45	93	13 47	32·4		16·7	8 17	15·7	15 39	872		810	1 55	62	424	0	85·2
3 d	18 12	740		337	8 50	403	15 37	55·5		8·9	18 23	46·6	13 43	1092		729	4 6	363	2279	1	85·2
4 d	17 4	629		−525	22 10	1154	22 13	70·7		14·1	23 0	56·6	22 13	1340		751	22 36	589	4419	2	85·4
5 d	15 36	879		35	5 42	844	20 0	66·9		−10·2	5 48	77·1	12 57	1038		511	5 47	527	3681	2	85·9
6	20 34	426		31	1 47	395	3 24	31·3		−4·0	1 8	35·3	16 54	883		605	3 1	278	1870	1	86·6
7 q	20 24	421		361	11 25	60	12 50	30·8		17·8	6 37	13·0	5 24	867		846	12 13	21	184	0	86·8
8	19 3	486		362	12 16	124	20 3	32·4		17·2	5 19	15·2	19 49	899		839	13 15	60	460	0	86·3
9 q	20 0	430		359	10 29	71	13 2	35·5		16·0	7 1	19·5	19 0	865		793	2 24	72	439	0	86·0
10 q	20 34	434		368	10 29	66	18 28	30·2		14·9	6 10	15·3	0 0	859		832	12 47	27	221	0	85·2
11	14 4	512		367	10 54	145	14 4	40·2		13·8	8 3	26·4	19 34	864		800	14 5	64	565	1	84·6
12	14 59	536		368	11 22	168	14 59	39·3		16·5	5 27	22·8	18 9	916		818	11 56	98	701	1	84·4
13 q	18 36	461		346	11 47	115	13 0	35·1		17·8	6 57	17·3	15 50	874		839	4 52	35	330	0	85·0
14	16 8	574		152	24 0	422	8 6	41·6		9·7	22 31	31·9	17 6	1026		732	24 0	294	1984	1	85·1
15	18 58	447		137	0 2	310	22 4	35·4		13·1	6 20	22·3	21 27	865		699	0 16	166	1223	1	85·1
16	19 41	614		331	23 18	283	17 55	41·5		9·5	20 56	32·0	19 41	941		736	23 15	205	1367	1	85·1
17	19 5	465		294	0 20	171	13 26	32·8		3·4	2 7	29·4	15 54	878		677	0 26	201	1187	1	85·0
18	18 20	472		359	9 56	113	15 14	35·7		14·3	8 31	21·4	17 58	891		734	1 26	157	898	0	84·9
19	21 25	464		222	23 59	242	24 0	36·3		8·2	22 48	28·1	19 50	876		652	24 0	224	1396	1	85·1
20 d	16 54	590		48	0 14	542	17 16	49·8		5·6	4 27	44·2	14 37	1036		494	0 14	542	3317	1	86·1
21 d	13 34	667		308	11 19	359	15 16	40·9		13·8	12 32	27·1	14 1	1082		834	23 18	248	1678	1	86·7
22	20 42	452		284	2 31	168	23 46	35·8		18·2	10 14	17·6	13 13	882		720	23 57	162	1000	1	86·9
23	17 19	435		334	0 10	101	0 0	34·2		12·3	2 23	21·9	9 53	866		724	0 0	142	810	0	86·8
24	21 9	444		367	13 33	77	13 14	35·8		15·9	6 12	19·9	14 59	864		834	1 46	30	251	0	86·4
25	19 15	438		319	6 16	119	7 12	30·9		18·3	2 27	12·6	16 8	882		802	7 35	80	545	1	86·4
26	18 2	508		312	8 35	196	5 11	45·5		15·9	4 25	29·6	14 48	935		688	6 28	247	1438	1	86·2
27	17 48	467		318	3 41	149	12 38	30·8		9·7	22 11	21·1	16 14	911		801	23 58	110	730	1	86·1
28	17 53	469		345	11 4	124	12 36	33·5		18·4	5 25	15·1	16 25	893		798	0 19	95	624	0	86·0
29	19 34	443		354	9 11	89	13 38	31·6		15·9	7 22	15·7	15 52	871		813	0 0	58	399	0	86·2
30 q	17 49	441		365	10 16	76	13 16	33·5		18·4	7 37	15·1	17 40	871		825	5 37	46	324	0	86·6
31	20 21	447		353	11 38	94	13 1	34·3		17·8	6 43	16·5	16 1	862		823	23 57	39	318	0	86·7
Mean	− −	507		268	− −	239	− −	38·6		12·8	− −	25·8	− −	925		753	− −	172	1149	0·61	85·8

§ For explanation see p. 3.

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 1939

	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	408	393	396	402	407	405	408	399	387	373	373	373	379	382	392	410	424	430	431	431	434	429	425	417	405
2 q	415	413	411	409	412	408	398	395	391	386	372	365	368	374	387	396	411	425	433	429	423	418	414	414	403
3 q	414	411	412	414	414	412	404	394	384	374	373	372	380	395	416	418	421	418	422	424	431	427	427	422	407
4	418	417	414	415	417	414	409	400	387	376	368	377	395	404	411	406	425	443	438	441	431	429	428	423	412
5 q	421	418	417	420	421	421	414	404	395	388	382	380	382	392	401	416	423	429	434	443	440	440	438	425	414
6 q	429	421	419	421	419	415	410	400	385	373	365	367	374	390	403	412	429	432	434	435	435	430	424	418	410
7 q	416	415	420	417	417	414	408	400	396	391	382	371	381	384	397	404	411	417	429	431	429	427	424	423	409
8	424	420	412	417	417	414	411	405	395	383	375	369	376	386	402	414	428	425	433	457	447	428	428	424	412
9	421	419	420	420	420	418	414	407	396	384	369	379	397	409	411	414	420	425	438	444	437	428	425	425	414
10	421	420	420	415	413	410	409	403	390	372	359	355	414	412	417	429	461	520	549	516	463	433	428	423	427
11	415	413	402	412	415	412	401	388	378	373	370	368	390	397	389	393	435	424	445	452	446	443	437	376	407
12 d	366	397	295	130	-52	224	284	322	320	270	284	438	455	402	428	464	475	452	441	440	388	324	167	188	329
13 d	195	39	165	173	329	371	362	352	347	337	335	365	354	401	419	472	511	441	418	431	410	391	380	359	348
14	377	359	350	374	362	331	358	371	360	348	348	350	362	369	381	388	396	396	407	404	400	399	398	397	374
15	397	394	393	393	392	390	384	376	365	365	361	356	362	379	389	402	411	410	409	422	421	421	420	412	393
16 d	409	402	402	399	412	394	374	371	377	374	361	381	408	496	849	978	614	403	404	430	414	397	314	82	435
17	252	221	279	307	314	361	378	356	327	319	330	348	368	367	420	416	385	391	403	409	415	407	399	394	357
18	398	396	396	396	398	390	381	372	360	351	348	358	358	375	393	405	428	449	419	425	423	413	403	403	393
19	400	399	393	398	413	412	405	398	378	357	351	360	379	412	442	492	457	406	420	413	409	407	404	401	404
20	400	402	402	399	399	396	387	379	365	360	366	378	384	393	402	395	399	413	420	426	431	425	424	420	399
21	415	414	410	408	405	401	397	390	376	371	363	364	388	408	408	404	412	413	428	428	428	434	421	375	403
22 d	405	197	-451	-323	352	401	411	403	399	367	371	365	444	573	795	955	923	697	525	231	-89	-52	-451	-374	295
23 d	-600	-182	-195	-204	-33	-76	35	112	197	301	374	420	429	447	548	481	473	471	467	428	388	385	354	266	220
24	275	355	396	391	394	395	385	365	369	353	340	342	366	378	386	404	407	396	400	402	405	397	397	398	379
25	390	386	374	363	382	391	387	380	381	375	365	368	376	365	371	385	397	416	419	419	405	412	402	388	387
26	390	391	392	393	397	391	387	382	373	365	368	373	370	391	407	399	402	409	416	413	412	410	406	405	393
27	397	382	366	390	403	401	396	384	366	355	351	364	391	411	408	398	402	406	408	416	417	411	409	411	393
28	407	402	397	397	397	399	392	382	371	364	363	365	387	393	390	392	408	407	417	417	417	413	412	409	396
29	397	398	401	398	406	405	403	402	390	371	362	371	372	374	383	392	402	414	424	428	429	415	409	409	398
30	406	406	406	405	405	408	414	410	398	382	367	369	379	388	395	422	410	418	425	427	423	414	408	404	404
31	402	401	404	404	403	401	397	392	382	371	364	366	373	384	395	397	405	416	423	425	425	423	417	418	399
Mean	357	359	339	340	369	378	381	377	370	362	360	370	385	401	433	450	445	433	432	424	406	399	374	360	388

Corrections to be applied to all values: H, -6γ; D, -4·0′; V, -15γ.

MAGNETIC DECLINATION (WEST)

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

33 LERWICK (D) — 12° + — AUGUST 1939

	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	24·2	21·5	19·4	21·0	21·3	20·3	19·9	18·9	20·7	23·9	26·2	29·7	33·2	33·9	32·6	30·6	26·7	24·2	24·0	25·5	25·8	26·0	24·4	24·7	24·9
2 q	24·4	23·3	23·2	22·0	20·2	18·3	18·0	18·5	21·7	23·0	24·7	27·3	31·2	32·8	31·9	30·3	27·7	25·4	24·9	25·4	25·6	25·8	25·1	24·2	24·8
3 q	23·9	23·4	22·2	21·3	20·2	18·5	17·9	18·1	18·6	21·1	25·1	28·8	30·8	31·1	30·3	27·4	25·7	24·4	25·3	26·6	26·7	26·1	26·8	26·5	24·5
4	26·7	25·7	25·0	24·5	20·2	18·2	17·4	18·0	19·1	21·4	25·0	28·8	31·2	33·2	32·6	30·5	26·7	25·8	25·8	27·1	28·2	27·3	24·7	24·2	25·3
5 q	25·2	23·6	21·7	20·1	19·7	18·5	18·2	18·3	19·7	21·6	24·6	28·1	31·4	32·4	31·5	29·9	29·4	28·1	27·4	27·3	27·6	27·4	24·2	23·5	25·0
6 q	23·4	22·2	22·0	22·8	21·2	19·0	17·1	15·8	17·1	20·0	24·8	29·5	33·1	34·8	34·2	32·1	31·1	29·0	27·7	27·6	27·6	26·3	24·4	24·0	25·3
7 q	23·9	22·5	21·8	20·4	20·5	18·8	17·5	18·6	20·8	22·3	24·5	28·3	31·4	33·8	34·9	34·3	32·2	29·5	27·1	26·4	25·8	25·5	24·8	23·7	25·4
8	24·0	23·7	24·3	23·3	21·1	18·7	17·8	18·2	18·7	21·4	25·1	29·7	32·7	33·6	32·4	30·6	30·1	28·0	27·3	28·4	27·7	27·2	25·3	24·6	25·6
9	24·2	23·5	22·9	21·9	20·7	19·6	18·2	18·2	19·6	22·6	26·3	28·7	31·7	33·3	32·1	30·2	27·7	26·8	26·9	28·1	27·5	27·1	26·6	25·9	25·4
10	24·6	23·4	22·5	21·2	19·0	18·2	17·4	17·2	19·3	19·0	23·8	35·8	34·5	34·6	34·5	33·7	31·5	30·2	32·2	32·8	28·1	27·0	27·3	27·7	26·5
11	26·1	24·1	22·2	18·4	17·5	16·9	15·8	16·1	18·2	21·6	25·9	30·1	32·6	33·2	30·9	30·5	33·3	34·1	33·7	32·8	30·9	28·0	30·8	23·8	26·1
12 d	23·6	21·7	17·0	-3·3	7·7	11·9	13·2	21·7	12·4	23·7	31·2	27·4	33·6	35·7	31·4	26·8	24·8	22·9	24·1	23·9	20·7	10·7	6·4	24·4	20·6
13 d	28·4	35·7	5·2	9·2	11·7	14·6	12·8	14·8	16·8	19·5	25·1	26·7	30·9	32·1	31·0	31·7	26·8	30·0	27·8	26·6	24·8	23·9	26·4	30·0	23·4
14	27·2	29·5	30·1	24·8	22·2	22·6	19·8	18·7	19·9	20·1	23·5	26·3	29·4	29·8	29·2	27·5	26·1	24·7	24·0	23·7	23·7	24·1	23·9	23·7	24·8
15	23·7	22·9	22·3	21·1	20·1	18·5	17·6	17·8	20·0	24·0	27·9	31·3	34·0	34·1	32·2	29·9	28·1	25·7	24·0	24·6	24·3	25·5	25·0	22·8	24·9
16 d	21·6	21·2	20·7	20·1	20·2	20·8	19·0	20·7	21·1	22·1	25·7	28·4	30·9	35·3	28·9	32·5	33·2	27·6	28·3	30·2	30·5	30·2	30·7	46·7	26·9
17	14·9	15·4	-1·3	6·5	16·9	15·4	15·3	18·0	22·7	26·7	30·3	33·2	34·4	34·8	32·8	28·3	24·7	23·8	24·6	26·9	26·7	25·7	25·3	25·0	22·8
18	23·1	21·8	21·0	21·5	19·9	19·6	18·1	18·5	20·2	23·9	28·7	33·6	36·1	36·5	33·3	30·1	25·4	21·8	25·5	26·2	25·0	26·3	27·1	25·1	25·3
19	24·5	24·7	23·1	20·0	17·5	16·1	15·9	16·2	16·8	20·6	25·3	30·8	35·7	38·4	39·4	38·0	32·5	27·2	27·7	27·1	26·1	24·8	24·8	23·7	25·7
20	22·2	21·4	21·3	20·5	19·6	18·1	17·1	17·5	19·1	22·1	25·7	29·3	30·8	30·7	30·0	28·4	26·9	25·7	25·5	25·7	26·2	26·1	25·8	24·6	24·2
21	24·1	23·1	22·2	21·2	19·6	17·7	16·1	17·1	18·6	22·3	26·9	32·0	34·2	34·7	31·5	29·4	28·9	27·4	26·9	26·3	26·5	26·5	24·6	23·6	25·1
22 d	20·0	16·2	6·2	-40·3	4·1	9·4	9·5	11·3	17·1	24·7	26·3	29·0	19·7	15·7	12·2	26·8	64·7	51·7	38·7	26·9	22·7	15·9	17·7	17·3	17·9
23 d	11·7	-17·8	5·7	-1·3	-7·8	35·7	21·2	33·7	21·1	13·3	18·8	27·0	27·4	29·2	21·7	25·5	27·5	25·7	20·0	16·4	18·7	19·8	19·7	20·6	18·1
24	23·1	27·5	20·1	19·6	17·7	16·8	17·1	19·8	21·3	24·1	26·3	27·3	30·2	30·9	28·3	26·7	24·2	21·3	22·8	24·3	24·8	24·5	24·6	22·4	23·6
25	26·3	21·4	20·3	25·9	20·6	18·6	20·0	21·5	23·7	25·2	28·3	29·3	31·9	31·2	30·1	27·5	25·1	23·1	22·6	22·8	24·3	26·4	23·8	21·7	24·7
26	21·7	21·0	20·4	20·1	19·2	18·5	17·3	18·4	20·3	23·0	25·7	27·7	29·3	28·4	26·0	24·2	23·7	23·6	24·0	23·6	25·4	24·9	22·4	19·8	22·9
27	20·1	17·3	18·2	15·6	18·2	17·1	15·7	17·1	18·2	22·7	27·8	30·3	32·0	31·9	29·1	27·1	25·3	23·7	23·8	24·6	22·7	22·9	24·8	23·8	22·9
28	22·2	22·5	21·7	20·6	19·8	17·8	16·3	16·7	20·2	24·7	27·7	31·1	33·7	32·8	31·2	28·4	26·3	24·2	23·9	25·4	26·0	24·8	25·1	25·2	24·5
29	26·9	24·8	18·3	18·1	18·7	18·3	17·4	18·2	21·1	23·7	26·2	28·5	30·1	29·9	27·5	25·6	23·9	22·8	22·8	23·4	24·6	25·4	25·5	25·6	23·6
30	25·0	24·5	23·6	23·7	22·7	21·5	20·4	20·5	21·7	22·7	25·2	29·4	32·9	34·3	33·3	29·2	25·2	22·5	22·9	23·9	23·7	24·8	25·0	24·6	25·1
31	23·9	22·7	22·3	21·6	20·7	19·2	17·5	16·6	17·5	20·8	25·0	28·7	31·2	32·2	31·5	29·0	25·7	24·9	24·8	25·0	26·3	24·6	24·8	23·6	24·2
Mean	23·4	21·8	19·5	16·8	17·8	18·5	17·2	18·4	19·5	22·2	25·9	29·4	31·7	32·4	30·6	29·4	28·7	26·6	26·0	26·0	25·7	24·9	24·4	23·6	24·2

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

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT

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

34 LERWICK (V) — 46,000γ (0·46 C.G.S. unit) + — AUGUST 1939

	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	814	809	829	844	848	850	846	851	851	845	839	833	834	844	850	849	849	855	854	851	850	850	849	850	843
2 q	850	852	855	856	857	857	856	852	849	843	842	836	835	838	843	848	853	855	856	855	852	850	848	846	849
3 q	845	849	851	852	855	854	854	854	850	848	844	840	842	847	849	855	859	862	858	854	851	851	848	848	851
4	848	850	852	850	851	855	855	855	850	845	844	840	839	844	850	855	857	856	857	859	859	853	848	838	850
5 q	839	844	847	849	850	850	850	847	846	845	838	833	834	839	838	840	847	852	850	847	847	845	842	844	844
6 q	839	840	844	842	844	847	851	854	845	837	830	824	828	830	835	840	843	848	848	848	846	845	847	845	842
7 q	844	841	838	842	845	847	847	845	844	839	833	827	824	830	832	838	842	848	849	850	850	849	848	846	842
8	844	843	841	838	841	847	850	848	846	842	837	829	824	828	829	835	834	841	841	838	854	859	849	847	841
9	847	847	846	848	850	850	852	852	851	848	848	842	841	844	845	847	846	848	849	850	854	853	850	848	848
10	847	846	846	849	850	849	849	845	841	843	844	836	829	832	834	848	854	893	940	949	931	886	870	856	861
11	849	838	831	843	851	851	855	855	852	848	842	841	839	848	852	849	848	856	850	850	855	853	845	834	847
12 d	782	778	662	521	529	677	782	811	877	914	903	925	912	920	924	914	901	896	882	875	835	766	662	643	804
13 d	663	655	668	698	812	852	849	856	859	859	863	862	874	883	901	896	899	900	891	868	841	828	832	810	830
14	831	816	813	827	841	849	841	845	848	850	853	856	859	865	868	866	862	863	859	858	856	853	853	857	850
15	859	863	864	864	865	863	861	860	856	846	841	843	841	844	853	858	860	862	865	860	859	855	853	852	856
16 d	852	852	852	851	834	831	834	834	833	836	841	846	862	924	995	880	1048	975	914	888	872	857	818	751	870
17	724	606	604	689	754	786	840	858	868	866	863	860	874	881	888	916	921	896	876	860	857	860	858	857	828
18	857	861	864	864	867	869	869	868	865	865	861	860	861	862	872	883	893	901	883	869	868	857	818	838	866
19	848	850	852	856	860	869	871	869	871	868	856	841	834	835	852	882	934	923	882	869	865	861	858	856	865
20	854	854	854	858	860	862	862	863	865	860	851	841	834	837	840	854	861	860	863	862	858	856	852	851	855
21	850	850	852	854	858	860	857	855	852	842	835	826	825	835	851	850	856	864	864	865	864	855	824	730	845
22 d	736	630	694	396	708	804	837	846	839	843	849	859	936	1099	1085	920	786	804	909	882	807	748	939	826	824
23 d	994	466	499	620	512	674	827	786	846	908	997	968	969	947	990	981	949	950	940	912	872	852	787	727	832
24	692	766	848	865	864	870	868	877	882	880	877	870	868	894	909	904	905	903	880	870	869	872	867	862	865
25	815	833	842	827	828	846	847	845	844	853	861	860	870	879	884	886	884	886	888	888	879	868	858	843	859
26	851	859	859	859	859	864	868	867	864	861	861	859	860	866	879	891	887	887	886	883	870	861	856	846	867
27	840	832	810	831	852	860	860	856	857	851	852	852	855	871	892	901	903	889	884	874	872	868	859	850	861
28	851	851	857	859	865	865	865	865	863	861	862	857	857	874	885	893	893	894	886	883	872	867	863	859	869
29	855	812	826	840	850	854	855	854	855	857	857	858	861	862	865	866	868	867	865	864	863	865	864	859	856
30	859	859	859	859	859	859	854	853	854	854	852	851	853	861	876	898	927	902	882	875	869	859	853	853	866
31	856	859	860	860	862	864	862	860	857	853	846	837	834	842	844	850	853	852	848	847	847	848	849	848	852
Mean	830	807	810	807	822	840	851	851	854	855	856	852	855	868	878	874	878	877	874	868	859	850	844	830	850

Corrections to be applied to all values: H, −6γ; D, −4·0′; V, −15γ.

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

35 LERWICK — AUGUST 1939

	TERRESTRIAL MAGNETIC ELEMENTS																	Magnetic character of day (0-2)	Temperature in magnet house 200 +
	Horizontal force					Declination					Vertical force					$\frac{HR_H + VR_V}{10{,}000\gamma^2}$§			
	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.	′	′	h. m.	′	h. m.	γ	γ	h. m.	γ				°A
1	18 32	438	369	11 16	69	13 9	34·4	17·8	1 59	16·6	17 32	856	807	0 43	49	328		0	86·6
2 q	19 5	435	363	11 57	72	13 31	33·3	16·8	6 41	16·5	5 0	859	833	11 55	26	226		0	86·6
3 q	20 46	434	370	11 53	64	13 34	31·4	17·7	6 42	13·7	17 29	863	840	11 36	23	200		0	86·7
4	17 30	448	367	10 38	81	13 43	34·3	17·0	6 9	17·3	20 13	861	837	12 26	24	229		0	87·1
5 q	22 35	448	373	11 2	75	13 52	33·0	16·8	7 12	16·2	17 41	855	831	11 55	24	220		0	87·7
6 q	19 41	438	359	10 54	79	13 31	35·0	15·6	7 21	19·4	7 30	855	823	11 40	32	264		0	88·3
7 q	18 15	434	368	11 18	66	14 5	35·3	17·0	6 36	18·3	18 44	851	823	11 59	28	226		0	88·0
8	19 53	465	364	11 32	101	13 25	34·0	17·7	6 40	16·3	21 35	862	823	12 22	39	328		0	88·0
9	19 31	447	363	10 45	84	13 14	33·8	17·7	6 55	16·1	20 51	856	839	11 50	17	201		0	87·7
10	18 37	566	333	11 17	233	11 21	37·4	15·8	7 51	21·6	20 4	963	824	12 46	139	987		1	87·6
11	22 7	493	350	23 56	143	22 43	35·8	13·7	6 30	22·1	22 58	866	801	23 55	65	510		1	87·9
12 d	12 12	527	−489	4 25	1016	4 39	48·7	−37·3	3 46	86·0	11 54	955	279	4 22	676	4627		2	87·8
13 d	15 50	541	−383	1 14	924	1 36	55·4	−19·6	2 54	75·0	14 44	910	603	0 59	307	2768		2	87·1
14	18 41	412	320	5 41	92	2 37	31·9	16·2	6 46	15·7	14 49	870	803	2 52	67	446		0	87·3
15	20 8	432	354	11 51	78	13 24	34·7	16·7	7 17	18·0	17 41	869	838	10 55	31	257		0	87·0
16 d	15 49	1128	−234	23 15	1362	23 28	88·7	10·4	14 55	78·3	16 34	1075	638	23 24	437	4006		2	87·1
17	15 0	445	144	1 45	301	12 43	36·5	−16·5	2 27	53·0	16 0	927	574	2 29	353	2085		1	87·2
18	17 27	454	341	10 19	113	13 19	37·4	17·8	6 32	19·6	17 10	906	808	22 22	98	622		0	87·3
19	15 8	523	343	10 29	180	15 3	40·8	13·7	6 26	27·1	16 58	953	828	12 58	125	844		1	87·9
20	19 44	442	355	9 54	87	13 1	31·3	14·3	7 6	17·0	8 27	867	833	12 48	34	284		0	88·1
21	21 28	459	333	23 30	126	12 58	35·7	15·2	6 36	20·5	17 43	868	683	23 29	185	1047		1	87·5
22 d	15 57	1078	−932	3 0	2010	16 1	121·0	−106·7	3 25	227·7	22 16	1276	126	3 24	1150	8276		2	87·4
23 d	14 35	621	−928	0 28	1549	0 28	98·5	−65·0	1 55	163·5	0 20	1310	244	1 50	1066	7220		2	87·3
24	16 50	423	226	0 7	197	1 8	37·6	15·6	5 30	22·0	14 26	913	661	0 30	252	1463		1	87·3
25	19 19	427	342	3 6	85	12 56	32·7	17·2	5 22	15·5	19 6	891	801	0 40	90	543		0	87·4
26	18 27	423	358	10 39	65	12 37	31·2	15·9	6 46	15·3	15 29	891	838	23 38	53	342		0	87·7
27	20 7	426	345	2 26	81	13 22	32·9	11·0	3 5	21·9	16 16	905	795	2 52	110	632		0	88·1
28	18 46	424	359	11 30	65	12 48	34·9	15·3	6 47	19·6	16 2	896	848	0 22	48	319		0	88·9
29	20 26	434	358	10 45	76	1 1	36·7	16·8	6 53	19·9	16 40	869	799	1 31	70	437		0	89·1
30	15 47	439	363	10 56	76	13 43	35·4	19·7	7 28	15·7	16 42	934	848	12 0	86	511		0	88·9
31	18 42	431	359	10 53	72	13 15	32·6	15·6	7 21	17·0	5 5	864	833	12 34	31	249		0	88·7
Mean	− −	501	191	~ −	310	− −	42·3	5·5	− −	36·9	− −	919	734	− −	185	1313		0·52	87·7

§ For explanation see p. 3.

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT

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

36 LERWICK (H) — 14,000γ (0·14 C.G.S. unit) + — SEPTEMBER 1939

	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 q	410	409	410	410	408	404	394	382	366	364	360	361	367	381	403	419	399	398	411	416	414	413	409	409	397
2	408	407	408	409	407	408	398	387	377	365	360	361	378	395	404	427	427	427	421	416	421	430	428	416	404
3 d	395	398	329	253	368	401	382	364	355	361	338	346	368	381	389	401	392	405	410	430	436	409	404	401	380
4	399	397	388	401	401	392	381	373	360	343	337	340	356	376	390	390	395	395	396	402	408	407	407	405	385
5 q	404	404	404	404	404	402	401	396	385	372	360	358	368	383	393	396	404	410	419	424	418	409	407	412	397
6	393	401	410	409	410	411	404	392	387	379	370	364	363	378	389	395	404	413	424	426	431	414	409	419	400
7	407	409	406	400	404	406	403	392	379	364	358	356	373	375	374	402	406	422	426	425	420	417	418	416	398
8	411	410	406	409	408	406	403	399	390	371	359	359	373	387	402	410	411	414	417	423	428	426	426	430	403
9 d	428	421	408	420	420	402	379	403	385	380	360	331	361	390	419	439	409	408	404	427	424	403	402	400	401
10	402	385	339	342	401	395	397	381	370	355	353	362	386	426	428	404	400	401	427	422	407	401	404	398	391
11	401	398	398	398	398	393	390	381	370	352	343	352	368	379	386	393	390	394	401	410	407	405	405	410	388
12	404	402	375	387	398	399	391	380	364	362	359	360	373	380	381	396	401	401	410	412	416	415	397	404	390
13	400	404	402	404	401	395	387	378	365	355	359	370	377	394	404	400	396	401	407	410	413	419	424	417	395
14	399	406	391	381	393	394	382	364	351	351	355	376	391	411	419	420	407	399	404	407	413	406	413	405	393
15	403	407	407	406	403	398	394	384	370	355	352	352	364	375	391	393	401	407	412	413	416	421	417	410	394
16	401	409	408	408	408	402	397	389	376	361	352	356	365	382	387	396	409	423	422	426	421	422	418	416	398
17 d	414	407	401	387	369	337	365	393	380	369	367	378	390	386	385	493	825	855	574	229	220	372	386	385	419
18	326	365	375	373	374	377	380	376	366	348	337	343	352	357	363	360	374	383	391	394	394	394	396	397	371
19 d	397	393	387	399	395	380	390	372	342	329	301	310	357	369	421	616	597	527	537	496	412	356	220	65	390
20 d	150	212	271	240	301	374	341	358	341	327	341	338	361	366	397	416	444	449	442	400	392	397	402	402	353
21	397	388	376	374	381	390	387	380	372	365	354	359	380	380	389	389	403	397	407	410	421	402	402	392	387
22	386	389	391	395	397	389	391	380	364	357	346	344	363	367	391	417	392	407	408	400	405	422	400	406	388
23	397	396	397	397	397	397	396	387	372	362	358	355	354	363	373	382	395	397	408	412	410	407	395	400	388
24 q	404	404	397	401	403	403	412	406	382	363	353	354	364	374	386	391	396	404	410	414	404	405	406	406	393
25	409	406	405	406	406	404	403	393	381	370	370	355	365	380	397	418	431	445	432	411	410	413	410	400	401
26	389	361	311	303	359	384	384	377	363	349	358	359	371	385	376	376	388	409	419	424	402	403	387	401	377
27	399	398	397	399	397	396	395	389	379	361	351	354	357	367	376	387	408	418	406	406	423	409	401	405	391
28 q	401	401	402	400	399	399	397	388	380	371	367	367	369	374	380	385	394	407	412	409	410	408	407	408	393
29 q	406	406	405	403	404	402	397	391	382	376	371	367	371	377	387	396	403	408	413	416	419	418	414	410	398
30	407	406	409	410	410	407	405	397	383	372	368	359	370	391	404	397	400	413	426	437	427	393	385	372	398
Mean	392	393	387	384	394	395	391	384	371	360	354	355	369	381	393	410	423	428	423	412	408	407	400	394	392

Corrections to be applied to all values: H, −6γ; D, −4·0′; V, −13γ.

MAGNETIC DECLINATION (WEST)

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

37 LERWICK (D) — 12° + — SEPTEMBER 1939

	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	23·3	22·9	22·2	21·9	21·4	19·4	18·1	17·3	18·3	22·3	26·1	29·1	32·0	33·7	33·4	30·4	25·3	23·6	24·7	25·7	25·4	24·7	23·9	23·7	24·5
2	23·2	22·8	22·5	22·0	21·0	18·8	16·0	15·9	17·6	22·2	25·7	29·9	33·3	34·7	34·2	32·1	28·5	26·1	26·7	26·7	27·4	26·3	20·9	19·9	24·8
3 d	18·2	14·1	8·2	−24·8	6·7	16·0	11·3	14·6	14·2	16·3	22·1	28·6	31·1	32·5	32·0	29·1	25·3	25·3	25·7	27·6	29·0	17·8	22·4	22·1	19·4
4	20·4	16·7	10·7	17·0	20·2	19·8	18·7	17·9	18·3	20·4	25·4	29·8	31·5	31·8	30·8	27·3	24·8	24·4	25·2	25·7	25·6	25·2	23·8	22·8	23·1
5 q	22·7	22·7	22·4	21·9	21·1	20·1	19·7	19·4	20·4	21·6	23·6	27·0	29·7	30·7	29·5	27·8	26·7	26·4	26·7	25·1	25·9	26·0	24·5	16·5	24·1
6	12·6	18·1	20·5	21·1	21·2	20·3	18·8	20·1	21·1	21·9	25·2	28·9	32·1	31·9	30·9	27·7	25·3	23·9	24·8	24·6	23·3	23·4	24·6	20·2	23·4
7	17·7	21·0	21·4	22·5	21·6	18·3	16·2	15·2	17·1	20·0	25·1	30·4	34·8	34·3	31·2	29·8	26·7	25·5	24·7	25·5	25·9	25·2	24·2	24·1	24·1
8	24·4	24·0	24·1	22·9	22·2	20·8	18·5	17·2	18·4	21·0	23·8	28·1	31·6	32·9	32·5	31·1	28·8	28·4	28·4	27·9	27·2	26·0	24·8	22·1	25·3
9 d	20·6	21·3	19·8	19·0	19·4	14·8	15·1	21·6	20·7	20·7	25·6	32·8	36·1	36·3	33·6	34·2	30·6	28·4	25·8	23·6	20·3	17·0	21·4	23·9	24·3
10	24·8	22·6	25·8	23·7	18·1	17·4	16·8	19·8	20·5	23·7	26·1	28·4	32·1	35·7	35·6	30·2	29·4	27·3	27·9	21·7	19·6	25·0	24·1	24·1	25·0
11	21·6	23·5	23·5	20·3	19·2	18·7	17·4	18·6	19·7	21·8	25·2	29·2	32·6	33·2	29·1	26·7	24·0	23·3	23·7	23·8	23·7	24·4	24·4	22·7	23·8
12	22·0	21·8	19·7	23·3	18·5	18·0	17·3	18·4	17·4	20·7	26·4	30·1	32·5	32·0	29·3	27·2	25·1	23·4	24·5	24·1	25·7	19·9	21·2	23·5	23·4
13	22·0	22·3	22·1	21·5	20·9	19·7	18·8	18·2	18·6	21·4	25·6	29·8	31·2	29·3	26·3	24·3	23·5	23·8	24·8	24·6	24·5	25·2	24·6	15·3	23·3
14	18·8	21·1	20·7	23·3	17·2	17·7	16·7	15·2	18·1	21·4	26·3	32·1	36·5	38·2	38·5	36·1	31·6	26·8	24·8	24·5	24·9	24·0	20·8	22·5	24·9
15	23·2	23·8	22·3	21·4	20·7	19·9	19·4	19·1	20·4	21·7	24·3	28·7	30·6	30·3	30·0	27·2	26·7	26·6	26·8	25·8	25·4	25·0	21·3	13·7	23·9
16	16·7	20·1	20·2	20·8	20·8	19·8	19·0	19·6	19·7	21·8	24·4	28·7	32·0	33·3	30·6	28·7	26·9	26·6	21·7	22·5	25·6	23·4	23·8	23·6	23·8
17 d	24·2	26·5	22·2	22·8	30·4	22·1	25·3	16·2	15·9	18·1	23·5	30·6	35·0	35·7	36·2	36·8	46·7	63·7	58·7	23·7	16·2	19·2	17·1	18·7	28·6
18	16·3	17·5	18·4	18·6	18·4	17·3	16·9	17·2	18·3	20·7	22·9	25·8	28·4	29·5	29·0	26·8	26·1	23·9	23·9	23·5	23·6	23·1	23·1	23·0	22·2
19 d	22·4	22·3	24·4	21·5	18·7	23·1	25·4	22·4	25·8	27·8	27·2	33·1	33·4	34·9	35·7	21·0	32·5	35·5	30·9	28·0	21·7	19·8	16·8	3·2	25·3
20 d	2·7	4·9	1·5	18·0	20·7	22·1	24·4	25·2	26·1	23·1	27·2	27·9	30·1	28·7	28·9	27·8	27·0	23·7	17·7	17·7	20·4	22·1	22·7	24·5	21·5
21	22·4	20·1	21·1	23·5	20·8	22·5	20·2	20·7	21·0	25·2	24·8	26·8	31·2	29·2	28·4	27·2	25·7	25·3	23·3	26·2	16·1	22·5	23·1	23·3	23·8
22	25·6	22·8	23·5	21·5	20·4	20·4	20·0	20·5	22·1	25·5	28·4	29·2	32·1	31·1	31·2	30·3	25·7	24·7	24·0	23·4	23·6	20·7	16·8	15·6	24·1
23	21·0	22·3	22·0	21·7	21·1	20·8	20·5	19·6	20·0	20·6	21·6	25·4	26·1	27·9	27·7	26·4	25·2	24·4	24·5	24·2	24·1	17·4	18·6	18·2	22·6
24 q	20·2	21·0	18·1	14·4	14·3	17·2	22·4	22·7	24·1	25·7	29·2	30·9	32·8	31·7	29·1	25·4	24·2	23·2	22·9	23·2	23·6	23·7	23·4	22·5	23·6
25	21·1	20·8	20·8	20·8	20·7	20·5	19·9	18·8	18·0	18·9	23·2	27·8	30·8	31·3	31·0	31·0	31·7	31·1	27·6	26·2	25·0	23·1	21·9	18·6	24·2
26	17·6	18·1	8·8	1·7	9·7	16·4	18·5	17·9	19·8	22·3	24·8	28·5	31·6	33·2	31·8	28·4	26·1	26·1	24·3	21·0	22·1	21·2	26·5	23·6	21·7
27	21·5	20·7	20·8	19·3	19·0	19·4	18·9	17·3	17·1	19·2	22·5	26·1	28·4	29·0	28·5	27·5	26·2	24·5	23·4	25·8	20·7	17·1	22·0	23·3	22·4
28 q	23·3	24·4	20·1	20·2	19·9	19·3	17·9	19·1	20·0	21·7	23·6	26·4	28·2	28·5	28·7	27·2	26·2	25·2	25·1	25·5	24·7	23·7	23·3	23·1	23·6
29 q	22·3	21·8	21·4	20·9	20·6	19·9	19·1	17·9	18·0	19·3	22·0	26·4	30·1	32·0	31·7	29·9	27·3	26·1	25·9	25·4	24·1	24·1	24·3	23·3	23·9
30	21·5	20·7	20·1	20·1	19·7	19·5	18·0	16·4	15·5	16·7	21·4	28·4	33·3	34·7	35·4	33·7	29·5	28·4	26·3	22·7	21·2	19·2	15·2	11·9	22·9
Mean	20·5	20·8	19·6	18·8	19·5	19·3	18·8	18·7	19·4	21·5	24·8	28·8	31·7	32·3	31·4	29·0	27·6	27·2	26·2	24·5	23·5	22·5	22·2	20·5	23·7

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

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT

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

38 LERWICK (V) — 46,000γ (0·46 C.G.S. unit) + — SEPTEMBER 1939

	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 q	852	853	854	856	859	862	865	861	856	850	844	838	831	831	840	859	879	873	858	853	853	851	851	850	853
2	851	853	853	854	857	858	860	858	853	846	840	837	835	838	845	849	863	875	875	865	855	847	840	841	852
3 d	834	799	729	667	676	790	845	863	871	862	861	858	850	853	852	856	867	867	864	862	878	905	870	854	835
4	842	820	809	837	856	865	867	869	867	862	859	855	850	847	851	857	859	858	856	855	855	855	854	854	852
5 q	854	854	854	854	856	859	859	857	855	854	855	856	849	848	849	850	851	855	859	867	867	867	862	833	855
6	821	832	840	847	851	853	858	860	855	854	851	844	842	845	853	862	868	869	863	861	860	861	853	825	851
7	816	825	834	845	848	855	856	856	853	854	856	858	858	863	864	863	870	871	876	875	875	868	861	856	857
8	856	851	851	849	849	850	852	850	849	849	854	850	844	845	850	858	864	870	868	867	862	860	855	849	854
9 d	842	841	837	843	841	834	830	811	829	844	853	856	865	903	931	926	910	883	875	874	892	839	843	842	860
10	836	824	794	748	779	822	843	847	848	849	847	846	845	868	906	918	896	877	882	897	876	866	862	858	851
11	853	849	846	853	852	851	850	855	861	866	862	860	860	861	861	860	859	854	851	851	855	853	852	850	855
12	850	843	828	806	829	841	845	846	850	848	847	853	853	855	855	853	859	861	853	859	856	842	851	848	847
13	836	841	854	856	856	856	855	854	852	852	846	845	844	842	846	850	853	850	847	848	847	845	840	815	847
14	842	843	841	787	817	841	848	852	848	843	842	837	847	860	878	900	906	890	869	859	852	857	847	850	852
15	847	832	847	855	857	858	857	854	855	853	846	843	844	847	849	852	851	848	848	850	849	847	849	829	849
16	837	843	849	854	857	861	861	860	855	852	847	837	838	848	862	865	861	860	869	858	854	850	848	846	853
17 d	841	834	826	821	764	765	787	823	839	843	844	843	860	898	913	957	962	877	914	876	838	899	884	897	859
18	849	843	875	880	879	877	876	873	870	871	870	869	873	877	881	881	874	874	871	868	867	865	863	861	870
19 d	861	856	843	829	838	843	821	839	849	859	876	886	900	904	914	1031	1024	1053	1021	970	886	839	754	652	881
20 d	670	638	625	642	696	780	806	841	846	882	898	892	882	900	898	917	931	940	889	857	868	868	850	825	827
21	839	850	859	844	843	850	860	864	868	869	872	865	866	877	879	871	870	878	878	871	862	853	847	839	861
22	837	833	844	849	853	858	860	862	865	863	862	860	860	863	869	880	904	891	890	880	870	825	794	809	858
23	835	848	854	857	857	857	858	857	857	855	854	852	851	851	852	857	859	862	857	858	863	849	845	843	854
24 q	845	847	838	826	823	830	827	827	835	842	847	845	848	854	863	869	868	865	863	863	869	865	861	858	849
25	851	857	858	857	857	856	854	854	852	850	844	844	840	838	842	852	876	906	925	903	885	873	871	862	863
26	839	793	766	766	748	820	850	860	864	865	863	864	863	865	874	875	868	865	874	870	856	859	831	801	842
27	840	854	858	858	860	860	858	858	860	862	862	855	851	851	853	855	855	867	873	865	841	847	852	853	856
28 q	849	830	841	854	858	858	857	858	856	853	851	845	843	847	852	857	856	855	855	857	855	854	854	854	852
29 q	857	858	859	859	859	859	858	857	855	852	850	847	843	840	841	843	847	849	850	851	850	851	853	855	852
30	858	861	859	857	857	857	857	856	855	851	844	842	840	847	862	884	892	898	922	961	935	908	888	853	873
Mean	838	833	831	827	831	844	849	853	854	855	855	853	853	859	866	877	880	878	877	872	864	859	849	839	854

Corrections to be applied to all values: H, −6γ; D, −4·0′; V, −13γ.

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

39 LERWICK — SEPTEMBER 1939

	TERRESTRIAL MAGNETIC ELEMENTS																$\frac{HR_H + VR_V}{10{,}000\gamma^2}$ §	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	h. m.	γ	γ		h. m.	′	h. m.	′	′		h. m.	γ	h. m.	γ	γ				°A
1 q	15 20	422	11 43	357	65		13 34	34·3	7 33	16·5	17·8		16 42	884	13 35	830	54		347	0	88·4
2	21 46	467	11 34	349	118		13 44	35·6	7 19	14·8	20·8		17 51	881	21 54	827	54		423	0	88·4
3 d	20 50	454	3 28	152	302		14 8	33·6	3 19	−42·9	76·5		21 25	917	3 13	597	320		1922	1	88·3
4	20 24	414	11 19	324	90		13 56	32·3	2 34	8·7	23·6		7 30	870	2 26	805	65		434	0	88·5
5 q	23 8	442	11 2	357	85		13 19	31·0	23 55	14·5	16·5		21 22	869	23 59	821	48		347	0	89·0
6	20 23	441	12 4	354	87		12 46	32·7	0 19	11·0	21·7		17 11	871	24 0	805	66		434	0	88·9
7	18 45	430	11 36	352	78		12 56	35·7	7 40	13·5	22·2		18 27	877	0 1	806	71		444	0	88·7
8	23 32	437	11 45	342	95		14 10	33·1	7 12	16·3	16·8		18 5	872	12 50	842	30		277	0	88·5
9 d	15 33	467	11 30	321	146		12 55	38·5	6 15	9·8	28·7		14 25	937	7 15	803	134		837	1	88·1
10	14 8	439	3 6	308	131		14 23	37·6	19 51	7·7	29·9		15 6	935	3 35	733	202		1134	1	87·4
11	23 49	418	10 40	339	79		12 57	34·3	6 19	16·1	18·2		9 16	867	2 9	840	27		240	0	87·0
12	21 21	438	2 59	344	94		12 35	34·4	21 50	12·2	22·2		17 9	866	3 24	792	74		481	0	86·6
13	22 42	446	9 47	352	94		12 3	32·9	23 43	13·7	19·2		8 4	857	23 25	807	50		369	0	86·0
14	22 6	439	9 31	342	97		14 15	40·5	7 7	14·8	25·7		16 39	910	3 47	771	139		791	0	85·9
15	21 36	424	11 29	343	81		14 16	31·7	23 38	10·9	20·8		5 30	860	23 45	816	44		323	0	85·4
16	19 4	433	11 6	346	87		13 27	34·8	0 4	14·0	20·8		18 31	872	0 0	825	47		345	0	85·4
17 d	16 36	947	19 52	−121	1068		17 59	91·9	19 54	−5·3	97·2		16 22	1044	19 56	712	332		3092	2	86·0
18	23 5	398	0 46	242	156		13 47	30·1	0 49	3·7	26·4		0 0	892	0 53	797	95		670	1	86·2
19 d	15 22	680	23 13	−34	714		16 58	44·4	23 15	−13·0	57·4		15 33	1090	23 45	566	524		3480	2	86·0
20 d	17 15	495	1 8	−6	501		4 5	33·6	0 6	−19·5	53·1		17 14	986	2 50	584	402		2602	1	85·9
21	20 19	431	10 59	349	82		12 45	32·9	20 13	12·7	20·2		18 3	884	0 0	822	62		408	0	85·9
22	21 23	436	11 20	332	104		12 7	33·2	22 58	12·6	20·6		16 23	910	22 7	787	123		726	0	86·1
23	21 8	431	11 55	346	85		13 17	28·2	21 36	13·7	14·5		20 59	866	0 0	826	40		309	0	86·1
24 q	19 41	418	11 4	347	71		12 36	34·4	3 43	11·8	22·6		21 0	872	3 42	817	55		359	0	85·4
25	18 2	464	11 45	342	122		17 18	33·6	23 48	15·0	18·6		18 5	945	0 22	848	97		630	0	85·2
26	19 34	467	2 56	255	212		13 40	34·6	3 11	−8·3	42·9		18 59	911	3 56	703	208		1278	1	85·1
27	20 17	452	10 57	349	103		13 43	29·4	21 34	14·3	15·1		18 16	878	0 0	820	58		419	0	84·7
28 q	18 54	419	11 38	365	54		14 36	29·7	6 46	15·7	14·0		7 23	859	1 32	825	34		237	0	84·1
29 q	21 19	420	11 9	364	56		13 26	32·5	8 3	16·9	15·6		3 25	861	13 50	838	23		189	0	84·0
30	19 40	450	11 16	356	94		14 43	36·3	23 33	8·9	27·4		19 16	974	23 33	837	137		776	1	83·7
Mean	− −	464	− −	292	172		− −	35·9	− −	7·7	28·2		− −	904	− −	783	121		811	0·37	86·5

§ For explanation see p. 3.

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 1939

	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	383	382	379	397	393	395	395	387	375	363	357	357	367	375	376	388	405	421	425	417	415	410	409	405	391
2	405	404	401	402	400	402	402	395	385	372	362	357	360	369	382	391	400	407	415	419	419	419	423	423	396
3 d	421	414	412	415	413	410	409	394	369	339	341	359	372	426	390	397	447	584	521	383	414	260	134	48	378
4 d	87	−265	−400	−305	223	379	395	381	364	357	354	350	388	421	429	391	383	395	386	389	382	380	380	378	276
5	368	365	370	378	384	378	376	374	364	348	332	349	363	379	378	384	386	398	401	407	380	390	391	373	376
6	307	251	300	310	265	198	323	362	358	333	347	363	365	359	390	407	410	420	398	404	378	388	388	388	351
7	389	387	388	388	388	390	392	388	378	371	372	375	382	376	373	412	435	433	451	318	333	379	342	383	384
8	388	364	344	369	388	389	392	385	381	378	376	375	377	382	383	386	392	406	415	408	410	412	396	401	387
9	392	379	378	405	396	392	368	276	365	380	366	363	406	400	409	414	422	413	419	400	383	384	386	387	387
10	386	386	386	388	391	392	396	391	378	368	354	346	354	354	367	377	388	394	396	400	400	401	412	397	383
11	390	401	398	404	408	410	412	402	389	380	369	364	366	384	381	390	405	407	404	410	410	413	403	386	395
12 q	399	403	397	395	393	397	398	392	382	369	360	359	364	373	383	392	395	402	404	405	407	410	408	407	391
13 d	407	405	402	401	403	369	369	383	392	376	377	380	384	383	406	414	483	699	533	539	219	193	−50	−197	361
14 d	322	323	213	129	164	258	198	234	255	236	293	342	390	400	410	393	516	424	394	380	392	367	363	341	322
15 d	185	−133	27	181	132	292	373	376	366	354	342	344	350	374	386	404	411	439	415	380	369	363	351	349	310
16	295	343	368	373	370	389	383	373	360	336	330	327	365	377	426	534	506	448	490	427	306	335	265	276	375
17	382	371	337	335	374	373	366	385	375	366	353	342	352	367	400	413	426	479	402	424	400	354	348	359	378
18	375	366	353	375	391	378	361	376	381	360	332	351	373	411	424	471	449	471	497	396	404	379	373	376	393
19	365	331	355	347	336	356	362	356	344	321	327	375	389	399	411	424	414	397	397	383	353	374	385	387	370
20 q	383	378	380	388	395	397	392	387	381	365	347	346	350	361	375	384	388	391	394	396	396	397	399	400	382
21	400	398	397	393	393	394	401	407	391	373	355	352	368	387	362	372	385	397	413	390	389	401	384	409	388
22	395	394	394	391	393	396	396	390	381	367	364	362	362	369	381	391	392	401	403	403	393	391	395	404	388
23	401	400	399	398	400	404	404	401	376	346	347	357	364	401	413	406	414	395	388	388	390	395	381	360	389
24	359	382	387	389	390	388	390	385	373	362	355	354	353	365	381	388	394	397	403	401	403	400	402	401	383
25 q	401	399	396	399	398	399	403	397	388	373	365	366	365	370	374	389	395	400	402	402	404	404	403	402	391
26	402	400	400	403	401	406	406	402	390	374	364	364	371	379	385	394	399	399	403	410	404	395	401	405	394
27 q	403	401	401	402	403	403	403	401	391	379	372	371	373	378	386	397	405	411	409	409	411	411	409	410	397
28	409	409	410	409	408	406	399	397	398	384	379	382	365	373	385	392	403	405	405	412	403	402	404	411	398
29	394	395	400	413	399	406	405	396	383	373	367	361	369	383	379	387	392	399	397	395	400	387	399	401	391
30	406	405	391	386	389	396	398	393	384	372	363	370	374	380	389	388	388	394	389	398	400	400	403	403	390
31 q	389	396	399	401	400	397	402	396	382	373	367	368	376	374	379	387	398	392	394	399	395	397	399	401	390
Mean	367	343	341	350	367	379	383	379	374	360	354	359	370	382	390	402	414	426	418	403	386	380	364	357	377

Corrections to be applied to all values: H, −6γ; D, −4·0′; V, −15γ.

MAGNETIC DECLINATION (WEST)

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

41 LERWICK (D) — 12° + — OCTOBER 1939

	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	14·1	17·9	12·7	16·2	17·7	19·2	19·4	19·0	19·1	21·1	22·6	24·5	27·3	28·8	28·8	28·1	26·7	25·9	26·3	28·0	27·6	24·7	18·9	21·6	22·3
2	21·5	21·8	21·7	21·0	20·9	20·3	19·4	18·1	17·2	18·6	20·6	23·1	26·2	28·6	29·5	29·0	27·6	27·3	26·4	25·8	24·4	24·1	23·5	22·8	23·3
3 d	22·4	22·2	22·2	22·6	23·0	21·7	20·5	20·7	18·9	23·8	27·7	29·2	32·4	37·2	37·3	37·0	35·1	30·4	37·7	27·8	27·6	25·9	13·4	1·2	25·7
4 d	4·7	−21·3	2·2	−11·3	−2·3	14·7	16·2	17·1	17·2	19·7	22·7	25·4	30·5	29·9	31·6	31·1	28·3	26·6	17·7	18·4	21·4	20·5	21·8	21·6	16·9
5	23·1	19·1	18·0	18·1	20·4	20·9	21·3	18·6	19·7	21·9	25·6	29·1	31·6	31·0	30·8	28·5	26·3	25·4	24·1	3·7	16·7	22·7	22·5	19·6	22·4
6	9·7	0·6	4·8	−1·2	19·9	20·7	16·7	20·4	20·7	23·1	26·0	28·3	31·0	29·7	28·6	27·7	24·2	22·7	24·7	24·0	17·5	22·6	23·5	23·4	20·4
7	22·0	20·8	20·7	20·4	20·4	20·0	19·0	18·4	19·1	20·3	23·2	27·1	30·2	28·2	27·8	28·7	28·0	29·8	21·5	17·3	10·3	17·2	21·7	18·4	22·1
8	21·0	22·7	27·0	23·2	19·8	18·8	18·1	17·1	17·0	19·4	21·6	23·6	26·0	27·1	27·0	26·6	25·6	26·1	27·1	27·8	27·4	22·7	24·6	20·3	23·2
9	17·2	8·9	9·2	19·1	20·7	20·3	19·7	19·3	29·2	25·2	24·5	26·2	33·7	34·9	35·2	35·8	33·6	28·4	25·1	17·4	19·0	21·1	23·0	22·3	23·7
10	22·3	21·6	21·5	20·9	20·9	20·7	20·5	19·5	18·7	20·2	23·2	24·1	26·3	27·0	26·1	25·6	24·9	24·6	23·8	23·4	23·0	23·1	18·8	20·4	22·5
11	24·1	20·7	20·8	21·0	20·7	20·9	20·3	18·7	17·1	19·3	23·1	24·8	27·0	29·9	27·7	27·4	26·9	25·6	25·2	24·7	24·6	23·9	14·8	12·7	22·6
12 q	17·3	22·4	22·9	20·3	20·2	20·1	19·3	18·9	18·7	20·1	23·5	26·3	28·3	28·2	26·8	25·7	24·3	24·4	24·2	24·1	23·7	22·9	22·7	22·6	22·8
13 d	22·7	22·5	23·7	17·1	19·5	7·8	8·1	7·1	12·7	23·3	22·1	24·1	28·3	28·6	31·1	32·1	41·5	43·2	30·4	53·9	18·2	6·7	1·2	−28·8	20·7
14 d	11·1	17·2	14·5	9·0	−13·3	14·9	15·5	29·2	14·7	24·7	23·1	25·7	29·0	27·1	32·3	26·6	23·2	2·7	17·0	22·0	10·5	23·7	16·7	22·1	18·3
15 d	6·2	12·2	−9·3	15·9	17·0	13·4	14·9	16·5	16·7	17·9	20·4	22·7	25·3	28·7	28·5	21·8	16·0	9·7	11·8	16·9	11·7	13·3	15·6	17·7	15·9
16	22·5	23·6	22·6	20·5	24·9	25·4	20·7	23·2	20·1	23·4	27·1	28·1	31·8	28·0	32·7	22·5	27·5	24·4	24·3	22·9	21·5	12·6	17·3	8·1	23·2
17	17·4	19·9	21·9	31·8	21·1	25·6	25·7	24·1	19·0	19·6	23·7	26·0	27·3	30·0	31·1	29·4	25·5	25·5	19·7	18·9	18·7	19·6	20·7	20·2	23·4
18	20·8	21·4	28·2	22·7	21·0	25·6	27·6	22·4	21·5	23·8	24·7	28·2	28·6	31·0	30·4	26·5	28·8	33·1	32·7	24·6	20·5	21·3	17·7	18·3	25·1
19	20·6	16·7	18·4	18·9	24·1	25·7	21·2	20·7	18·9	23·1	28·2	28·3	30·2	33·3	35·3	37·1	31·1	25·0	20·8	15·4	12·1	15·6	20·4	22·1	23·5
20 q	23·7	26·3	23·8	21·2	20·2	20·1	19·8	21·0	22·4	23·7	24·6	25·8	27·1	27·2	26·2	24·3	23·3	23·6	23·9	23·4	23·1	22·6	22·2	22·2	23·4
21	21·6	21·8	21·8	20·8	21·6	20·6	20·1	20·2	18·8	20·0	22·6	25·0	30·2	31·2	30·4	27·5	24·6	24·6	26·9	23·2	23·1	23·6	17·5	11·7	22·9
22	19·0	20·7	21·2	20·4	20·6	20·1	20·0	19·9	19·0	19·0	21·5	24·3	25·7	26·7	27·0	25·3	24·0	24·4	24·6	25·0	13·4	14·7	20·6	23·4	21·7
23	23·9	22·5	21·8	21·5	21·7	21·1	20·9	18·9	19·4	24·1	26·8	27·7	30·5	26·9	29·3	29·5	19·6	23·9	25·5	24·1	23·2	22·6	14·7	13·3	23·1
24	20·7	15·4	18·2	19·5	20·3	19·9	19·4	17·9	17·6	18·9	21·2	23·6	25·4	26·0	26·2	25·3	24·9	24·6	24·5	24·5	23·1	23·0	22·3	22·6	21·9
25 q	21·9	21·0	21·1	21·5	20·1	20·8	20·1	19·7	18·3	18·8	21·6	26·0	27·5	28·8	26·7	25·5	24·9	24·2	23·9	23·6	22·8	22·5	21·9	21·5	22·7
26	21·5	21·3	21·6	20·8	20·6	20·5	19·7	18·7	17·8	18·3	21·2	25·3	28·5	29·5	29·4	28·7	28·3	27·1	25·6	25·1	15·5	16·1	20·2	22·8	22·7
27 q	23·4	22·5	21·7	21·8	21·5	20·8	20·5	19·9	19·1	19·4	21·6	24·8	26·4	27·0	26·7	26·4	25·6	24·9	23·9	23·5	22·8	22·7	22·6	22·6	23·0
28	23·0	23·0	22·8	22·2	21·6	20·7	19·6	20·0	19·4	19·4	23·4	29·2	28·4	28·9	27·1	26·7	25·9	26·7	27·1	28·0	29·7	20·1	21·6	17·7	23·8
29	18·7	18·6	17·1	13·5	13·2	17·0	20·3	20·7	19·2	21·4	24·8	27·6	29·0	29·7	27·4	25·9	24·9	24·4	24·3	22·5	16·5	20·1	20·8	21·5	21·6
30	23·0	18·6	17·2	18·2	19·5	19·0	19·4	18·7	19·2	20·3	22·8	27·5	28·1	28·1	29·5	29·0	25·5	23·7	23·9	21·0	20·5	21·9	18·0	19·4	22·2
31 q	18·6	25·8	23·5	22·1	21·9	22·0	21·0	20·9	21·7	22·7	25·0	27·3	29·9	28·8	27·6	24·8	24·2	23·5	23·1	21·6	21·0	21·6	22·3	22·2	23·5
Mean	19·3	18·3	18·6	18·4	18·7	20·0	19·5	19·5	19·0	21·1	23·6	26·1	28·6	29·2	29·4	27·9	26·5	25·0	24·4	23·3	20·4	20·5	19·5	17·7	22·3

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

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT

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

42 LERWICK (V) — 46,000γ (0·46 C.G.S. unit) + — OCTOBER 1939

	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	850	839	811	841	853	857	858	861	861	859	856	854	850	850	854	853	854	859	862	863	861	863	860	855	853
2	855	855	858	858	859	859	860	862	860	859	855	851	843	839	840	843	848	850	850	850	849	848	846	847	852
3 d	849	851	851	851	852	855	858	861	862	864	854	863	880	917	984	955	958	1042	949	896	848	921	980	884	895
4 d	742	697	834	665	559	782	863	875	882	883	883	880	888	919	926	906	898	895	910	883	884	872	870	869	844
5	842	814	836	847	860	865	870	879	878	883	894	890	883	894	897	895	888	890	895	892	837	862	858	839	870
6	746	652	657	576	543	633	721	789	826	857	862	875	876	880	880	900	914	918	897	893	902	897	874	869	810
7	868	866	865	864	864	864	863	868	869	868	865	860	853	860	864	871	908	970	964	803	764	840	776	795	861
8	845	840	814	821	855	864	865	871	872	872	871	868	866	863	861	863	861	858	858	869	870	880	893	893	862
9	879	799	818	841	856	861	862	881	822	841	850	853	865	919	956	927	937	940	936	929	899	877	868	867	878
10	868	868	870	867	864	863	862	867	874	875	876	875	869	871	868	867	865	862	861	860	863	861	840	842	865
11	845	842	855	855	856	855	853	858	861	864	866	866	865	864	866	862	862	866	862	858	859	857	871	859	859
12 q	853	864	872	870	866	861	859	859	861	861	862	865	868	870	870	867	864	861	862	860	859	856	860	859	863
13 d	853	848	824	812	798	789	802	790	809	835	858	865	864	869	863	870	898	980	981	793	882	1057	993	845	866
14 d	793	849	845	722	649	661	706	709	778	821	869	874	921	927	921	938	963	931	911	917	842	784	817	769	830
15 d	672	671	552	410	492	628	782	853	869	874	881	885	889	882	893	928	934	931	885	906	883	858	845	813	801
16	788	794	808	835	837	838	856	865	873	885	884	883	885	910	930	996	1002	946	984	911	822	817	742	743	868
17	804	842	831	806	832	846	859	859	869	873	879	897	893	879	887	935	984	997	890	933	917	853	826	817	875
18	830	837	770	778	808	818	832	848	862	868	888	903	917	927	961	1014	996	1009	1048	986	877	838	858	817	887
19	730	752	751	767	770	793	818	850	865	882	898	925	921	919	932	972	1009	986	956	919	885	878	874	862	871
20 q	855	853	843	863	865	868	872	873	873	878	883	882	878	875	874	874	873	872	872	871	872	872	871	869	870
21	869	870	870	869	866	863	862	863	870	874	876	875	874	886	892	883	877	874	884	934	903	878	861	818	875
22	840	862	870	872	871	868	867	869	871	871	869	870	869	867	867	867	867	867	869	876	901	885	878	874	870
23	874	874	872	870	867	865	865	867	873	876	875	886	897	941	938	943	963	916	909	895	892	883	870	842	890
24	793	823	841	848	860	869	870	873	879	882	879	876	876	876	873	873	870	867	867	869	867	870	869	870	864
25 q	870	871	870	869	867	867	867	871	873	874	876	878	881	883	881	878	872	869	867	868	866	866	867	867	872
26	867	869	869	867	867	864	863	865	869	872	871	870	867	867	869	869	870	869	866	867	883	871	867	867	869
27 q	869	871	871	869	867	866	865	865	866	868	867	867	865	864	866	866	866	865	865	863	861	862	862	862	866
28	863	864	865	865	864	864	866	863	857	857	856	860	869	864	864	867	869	871	875	873	897	902	894	883	870
29	876	871	849	816	835	843	847	853	860	863	863	867	871	874	881	877	877	876	883	882	865	864	862	862	863
30	848	812	818	840	849	859	863	866	868	869	869	869	877	886	892	897	899	896	899	886	878	870	863	844	867
31 q	845	832	829	854	866	867	865	869	870	870	871	871	872	878	882	886	888	893	892	883	879	872	865	859	869
Mean	832	827	825	813	813	831	846	855	861	867	871	874	877	885	891	898	904	907	900	883	870	871	864	847	863

Corrections to be applied to all values: H, −6γ; D, −4·0′; V, −15γ.

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

43 LERWICK — OCTOBER 1939

	TERRESTRIAL MAGNETIC ELEMENTS																		Magnetic character of day (0-2)	Temperature in magnet house 200 +
	Horizontal force						Declination						Vertical force						$\frac{HR_H + VR_V}{10{,}000\gamma^2}$§	
	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.	′		′	h. m.	′	h. m.	γ		γ	h. m.	γ			°A
1	17 56	440		352	11 2	88	14 34	30·6		10·0	2 29	20·6	21 46	868		782	2 6	86	529	1	83·0
2	21 56	425		355	11 24	70	14 27	30·0		15·5	8 4	14·5	7 59	864		837	14 29	27	227	0	82·4
3 d	17 32	673		−146	23 43	819	18 18	53·4		−22·8	23 43	76·2	22 9	1126		816	20 30	310	2630	2	82·0
4 d	14 47	448		−797	1 48	1245	3 0	47·7		−104·8	3 23	152·5	1 59	1101		473	4 30	628	4732	2	81·8
5	19 40	434		318	10 24	116	12 24	33·4		−14·0	19 35	47·4	19 18	948		802	1 4	146	850	1	82·0
6	17 31	441		103	5 38	338	5 27	35·2		−7·3	1 13	42·5	17 23	928		518	4 6	410	2406	1	82·4
7	18 47	487		250	19 42	237	12 39	35·3		−8·5	20 9	43·8	18 25	993		702	22 41	291	1703	1	83·1
8	18 36	440		334	2 24	106	2 42	32·4		14·4	23 36	18·0	23 35	898		805	3 7	93	588	0	83·6
9	13 55	441		211	7 40	230	14 3	40·6		−0·2	1 19	40·8	14 29	968		776	1 47	192	1230	1	83·5
10	22 50	426		345	11 48	81	12 51	30·6		14·0	22 16	16·6	10 55	878		823	22 55	55	374	0	83·1
11	19 48	440		359	10 46	81	13 26	34·3		10·3	23 4	24·0	22 31	878		832	0 55	46	332	0	82·7
12 q	21 50	412		357	11 38	55	12 27	28·7		15·3	0 0	13·4	2 43	874		845	0 1	29	215	0	82·3
13 d	17 56	820		−776	22 54	1596	19 54	100·7		−65·8	23 14	166·5	22 55	1371		550	19 42	821	6140	2	82·0
14 d	16 47	653		−33	3 55	686	11 40	43·8		−32·9	3 54	76·7	16 46	1017		603	4 41	414	2926	2	81·4
15 d	17 50	477		−283	1 11	760	4 4	38·5		−65·1	2 27	103·6	17 37	987		280	3 41	707	4403	2	81·1
16	15 19	699		180	22 56	519	20 19	44·8		−0·2	23 32	45·0	15 19	1074		679	23 6	395	2596	1	81·0
17	18 3	957		308	2 45	649	18 4	86·0		−10·7	18 3	96·7	18 0	1090		670	18 4	420	2901	1	80·6
18	20 25	579		319	10 22	260	18 31	41·7		4·9	20 24	36·8	18 38	1070		734	24 0	336	1946	1	80·5
19	15 34	440		298	10 11	142	15 28	40·0		5·4	19 22	34·6	16 43	1021		717	0 21	304	1627	1	80·4
20 q	23 50	402		341	10 52	61	1 53	29·4		18·5	7 17	10·9	10 35	885		833	2 24	52	331	0	80·4
21	23 10	426		348	10 56	78	13 40	32·4		−1·1	23 4	33·5	19 35	947		801	23 35	146	795	1	80·7
22	20 53	410		360	12 28	50	14 1	28·9		8·5	20 29	20·4	20 23	908		822	0 0	86	474	0	81·0
23	16 35	446		338	23 56	108	14 51	33·4		9·4	16 31	24·0	16 27	986		820	23 53	166	933	1	80·8
24	18 22	406		316	0 13	90	14 28	26·6		12·5	0 0	14·1	9 56	883		773	0 34	110	645	0	80·7
25 q	20 52	407		358	12 0	49	13 35	31·6		17·5	9 15	14·1	13 13	883		864	20 55	19	160	0	79·8
26	19 50	417		359	11 29	58	13 30	29·9		11·4	20 19	18·5	20 16	895		862	6 38	33	238	0	78·8
27 q	17 27	421		368	11 0	53	13 35	28·8		18·8	8 36	10·0	2 20	872		860	20 49	12	132	0	78·2
28	23 27	444		359	12 21	85	12 1	32·8		14·1	23 42	18·7	21 6	908		853	10 37	55	379	0	78·0
29	3 13	423		356	11 23	67	13 20	30·6		9·5	20 38	21·1	19 26	892		809	3 21	83	484	0	78·0
30	0 58	430		362	11 4	68	14 49	30·7		12·8	22 27	17·9	18 29	903		801	1 16	102	575	0	78·7
31 q	23 50	406		365	10 10	41	1 40	32·2		15·8	0 36	16·4	17 36	895		813	2 1	82	443	0	79·0
Mean	− −	489		203	− −	287	− −	39·0		−3·1	− −	42·1	− −	962		747	− −	215	1418	0·68	81·1

§ For explanation see p. 3.

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 1939

	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	398	395	400	402	407	407	404	399	393	383	382	371	370	376	387	393	391	395	393	392	397	399	397	396	393
2	398	396	399	400	404	410	407	403	395	385	373	367	368	378	380	389	393	400	404	404	405	403	403	404	395
3	406	400	406	403	402	402	402	406	403	388	382	376	374	383	390	395	401	402	405	407	410	408	416	402	399
4	402	401	398	400	400	403	400	402	406	400	396	387	386	387	394	404	408	409	409	410	410	409	406	403	401
5	399	400	398	398	398	401	402	404	403	390	374	381	394	395	402	406	402	410	407	406	403	406	405	404	399
6	404	404	400	408	406	405	402	403	398	393	392	390	393	397	402	404	411	406	402	405	403	396	400	416	402
7	391	397	396	397	403	403	404	400	396	393	387	381	382	387	395	405	388	391	395	401	400	407	403	406	396
8 q	402	401	400	401	402	402	403	402	397	390	385	387	393	391	400	397	401	405	407	410	407	406	405	403	400
9	403	402	402	397	400	407	407	403	397	383	384	383	385	392	402	408	411	407	407	408	409	409	406	404	401
10 q	402	401	400	403	409	409	405	403	397	391	389	390	393	397	404	403	405	400	399	396	396	400	404	403	400
11	402	401	401	400	406	409	409	406	404	394	389	389	392	394	399	400	406	410	403	402	413	397	386	378	400
12 d	391	383	397	403	406	409	410	409	408	403	394	378	377	388	400	381	393	396	403	403	401	394	396	387	396
13 d	360	343	391	374	425	411	393	360	363	378	382	357	404	429	462	394	397	399	416	387	358	377	384	376	388
14 d	366	285	371	381	391	381	384	393	388	381	364	370	379	385	381	381	382	376	378	382	385	364	333	314	371
15	370	374	381	389	391	400	404	395	386	385	378	374	373	373	383	382	398	394	400	399	404	400	395	389	388
16	388	393	398	400	402	402	401	401	397	390	384	381	380	384	386	388	395	395	391	394	394	397	400	401	393
17	401	400	400	402	403	406	405	402	401	393	386	383	386	390	397	402	408	412	410	404	397	400	402	396	399
18 q	398	399	401	403	406	409	407	403	396	382	376	379	384	392	397	400	411	414	413	413	412	413	413	409	401
19	408	406	406	409	409	412	414	412	409	404	395	394	399	405	401	391	415	400	403	393	405	406	406	398	404
20	387	396	397	396	397	406	403	401	394	382	378	377	380	389	393	399	401	400	404	402	400	393	394	396	394
21	395	395	401	399	398	400	405	401	394	387	385	385	386	388	393	397	401	404	405	406	406	406	406	405	398
22 q	404	403	404	404	406	409	408	404	401	395	392	393	396	399	403	408	412	412	412	413	411	405	403	401	404
23 q	401	403	405	408	413	417	416	413	405	397	395	397	401	404	406	409	412	414	413	412	411	411	411	408	408
24	405	406	406	408	408	408	411	409	406	403	401	404	408	412	407	412	416	419	421	411	404	414	372	381	406
25 d	388	382	378	390	386	381	396	397	393	372	367	367	385	396	406	398	393	397	403	402	372	299	314	369	380
26 d	353	349	360	388	393	386	385	396	388	372	376	372	385	385	382	387	394	394	397	396	390	389	391	391	383
27	391	391	393	385	383	400	404	401	391	381	377	368	382	388	393	398	402	403	388	392	398	397	400	402	392
28	401	397	398	403	403	407	406	406	402	391	377	372	381	381	389	392	396	395	400	390	393	401	400	400	395
29	397	395	402	402	403	402	406	409	404	383	378	381	387	388	387	386	395	400	405	402	400	411	399	398	397
30	399	400	401	403	406	411	413	405	406	395	387	383	387	391	397	397	403	406	400	393	390	385	385	387	397
Mean	394	390	396	399	402	404	404	402	397	389	383	381	386	391	397	397	401	402	403	401	399	397	395	394	396

Corrections to be applied to all values: H, −6γ; D, −4·0′; V, −16γ.

MAGNETIC DECLINATION (WEST)

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

45 LERWICK (D) — 12° + — NOVEMBER 1939

	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	23·0	23·2	21·9	18·8	19·2	20·4	21·4	22·1	22·3	23·1	26·5	28·7	30·2	30·0	27·7	24·9	22·5	24·3	22·2	17·4	21·2	21·9	20·6	19·2	23·0
2	20·8	20·7	20·9	21·2	23·7	24·1	22·7	22·6	20·9	20·6	21·2	24·1	24·3	26·8	24·9	24·2	23·2	22·8	22·7	22·8	21·1	22·4	22·0	22·0	22·6
3	20·4	22·2	23·7	21·0	21·3	21·1	21·6	21·5	20·7	19·9	22·3	25·7	27·4	28·4	29·1	27·7	28·6	28·3	27·5	24·2	22·1	21·6	16·1	16·2	23·3
4	16·4	18·7	18·4	20·6	20·8	20·9	20·4	21·2	21·0	20·5	23·6	23·3	25·6	26·1	24·8	24·9	23·8	24·1	23·9	23·0	22·6	22·2	21·1	19·9	22·0
5	18·6	19·7	20·1	20·8	20·8	20·6	20·6	20·7	21·1	22·2	24·2	24·1	26·9	26·4	26·3	25·8	24·7	24·9	26·5	22·9	22·4	21·9	21·7	21·7	22·7
6	21·8	20·8	21·0	20·4	20·7	19·6	19·7	20·6	20·9	21·5	22·6	24·0	24·6	25·9	25·5	25·5	25·9	26·2	27·5	26·1	23·6	18·4	20·6	19·7	22·6
7	15·5	15·2	16·8	19·7	20·1	20·2	20·0	19·8	20·1	21·0	22·6	24·8	25·0	25·6	25·5	26·0	23·1	23·7	23·4	22·1	18·7	20·8	20·8	20·9	21·3
8 q	21·1	21·7	21·7	21·5	21·2	21·1	20·8	20·7	20·1	20·7	22·2	24·4	25·7	24·8	24·8	23·7	23·3	22·7	22·6	22·4	21·6	21·5	21·1	21·4	22·2
9	21·4	21·2	21·0	21·3	20·6	18·7	19·5	19·2	19·2	19·1	21·1	23·4	24·5	24·9	25·6	25·8	26·5	25·7	25·5	23·3	22·1	20·4	19·8	20·8	22·1
10 q	20·1	20·2	20·2	19·5	20·3	20·0	20·4	20·4	20·5	21·2	23·2	24·9	25·2	25·4	25·7	24·5	23·9	23·8	24·2	22·6	21·3	20·1	20·4	19·3	22·0
11	20·8	20·9	21·7	24·6	21·6	21·2	20·9	20·9	20·4	20·3	22·1	23·8	26·2	26·7	26·3	25·6	24·8	25·4	21·2	21·8	22·8	20·3	16·1	13·5	22·1
12 d	6·4	12·7	17·2	20·1	21·0	21·0	20·7	20·8	20·5	22·0	24·9	28·0	27·7	28·0	30·3	27·7	26·3	26·0	24·8	24·6	23·2	18·4	18·8	17·2	22·0
13 d	14·6	11·0	10·8	22·3	18·2	23·4	23·9	23·3	26·2	24·6	23·8	26·7	28·0	26·8	28·0	25·8	27·7	16·8	18·6	15·1	7·9	8·7	18·1	17·6	20·3
14 d	19·7	27·4	17·2	16·1	20·1	20·6	22·5	20·1	18·2	19·8	20·8	22·3	25·2	25·9	24·4	18·2	15·5	14·4	19·8	19·9	14·1	15·0	9·7	11·3	19·1
15	14·1	16·1	16·9	21·2	23·4	22·8	21·8	21·8	21·6	20·7	20·7	23·4	24·8	25·5	25·8	21·4	21·1	24·6	24·2	17·8	17·7	20·1	19·2	18·7	21·1
16	21·0	22·0	22·0	21·9	21·7	21·7	21·0	20·5	20·1	20·4	21·5	23·5	23·2	23·8	23·8	23·7	23·0	19·3	22·8	22·0	19·9	19·5	21·0	21·4	21·7
17	21·3	21·2	21·7	21·5	21·4	21·3	20·9	21·1	21·1	21·6	22·7	24·5	24·9	24·9	25·0	24·6	24·3	25·1	25·7	20·9	21·5	20·8	20·4	20·5	22·5
18 q	21·7	22·1	22·0	21·8	21·4	21·2	20·9	20·0	19·5	20·2	22·1	24·0	25·0	25·6	25·3	24·7	24·4	25·3	24·6	24·6	24·0	23·0	22·4	22·0	22·8
19	21·9	21·5	21·5	21·6	21·6	21·5	21·2	20·9	20·6	20·8	21·1	23·1	24·5	26·3	27·0	27·6	27·3	28·1	25·0	27·4	22·7	21·3	21·5	19·4	23·1
20	17·3	18·5	17·7	19·5	20·4	20·0	20·2	20·7	20·5	20·2	21·3	23·5	24·0	24·4	24·1	24·0	24·0	23·5	23·3	24·5	21·5	21·1	19·2	18·7	21·3
21	20·2	19·7	19·6	19·4	20·2	20·4	20·6	22·0	21·2	19·7	21·1	24·4	24·5	24·7	24·6	23·8	22·8	22·7	22·1	21·6	21·4	20·8	20·7	20·7	21·6
22 q	20·9	21·1	21·2	21·3	21·4	21·5	21·3	20·9	20·6	20·5	21·7	23·6	24·5	24·1	24·0	23·7	22·9	22·6	22·5	22·6	22·6	22·1	20·2	20·1	22·0
23 q	20·7	21·6	22·0	21·7	21·5	21·4	21·3	20·9	20·6	21·2	23·1	25·0	25·4	24·7	24·0	23·5	22·9	22·7	22·7	22·5	21·9	21·5	21·5	21·2	22·3
24	21·6	22·0	21·9	21·1	20·2	21·0	20·9	20·7	20·7	21·9	23·6	26·0	26·7	27·6	25·1	25·3	26·5	24·8	26·9	26·8	24·2	15·7	6·6	11·5	22·1
25 d	12·8	10·8	18·2	20·2	18·1	31·2	25·6	21·4	21·6	22·4	24·5	27·7	31·4	34·3	36·0	33·7	29·9	24·5	22·7	22·3	22·7	12·6	5·8	13·6	22·7
26 d	19·3	21·6	21·1	20·1	21·5	24·2	25·2	24·9	23·0	22·1	24·2	23·5	25·3	26·1	26·1	22·9	23·1	22·2	21·7	20·4	9·3	18·3	18·9	19·9	21·9
27	19·6	21·2	21·8	22·9	27·5	22·0	20·3	20·4	18·9	20·2	20·6	22·7	24·6	25·5	24·8	23·3	22·4	22·7	19·7	21·2	21·7	20·1	20·0	20·8	21·9
28	20·9	21·2	21·2	20·7	21·7	22·9	21·0	20·8	21·3	21·3	22·3	24·0	25·4	25·9	25·4	24·3	23·6	22·8	22·2	19·5	18·7	19·6	20·0	20·1	21·9
29	20·2	20·3	19·1	19·8	19·5	19·7	19·9	20·7	21·1	21·3	23·9	25·8	27·0	27·2	27·3	25·3	24·3	22·6	21·8	21·9	20·2	14·9	17·5	20·8	21·8
30	20·9	21·9	22·4	24·1	21·0	20·2	20·5	22·4	23·1	22·3	22·7	23·8	24·9	25·0	25·7	24·8	23·5	22·8	22·9	22·3	20·1	17·3	16·3	17·4	22·0
Mean	19·2	19·9	20·1	20·9	21·1	21·5	21·3	21·1	20·9	21·1	22·6	24·6	25·8	26·2	26·1	24·9	24·2	23·5	23·4	22·2	20·5	19·4	18·6	18·9	22·0

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

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

46 LERWICK (V) — 46,000γ (0·46 C.G.S. unit) + — NOVEMBER 1939

	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	857	858	847	856	858	860	862	863	866	868	867	872	876	879	883	886	884	887	898	897	882	873	871	865	871
2	861	861	862	862	854	844	850	854	861	866	870	868	869	871	874	874	872	869	868	870	869	868	866	864	864
3	857	854	835	846	854	858	859	860	862	864	867	868	872	870	872	875	879	881	883	883	877	875	861	847	865
4	854	860	862	861	862	862	863	862	860	865	864	864	861	862	864	865	865	864	865	866	866	867	867	868	863
5	870	865	864	863	863	862	862	863	863	867	867	866	864	866	868	868	869	866	870	874	877	873	870	868	867
6	867	864	863	859	862	862	862	862	865	866	866	865	863	862	863	863	862	868	877	884	886	887	875	847	867
7	839	847	854	860	862	861	859	860	862	865	866	864	865	864	864	866	885	886	879	873	872	862	858	853	864
8 q	860	863	863	863	860	859	858	860	862	864	865	867	867	867	863	863	863	861	860	859	861	861	863	864	862
9	864	865	864	863	853	853	855	858	861	864	863	864	866	864	864	865	863	863	863	864	862	861	863	863	862
10 q	864	863	864	863	859	856	857	857	858	859	859	860	863	863	863	864	864	868	868	873	873	868	864	862	863
11	860	860	860	853	854	855	855	856	855	857	856	858	858	861	863	863	863	863	876	874	861	856	850	838	859
12 d	832	864	863	863	863	859	857	854	856	857	857	862	864	865	870	881	885	882	878	876	875	871	855	826	863
13 d	791	790	794	781	740	809	837	858	855	856	866	906	939	937	981	912	937	967	972	913	829	802	851	850	866
14 d	833	721	745	787	777	809	829	852	862	866	874	874	871	873	882	901	903	910	911	913	896	850	768	743	844
15	780	794	815	837	852	858	861	867	871	870	867	870	869	876	879	886	885	881	880	884	871	866	865	859	860
16	853	850	856	861	864	865	865	866	866	867	867	868	869	869	868	870	872	878	886	890	887	880	870	866	869
17	864	864	864	864	864	863	864	865	865	864	864	862	859	859	860	863	863	863	868	883	883	878	873	871	866
18 q	865	863	863	862	861	861	862	864	865	869	868	867	864	862	861	863	862	861	864	865	869	867	864	864	864
19	863	861	859	858	858	858	859	859	862	862	864	863	862	863	872	878	868	903	940	938	916	893	885	878	876
20	867	839	843	854	857	850	855	861	865	868	869	867	865	865	865	868	868	867	864	869	876	878	878	875	864
21	872	870	862	855	856	858	859	860	864	867	868	869	870	868	865	867	865	864	864	864	864	865	865	865	864
22 q	865	865	864	863	859	860	861	862	864	865	865	866	867	864	863	862	861	859	859	859	862	868	871	871	864
23 q	868	865	864	861	859	857	856	857	861	861	859	861	864	863	861	861	859	858	856	858	858	858	859	861	860
24	862	861	861	859	858	856	854	854	856	858	858	858	859	859	861	859	858	858	858	875	906	899	869	868	863
25 d	855	849	854	851	846	811	774	810	835	854	861	871	876	879	885	895	907	898	881	874	885	881	843	871	860
26 d	837	785	785	828	846	844	838	847	856	864	865	873	877	881	886	888	885	882	883	884	882	857	858	857	858
27	860	862	861	860	827	834	846	854	861	864	865	869	867	866	867	869	869	871	887	878	870	867	862	850	862
28	849	857	862	862	861	850	851	853	854	858	863	864	865	877	885	883	880	880	879	888	884	872	864	861	867
29	862	863	858	856	855	858	859	858	859	865	866	865	867	874	883	892	887	881	875	873	873	861	853	858	867
30	859	859	858	850	853	855	856	857	854	857	858	859	861	868	875	875	875	875	877	884	888	880	863	843	864
Mean	853	848	849	852	850	852	853	857	860	863	864	867	869	870	874	874	875	877	880	879	875	868	861	856	864

Corrections to be applied to all values: H, −6γ; D, −4·0′; V, −16γ.

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

47 LERWICK — NOVEMBER 1939

	TERRESTRIAL MAGNETIC ELEMENTS												$\frac{HR_H + VR_V}{10{,}000\gamma^2}$ §	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.	′	′	h. m.	′	h. m.	γ	γ	h. m.	γ			°A
1	5 1	409	360	12 3	49	12 28	31·4	14·2	19 23	17·2	19 7	909	844	2 22	65	375	0	79·0
2	5 18	413	364	12 10	49	13 38	27·4	18·8	9 5	8·6	15 50	874	841	5 25	33	225	0	79·1
3	22 24	430	365	12 21	65	13 11	30·9	12·5	24 0	18·4	19 6	885	832	2 37	53	342	0	79·1
4	19 11	412	382	12 19	30	13 7	26·8	12·3	0 3	14·5	23 40	869	847	0 0	22	146	0	79·1
5	17 45	414	370	10 59	44	12 50	28·6	17·5	0 36	11·1	20 17	879	861	5 4	18	147	0	79·1
6	23 34	423	384	11 35	39	18 48	29·6	13·5	21 42	16·1	21 7	892	836	24 0	56	318	0	79·4
7	21 53	414	376	11 35	38	13 59	26·8	12·7	0 59	14·1	16 46	891	835	0 8	56	317	0	79·8
8 q	19 24	413	384	11 4	29	13 4	27·3	19·6	8 24	7·7	13 30	868	855	0 0	13	103	0	79·9
9	16 50	413	376	9 26	37	16 59	27·4	17·6	5 45	9·8	9 24	867	849	5 3	18	137	0	80·3
10 q	4 55	414	386	11 23	28	14 26	26·1	18·8	3 25	7·3	19 49	875	854	5 0	21	138	0	80·7
11	20 50	418	371	23 42	47	3 11	27·4	11·0	23 35	16·4	18 59	884	833	23 4	51	307	0	80·2
12 d	14 13	413	370	24 0	43	14 14	31·9	1·8	0 49	30·1	15 52	888	801	24 0	87	469	1	79·6
13 d	14 16	580	302	20 19	278	14 19	43·5	−13·0	20 43	56·5	14 11	1027	697	4 9	330	1944	1	78·8
14 d	4 44	414	248	1 31	166	1 11	39·3	0·7	22 35	38·6	19 0	920	668	1 27	252	1418	1	78·3
15	20 7	414	355	0 0	59	13 42	26·5	10·8	0 4	15·7	16 2	894	777	0 16	117	633	0	79·0
16	17 55	406	377	12 32	29	11 34	24·7	15·7	17 44	9·0	18 52	892	848	1 2	44	248	0	79·1
17	17 50	417	379	11 13	38	18 7	26·7	16·1	19 43	10·6	19 40	894	859	13 57	35	219	0	79·0
18 q	17 20	417	374	9 57	43	13 46	26·3	18·8	8 30	7·5	10 0	870	859	17 17	11	113	0	78·1
19	16 54	428	378	14 58	50	17 0	33·6	15·9	23 53	17·7	18 38	949	857	5 25	92	503	1	77·9
20	5 44	411	370	0 56	41	19 17	25·4	15·8	0 27	9·6	21 40	883	828	1 38	55	316	0	77·9
21	18 0	409	379	12 13	30	12 49	27·1	18·2	1 57	8·9	0 0	874	854	3 19	20	137	0	77·6
22 q	18 51	415	391	10 33	24	12 20	24·7	18·6	22 48	6·1	22 10	873	859	18 52	14	101	0	78·4
23 q	5 58	418	393	10 7	25	11 54	25·8	20·2	8 52	5·6	0 0	869	854	7 4	15	106	0	78·6
24	21 39	445	357	22 45	88	13 57	30·5	0·5	22 23	30·0	21 37	917	853	6 22	64	427	1	78·3
25 d	14 55	419	256	21 24	163	15 2	38·0	−1·6	22 24	39·6	21 17	934	770	6 36	164	1003	1	77·6
26 d	7 22	403	330	2 11	73	1 50	29·1	−1·0	20 22	30·1	20 19	896	737	1 59	159	849	1	76·6
27	6 41	409	360	11 30	49	4 23	30·5	16·7	8 56	13·8	18 54	896	815	4 41	81	450	0	77·0
28	5 32	416	368	11 25	48	13 2	26·8	18·1	20 21	8·7	20 0	892	845	5 36	47	289	0	76·9
29	21 41	433	375	10 22	58	12 38	28·4	7·2	21 41	21·2	15 17	895	848	22 0	47	304	0	76·6
30	6 21	415	379	11 17	36	3 14	26·5	14·1	23 9	12·4	20 7	890	833	23 54	57	319	0	76·7
Mean	− −	422	362	− −	60	− −	29·2	12·1	− −	17·1	− −	895	825	− −	70	413	0·23	78·6

§ For explanation see p. 3.

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 1939

	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	395	398	400	400	400	400	412	412	409	400	386	376	383	393	400	408	407	410	409	402	391	396	403	401	400
2	398	398	398	400	399	402	405	402	401	403	400	398	397	398	404	410	407	412	410	409	402	394	396	402	402
3	400	402	397	398	402	403	410	410	406	402	399	401	403	404	410	414	417	416	416	413	407	403	386	388	404
4	383	383	394	392	394	399	401	401	401	398	395	394	395	401	403	406	407	409	407	407	409	407	409	402	400
5	402	400	401	403	405	407	407	406	406	403	399	397	397	396	403	411	426	430	445	412	398	393	389	365	404
6 d	382	387	389	391	391	394	399	404	400	393	388	387	393	398	404	407	410	414	413	420	503	278	243	342	389
7 d	391	318	280	198	363	406	403	387	368	355	366	369	371	378	380	398	425	494	553	426	379	355	365	373	379
8 d	382	378	351	357	380	361	342	378	368	378	368	370	373	398	409	387	391	394	406	396	372	390	382	368	378
9	336	386	392	385	394	397	400	390	375	375	378	378	372	368	390	399	385	394	401	391	395	394	392	398	386
10	393	398	396	396	397	399	402	399	396	391	383	383	382	387	388	399	397	403	404	401	393	398	392	397	395
11	391	391	388	396	402	405	412	403	386	381	382	378	381	385	389	397	400	397	399	400	400	403	402	400	395
12	402	394	387	398	403	405	407	402	396	390	386	385	388	393	401	396	404	394	395	402	402	397	401	382	396
13	384	394	390	398	396	409	414	406	402	393	385	387	387	388	378	390	401	402	402	402	402	404	404	402	397
14 q	400	400	405	405	409	409	409	407	404	399	394	389	394	397	403	406	410	411	412	412	411	409	409	406	405
15	398	396	396	394	391	404	411	408	403	398	392	390	390	388	404	396	388	404	402	403	401	400	399	397	398
16	400	396	395	395	399	407	411	408	406	402	399	399	401	403	406	411	416	410	410	412	408	393	374	370	401
17	378	392	391	393	395	399	401	403	397	396	395	392	392	396	396	398	399	404	402	401	402	399	395	398	396
18 q	396	395	399	396	400	401	401	400	399	397	395	392	392	395	397	400	404	408	408	408	406	403	401	400	400
19 q	397	399	399	399	404	405	405	402	401	400	399	396	399	400	403	405	408	411	412	411	409	407	404	403	403
20 q	402	403	403	404	407	408	408	407	405	402	401	404	410	411	411	415	417	417	417	414	412	404	408	406	408
21 d	404	400	399	403	405	406	404	414	414	397	374	390	395	402	420	405	390	396	401	393	392	384	395	371	398
22 d	301	378	390	394	387	399	411	399	385	388	381	382	392	371	380	404	399	390	393	395	389	386	381	391	386
23	392	392	393	395	402	408	403	403	392	375	372	380	388	390	393	396	403	399	401	402	399	393	413	377	394
24	382	382	384	394	393	408	403	404	402	381	381	383	382	382	387	390	398	396	398	388	390	387	391	392	391
25	393	394	396	395	400	403	402	400	399	392	388	383	388	389	390	400	403	402	395	396	394	387	381	389	394
26	393	396	402	405	406	399	417	418	412	406	401	391	390	393	395	400	402	404	405	405	404	404	402	405	402
27	403	407	409	412	418	412	408	408	399	384	402	405	404	407	412	404	411	407	416	398	402	400	402	403	406
28	400	399	399	396	401	403	403	403	403	404	396	395	399	400	402	408	411	405	399	399	408	403	396	391	401
29	384	398	397	401	402	406	399	400	400	398	395	396	398	394	403	403	395	408	404	390	391	398	402	399	398
30	396	395	396	396	398	400	400	400	401	403	399	396	398	402	407	409	403	400	405	406	403	403	402	402	401
31 q	401	403	402	401	400	401	401	400	399	400	399	399	399	401	405	407	408	409	409	408	408	404	403	403	403
Mean	389	392	391	390	398	402	404	403	398	393	390	389	391	394	399	403	405	408	411	404	403	393	391	391	397

403 at 0-1h. January 1, 1940.

Corrections to be applied to all values: H, −6γ; D, −4·0′; V, −18γ.

MAGNETIC DECLINATION (WEST)

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

49 LERWICK (D) — 12° + — DECEMBER 1939

	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	18·5	18·2	20·1	22·0	20·4	18·5	22·0	19·3	20·5	21·5	22·2	24·2	24·1	25·1	24·4	23·7	23·7	22·7	23·2	21·3	18·7	19·6	20·3	19·3	21·4
2	18·4	19·1	19·8	19·9	19·9	20·4	19·2	20·6	22·1	21·5	22·7	24·0	25·4	25·1	25·7	25·0	24·3	24·5	23·9	23·6	20·5	15·7	20·1	19·0	21·7
3	19·7	20·2	19·6	20·6	19·7	19·9	19·5	20·3	20·8	21·8	22·7	23·5	23·9	25·1	24·6	24·5	24·8	24·6	24·7	23·7	23·1	21·2	12·7	14·1	21·5
4	14·6	10·5	12·1	16·1	17·4	18·7	19·7	21·0	20·2	20·5	22·1	23·2	23·7	24·2	23·4	22·8	22·5	22·0	21·7	21·6	21·1	20·8	19·4	19·7	20·0
5	20·2	19·1	21·0	20·8	21·3	21·2	21·1	21·2	20·8	20·6	20·8	23·1	24·1	26·3	27·8	29·0	31·6	32·7	39·4	29·0	19·5	16·8	13·1	6·7	22·8
6 d	13·0	17·0	19·7	20·3	21·1	20·5	20·9	20·9	20·2	20·9	21·6	24·0	25·5	26·3	24·9	24·2	23·6	24·2	26·5	27·0	17·2	−3·7	−4·5	11·2	19·3
7 d	15·1	11·1	4·7	21·7	15·8	14·8	21·7	20·0	22·6	24·6	23·6	24·1	25·3	26·9	19·2	19·7	26·8	28·3	20·2	12·6	11·3	11·1	−3·3	15·3	18·1
8 d	18·3	20·8	23·0	20·5	23·9	27·3	34·2	30·9	23·7	25·9	27·4	26·9	27·2	27·9	25·6	17·0	4·3	23·5	17·1	12·2	9·7	16·2	16·1	20·4	21·7
9	22·7	17·3	20·7	23·2	24·3	22·8	21·1	21·2	21·4	26·2	25·8	25·0	25·8	24·9	24·3	22·6	19·1	21·2	5·9	19·5	20·5	16·8	19·7	20·9	21·4
10	21·1	21·4	20·9	21·1	21·8	20·7	20·6	22·2	22·1	21·0	23·3	23·6	24·1	23·9	21·7	17·1	20·6	20·6	21·3	20·6	13·9	11·7	16·9	19·8	20·5
11	20·9	20·8	24·0	22·1	20·6	19·8	20·6	21·4	21·8	22·5	23·9	22·9	25·2	24·7	24·1	22·9	22·5	22·0	19·7	20·6	19·6	17·2	17·8	19·5	21·5
12	21·4	20·8	24·0	21·6	21·8	20·9	20·7	20·8	20·2	20·8	23·4	24·4	24·8	23·9	23·4	22·8	22·8	21·7	21·3	21·9	20·3	18·1	4·9	12·5	20·8
13	16·4	20·0	21·6	20·6	22·4	20·9	22·1	21·1	20·9	21·0	21·3	22·2	23·7	24·7	24·7	24·7	21·9	21·9	21·9	21·7	20·7	20·5	19·9	20·0	18·8	21·3
14 q	18·9	22·8	22·6	20·6	20·6	21·2	21·0	21·4	21·7	20·9	22·0	22·6	23·5	24·5	24·2	23·4	23·3	22·7	22·0	21·8	21·4	20·8	20·7	19·9	21·9
15	16·0	15·4	18·8	18·3	18·1	20·0	20·9	20·3	20·2	20·3	21·0	23·1	24·2	25·6	27·4	27·5	26·5	24·7	24·9	22·3	20·9	20·1	19·0	18·7	21·4
16	20·1	20·4	20·0	20·7	20·7	20·1	20·6	20·9	20·6	20·8	22·0	22·1	23·0	23·7	24·9	24·5	24·2	25·6	22·5	22·6	21·4	19·9	17·8	4·7	21·0
17	12·8	15·9	20·6	20·7	20·8	20·7	20·4	20·7	20·3	20·4	20·4	21·9	23·9	24·6	24·5	22·9	24·0	22·9	22·4	22·2	21·7	19·9	19·8	21·5	21·1
18 q	20·1	19·6	17·3	18·5	19·1	19·8	20·3	20·6	20·8	20·9	21·3	22·2	22·2	22·7	22·7	22·2	21·6	21·5	21·4	21·2	20·8	20·8	20·4	19·9	20·7
19 q	19·6	19·7	20·2	20·0	20·2	19·5	19·9	20·2	20·1	20·5	21·4	22·6	23·9	23·9	23·7	23·2	22·6	22·2	21·6	21·2	20·8	20·8	20·7	20·5	21·2
20 q	20·4	20·3	20·3	20·5	20·6	20·5	20·4	20·3	20·2	20·8	21·7	22·6	23·6	23·9	23·5	23·8	23·8	23·7	24·0	23·4	23·7	19·8	16·7	16·4	21·5
21 d	18·3	18·9	17·7	16·1	15·8	16·0	18·1	21·3	21·2	23·5	24·4	28·3	26·1	26·2	30·7	36·3	31·7	24·2	25·1	22·1	20·3	19·9	17·9	17·0	22·4
22 d	13·5	16·7	17·6	17·9	18·7	21·9	24·2	24·0	23·3	23·1	25·2	26·4	27·2	29·0	30·4	26·7	16·4	26·1	22·3	20·5	17·6	7·7	17·3	20·5	21·4
23	21·6	21·3	20·8	21·1	22·7	19·5	22·1	20·8	21·0	21·1	20·5	23·2	26·3	25·2	24·0	22·6	22·4	22·2	21·3	21·1	20·6	20·5	15·6	17·3	21·5
24	19·8	21·6	21·1	16·2	17·9	17·1	19·7	19·4	21·9	20·6	21·0	22·7	23·2	23·3	24·1	23·3	22·3	18·6	17·7	19·2	13·6	18·2	18·5	20·0	20·0
25	20·5	20·7	19·1	16·8	20·4	20·0	20·6	22·6	23·9	23·9	23·5	22·3	23·6	24·6	23·8	22·8	22·3	22·0	21·2	21·5	21·0	14·9	15·3	17·4	21·0
26	19·5	22·6	22·3	22·0	22·1	26·2	24·1	22·1	22·1	22·3	22·7	22·5	24·1	23·9	23·2	22·0	21·6	21·4	20·8	20·7	20·5	20·5	19·8	16·1	21·9
27	19·6	20·5	21·2	21·7	21·2	20·3	20·8	20·4	19·3	24·1	24·4	24·7	25·0	23·6	26·1	28·3	29·7	26·7	24·1	16·2	16·7	21·1	20·9	20·6	22·4
28	21·0	19·4	20·0	19·6	21·0	19·8	19·9	20·3	21·2	22·2	23·3	25·0	24·5	22·4	21·2	21·7	23·3	24·7	21·7	25·6	23·5	21·4	19·4	16·2	21·6
29	19·9	16·4	17·1	16·1	16·5	17·3	18·8	19·8	20·0	21·7	22·1	24·1	22·6	23·5	21·6	25·1	21·1	22·6	22·7	19·4	17·3	19·2	20·1	19·8	20·2
30	16·3	16·1	19·6	20·0	20·3	19·6	21·1	20·3	20·2	21·0	21·0	23·1	23·7	23·1	22·5	23·6	23·1	20·8	21·9	20·5	20·1	20·1	19·5	20·2	20·7
31 q	20·6	21·3	19·9	19·3	20·5	19·6	19·4	19·8	20·9	22·4	22·8	22·8	23·7	23·2	21·7	21·1	21·2	20·8	20·6	20·2	20·4	20·1	20·0	20·2	20·9
Mean	18·7	18·9	19·6	19·9	20·2	20·2	21·2	21·2	21·2	21·9	22·6	23·7	24·4	24·7	24·3	23·7	22·9	23·3	22·1	21·2	19·3	17·6	16·5	17·6	21·1

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

20·3 at 0-1h. January 1, 1940.

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT

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

50 LERWICK (V) — 46,000γ (0·46 C.G.S. unit) + — DECEMBER 1939

	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	823	831	837	849	859	861	846	854	856	860	866	866	864	865	866	868	868	870	874	882	894	885	874	869	862
2	870	871	867	865	866	865	864	863	859	857	856	857	859	859	860	863	868	869	874	878	888	888	879	869	867
3	868	865	864	863	864	865	861	859	861	860	860	860	860	861	860	860	860	862	865	872	875	880	895	880	866
4	863	862	860	860	859	862	862	860	863	865	868	867	865	862	863	863	862	863	864	865	865	865	864	866	863
5	865	863	863	861	859	858	858	859	860	863	862	864	864	868	872	877	923	950	991	986	967	927	903	878	889
6 d	863	854	851	854	860	863	863	864	866	869	870	869	868	866	865	864	862	863	873	897	955	807	770	853	862
7 d	873	842	788	680	702	788	831	857	872	877	874	876	880	885	939	955	949	1013	1054	1014	932	888	794	773	872
8 d	831	855	834	769	801	799	796	818	859	884	892	900	901	904	911	942	955	943	939	935	899	888	872	831	873
9	749	815	836	846	846	850	855	862	873	867	869	882	893	915	905	898	899	899	898	876	870	864	858	863	866
10	867	869	870	869	866	865	862	864	863	865	868	873	879	886	891	894	884	876	872	870	876	866	853	858	871
11	864	863	863	858	856	863	860	861	866	865	870	874	877	878	879	880	878	878	878	873	870	862	854	859	868
12	862	865	866	860	866	866	865	865	865	860	858	859	863	866	869	877	876	888	890	877	871	869	860	847	867
13	843	847	855	854	856	842	849	856	860	863	864	865	868	873	879	882	876	874	873	871	869	866	864	862	863
14 q	862	857	847	857	859	860	860	861	860	862	861	864	865	863	862	864	865	864	865	854	864	862	862	862	861
15	858	857	855	857	857	852	854	856	859	862	862	862	862	862	865	876	895	889	895	893	885	880	874	866	868
16	863	864	865	865	863	862	863	864	864	863	859	854	855	855	858	860	861	868	873	869	869	875	832	810	860
17	837	837	858	864	866	864	864	863	865	861	860	861	863	864	866	872	873	871	871	873	874	876	876	869	865
18 q	874	869	865	859	861	863	863	863	864	864	863	864	865	863	864	865	866	866	865	866	866	867	868	868	865
19 q	867	865	863	863	859	859	861	864	864	863	860	860	859	860	861	862	863	862	862	862	863	864	864	864	862
20 q	864	861	860	859	858	858	858	858	859	860	858	858	856	855	856	856	856	857	859	865	870	886	886	884	862
21 d	874	869	864	861	859	853	855	856	857	857	863	853	860	872	877	921	943	911	905	923	921	891	876	856	878
22 d	753	832	848	843	821	841	845	850	856	854	864	867	872	886	909	937	948	921	911	906	915	889	883	872	872
23	870	869	866	858	852	850	851	852	858	867	875	878	874	870	872	873	871	877	878	874	877	879	848	860	867
24	852	838	847	845	855	849	855	862	860	868	871	874	876	878	885	885	880	886	883	885	894	887	878	875	869
25	870	863	829	827	843	852	856	856	855	857	861	865	864	870	879	876	873	871	875	875	873	873	872	864	862
26	857	851	848	848	849	843	833	838	845	849	855	862	862	866	871	869	868	865	863	860	859	858	861	857	856
27	859	856	858	858	855	856	857	854	854	856	850	850	854	860	864	875	884	886	885	911	887	871	868	866	866
28	865	865	864	864	860	857	857	858	856	856	857	855	857	861	870	873	872	877	892	899	896	896	893	882	870
29	877	874	868	860	859	859	864	864	863	861	861	859	860	864	868	875	886	878	880	888	888	879	869	867	870
30	842	858	861	865	865	864	862	861	860	860	861	860	860	862	865	867	873	879	873	869	867	864	862	860	863
31 q	860	856	859	860	863	863	864	865	863	860	861	861	860	860	861	864	866	866	867	867	866	865	864	861	863
Mean	853	856	854	848	850	853	855	858	861	862	864	865	867	870	875	880	884	885	889	888	886	875	864	860	867

860 at 0-1h. January 1, 1940.

Corrections to be applied to all values: H, −6γ; D, −4·0′; V, −18γ.

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

51 LERWICK — DECEMBER 1939

	TERRESTRIAL MAGNETIC ELEMENTS												$\frac{HR_H + VR_V}{10{,}000\gamma^2}$ §	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. ′	′ h. m.	′	h. m.	γ	γ	h. m.	γ			°A
1	6 28	427	372	11 41	55	6 8 28·3	15·9 1 8	12·4	20 12	901	816	0 40	85	477	0	77·2
2	20 35	420	385	21 2	35	11 54 26·1	13·5 21 39	12·6	20 24	895	855	9 45	40	237	0	77·7
3	16 24	422	373	22 54	49	13 30 25·7	5·2 22 29	20·5	22 31	901	856	6 56	45	282	0	77·9
4	22 34	418	368	0 20	50	13 30 25·2	8·2 2 8	17·0	0 0	874	850	0 40	24	184	0	77·9
5	18 26	460	358	23 31	102	18 15 46·9	4·1 23 40	42·8	18 50	1024	857	6 5	167	929	1	78·0
6 d	20 36	596	178	22 0	418	23 38 36·3	−17·6 20 53	53·9	20 46	1005	695	22 0	310	2053	1	77·7
7 d	18 22	591	63	2 47	528	3 52 47·2	−12·7 22 53	59·9	18 5	1066	617	4 3	449	2861	2	77·0
8 d	18 10	440	327	24 0	113	6 52 37·4	−8·2 16 6	45·6	15 56	986	752	3 24	234	1258	1	77·0
9	18 49	421	271	0 12	150	0 10 36·7	−3·5 18 24	40·2	13 48	923	729	0 34	194	1124	1	77·5
10	21 43	422	371	12 47	51	12 13 26·6	7·8 21 32	18 8	14 58	897	860	7 53	37	246	0	78·0
11	6 25	415	378	8 50	37	12 43 26·5	13·7 21 12	12·8	15 26	882	851	22 37	31	198	0	78·5
12	22 15	421	378	22 50	43	17 1 26·1	−2·9 22 18	29·0	18 1	902	843	23 32	59	338	1	78·9
13	6 30	418	372	14 39	46	14 8 26·1	13·6 0 38	12·5	15 4	885	838	5 27	47	286	0	78·6
14 q	18 56	414	388	11 30	26	1 59 26·5	17·1 0 33	9·4	16 54	866	842	2 15	24	149	0	78·3
15	6 57	416	384	16 37	32	14 33 28·4	13·2 0 59	15·2	16 43	900	850	5 1	50	280	0	78·4
16	16 37	431	349	22 58	82	22 46 28·0	−2·5 23 14	30·5	21 45	877	766	22 57	111	637	1	78·1
17	17 51	405	375	0 50	30	12 6 25·5	11·1 0 32	14·4	21 9	878	828	1 15	50	277	0	77·8
18 q	18 3	406	390	11 32	16	13 25 23·0	15·7 2 41	7·3	0 20	876	859	3 38	17	103	0	78·0
19 q	18 5	412	395	11 15	17	12 56 24·5	18·6 5 14	5·9	0 0	867	856	4 48	11	75	0	78·4
20 q	17 36	421	397	23 23	24	20 47 25·2	14·1 23 4	11·1	23 2	892	855	13 5	37	208	0	78·0
21 d	14 45	429	350	23 52	79	14 53 39·5	14·8 6 19	24·7	16 16	956	826	24 0	130	722	1	76·8
22 d	15 53	430	203	0 23	227	14 32 34·7	1·6 0 50	33·1	16 4	1011	650	0 21	361	2016	1	76·8
23	22 20	436	367	9 54	69	12 52 27·6	11·3 22 13	16·3	11 26	882	834	22 33	48	324	0	76·5
24	5 32	412	369	9 49	43	14 53 26·8	11·3 20 37	15·5	21 2	902	828	1 33	74	408	0	77·2
25	6 12	406	377	22 4	29	12 50 25·6	10·5 21 52	15·1	14 50	880	818	2 55	62	332	0	76·8
26	7 0	424	388	11 24	36	5 37 28·4	12·5 23 45	15·9	14 42	872	831	6 12	41	244	0	75·9
27	16 45	427	376	9 30	51	16 55 37·7	5·9 19 55	31·8	19 44	921	845	10 20	76	429	1	74·9
28	20 42	425	385	22 4	40	19 18 29·5	15·4 23 23	14·1	18 56	906	853	11 52	53	306	0	74·0
29	15 18	417	375	0 21	42	15 49 27·9	13·7 3 20	14·2	20 38	892	852	24 0	40	247	0	73·8
30	16 16	413	390	0 26	23	0 0 25·7	10·2 0 33	15·5	17 38	883	832	0 22	51	272	0	73·8
31 q	18 20	411	396	8 51	15	12 34 24·6	18·8 3 32	5·8	18 6	867	855	1 47	12	78	0	73·5
Mean	− −	432	350	− −	83	− − 29·8	8·1 − −	21·7	− −	912	816	− −	96	567	0·35	77·1

§ For explanation see p. 3.

DIURNAL INEQUALITIES OF THE TERRESTRIAL MAGNETIC ELEMENTS

ALL DAYS

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

52 LERWICK 1939

HORIZONTAL FORCE

	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
	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.	−2·9	−2·2	−0·7	+2·4	+6·0	+6·3	+6·4	+5·9	+3·1	−3·0	−6·1	−9·1	−8·8	−5·9	−4·7	−2·5	−0·8	+2·2	+3·5	+3·6	+4·0	+3·0	+1·1	−0·8
Feb.	−15·9	−29·3	−14·6	−3·8	−0·8	+1·3	−0·1	−1·9	+2·1	−0·1	−3·0	−7·2	−6·8	+1·7	+6·9	+7·9	+19·4	+33·7	+27·3	+13·7	+7·8	−10·5	−18·9	−8·9
Mar.	−12·4	−20·3	−25·3	−21·5	−1·0	+3·9	+5·4	+2·6	−5·6	−17·2	−21·6	−20·6	−13·7	−4·2	+13·3	+28·4	+35·9	+30·4	+34·4	+16·6	+10·4	+0·7	−12·4	−6·2
Apr.	−40·5	−32·0	−29·5	−21·7	−26·9	−8·6	−22·9	−22·4	−24·9	−27·7	−29·0	−20·8	−7·8	+9·6	+48·5	+68·7	+71·9	+76·2	+68·6	+36·4	+2·3	−12·0	−10·9	−44·6
May	−40·7	−65·2	−51·4	−28·4	−19·3	−17·3	−15·2	−16·2	−21·6	−26·3	−26·4	−20·8	−5·8	+14·2	+34·9	+59·4	+71·1	+70·9	+64·5	+54·9	+31·5	+10·3	−20·0	−37·1
June	−5·3	−12·6	−15·1	−12·7	−14·5	−11·1	−11·4	−20·8	−34·3	−41·6	−38·2	−32·2	−14·6	−5·3	+15·9	+32·2	+36·4	+43·2	+44·2	+40·7	+31·7	+17·4	+8·1	−0·1
July	−14·4	−14·5	−14·9	−15·8	−8·7	−17·3	−23·2	−28·1	−33·4	−38·0	−38·5	−34·0	−16·4	+9·0	+24·1	+40·0	+49·2	+54·9	+52·2	+42·2	+28·6	+6·7	−4·9	−4·8
Aug.	−30·3	−29·1	−48·5	−47·3	−18·4	−9·4	−7·0	−10·6	−17·3	−25·5	−27·8	−17·6	−2·5	+13·2	+45·6	+62·4	+57·5	+44·8	+43·9	+36·0	+18·2	+11·6	−13·9	−28·0
Sept.	−0·4	+1·2	−4·9	−7·7	+2·1	+2·8	−1·1	−7·6	−20·8	−31·8	−38·1	−37·1	−23·5	−11·1	+0·8	+18·1	+31·4	+35·8	+31·2	+19·6	+16·1	+15·1	+8·0	+1·9
Oct.	−9·6	−34·0	−36·3	−26·7	−9·9	+1·6	+5·9	+2·4	−3·5	−17·4	−22·5	−17·9	−7·4	+4·6	+13·1	+24·8	+36·7	+49·3	+41·2	+26·0	+8·9	+3·4	−12·9	−19·8
Nov.	−2·4	−6·1	+0·2	+2·5	+6·2	+7·7	+7·9	+5·6	+1·3	−7·2	−12·6	−15·4	−9·8	−4·5	+1·2	+0·9	+5·4	+6·1	+7·1	+5·2	+3·4	+0·7	−1·6	−1·8
Dec.	−8·1	−5·1	−6·2	−7·1	+1·1	+5·0	+6·5	+5·6	+0·8	−4·1	−7·5	−7·9	−5·7	−3·3	+2·0	+5·4	+7·5	+11·0	+14·2	+6·8	+5·5	−4·3	−6·1	−6·0
Year	−15·2	−20·8	−20·6	−15·7	−7·0	−2·9	−4·1	−7·1	−12·8	−20·0	−22·6	−20·1	−10·2	+1·5	+16·8	+28·8	+35·1	+38·2	+36·0	+25·1	+14·0	+3·5	−7·0	−13·0
Winter	−7·3	−10·7	−5·3	−1·5	+3·1	+5·1	+5·2	+3·8	+1·8	−3·6	−7·3	−9·9	−7·8	−3·0	+1·3	+2·9	+7·9	+13·3	+13·0	+7·3	+5·2	−2·8	−6·4	−4·4
Equinox	−15·7	−21·3	−24·0	−19·4	−8·9	−0·1	−3·2	−6·3	−13·7	−23·5	−27·8	−24·1	−13·1	−0·3	+18·9	+35·0	+44·0	+47·9	+43·9	+24·7	+9·4	+1·8	−7·1	−17·2
Summer	−22·7	−30·3	−32·5	−26·1	−15·2	−13·8	−14·2	−18·9	−26·7	−32·9	−32·7	−26·1	−9·8	+7·8	+30·1	+48·5	+53·5	+53·5	+51·2	+43·5	+27·5	+11·5	−7·7	−17·5

DECLINATION

	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
Jan.	−2·55	−2·40	−2·36	−1·38	−0·92	−0·28	−0·08	−0·40	−0·47	−0·04	+0·75	+1·80	+2·72	+2·75	+2·46	+2·24	+2·42	+1·86	+0·97	+0·43	−0·79	−2·04	−2·39	−2·30
Feb.	−3·68	−5·74	−5·25	−3·49	−2·51	−1·86	−0·48	−0·07	−0·44	+0·32	+1·22	+2·72	+3·98	+4·68	+4·46	+3·76	+2·81	+3·15	+2·75	+3·43	+1·31	−3·24	−4·52	−3·31
Mar.	−4·21	−3·71	−2·94	−4·31	−4·01	−2·99	−1·59	−2·15	−2·06	−0·45	+1·53	+4·08	+6·44	+7·79	+6·97	+6·14	+3·90	+2·65	+2·17	−0·32	−1·28	−3·07	−3·86	−4·72
Apr.	−3·60	−3·30	−2·86	−3·39	−4·24	−3·98	−4·67	−5·44	−5·01	−2·17	+0·12	+3·11	+6·64	+8·49	+7·89	+7·49	+5·42	+4·18	+1·56	+1·07	+0·15	−1·09	−2·04	−4·33
May	−2·88	−4·00	−7·22	−6·91	−5·89	−5·90	−5·96	−5·24	−3·07	−1·14	+1·07	+4·22	+7·04	+7·64	+7·18	+5·98	+5·17	+4·39	+3·68	+2·63	+1·90	+1·17	−1·15	−2·71
June	−0·79	−1·67	−3·21	−4·37	−4·98	−5·69	−7·18	−7·39	−6·15	−4·55	−1·07	+2·41	+5·13	+6·10	+6·87	+5·95	+4·29	+3·89	+3·08	+2·98	+2·74	+2·28	+0·78	+0·55
July	−1·42	−2·86	−4·04	−4·90	−6·30	−6·07	−5·09	−4·96	−4·95	−3·25	−0·93	+2·39	+5·36	+6·17	+6·70	+6·02	+4·82	+4·27	+3·53	+3·16	+2·23	+1·13	+0·03	−1·04
Aug.	−0·81	−2·44	−4·64	−7·35	−6·42	−5·70	−7·01	−5·78	−4·72	−2·00	+1·73	+5·23	+7·49	+8·24	+6·42	+5·25	+4·56	+2·45	+1·84	+1·79	+1·47	+0·70	+0·26	−0·56
Sept.	−3·23	−2·94	−4·07	−4·95	−4·22	−4·38	−4·86	−5·04	−4·30	−2·25	+1·06	+5·13	+8·00	+8·56	+7·65	+5·27	+3·94	+3·48	+2·47	+0·82	−0·16	−1·19	−1·53	−3·26
Oct.	−2·92	−3·94	−3·71	−3·90	−3·58	−2·30	−2·76	−2·75	−3·30	−1·17	+1·30	+3·81	+6·37	+6·95	+7·15	+5·66	+4·21	+2·77	+2·17	+1·03	−1·91	−1·77	−2·80	−4·61
Nov.	−2·83	−2·05	−1·90	−1·11	−0·93	−0·47	−0·74	−0·87	−1·08	−0·89	+0·61	+2·56	+3·75	+4·24	+4·10	+2·90	+2·19	+1·51	+1·37	+0·22	−1·51	−2·59	−3·40	−3·08
Dec.	−2·44	−2·22	−1·53	−1·22	−0·87	−0·94	+0·04	+0·04	+0·05	+0·80	+1·51	+2·54	+3·30	+3·60	+3·20	+2·56	+1·78	+2·21	+0·97	+0·05	−1·82	−3·47	−4·57	−3·57
Year	−2·61	−3·11	−3·64	−3·94	−3·74	−3·38	−3·37	−3·34	−2·96	−1·40	+0·74	+3·33	+5·52	+6·27	+5·92	+4·93	+3·79	+3·07	+2·21	+1·44	+0·19	−1·10	−2·10	−2·75
Winter	−2·87	−3·10	−2·76	−1·80	−1·31	−0·89	−0·31	−0·33	−0·49	+0·05	+1·02	+2·41	+3·44	+3·82	+3·55	+2·87	+2·30	+2·18	+1·51	+1·03	−0·70	−2·83	−3·72	−3·07
Equinox	−3·49	−3·47	−3·39	−4·14	−4·01	−3·41	−3·47	−3·85	−3·67	−1·51	+1·00	+4·03	+6·86	+7·95	+7·41	+6·14	+4·37	+3·27	+2·09	+0·65	−0·80	−1·78	−2·56	−4·23
Summer	−1·47	−2·74	−4·78	−5·88	−5·90	−5·84	−6·31	−5·84	−4·72	−2·73	+0·20	+3·56	+6·25	+7·04	+6·79	+5·80	+4·71	+3·75	+3·03	+2·64	+2·09	+1·32	−0·02	−0·94

VERTICAL 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.	−0·8	−3·9	−7·3	−7·4	−9·7	−9·7	−8·6	−6·4	−3·8	−0·5	+1·2	+1·7	+1·0	+1·7	+3·7	+5·5	+6·9	+7·8	+9·6	+9·0	+4·9	+3·4	+1·5	+0·2
Feb.	−6·2	−15·0	−17·9	−20·9	−17·8	−15·3	−14·6	−11·3	−9·0	−6·7	−4·4	−2·6	+0·6	+5·3	+10·5	+14·0	+24·4	+24·2	+17·5	+12·0	+19·2	+15·3	+2·9	−4·2
Mar.	−30·7	−31·7	−36·0	−40·3	−27·4	−19·2	−13·8	−6·1	−1·5	+3·0	+3·5	+4·4	+8·3	+12·5	+19·8	+29·7	+37·7	+38·1	+35·6	+25·3	+20·2	+3·9	−12·0	−23·3
Apr.	−55·3	−35·8	−30·2	−33·7	−23·5	−19·9	−17·4	−10·4	−4·0	+3·1	+6·5	+12·3	+16·5	+23·4	+31·6	+34·3	+45·9	+41·0	+40·3	+26·4	+17·5	−0·7	−20·3	−47·6
May	−54·2	−63·0	−63·2	−55·4	−38·2	−30·0	−17·7	−5·9	−0·3	+3·9	+10·2	+12·1	+16·1	+30·2	+40·1	+51·4	+57·8	+53·8	+46·8	+36·7	+20·0	+2·7	−22·6	−31·3
June	−27·1	−38·1	−38·9	−31·2	−27·4	−22·7	−11·6	−3·8	−0·2	+1·5	+3·2	+5·2	+6·8	+15·4	+20·0	+30·1	+36·4	+32·8	+30·3	+24·4	+18·0	+4·3	−6·9	−20·5
July	−33·4	−29·0	−28·7	−23·6	−19·6	−19·4	−17·8	−13·1	−5·9	−3·2	+1·4	+1·1	+7·9	+22·5	+26·4	+29·2	+33·3	+32·4	+28·2	+22·1	+13·1	+3·9	−7·6	−20·2
Aug.	−19·4	−42·7	−39·3	−42·8	−27·6	−9·8	+1·3	+1·6	+4·6	+5·6	+5·9	+2·5	+5·5	+18·3	+28·1	+24·4	+28·6	+27·4	+24·6	+18·2	+9·9	+0·5	−5·5	−19·9
Sept.	−16·0	−20·5	−23·2	−27·0	−22·9	−9·8	−4·7	−1·3	+0·3	+1·2	+0·9	−1·3	−1·5	+4·9	+12·2	+22·9	+26·1	+24·0	+22·5	+17·7	+10·4	+4·9	−4·5	−15·3
Oct.	−31·5	−35·6	−37·6	−50·6	−49·6	−32·2	−17·3	−8·2	−2·4	+3·9	+8·1	+11·2	+14·1	+21·4	+28·3	+35·0	+41·2	+44·3	+37·2	+20·4	+6·8	+8·3	+0·8	−16·0
Nov.	−10·6	−15·5	−14·6	−11·6	−13·7	−12·0	−10·8	−6·5	−3·4	−0·4	+0·9	+3·4	+5·0	+6·3	+10·1	+10·6	+11·7	+13·5	+16·0	+15·9	+11·7	+4·5	−2·8	−7·7
Dec.	−13·6	−10·6	−12·5	−18·3	−16·2	−13·4	−12·2	−9·1	−5·9	−4·3	−2·9	−1·7	−0·1	+2·9	+7·9	+13·7	+17·2	+18·5	+21·9	+21·5	+19·3	+7·9	−3·0	−7·0
Year	−24·9	−28·5	−29·1	−30·2	−24·5	−17·8	−12·1	−6·7	−2·6	+0·6	+2·9	+4·0	+6·7	+13·7	+19·9	+25·1	+30·6	+29·8	+27·5	+20·8	+14·3	+4·9	−6·7	−17·7
Winter	−7·8	−11·3	−13·1	−14·5	−14·3	−12·6	−11·5	−8·3	−5·5	−3·0	−1·3	+0·2	+1·6	+4·1	+8·1	+10·9	+15·1	+16·0	+16·3	+14·6	+13·8	+7·8	−0·3	−4·7
Equinox	−33·4	−30·9	−31·7	−37·9	−30·9	−20·3	−13·3	−6·5	−1·9	+2·8	+4·7	+6·7	+9·3	+15·5	+23·0	+30·5	+37·7	+36·9	+33·9	+22·5	+13·7	+4·1	−9·0	−25·5
Summer	−33·5	−43·2	−42·5	−38·3	−28·2	−20·5	−11·5	−5·3	−0·5	+1·9	+5·2	+5·2	+9·1	+21·6	+28·7	+33·8	+39·0	+36·6	+32·5	+25·3	+15·3	+2·9	−10·7	−23·0

INTERNATIONAL QUIET DAYS

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

53 LERWICK 1939

HORIZONTAL FORCE

	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
	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.	−2·6	−0·5	+1·7	+3·4	+5·7	+7·9	+7·2	+6·3	+2·7	−4·0	−7·5	−9·5	−9·2	−6·5	−5·1	−5·8	−3·3	−0·5	+2·4	+4·1	+4·5	+3·0	+2·7	+2·9
Feb.	+2·6	+1·3	+0·8	+1·1	+1·3	+3·8	+4·1	+3·7	+1·6	−4·7	−9·8	−13·5	−13·0	−7·9	−7·4	−3·9	+0·3	+3·6	+5·5	+8·3	+6·8	+4·9	+4·8	+5·7
Mar.	+5·0	+3·7	−0·8	+2·2	+3·0	+6·7	+7·8	+4·8	−5·6	−20·9	−23·8	−25·0	−19·8	−13·3	−8·2	−1·4	+3·8	+5·9	+11·2	+15·4	+13·4	+12·9	+12·2	+10·8
Apr.	+9·7	+5·4	+5·7	+5·4	+7·0	+8·3	+3·2	−3·8	−9·9	−22·2	−32·3	−37·0	−30·1	−25·8	−12·9	+1·4	+7·2	+10·5	+17·8	+18·0	+15·3	+18·6	+20·1	+20·4
May	+5·1	+3·9	+2·5	−1·5	+0·1	−1·3	−5·9	−12·3	−17·1	−25·1	−30·3	−33·1	−25·5	−19·7	−10·9	+3·9	+13·5	+22·7	+27·1	+28·9	+28·5	+19·7	+15·1	+11·7
June	+4·9	+3·4	+1·3	+5·4	+7·4	+4·3	−1·4	−11·2	−22·3	−35·2	−42·1	−39·0	−28·1	−20·6	−4·7	+8·8	+16·8	+20·5	+27·4	+27·2	+24·7	+21·8	+17·9	+12·8
July	+3·2	−3·5	−3·0	+2·7	+0·5	−1·4	−5·9	−12·3	−21·4	−31·5	−36·6	−32·5	−22·4	−10·7	0·0	+2·9	+12·1	+21·0	+27·7	+26·1	+27·2	+23·1	+19·6	+15·1
Aug.	+10·4	+7·0	+7·1	+7·6	+8·0	+5·4	−1·8	−10·0	−18·5	−26·2	−33·8	−37·6	−31·6	−21·6	−7·9	+0·6	+10·4	+15·6	+21·8	+23·8	+22·9	+19·8	+16·8	+11·8
Sept.	+9·4	+9·2	+8·0	+8·0	+8·0	+6·3	+4·6	−3·0	−16·6	−26·4	−33·4	−34·2	−27·8	−17·8	−5·8	+1·8	+3·6	+9·7	+17·4	+20·2	+17·4	+15·0	+13·0	+13·4
Oct.	+4·5	+4·9	+4·2	+6·5	+7·3	+8·1	+9·1	+4·1	−5·6	−18·7	−28·3	−28·5	−24·9	−19·3	−11·0	−0·7	+5·7	+8·7	+10·1	+11·7	+12·2	+13·3	+13·1	+13·5
Nov.	−1·2	−1·1	−0·6	+1·3	+4·6	+6·7	+5·2	+2·5	−3·4	−11·5	−15·2	−13·3	−9·2	−5·9	−0·6	+0·9	+5·6	+6·5	+6·2	+6·3	+4·8	+4·5	+4·6	+2·3
Dec.	−4·5	−3·8	−2·1	−2·7	+0·3	+1·0	+1·1	−0·5	−2·1	−4·2	−6·1	−7·7	−4·9	−3·0	+0·1	+2·9	+5·7	+7·4	+7·9	+6·9	+5·5	+1·6	+1·3	−0·1
Year	+3·9	+2·5	+2·1	+3·3	+4·4	+4·7	+2·3	−2·6	−9·9	−19·2	−24·9	−25·9	−20·5	−14·3	−6·2	+0·9	+6·8	+11·0	+15·2	+16·4	+15·3	+13·2	+11·8	+10·0
Winter	−1·4	−1·0	−0·1	+0·8	+3·0	+4·9	+4·4	+3·0	−0·3	−6·1	−9·7	−11·0	−9·1	−5·8	−3·3	−1·5	+2·1	+4·3	+5·5	+6·4	+5·4	+3·5	+3·3	+2·7
Equinox	+7·1	+5·8	+4·3	+5·5	+6·3	+7·3	+6·2	+0·5	−9·4	−22·1	−29·5	−31·2	−25·7	−19·1	−9·5	+0·3	+5·1	+8·7	+14·1	+16·3	+14·6	+14·9	+14·6	+14·5
Summer	+5·9	+2·7	+2·0	+3·5	+4·0	+1·7	−3·7	−11·5	−19·8	−29·5	−35·7	−35·5	−26·9	−18·1	−5·9	+4·1	+13·2	+19·9	+26·0	+26·5	+25·8	+21·1	+17·3	+12·9

DECLINATION

	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
Jan.	−1·72	−0·83	−0·58	−0·73	−0·77	−0·72	−0·83	−1·13	−1·46	−0·91	+0·06	+1·09	+2·08	+2·23	+1·78	+1·23	+1·23	+1·44	+0·91	+0·27	−0·16	−0·75	−1·00	−0·73
Feb.	−1·31	−0·98	−0·89	−1·15	−1·07	−1·56	−1·73	−1·69	−1·69	−1·24	−0·03	+1·33	+2·67	+3·52	+2·75	+2·25	+1·61	+1·36	+1·23	+0·85	+0·45	−1·20	−2·11	−1·37
Mar.	−2·16	−1·89	−2·24	−2·43	−1·90	−2·33	−2·36	−2·99	−2·86	−1·25	+1·38	+2·99	+4·76	+5·55	+4·44	+2·87	+1·74	+0·93	+0·60	+0·61	+0·70	−0·17	−1·42	−2·57
Apr.	−0·19	+0·12	−1·06	−2·17	−2·50	−2·72	−3·07	−3·04	−4·14	−4·31	−2·50	+0·38	+4·43	+6·50	+6·12	+4·35	+2·66	+1·26	+0·11	−0·24	−0·60	+0·09	+0·54	−0·02
May	+0·03	−1·05	−1·95	−3·05	−3·91	−5·64	−6·05	−5·41	−3·71	−2·37	−0·11	+2·57	+4·87	+5·79	+5·29	+4·09	+3·27	+2·34	+1·21	+1·79	+1·55	+0·59	−0·21	+0·07
June	+1·01	+0·60	−0·95	−2·52	−4·14	−5·45	−6·26	−6·82	−6·87	−5·06	−2·59	+0·58	+3·85	+5·68	+5·87	+5·28	+4·66	+3·43	+2·36	+1·72	+1·99	+0·98	+0·89	+1·76
July	−0·04	+0·06	−0·74	−4·20	−5·34	−6·57	−7·70	−7·38	−5·74	−2·64	+0·18	+3·54	+6·46	+6·74	+5·08	+3·82	+3·22	+1·81	+1·84	+1·82	+2·10	+2·12	+1·28	+0·28
Aug.	−0·81	−1·98	−2·80	−3·65	−4·62	−6·36	−7·23	−7·12	−5·40	−3·37	−0·24	+3·42	+6·61	+8·00	+7·58	+5·83	+4·24	+2·30	+1·51	+1·68	+1·68	+1·25	+0·08	−0·60
Sept.	−1·57	−1·38	−3·09	−4·07	−4·47	−4·76	−4·49	−4·65	−3·77	−1·82	+0·97	+4·03	+6·63	+7·38	+6·55	+4·21	+2·01	+0·96	+1·13	+1·05	+0·81	+0·50	−0·05	−2·11
Oct.	−2·10	+0·52	−0·48	−1·70	−2·30	−2·31	−2·94	−3·00	−3·04	−2·14	+0·18	+2·96	+4·76	+4·92	+3·72	+2·26	+1·38	+1·05	+0·72	+0·16	−0·40	−0·62	−0·74	−0·86
Nov.	−1·36	−0·92	−0·84	−1·10	−1·10	−1·23	−1·32	−1·68	−2·00	−1·50	+0·20	+2·12	+2·90	+2·66	+2·50	+1·76	+1·22	+1·15	+1·06	+0·68	+0·02	−0·62	−1·14	−1·46
Dec.	−1·32	−0·50	−1·18	−1·46	−1·04	−1·12	−1·04	−0·78	−0·50	−0·14	+0·60	+1·32	+2·14	+2·40	+1·92	+1·50	+1·26	+0·94	+0·68	+0·32	+0·18	−0·78	−1·54	−1·86
Year	−0·96	−0·69	−1·40	−2·35	−2·76	−3·40	−3·75	−3·81	−3·43	−2·23	−0·16	+2·19	+4·35	+5·11	+4·47	+3·29	+2·37	+1·58	+1·11	+0·89	+0·69	+0·12	−0·45	−0·79
Winter	−1·43	−0·81	−0·87	−1·11	−0·99	−1·16	−1·23	−1·32	−1·41	−0·95	+0·21	+1·47	+2·45	+2·70	+2·24	+1·69	+1·33	+1·22	+0·97	+0·53	+0·12	−0·84	−1·45	−1·35
Equinox	−1·51	−0·66	−1·72	−2·59	−2·79	−3·03	−3·21	−3·42	−3·45	−2·38	+0·01	+2·59	+5·15	+6·09	+5·21	+3·42	+1·95	+1·05	+0·64	+0·39	+0·13	−0·05	−0·42	−1·39
Summer	+0·05	−0·59	−1·61	−3·35	−4·50	−6·01	−6·81	−6·68	−5·43	−3·36	−0·69	+2·53	+5·45	+6·55	+5·95	+4·75	+3·85	+2·47	+1·73	+1·75	+1·83	+1·23	+0·51	+0·38

VERTICAL 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.	+1·7	−0·6	−3·7	−3·2	−3·8	−3·5	−3·0	−1·8	−0·7	+2·6	+3·7	+2·8	+1·9	+0·2	−0·3	+0·4	+1·2	+0·3	+1·2	+1·0	+0·7	+1·6	+1·1	+0·2
Feb.	−3·6	−1·5	−0·4	−0·5	+0·4	+0·3	+0·2	−0·7	−2·2	−3·3	−4·2	−4·9	−6·0	−3·7	−1·0	+0·5	+2·2	+3·5	+3·0	+2·5	+5·0	+7·5	+5·2	+1·7
Mar.	−13·9	−9·8	−7·3	−6·6	−3·2	−3·3	−2·2	−0·8	+0·5	+3·8	+1·1	+0·4	−1·5	−1·8	+1·9	+5·0	+7·0	+8·3	+6·6	+5·2	+6·7	+6·4	+3·1	−5·6
Apr.	−6·7	−5·5	−2·4	−0·5	−0·5	−3·1	−1·9	−0·7	−0·4	−0·5	−0·7	−3·5	−6·3	−3·3	0·0	+4·5	+8·7	+8·7	+9·3	+10·1	+6·8	−1·5	−4·7	−5·9
May	+1·2	+1·7	+2·2	+2·6	−0·2	−1·7	−3·0	−5·4	−7·2	−7·9	−8·6	−8·2	−6·2	−1·1	−0·6	+0·8	+3·8	+5·5	+8·4	+7·0	+7·0	+5·7	+3·4	+0·8
June	−5·0	−7·6	−9·0	−4·4	+0·6	+2·1	+2·6	+5·6	+5·0	+2·4	−1·0	−4·4	−4·4	−4·2	−5·2	−3·6	+0·6	+3·3	+3·6	+6·8	+7·2	+6·6	+3·2	−0·8
July	−0·7	−1·8	−14·3	−7·9	−1·9	−0·8	−0·1	+0·1	+0·7	−0·4	−5·3	−9·3	−11·1	−6·0	−0·5	+6·5	+7·5	+10·0	+9·1	+8·9	+6·1	+4·8	+4·1	+2·3
Aug.	−2·2	−0·3	+1·4	+2·7	+4·7	+5·4	+6·1	+4·9	+1·2	−3·1	−8·2	−13·5	−13·0	−8·7	−6·2	−1·3	+3·3	+7·4	+6·7	+5·3	+3·6	+2·5	+1·0	+0·3
Sept.	−0·9	−3·8	−3·1	−2·5	−1·3	+1·4	+0·9	−0·3	−0·9	−2·0	−2·9	−6·1	−9·5	−8·2	−3·3	+3·3	+7·9	+7·2	+4·7	+5·9	+6·5	+5·4	+3·9	−2·3
Oct.	−9·4	−9·7	−10·9	−2·8	−1·7	−2·1	−2·2	−0·5	+0·7	+2·4	+3·9	+4·7	+5·0	+6·1	+6·7	+6·4	+4·7	+4·1	+3·8	+1·1	−0·5	−2·2	−2·9	−4·7
Nov.	+1·8	+1·2	+0·9	−0·2	−3·0	−4·0	−3·8	−2·6	−0·7	+1·0	+0·6	+1·6	+2·4	+1·2	−0·5	0·0	−0·8	−1·2	−1·2	+0·2	+1·9	+1·8	+1·6	+1·8
Dec.	+2·7	−1·0	−3·8	−3·1	−2·6	−2·0	−1·5	−0·4	−0·6	−0·9	−2·0	−1·2	−1·7	−2·4	−1·8	−0·5	+0·6	+0·4	+0·9	+0·2	+3·2	+6·1	+6·2	+5·2
Year	−2·9	−3·2	−4·2	−2·2	−1·0	−0·9	−0·7	−0·2	−0·4	−0·5	−2·0	−3·5	−4·2	−2·7	−0·9	+1·8	+3·9	+4·8	+4·7	+4·5	+4·5	+3·7	+2·1	−0·6
Winter	+0·7	−0·5	−1·7	−1·7	−2·3	−2·3	−2·0	−1·4	−1·1	−0·1	−0·5	−0·4	−0·9	−1·2	−0·9	+0·1	+0·8	+0·7	+1·0	+1·0	+2·7	+4·3	+3·5	+2·2
Equinox	−7·7	−7·2	−5·9	−3·1	−1·7	−1·8	−1·3	−0·6	0·0	+0·9	+0·3	−1·1	−3·1	−1·8	+1·3	+4·8	+7·1	+7·1	+6·1	+5·6	+4·9	+2·0	−0·1	−4·6
Summer	−1·7	−2·0	−4·9	−1·7	+0·8	+1·3	+1·4	+1·3	−0·1	−2·3	−5·8	−8·9	−8·7	−5·0	−3·1	+0·6	+3·8	+6·5	+6·9	+7·0	+6·0	+4·9	+2·9	+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)

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HORIZONTAL FORCE

	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
	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.	−1·9	−5·4	−5·9	+1·1	+8·5	+9·0	+5·7	+3·3	+3·3	−0·4	−3·7	−10·5	−7·9	−5·0	−3·3	−2·5	+1·7	+4·4	+0·3	+0·9	+3·5	+7·2	−0·1	−2·3
Feb.	−74·2	−144·1	−62·0	−1·8	−0·6	−7·3	−26·6	−25·4	+4·2	+9·5	+19·4	+18·4	+18·6	+44·7	+61·8	+50·4	+95·6	+157·7	+121·8	+45·4	+2·8	−102·7	−134·4	−71·2
Mar.	−49·5	−92·4	−60·1	−62·6	−19·8	−6·1	−2·2	−7·4	−10·1	−19·6	−20·7	−15·2	−0·9	+7·0	+64·5	+113·0	+156·4	+121·9	+112·4	+7·4	−17·7	−49·6	−91·9	−56·8
Apr.	−99·5	−84·8	−84·2	−58·3	−133·0	−58·8	−150·3	−112·6	−54·0	−33·1	−15·8	+28·2	+60·5	+84·0	+232·2	+268·9	+209·0	+188·4	+175·1	+54·6	−96·0	−106·3	−50·2	−164·0
May	−127·8	−207·7	−143·4	−41·3	−35·4	−44·1	−33·6	−20·5	−1·8	+1·3	−10·0	−12·3	+39·0	+99·1	+134·8	+168·5	+197·2	+145·9	+115·4	+99·3	+17·2	−59·9	−122·2	−157·7
June	−15·6	−21·9	−31·0	−27·9	−43·2	−30·1	−27·0	−34·3	−66·6	−69·3	−30·2	−2·1	+29·0	+44·3	+51·4	+83·3	+73·4	+54·7	+39·6	+29·3	+20·4	+6·3	−9·0	−23·5
July	−29·8	−18·2	−16·4	−44·6	−36·6	−82·1	−72·6	−71·4	−82·0	−74·2	−63·8	−51·8	+9·6	+92·2	+118·4	+150·8	+150·2	+130·3	+99·4	+49·2	+14·4	−69·0	−81·2	−20·8
Aug.	−170·6	−154·9	−282·3	−290·6	−123·9	−62·7	−32·4	−13·5	+2·5	+4·2	+19·5	+68·3	+92·4	+138·3	+282·3	+344·4	+273·7	+167·3	+125·4	+66·5	−23·3	−36·6	−172·7	−221·3
Sept.	−31·9	−22·4	−29·4	−48·9	−18·0	−9·8	−17·3	−10·6	−28·0	−35·5	−47·2	−48·0	−21·3	−10·2	+13·6	+84·3	+144·8	+140·2	+84·7	+7·8	−11·8	−1·3	−25·8	−58·0
Oct.	−45·0	−180·7	−198·6	−165·2	−62·4	+12·1	+19·4	+24·2	+19·8	+2·9	+12·0	+25·6	+47·4	+71·3	+74·8	+70·4	+118·6	+178·7	+120·4	+84·8	+25·8	−16·9	−93·8	−145·6
Nov.	−12·2	−35·4	−4·4	+3·4	+16·4	+9·9	+9·8	+7·2	+4·2	−2·6	−7·2	−15·0	+2·2	+12·8	+22·4	+4·4	+8·0	+8·7	+15·6	+10·2	−2·6	−19·2	−20·2	−16·4
Dec.	−14·1	−13·9	−24·2	−37·5	−0·9	+7·1	+5·7	+10·3	+1·0	−3·9	−10·7	−6·5	−1·3	+3·3	+12·6	+14·1	+16·9	+31·5	+47·1	+19·9	+21·0	−27·5	−32·9	−17·1
Year	−56·0	−81·8	−78·5	−64·5	−37·4	−21·9	−26·8	−20·9	−17·3	−18·4	−13·2	−1·7	+22·3	+48·5	+88·8	+112·5	+120·5	+110·8	+88·1	+39·6	−3·9	−39·6	−69·5	−79·6
Winter	−25·6	−49·7	−24·1	−8·7	+5·9	+4·7	−1·3	−1·1	+3·2	+0·7	−0·5	−3·4	+2·9	+13·9	+23·4	+16·6	+30·5	+50·6	+46·2	+19·1	+6·2	−35·5	−46·9	−26·7
Equinox	−56·5	−95·1	−93·1	−83·7	−58·3	−15·7	−37·7	−26·6	−18·1	−21·3	−17·9	−2·3	+21·4	+38·0	+96·3	+134·1	+157·2	+157·3	+123·1	+38·7	−24·9	−43·5	−65·4	−106·1
Summer	−85·9	−100·7	−118·3	−101·1	−59·8	−54·7	−41·4	−34·9	−37·0	−34·5	−21·1	+0·5	+42·5	+93·5	+146·7	+186·7	+173·6	+124·5	+94·9	+61·1	+7·2	−39·8	−96·3	−105·8

DECLINATION

	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
Jan.	−3·24	−3·93	−4·01	−1·58	−1·01	+0·09	+0·46	+0·43	+0·49	+0·80	+1·85	+1·83	+2·88	+2·79	+3·07	+3·20	+3·85	+2·87	−0·60	−0·59	+0·39	−3·34	−4·35	−2·35
Feb.	−8·62	−20·40	−15·26	−8·40	−5·40	−2·21	+3·36	+3·18	+0·68	+1·50	+2·82	+4·34	+6·40	+7·54	+7·20	+6·16	+6·02	+7·97	+9·52	+12·66	+6·98	−9·76	−9·48	−6·80
Mar.	−10·17	−8·70	−2·59	−5·89	−5·87	−5·02	−0·35	−1·47	−1·11	0·00	+2·47	+4·89	+8·17	+10·64	+9·97	+11·13	+6·83	+5·82	+6·35	+2·33	−1·19	−8·60	−8·61	−9·03
Apr.	−3·42	−6·21	−1·86	−5·61	−9·86	−9·27	−12·82	−13·59	−10·66	−3·99	−1·14	+1·71	+6·16	+10·81	+11·02	+16·87	+9·94	+11·57	+7·36	+6·85	+3·00	+1·97	−0·74	−8·09
May	−0·45	−3·59	−14·99	−10·89	−5·41	−4·63	−6·63	−1·69	+0·03	−1·83	+0·15	+5·43	+8·39	+7·67	+6·69	+8·01	+9·95	+9·77	+8·67	+4·77	+1·63	−1·35	−11·33	−8·37
June	−3·47	−8·16	−8·88	−5·37	−4·68	−3·60	−5·71	−5·68	−4·92	−4·33	+1·72	+4·34	+6·93	+6·30	+7·88	+7·51	+3·26	+4·18	+2·65	+3·70	+2·38	+3·31	+2·46	−1·82
July	−1·50	−6·96	−8·35	−7·86	−11·88	−10·22	−4·76	−5·96	−5·55	−5·10	−2·38	−0·28	+1·74	+1·90	+10·25	+13·04	+11·56	+11·64	+8·24	+7·92	+4·21	+1·20	+0·20	−1·10
Aug.	−0·31	−5·98	−10·41	−24·50	−14·20	−2·89	−6·24	−0·94	−3·67	−0·72	+4·05	+6·32	+7·13	+8·22	+3·67	+7·28	+14·02	+10·21	+6·40	+3·42	+2·11	−1·28	−1·19	−0·50
Sept.	−6·18	−5·98	−8·58	−12·50	−4·62	−4·19	−3·50	−3·80	−3·26	−2·60	+1·32	+6·80	+9·34	+9·82	+9·48	+5·98	+8·62	+11·51	+7·96	+0·32	−2·28	−4·62	−3·72	−5·32
Oct.	−6·08	−8·95	−8·84	−8·84	−10·72	−5·00	−4·46	−1·38	−3·46	+2·38	+3·70	+5·92	+9·60	+10·80	+12·66	+12·22	+9·32	+3·01	+1·42	+8·30	−1·62	−1·48	−5·76	−12·74
Nov.	−6·64	−4·49	−4·30	−1·43	−1·41	+2·88	+2·39	+0·91	+0·70	+0·99	+2·44	+4·45	+6·32	+7·03	+7·76	+4·47	+3·31	−0·42	+0·33	−0·73	−5·76	−6·59	−6·94	−5·27
Dec.	−4·92	−3·66	−4·01	−1·26	−1·50	−0·46	+3·26	+2·86	+1·65	+3·04	+3·88	+5·38	+5·70	+6·70	+5·61	+4·22	0·00	+4·70	+1·68	−1·68	−5·33	−10·32	−11·86	−3·68
Year	−4·58	−7·25	−7·67	−7·84	−6·38	−3·71	−2·92	−2·26	−2·42	−0·82	+1·74	+4·26	+6·56	+7·52	+7·94	+8·34	+7·22	+6·90	+5·00	+3·94	+0·38	−3·41	−5·11	−5·42
Winter	−5·85	−8·12	−6·89	−3·17	−2·33	+0·07	+2·37	+1·85	+0·88	+1·58	+2·75	+4·00	+5·33	+6·01	+5·91	+4·51	+3·29	+3·78	+2·73	+2·41	−0·93	−7·50	−8·16	−4·53
Equinox	−6·46	−7·46	−5·47	−8·21	−7·77	−5·87	−5·28	−5·06	−4·62	−1·05	+1·59	+4·83	+8·32	+10·52	+10·78	+11·55	+8·68	+7·98	+5·77	+4·45	−0·52	−3·18	−4·71	−8·79
Summer	−1·43	−6·17	−10·66	−12·15	−9·04	−5·33	−5·83	−3·57	−3·53	−2·99	+0·89	+3·95	+6·05	+6·02	+7·12	+8·96	+9·70	+8·95	+6·49	+4·95	+2·58	+0·47	−2·47	−2·95

VERTICAL 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.	+2·9	−3·6	−25·2	−21·3	−23·2	−17·2	−11·3	−8·2	−6·2	−0·3	+1·0	+2·8	+3·1	+5·8	+9·2	+10·3	+12·4	+18·4	+29·7	+23·2	+12·8	+3·5	−7·8	−10·8
Feb.	−4·3	−37·6	−48·2	−41·5	−30·8	−29·6	−36·3	−26·2	−20·6	−12·9	−7·0	−4·2	+7·9	+27·6	+39·6	+44·1	+80·2	+59·0	+18·5	−5·0	+19·4	+14·7	−4·0	−2·8
Mar.	−56·0	−59·1	−79·6	−69·9	−54·2	−33·3	−20·6	−10·3	+0·2	+12·7	+13·4	+18·9	+34·2	+41·9	+51·8	+70·7	+74·6	+73·7	+70·2	+26·3	+21·4	−13·3	−53·4	−60·3
Apr.	−44·5	−14·9	−0·2	−57·1	−48·3	−45·7	−66·5	−58·3	−45·2	−13·7	−1·1	+30·1	+55·9	+62·9	+60·4	+36·9	+83·1	+67·3	+61·9	+5·7	+5·6	−6·5	−16·5	−51·3
May	−103·7	−126·5	−97·1	−72·5	−41·1	−43·8	−30·9	−19·9	−12·3	+5·7	+21·3	+23·9	+29·3	+74·7	+104·1	+113·5	+115·7	+104·8	+91·3	+69·7	+9·5	−41·1	−94·1	−80·5
June	−73·1	−86·0	−89·7	−74·0	−78·2	−61·9	−33·8	−14·6	+1·5	+10·6	+17·1	+33·0	+33·1	+60·4	+75·3	+90·4	+97·0	+66·3	+47·4	+28·0	+18·3	−3·2	−25·5	−38·4
July	−76·7	−51·4	−47·5	−52·6	−65·0	−77·1	−74·6	−43·4	−25·7	−10·2	+11·3	+15·4	+47·5	+109·0	+100·3	+76·8	+67·0	+64·1	+49·8	+25·0	+7·3	−5·4	−7·5	−36·4
Aug.	−26·7	−155·8	−157·1	−214·8	−153·0	−64·5	−6·2	−5·4	+18·7	+40·0	+58·5	+60·0	+78·5	+122·6	+146·9	+86·2	+84·6	+72·9	+75·2	+53·0	+13·3	−21·8	−24·5	−80·6
Sept.	−42·6	−58·7	−80·2	−91·9	−89·3	−49·8	−34·5	−16·9	−5·4	+5·7	+14·2	+14·7	+19·2	+39·3	+49·4	+85·1	+86·5	+71·8	+60·3	+35·5	+20·2	+17·7	−12·0	−38·3
Oct.	−65·4	−63·9	−66·0	−155·2	−177·2	−104·1	−45·0	−29·6	−7·2	+8·3	+21·8	+26·2	+41·2	+55·7	+70·2	+72·2	+83·0	+108·7	+80·0	+31·8	+20·6	+51·3	+53·8	−11·2
Nov.	−28·5	−56·3	−49·9	−36·1	−43·7	−31·7	−31·1	−13·9	−5·3	+1·3	+6·5	+19·1	+27·3	+28·9	+42·7	+37·3	+45·3	+49·7	+46·9	+33·9	+15·3	−5·9	−23·1	−28·7
Dec.	−32·7	−21·2	−34·5	−70·1	−62·9	−42·8	−33·5	−22·5	−9·5	−3·4	+1·1	+1·5	+4·7	+11·0	+28·7	+52·3	+59·9	+58·6	+64·9	+63·5	+52·9	+1·0	−32·5	−34·5
Year	−45·9	−61·3	−64·6	−79·7	−72·2	−50·1	−35·4	−22·4	−9·7	+3·7	+13·2	+20·1	+31·8	+53·3	+64·9	+64·7	+74·1	+67·9	+58·0	+32·5	+18·1	−0·7	−20·6	−39·5
Winter	−15·7	−29·7	−39·5	−42·3	−40·1	−30·3	−28·1	−17·7	−10·4	−3·8	+0·4	+4·8	+10·7	+18·3	+30·1	+36·0	+49·5	+46·4	+40·0	+28·9	+25·1	+3·3	−16·9	−19·2
Equinox	−52·1	−49·1	−56·5	−93·5	−92·3	−58·2	−41·7	−28·8	−14·4	+3·3	+12·1	+22·5	+37·6	+49·9	+57·9	+66·2	+81·8	+80·4	+68·1	+24·8	+16·9	+12·3	−7·0	−40·3
Summer	−70·1	−104·9	−97·9	−103·5	−84·3	−61·8	−36·4	−20·8	−4·5	+11·5	+27·1	+33·1	+47·1	+91·7	+106·7	+91·7	+91·1	+77·0	+65·9	+43·9	+12·1	−17·9	−37·9	−59·0

RANGE OF MEAN DIURNAL INEQUALITIES FOR THE MONTHS, YEAR AND SEASONS OF 1939

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

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	All days			Quiet days			Disturbed days		
	H	D	V	H	D	V	H	D	V
	γ	′	γ	γ	′	γ	γ	′	γ
Jan.	15·5	5·30	19·3	17·4	3·95	7·5	19·5	8·20	54·9
Feb.	63·0	10·42	45·3	21·8	5·63	13·5	301·8	33·06	128·4
Mar.	61·2	12·51	78·4	40·4	8·54	22·2	248·8	21·30	154·2
Apr.	120·8	13·93	101·2	57·4	10·81	16·8	432·9	30·46	149·6
May	136·3	14·86	121·0	62·0	11·84	17·0	404·9	24·94	242·2
June	85·8	14·26	75·3	69·5	12·74	16·2	152·6	16·76	186·7
July	93·4	13·00	66·7	64·3	14·44	24·3	232·9	24·92	186·1
Aug.	110·9	15·59	71·4	61·4	15·23	20·9	635·0	38·52	361·7
Sept.	73·9	13·60	53·1	54·4	12·14	17·4	202·8	24·01	178·4
Oct.	85·6	11·76	94·9	42·0	7·96	17·6	377·3	25·40	285·9
Nov.	23·3	7·64	31·5	21·9	4·90	6·4	57·8	14·70	106·0
Dec.	22·3	8·17	40·2	15·6	4·26	10·0	84·6	18·56	135·0
Year	60·8	10·21	60·8	42·3	8·92	9·0	202·3	16·18	153·8
Winter	24·0	7·54	30·8	17·4	4·15	6·6	100·3	14·17	91·8
Equinox	75·7	12·18	75·6	47·5	9·54	14·8	263·4	20·34	175·3
Summer	86·4	13·35	82·2	62·2	13·36	15·9	305·0	21·85	211·6

AVERAGE DEPARTURE

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

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	All days			Quiet days			Disturbed days		
	H	D	V	H	D	V	H	D	V
	γ	′	γ	γ	′	γ	γ	′	γ
Jan.	4·0	1·53	4·8	4·5	1·03	1·7	4·1	2·08	11·3
Feb.	10·1	2·88	12·2	5·0	1·50	2·7	54·2	7·19	25·9
Mar.	15·2	3·47	20·2	9·9	2·21	4·7	48·5	5·72	42·5
Apr.	31·9	3·84	24·9	14·5	2·21	4·0	108·4	7·27	39·1
May	34·3	4·34	31·8	15·2	2·79	4·2	84·8	5·93	63·6
June	22·5	3·92	19·0	17·1	3·39	4·1	36·0	4·72	48·2
July	25·6	3·82	18·5	15·1	3·36	5·0	67·9	5·99	47·8
Aug.	27·8	3·95	17·3	15·7	3·68	4·7	132·1	6·07	75·9
Sept.	15·3	3·87	12·3	13·7	3·02	3·9	39·6	5·93	43·3
Oct.	18·2	3·45	23·4	11·4	1·89	4·1	75·7	6·61	60·4
Nov.	5·1	1·95	9·1	5·2	1·36	1·5	11·3	3·67	29·5
Dec.	5·9	1·89	10·9	3·5	1·11	2·1	15·9	4·06	33·3
Year	16·6	3·12	16·7	10·3	2·18	2·5	52·6	4·98	41·9
Winter	5·8	2·01	9·0	4·1	1·24	1·4	18·6	3·96	24·5
Equinox	18·8	3·65	20·1	12·2	2·22	3·3	63·8	6·21	44·5
Summer	27·3	3·93	21·4	15·5	3·25	3·7	77·6	5·51	58·2

NON-CYCLIC CHANGE

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	All days			Quiet days			Disturbed days		
	H	D	V	H	D	V	H	D	V
	γ	′	γ	γ	′	γ	γ	′	γ
Jan.	+0·2	+0·05	+0·1	+5·1	+1·28	−2·9	−3·5	−0·48	−11·7
Feb.	−1·0	−0·17	+0·5	+5·0	+0·30	+3·3	−25·0	−2·05	+8·9
Mar.	−1·3	−0·33	−3·7	+2·7	−0·35	+1·7	−22·5	−0·11	−13·5
Apr.	+1·6	+0·47	+3·9	+8·4	+0·84	−1·7	−55·2	−3·58	−33·6
May	+0·7	−0·08	0·0	+5·3	−0·27	−2·0	−21·0	−2·22	−23·9
June	−0·5	−0·03	−1·3	+2·7	−0·55	+1·9	−10·6	−1·19	+22·5
July	+0·2	−0·03	+0·3	+10·3	−0·08	+1·0	−13·6	−0·47	+17·5
Aug.	+0·1	−0·01	+0·9	+1·1	+0·24	+0·9	−73·2	+2·71	−25·1
Sept.	−1·2	−0·35	+0·1	+0·7	−1·30	−2·1	−18·1	−0·09	+0·9
Oct.	+0·7	+0·31	+0·2	+7·9	+1·84	+3·1	−26·8	−0·56	−9·6
Nov.	−0·3	−0·15	−0·8	+2·4	+0·29	−0·6	−7·2	+2·07	−15·3
Dec.	+0·4	+0·07	+0·9	+2·1	−0·90	+1·2	−7·0	+3·08	−17·7
Year	0·0	−0·02	+0·1	+4·5	+0·11	+0·3	−23·6	−0·24	−8·4
Winter	−0·2	−0·05	+0·2	+3·7	+0·24	+0·3	−10·7	+0·65	−8·9
Equinox	−0·1	+0·03	+0·1	+4·9	+0·26	+0·3	−30·7	−1·09	−13·9
Summer	+0·1	−0·04	0·0	+4·9	−0·17	+0·5	−29·6	−0·29	−2·3

MEAN VALUES OF $HR_H + VR_V$

Unit $10{,}000\gamma^2$

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	HR_H	VR_V	Total	Mean character figure
Jan.	63	233	296	0·29
Feb.	283	661	944	0·75
Mar.	285	800	1085	0·87
Apr.	525	1138	1663	1·00
May	521	1029	1550	0·84
June	224	610	834	0·57
July	343	806	1149	0·61
Aug.	447	866	1313	0·52
Sept.	247	564	811	0·37
Oct.	413	1005	1418	0·68
Nov.	86	327	413	0·23
Dec.	119	448	567	0·35
Year	296	707	1004	0·59
Winter	138	417	555	0·41
Equinox	367	877	1244	0·73
Summer	384	828	1211	0·63

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				
	14,000γ +			12° +			46,000γ +						
	γ	γ	γ	′	′	′	γ	γ	γ	γ	γ	° ′	γ
Jan.	403	406	400	26·5	26·8	26·2	813	812	814	14065	3103	72 53·9	48978
Feb.	391	398	375	25·4	25·9	25·0	829	823	838	14054	3096	72 55·0	48990
Mar.	390	396	381	24·2	24·9	22·5	823	824	818	14054	3092	72 55·0	48984
Apr.	384	397	364	23·3	24·4	22·4	827	828	831	14050	3087	72 55·4	48987
May	385	399	361	22·3	23·1	22·4	824	836	829	14051	3082	72 55·3	48984
June	402	405	396	22·5	22·3	22·3	827	829	823	14067	3086	72 54·3	48992
July	394	395	398	21·7	21·6	23·5	834	836	844	14061	3082	72 54·9	48996
Aug.	382	403	320	20·1	20·9	17·3	835	831	817	14050	3072	72 55·8	48993
Sept.	386	390	383	19·6	19·8	19·7	841	839	839	14055	3071	72 55·6	49001
Oct.	371	385	323	18·2	19·0	15·4	848	853	832	14041	3062	72 56·8	49002
Nov.	390	397	378	17·9	18·2	17·1	848	847	842	14060	3065	72 55·5	49008
Dec.	391	398	380	17·0	17·1	16·5	849	845	853	14062	3062	72 55·4	49009
Year	389	397	372	21·6	22·0	20·9	833	834	832	14056	3080	72 55·2	48994

60 LERWICK 1939

Night commencing			
			JANUARY
1	cb	••	Very cloudy
2	cb	••	Very cloudy, clearing later
3	cb	••	Cloudy, overcast at times
4	b	••	Fine. Bright moonlight
5	b-cb	••	Cloudy, becoming overcast 21h.
6	b-cb	••	Overcast after 19h.
7	b	••	Cloudy. Moonlight
8	b	⌓	Glow above cloud bank at 19h.
9	c	••	Very cloudy
10	b	⌓	Moderate glow at 21h., gone by 22h.
11		⌓	Faint glow in early evening, overcast later
13	b	⌓	Very fine. Faint glow most of evening
14		⌓	Glow after 20h.20m. Some activity 21h.40m. Becoming very cloudy later
15	c-a	••	Overcast until 21h., then clearing
16		⌓	Moderate glow all evening. Faint rays at 20h. Cloudy
17		⌓	Moderate glow from 19h.15m. until cloud increased at 21h.30m.
18	a	⌓	Faint glow from 20h. Fairly cloudy
21	c	••	Very cloudy
22		⌓	Faint arch 19h. Glow remainder of evening
23		⌓	Faint glow all evening. Arch in north-west 20h.45m. to 21h.30m.
24		••	Very cloudy, overcast after 20h.
25	a	⌓	Fine. Faint glow at 22h.45m.
26	cb-b	••	Cloudy. Moonlight
27	cb	••	Cloudy. Moonlight
28	cb	••	Very cloudy
29	c-b	••	Very cloudy, clearing at 21h. Moonlight
30	c	••	Very cloudy
31	c	••	Very cloudy
			FEBRUARY
3	cb	••	Overcast until 20h., then very cloudy. Bright moonlight
4	cb-b	••	Overcast, clearing at 20h. Full moon
5	cb	••	Very cloudy
7		⌓	Moderate glow through breaks in clouds after 20h.
9		⌓	Moderate glow all evening. A few faint rays at 19h.35m.
11		••	Overcast until 21h., then clearing slightly
13	a	⌓	Very fine. Faint glow at 20h.10m., becoming brighter and more extensive at 21h.30m.
15		⌓	Faint glow through gaps in cloud after 20h.
16		⌓	Glow all evening in clear intervals
17		⌓	Faint glow all evening
19		⌓	Faint glow seen through cloud after 20h.
24		⌓	Faint glow through cloud breaks at 21h.45m.
25		⌓	Glow most of evening. Slight activity after 19h.15m.
26	cb	••	Very cloudy, overcast after 21h.
27	cb	••	Variable cloud all evening
			MARCH
1	b	⌓	Some bright active aurora seen at 1h. in a clear interval
3	cb	••	Cloudy. Bright moonlight
5		⌓	Moderate glow seen at 22h.15m.
6	c-a	••	Overcast, clearing at 21h.
7	a	⌓	Fine. Faint arch from 22h.50m. to 23h.15m.
8	a	⌓	Fine. Moderate glow most of evening
9	a	⌓	Very fine. Faint glow 19h.30m. onwards. Arch from 21h.
11	a	⌓	Moderate aurora from 21h.55m. Considerable activity after 23h.
14	c	••	Very cloudy
16		⌓	Moderate glow all evening. A few rays at times. Variable cloud

Night commencing			
			MARCH (contd.)
19	a-c	••	Cloudy, becoming very cloudy
20	a	••	Fine
22		⌓	Very fine. Moderate arch at 20h. 15m., becoming rayed at 20h.30m. Glow for remainder of evening
24	c	••	Mainly overcast. Some breaks after 21h.
25	c	••	Very cloudy
26	b	⌓	Glow all evening. Some rays at 20h. Rayed arch 21h.55m. to 22h.15m. Bright moonlight
27	b	⌓	Bright and active aurora from 19h. 35m. onwards
28		••	Very cloudy
30	b	⌓	Very fine. Mild display, mainly of pulsating types, from 19h.45m. Mostly faint
31	b	⌓	Moderate arch at 1h.
			APRIL
1	b	••	Fine. Bright moonlight
3	b	••	Fine. Bright moonlight
4	b	⌓	Variable cloud. Faint arch and rays seen at times
6	cb	••	Cloudy, becoming overcast at 21h.
7	c	••	Mainly overcast
8	c-a	⌓	Moderate glow behind cloud from 20h. 45m.
9	b	⌓	Moderate glow through cirrus cloud all evening
11	cb	••	Cloudy and hazy
12		••	Overcast apart from a few gaps after 21h.
13	b-c	••	Cloudy becoming foggy
15	c	••	Mainly overcast
17		⌓	Moderate aurora after 21h. Pulsating types predominating. Cloudy later
18		⌓	Very cloudy, but moderate glow seen through gaps
20	a	⌓	Glow at 21h.30m. Some pulsating aurora at 22h.30m.
22		⌓	Moderate glow after dusk, developing into arch at 22h.
23	b	⌓	Faint glow through cloud breaks
24	b	⌓	Segment of arch at 21h.55m. through cloud
25	b	⌓	Very fine. Moonlight. Moderate aurora at 1h.
27	b	⌓	Very fine. Fairly bright arch at 22h.30m. Rayed arch at 22h.39m.
28	b	••	Very fine. Bright moonlight
29	b	••	Very fine. Bright moonlight
			MAY
1	b	⌓	Very fine but full moon. Flaming and pulsating aurora passing south of zenith at 22h.
6	a	⌓	Brilliant display of draperies, bands and coronae after 22h.15m.
			AUGUST
22		⌓	Active aurora behind cloud after 22h. Rays, pulsating surfaces and bands extending to within 30° of southern horizon from 23h.15m.
			SEPTEMBER
1	cb	••	Very cloudy. Bright moonlight
4	b	••	Very fine
9		⌓	Moderate glow behind cloud after dusk
11	a	⌓	Moderate glow with diffuse rays at 3h.15m.
13		⌓	Faint glow from 20h.15m. Cloudy

Night commencing			
			SEPTEMBER (contd.)
14		⌓	Cloudy. Faint glow from 20h.45m.
15	c	••	Very cloudy
16	c	••	Very cloudy
17	a	⌓	Very fine. Moderate display. Corona at 19h.20m. followed by pulsating bands. Activity over by 22h. 10m.
18	a	••	Fine
19		⌓	Moderate glow all evening. Some pulsating surfaces from 22h.5m., passing south of zenith by 22h. 30m.
20		⌓	Faint glow behind cloud
21		••	Very cloudy, becoming overcast
23		••	Very cloudy
25	b	⌓	Bright moon. Moderate glow most of evening. Segment of bright active arch between clouds at 22h.10m.
26	cb	••	Cloud increasing. Full moon
29	c-b	••	Overcast until 21h., then clearing rapidly. Bright moonlight
30	c	••	Very fine. Bright moonlight
			OCTOBER
1	b	⌓	Very fine. Some rayed arches from 21h.10m. to 21h.30m.
2	b	⌓	Moderate glow from 20h.30m.
3	cb-b	⌓	Moderate display of rays and coronae 21h.20m. onwards. Pulsating aurora commenced at 22h.17m.
4	a-b	⌓	Fine. Rayed arch 19h.45m. to 20h. 15m. Moderate glow for remainder of evening
5		⌓	Glow seen behind clouds from 20h.
6		⌓	Quiet arch and glow from 20h. Cloudy
7		⌓	Quiet aurora from 18h.40m., becoming brighter and active at 22h. 10m. Some fine curtains at 22h. 20m.
8		⌓	Moderate glow after dark. Arch formed for a time at 21h.
9		⌓	Variable cloud. Moderate glow from 20h.
13		⌓	Bright glow behind clouds in early evening. Sky cleared at 21h.20m., revealing a good display. Some bright red aurora in the east at 22h.10m. pulsations started in the south at 22h.26m.
14		⌓	Glow all evening. A few rays at 20h. 45m. Bundles of rays and pulsating surfaces seen at 4h.10m. Fine
15		⌓	Cloudy. Faint glow most of evening
16		⌓	Glow after dark. Some activity from 19h.30m., including flaming aurora
17		⌓	Moderate glow behind cloud in early evening. Active arches and bands after 21h.20m. Some pulsating aurora at times
18	a	⌓	Very fine. Quiet aurora all evening, with brilliant display from 20h. 17m. to 20h.30m. Some beautiful red and green draperies and a green arch with a purple lower edge
19	b	⌓	Moderate glow through gaps in cloud from 21h.40m.
20	b-a	••	Very fine. Moonlight in early evening
21	b	⌓	Fine. Some rayed arches breaking up and reforming between 21h.30m. and 23h.
22	cb	••	Cloudy. Bright moonlight
23	cb	••	Cloudy. Bright moonlight
24	cb	••	Cloudy. Bright moonlight
25	cb	••	Cloudy. Bright moonlight
26	b	⌓	Arch seen at 18h.5m., but then obscured by cloud. not seen again when cloud cleared
27	cb	••	Very cloudy. Bright moonlight
28	cb	••	Very cloudy. Bright moonlight
30	cb	••	Cloudy. Bright moon

60 LERWICK (contd.) 1939

Night commencing				Night commencing				Night commencing			
			OCTOBER (contd.)				NOVEMBER (contd.)				DECEMBER (contd.)
31	cb	••	Very cloudy, overcast from 21h.	18	b-cb	••	Cloudy. Overcast after 20h.	5	a	⌓	Extensive glow from 18h. onwards. Some activity 18h.15m. to 19h.
				19	cb-b	••	Cloud diminishing. Moonlight				
				20	b-c	••	Cloudy until 21h., then overcast	6	a-c-a	••	Cloudy early and late. Overcast 19h. to 21h.
			NOVEMBER	21		••	A few gaps in cloud before 19h., then overcast	12	ca	••	Cloudy
				22	cb	••	Variable cloud. Moonlight	13		••	Very cloudy
2	ca-cb	••	Variable cloud. Moon in late evening	23	cb	••	Cloudy. Bright moonlight	15	ca-c	••	Fine in early evening. Overcast from 20h.
				24	cb	••	Cloudy. Bright moonlight				
6	c-a	••	Overcast until 20h., then clearing	26	cb	••	Very cloudy	16		••	A few breaks in cloud until 20h., then overcast
8	ca	••	Cloudy, overcast after 21h.	27	b-c	••	Fine, becoming overcast after 21h. Bright moonlight	21		••	Very cloudy
9	c-a	••	Overcast until 20h., then clearing					22		••	Very cloudy
10		••	Overcast after 19h.	28	cb	••	Variable cloud	26	cb	••	Full moon. Variable cloud
11	a	⌓	Slight glow all evening. Arch low in north at times. Fine early, cloudy after 21h.	29		••	Overcast apart from breaks in cloud from 19h. to 21h.	27	cb	••	Cloudy. Bright moonlight
				30	ca-cb	••	Cloudy. Moonlight in late evening	28	a-b	⌓	Very fine. Faint arch 18h.20m. to 19h.30m., double at times. Moon later
12		⌓	Moderate glow through gaps in cloud after 20h.								
14		••	Overcast after 19h.					29	a-b	⌓	Faint glow behind cloud
15		⌓	Feeble glow most of evening, mainly behind cloud				DECEMBER	30		••	Very cloudy
								31		••	Very cloudy
16	a-c	••	Fine in early evening, overcast after 20h.	2	a	⌓	Moderate arch developed at 20h. 15m., faded by 21h.45m.				
17	b	⌓	Haze. Glow behind cloud from 20h. 45m.	3	a-c	••	Cloudy until 19h., then overcast				
				4	a	••	Fine				

In the interests of brevity there have been omitted from Table 60 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

61 OTHER SCOTTISH STATIONS 1939

Night commencing		Night commencing		Night commencing	
	JANUARY		MAY		OCTOBER (contd.)
8	D.	2	Copinsay	9	Wick
13	A.	6	Ushenish 22h.-23h.30m.	12	Craigston
		10	Paisley 22h.30m.	13	Wick; Duntuilm; A.; Nairn; Lerwick (Knab); E.; Stornoway; Kilmarnock; Craigston; B.; Eshaness 19h.30m.-24h.; Sumburgh Head 22h.30m.-2h.30m.(14th); Whalsay 21h.-5h.(14th); Ushenish 19h.30m.-4h.(14th); Rona 20h.-23h.30m.
		25	E.		
	FEBRUARY			14	Lerwick (Knab); B.; Craigston; Skallary; Noup Head, vivid display from north-east to west through north
1	Strathy; Noup Head 24h.-1h.30m.(2nd)		JUNE		
2	Wick			15	Lerwick (Knab); Leuchars; Nairn; Glass Island, bright display from north-east to north-west
5	B.; Wick		Nil		
6	Swinton House				
7	G.C.			16	Wick; G.C.; Duntuilm; Edinburgh; A.; Leuchars; Nairn; Lerwick (Knab); E.; K.; B.; Tiree; Sumburgh Head 22h.-1h.(17th); Rona 21h.-24h.; Rhinns of Islay, bright display from north-west to north-east 21h.15m.-22h.
9	K.; D.; B.; Wick				
13	Fortrose		JULY		
16	Wick				
21	Buchanness 19h.-24h. from west to east		Nil		
23	G.C.				
24	D.; A.; K.; Perth; Balfron; Arbroath; Longniddry, good display 19h.-22h.; Leuchars; Fortrose; Forres; Wick; Swinton House, brilliant display; Lerwick (Knab); North Berwick; Kilmarnock; Lossiemouth; Balerno 20h.; Montrose 19h.45m.-21h.; Wolfelee; Newton Stewart; Kettins 19h.-21h.; Edinburgh 19h.; Aberlour, brilliant display; Gordonstown School 19h.; St. Abbs Head, vivid display 19h.-23h.; Barnsness 19h.30m.-22h.; Isle of May 18h.30m.-21h. in north; Rattray Head 20h.-21h.; Noup Head 20h.15m.-20h.50m.; Cromarty 20h.-22h.30m. from east to west; Devaar 19h.-20h.; Ailsa Craig 19h.		AUGUST		
		12	E.	17	St. Abbs Head; Wick; A.; Nairn; Lerwick (Knab); Fort Augustus; Braemar; K.; Whalsay 21h.-24h.(18th)
		13	Balerno; Wick; St. Abbs Head		
		16	E.; St. Abbs Head; Stroma, bright display in north-west; Copinsay; Fortrose	18	Wick; G.C.; Strathy; A.; Lerwick (Knab); E.; Fort Augustus; B.; Noup Head, vivid display from north-west to east through north
		17	Wick		
		22	Duntuilm; Strathy; Wick; E.; Copinsay; Noup Head 22h.-3h.(23rd); Cape Wrath 2h. and 3h.(23rd) to north-west; Rona 22h.-24h.; Rhuvaal 23h.-3h.(23rd); Sumburgh Head 0h.30m.-2h.(23rd)	19	Paisley 21h.
				21	Wick; Nairn
		23	Duntuilm; Strathy; Wick; Copinsay; Noup Head 22h.-1h.30m.(24th); Rona 24h.-2h.(24th)		NOVEMBER
25	Sanda 19h.30m.-20h.10m.; G.C.; K.; Leuchars; Milnathort; Wick; Strathy; B.	24	Fortrose	11	Nairn; K.
				13	Wick; G.C.; Nairn; Fortrose; K.
				24	B.
			SEPTEMBER		
	MARCH				DECEMBER
		9	E.; St. Abbs Head		
3	Lerwick (Knab)	10	Wick		
11	Fortrose; Copinsay; Wick 24h. north-east Rudh Re 23h.-24h.	11	Wick	2	Lerwick (Knab); B.
		13	Cape Wrath 3h.(14th) to north-west	5	Paisley; Wick; G.C.; Lerwick (Knab); A.; Edinburgh; Kilmarnock; Nairn; K., dense
22	Lerwick (Knab); B.	14	St. Abbs Head; Ailsa Craig 21h.-22h.30m.		
23	E.	15	Rona		
27	Lerwick (Knab); D. 22h.; Stour Head 20h.30m.-22h.30m.	17	Lerwick (Knab); Ailsa Craig 21h.-24h. in north-east; Sumburgh Head 21h.-1h.30m.(18th)	6	St. Abbs Head; Wick; G.C.; Fortrose; K.; Lerwick (Knab); Strathy; A.; Nairn; B.; Kilmarnock; Dunnet Head 21h.30m.; Noup Head from 20h.30m.
31	Lerwick (Knab) 20h.30m. and 23h. and 0h.35m.(April 1)	18	Lerwick (Knab)		
		19	Wick; K.; E.; Duntuilm; Noup Head 21h.-4h.(20th); Sumburgh Head 22h.-2h.(20th); Cape Wrath 24h. to north and north-east; Stour Head 20h.30m.-24h. to north-west; Butt of Lewis 21h.-2h.30m.(20th); Rona 20h.-24h.; Sanda 22h.50m.-23h.30m. to north-west; Copinsay (morning 20th); Rona 24h.-2h.(20th)	7	St. Abbs Head; Strathy; Nairn
				8	Wick
				12	Lerwick (Knab)
	APRIL				
4	K.; E.				
9	B.				
16	Point of Ayre 3h.45m.(17th)				
17	Lerwick (Knab) 21h.20m.; Fortrose; E.; Kettins 21h.-23h.; Sanda 21h.45m.-22h.30m.; Point of Ayre 21h.-21h.30m.; A.	20	Lerwick (Knab)		
		26	Wick; Cape Wrath 3h.(27th) to north-east		
18	A.				
19	A.; Sanda 0h.45m.-2h.30m.(20th); Point of Ayre 2h.5m.(20th)				
20	A.		OCTOBER		
23	Lerwick (Knab) 21h.				
24	Leuchars 22h.45m.-0h.10m.(25th); Fortrose; K.; A.; D.; Isle of May 0h.15m.-3h.(25th); Cantick Head 21h.-2h.(25th); Dunnet Head 23h.-5h.30m.(25th); Stour Head 21h.30m.-3h.(25th); Rudh Re 22h.-3h.(25th); Tiumpan Head 23h.-3h.(25th); Ushenish 24h.-3h.(25th); Point of Ayre 21h.20m.-23h.; Tarbetness 1h.-3h.(25th); Noup Head 0h.30m.-1h.(25th); St. Abbs Head	3	St. Abbs Head; Wick; Strathy; Duntuilm; A.; Nairn; Lerwick (Knab); West Linton; E.; Fort Augustus; Fortrose; Glenlee; K.; Kilmarnock; Copinsay, brilliant display; Noup Head, vivid aurora 20h.-6h.(4th); Rudh Re 20h.30m.-2h.(4th); Rona 19h.30m.-5h.(4th); Sanda 20h.50m.-21h.30m.		
		4	Wick; Lerwick (Knab); K.; Ailsa Craig 21h.30m.-22h.30m. and 2h.30m.-3h.30m.(5th)		
25	Lerwick (Knab) 23h.30m.; B.				
28	Lerwick (Knab) 23h.	7	Wick; Lerwick (Knab); E.; Nairn		

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

M.O. 599

THE OBSERVATORIES' YEAR BOOK 1939

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

ABERDEEN

Decimal Index
551.506.1

Obs. Yearb., 1939
London, 1956

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.

NOTES ON THE METEOROLOGICAL SUMMARIES

The year as a whole had no really striking features. The most noteworthy were the brightness and warmth of early June and the dull and very wet July.

The mean temperature for the year was 281·7°A. slightly in excess of the normal. The extremes recorded in the north-wall screen were 301·5°A. on June 6 and 267·1°A. on January 6. The lowest reading of the grass minimum thermometer was 262·9°A. on December 19.

The total rainfall for the year was 709 mm., 39 mm. less than the normal.

The sunshine total 1258 hr. was a little less than normal.

The highest wind speed recorded in a gust was 27 m./sec. on April 17.

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_η, α_η in the series $\sum c_\eta \sin(15\eta t + \alpha_\eta)$, t being local mean time reckoned in hours from midnight

	c_1		α_1		c_2		α_2		c_3		α_3		c_4		α_4	
	1939	1871-1926	1939	1871-1926	1939	1871-1926	1939	1871-1926	1939	1871-1926	1939	1871-1926	1939	1871-1926	1939	1871-1926
	mb.	mb.	°	°	mb.	mb.	°	°	mb.	mb.	°	°	mb.	mb.	°	°
January	0·41	0·09	164	169	0·16	0·23	170	146	0·17	0·13	348	348	0·05	0·05	252	211
February	0·37	0·16	247	173	0·34	0·27	152	143	0·08	0·10	352	346	0·03	0·03	136	84
March	0·25	0·16	130	156	0·24	0·29	165	147	0·03	0·05	331	330	0·03	0·03	25	27
April	0·26	0·15	209	155	0·30	0·28	149	151	0·03	0·02	230	188	0·06	0·04	359	359
May	0·02	0·10	107	136	0·21	0·24	139	145	0·06	0·06	169	166	0·00	0·02	..	333
June	0·14	0·06	7	104	0·22	0·22	129	141	0·04	0·07	154	155	0·03	0·01	4	331
July	0·28	0·09	115	135	0·22	0·21	127	142	0·07	0·07	165	155	0·03	0·01	330	339
August	0·12	0·11	228	161	0·23	0·23	138	144	0·04	0·04	165	165	0·04	0·03	352	333
September	0·06	0·12	283	147	0·29	0·29	137	151	0·03	0·03	26	346	0·04	0·05	347	345
October	0·14	0·15	179	187	0·27	0·27	154	156	0·07	0·07	345	0	0·04	0·03	31	34
November	0·37	0·13	215	201	0·19	0·23	179	159	0·08	0·10	311	4	0·03	0·01	206	186
December	0·11	0·16	272	169	0·20	0·21	146	147	0·12	0·12	351	357	0·06	0·05	199	205
Arithmetic mean	0·21				0·24				0·07				0·04			
Year	0·12	0·12	190	162	0·23	0·25	148	148	0·03	0·03	341	359	0·01	0·01	338	338
Winter	0·25	0·13	213	178	0·22	0·23	160	149	0·11	0·11	343	353	0·03	0·03	207	194
Equinox	0·13	0·14	179	162	0·27	0·28	151	151	0·03	0·03	339	345	0·04	0·04	9	6
Summer	0·08	0·09	103	139	0·22	0·22	133	143	0·05	0·06	164	159	0·03	0·02	349	334

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

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

62 ABERDEEN: h_b (height of barometer cistern above M.S.L.) = 26·0 m. 1939

	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE		
	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean
	millibars																	
1	95·0	89·7	91·3	20·3	16·5	18·1	97·1	84·9	92·5	15·1	10·6	13·3	23·1	21·9	22·5	31·0	29·0	30·2
2	99·3	91·6	96·3	16·6	13·4	15·0	97·8	94·0	95·9	10·6	99·4	05·1	21·9	16·1	19·2	30·3	25·9	27·6
3	03·1	99·3	01·7	13·9	10·8	12·5	04·5	96·7	01·9	99·4	93·4	96·5	16·1	08·5	12·3	26·6	22·7	24·6
4	02·8	01·1	01·8	11·5	09·8	10·7	01·4	97·1	99·2	93·4	88·2	89·9	08·5	98·4	03·1	22·8	20·7	21·6
5	11·5	02·8	06·1	11·0	08·4	09·9	97·1	91·0	93·6	99·9	88·1	91·8	98·4	96·0	96·8	21·4	19·0	20·3
6	15·9	11·0	14·1	10·0	04·7	08·1	03·7	96·4	00·4	12·6	99·9	07·7	05·9	96·4	00·5	19·7	13·7	16·7
7	11·1	91·9	99·2	08·1	03·1	04·5	05·1	03·1	03·9	14·1	10·2	12·9	12·2	05·9	09·3	23·0	18·3	20·8
8	94·0	90·8	93·2	11·8	00·7	08·4	08·9	97·6	02·3	10·2	05·5	06·9	16·0	12·1	14·3	24·4	18·6	21·4
9	93·9	82·2	87·9	08·9	95·5	01·7	22·3	08·9	16·1	16·4	08·2	13·2	18·8	15·6	17·4	24·3	07·7	16·4
10	03·6	93·9	00·7	13·6	08·4	10·3	24·5	21·2	23·1	16·3	15·5	15·9	23·7	18·5	20·0	07·7	02·0	04·8
11	02·4	88·6	96·3	14·9	00·7	09·7	24·5	14·7	18·3	15·8	09·4	13·1	26·3	23·7	25·4	07·6	01·3	04·1
12	88·6	81·9	85·2	00·7	96·9	98·6	32·5	24·5	30·6	09·4	02·2	05·3	27·3	24·9	26·0	11·9	07·4	09·5
13	95·5	82·2	88·4	25·0	00·2	14·2	30·3	26·9	28·1	02·2	94·8	98·5	27·1	15·6	21·5	12·0	09·5	11·3
14	97·7	87·0	95·5	25·0	18·1	21·1	27·6	22·0	24·3	95·1	90·6	92·9	15·6	09·3	11·7	09·5	99·1	04·2
15	87·0	63·2	71·9	18·1	04·0	10·5	28·5	21·2	26·7	96·5	91·2	93·4	15·8	09·3	12·8	99·1	93·6	95·9
16	72·0	61·6	67·7	08·9	02·3	06·5	21·2	14·3	16·0	02·1	94·3	99·4	16·5	15·0	15·9	03·6	97·8	00·1
17	88·5	72·0	81·8	05·5	93·3	98·3	25·3	17·3	22·3	23·7	96·0	07·3	15·0	08·6	11·3	06·0	03·5	05·0
18	01·6	88·4	94·3	09·8	01·0	06·3	24·5	15·7	19·4	29·0	23·7	27·4	08·6	07·4	07·8	09·3	02·8	05·1
19	05·0	97·9	02·9	14·9	01·1	09·7	22·0	15·7	20·2	28·8	23·9	26·6	07·4	06·1	06·6	15·9	09·3	13·2
20	97·9	91·6	93·1	18·9	12·2	16·3	15·7	01·3	06·1	23·9	19·0	20·3	06·9	06·2	06·5	25·7	15·8	20·4
21	98·2	86·4	89·9	12·2	98·9	04·9	06·6	90·7	02·7	20·7	99·1	13·3	09·3	05·6	06·9	27·0	25·1	26·2
22	99·3	82·9	93·0	98·9	85·3	92·4	90·7	84·4	86·4	04·9	97·0	01·4	17·8	09·3	13·8	26·2	20·5	23·2
23	07·8	83·2	94·5	85·3	77·7	80·6	95·0	85·8	91·6	04·2	93·6	00·1	22·5	17·5	20·1	20·5	07·2	12·1
24	12·2	00·0	08·6	00·0	82·9	95·0	04·2	95·0	98·5	98·0	88·3	92·0	29·5	22·1	25·3	07·7	04·1	05·5
25	05·0	96·3	99·3	96·3	88·3	90·3	25·2	04·2	15·5	08·5	98·0	03·9	30·7	28·3	29·7	07·7	03·0	04·6
26	10·2	04·6	06·6	94·6	89·8	91·5	27·4	25·2	26·5	20·0	08·5	13·8	28·3	16·0	20·7	12·8	07·4	10·2
27	14·1	10·0	12·5	97·4	89·5	93·4	25·7	17·0	21·8	23·8	20·0	22·5	27·3	16·2	20·5	15·6	09·7	13·5
28	21·3	14·0	17·2	89·8	83·3	86·7	17·0	10·9	13·8	28·2	22·8	25·8	31·2	27·3	29·9	09·7	93·1	99·5
29	24·6	21·3	23·6				12·6	09·0	10·0	29·3	27·9	28·5	31·2	26·8	29·1	03·2	93·2	98·1
30	24·5	22·5	23·3				16·0	12·6	14·8	27·9	22·4	24·9	26·8	22·7	24·9	06·4	02·1	03·6
31	23·5	20·2	22·2				16·5	15·1	15·8				29·5	25·9	28·0			
Mean	03·45	93·87	98·71	08·64	99·89	04·48	14·56	06·92	10·91	12·67	04·72	08·79	19·20	13·97	16·44	15·62	09·44	12·33

	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	10·6	06·4	08·8	11·1	03·3	07·7	13·0	11·9	12·5	13·6	08·7	10·7	14·7	11·1	12·3	06·1	85·3	96·0
2	09·3	00·2	04·0	11·0	06·5	08·5	12·9	10·1	12·0	19·0	13·5	16·3	11·2	08·5	10·2	03·6	84·8	94·8
3	11·9	06·9	10·1	17·9	07·1	12·3	10·1	00·6	04·4	20·8	19·0	20·1	08·5	00·0	04·2	03·5	80·9	93·3
4	12·0	05·9	09·0	20·8	17·9	19·9	13·7	04·0	09·6	20·3	10·7	16·5	00·0	88·5	93·4	80·9	76·5	78·2
5	06·1	00·9	02·7	20·6	11·2	16·6	15·5	13·7	14·3	10·7	00·5	04·6	90·1	75·1	86·4	04·7	79·8	91·9
6	04·2	00·7	02·3	11·2	04·4	06·6	17·5	15·2	16·2	11·0	00·4	04·6	93·0	73·2	82·6	13·8	04·7	11·2
7	02·6	94·5	97·0	04·5	01·4	02·7	17·7	13·5	16·4	21·7	11·0	16·9	93·6	87·6	91·7	13·2	02·8	08·2
8	97·4	95·5	96·5	05·2	00·8	03·0	13·5	08·8	10·0	21·8	12·9	18·3	87·6	77·4	83·0	03·0	01·1	02·0
9	10·2	95·2	01·5	05·3	96·2	02·6	14·9	10·7	13·0	12·9	06·4	08·4	95·3	77·4	85·0	04·5	91·8	00·1
10	19·5	10·2	15·0	03·2	94·3	98·0	10·7	00·0	03·8	07·2	05·9	06·6	04·6	95·3	01·8	07·6	91·7	96·7
11	19·1	15·0	16·7	08·2	03·2	05·8	17·0	01·3	09·7	06·6	05·7	06·2	04·5	00·3	02·3	26·8	07·6	19·7
12	15·2	02·5	09·6	18·8	08·2	12·9	17·3	07·9	14·5	06·1	04·0	05·2	15·3	02·5	10·7	27·1	24·8	26·1
13	02·5	00·4	01·0	21·3	18·8	20·3	07·9	02·2	04·0	06·0	03·0	04·9	14·6	98·1	05·8	24·8	10·0	17·5
14	02·0	00·2	00·9	21·6	20·1	20·7	10·2	03·7	06·1	03·0	98·6	00·2	98·1	78·9	93·4	12·7	08·5	10·4
15	03·7	00·7	02·6	23·0	21·2	22·0	21·1	10·2	15·7	02·8	97·9	99·4	95·0	79·0	86·7	18·9	12·1	14·4
16	03·5	95·5	99·4	21·6	20·2	20·7	27·9	21·1	24·8	16·1	02·8	09·7	04·6	93·3	96·4	28·2	18·9	24·9
17	99·2	94·7	96·2	21·6	18·4	20·4	31·6	27·8	29·7	20·6	16·1	18·8	13·9	04·6	10·9	28·1	25·4	26·8
18	03·4	99·2	01·0	18·4	16·2	17·3	32·8	31·3	32·1	23·7	20·3	21·7	09·6	01·9	06·3	25·4	20·6	23·3
19	05·5	03·2	04·2	17·8	16·5	17·2	32·6	30·2	31·6	24·0	21·6	22·9	21·3	01·5	09·7	24·2	18·3	20·4
20	10·9	05·2	07·7	16·9	14·6	15·4	30·2	26·6	28·1	21·9	20·3	21·1	27·5	21·3	25·6	27·9	24·2	26·5
21	11·6	08·0	10·3	14·6	09·2	11·7	26·0	24·6	25·4	22·2	20·2	21·0	27·1	18·9	24·7	24·5	15·5	18·2
22	08·0	00·6	03·0	13·7	08·7	11·0	24·8	23·2	24·0	21·7	13·5	18·8	18·9	08·7	12·2	17·2	15·2	16·4
23	00·7	96·4	98·0	17·6	13·7	16·1	27·5	24·6	26·3	13·5	07·8	11·0	11·3	04·0	06·5	16·5	11·2	13·3
24	05·2	98·4	02·2	17·5	15·9	16·7	29·1	27·0	28·1	10·2	07·6	08·6	13·3	05·1	09·1	11·4	10·3	10·9
25	10·1	05·2	07·1	16·1	14·5	15·3	28·8	21·7	25·1	11·1	07·9	10·3	13·4	75·4	98·6	11·9	08·5	10·2
26	12·3	09·9	10·9	14·5	12·3	13·1	28·5	21·6	24·5	17·2	05·7	10·8	75·4	65·1	67·5	16·5	11·5	13·9
27	12·3	08·8	11·3	15·1	12·6	13·5	31·2	28·5	30·1	22·1	17·2	19·8	88·1	70·7	76·6	18·2	16·4	17·1
28	08·8	95·3	02·2	17·8	15·1	16·3	29·5	19·3	24·8	23·2	17·4	21·1	05·9	88·1	98·6	18·9	15·1	17·1
29	98·7	94·6	97·2	17·9	16·3	17·1	19·3	11·3	14·9	21·0	15·1	17·2	05·1	94·1	98·1	18·2	06·4	11·5
30	98·0	93·8	95·5	16·5	14·2	15·3	11·3	08·4	09·2	24·1	21·0	23·0	09·5	93·9	05·0	08·7	06·9	07·7
31	03·3	96·0	98·3	14·3	11·9	12·9				23·4	14·7	19·3				14·9	07·9	10·5
Mean	07·03	01·29	03·95	15·34	11·13	13·20	20·80	15·37	18·03	16·11	10·56	13·34	05·70	93·32	99·83	14·90	06·28	10·62
									Annual	12·86	05·61	09·25						

PRESSURE AT STATION LEVEL

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

63 ABERDEEN: h_b = 26 m. 1939

	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.	98·36	98·31	98·35	98·30	98·09	97·89	97·89	98·01	98·24	98·51	98·69	98·74	98·65	98·53	98·59	98·77	98·93	99·20	99·39	99·51	99·58	99·49	99·38	99·31	99·18	98·71
Feb.	04·94	04·74	04·53	04·40	04·24	04·27	04·42	04·61	04·82	05·06	05·19	05·25	05·05	04·71	04·50	04·30	04·21	04·22	04·26	04·21	04·17	04·09	04·05	03·87	03·67	04·48
Mar.	10·62	10·60	10·55	10·36	10·28	10·31	10·45	10·57	10·69	10·71	10·84	10·83	10·85	10·77	10·72	10·72	10·89	11·01	11·25	11·49	11·67	11·72	11·78	11·75	11·59	10·91
Apr.	08·70	08·56	08·38	08·20	08·10	08·21	08·34	08·55	08·73	08·91	09·01	09·05	09·06	09·05	09·00	08·85	08·72	08·71	08·90	09·08	09·19	09·26	09·14	09·06	08·94	08·79
May	16·52	16·39	16·26	16·18	16·12	16·20	16·27	16·41	16·45	16·50	16·57	16·55	16·55	16·54	16·45	16·33	16·30	16·28	16·29	16·38	16·58	16·74	16·84	16·82	16·75	16·44
June	13·02	12·96	12·79	12·60	12·52	12·48	12·49	12·58	12·62	12·55	12·51	12·43	12·41	12·31	12·09	12·00	11·87	11·71	11·80	11·88	12·02	12·17	12·27	12·25	12·25	12·33
July	04·47	04·31	04·12	03·91	03·79	03·72	03·73	03·74	03·80	03·82	03·80	03·82	03·83	03·82	03·88	03·80	03·69	03·66	03·76	03·93	04·18	04·34	04·41	04·42	04·37	03·95
Aug.	13·14	13·05	12·92	12·78	12·70	12·79	12·92	13·09	13·22	13·33	13·37	13·39	13·42	13·41	13·38	13·25	13·12	13·09	13·14	13·26	13·41	13·50	13·50	13·48	13·43	13·20
Sept.	18·21	18·17	18·04	17·87	17·72	17·71	17·81	18·03	18·15	18·35	18·36	18·35	18·27	18·16	18·02	17·85	17·74	17·72	17·79	17·93	18·02	18·12	18·17	18·14	18·10	18·03
Oct.	13·35	13·27	13·20	12·97	12·90	12·86	12·95	13·17	13·34	13·45	13·55	13·58	13·50	13·38	13·29	13·12	13·11	13·32	13·52	13·61	13·69	13·71	13·68	13·64	13·54	13·34
Nov.	99·71	99·55	99·47	99·52	99·43	99·50	99·50	99·61	99·82	99·95	00·12	00·17	00·11	00·00	99·91	99·90	99·95	99·97	00·12	00·13	00·10	00·02	99·83	99·66	99·43	99·83
Dec.	10·47	10·35	10·43	10·43	10·32	10·30	10·28	10·44	10·61	10·88	11·04	11·07	10·88	10·63	10·48	10·52	10·53	10·61	10·69	10·69	10·72	10·74	10·79	10·79	10·75	10·62
Annual	09·32	09·22	09·12	08·99	08·88	08·89	08·95	09·10	09·24	09·36	09·45	09·46	09·41	09·31	09·22	09·15	09·12	09·16	09·28	09·38	09·48	09·53	09·53	09·47	09·37	09·25

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.

64 ABERDEEN: h_b = 26 m. 1939

	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.	01·58	01·53	01·57	01·52	01·31	01·12	01·11	01·23	01·46	01·74	01·92	01·95	01·87	01·74	01·80	01·98	02·14	02·41	02·61	02·73	02·80	02·72	02·60	02·53	02·40	01·93
Feb.	08·15	07·95	07·74	07·62	07·45	07·49	07·64	07·83	08·04	08·28	08·40	08·45	08·24	07·91	07·70	07·49	07·41	07·42	07·46	07·42	07·37	07·30	07·26	07·08	06·88	07·69
Mar.	13·87	13·85	13·80	13·61	13·53	13·56	13·69	13·82	13·93	13·95	14·07	14·05	14·06	13·98	13·93	13·93	14·10	14·24	14·48	14·73	14·92	14·96	15·03	15·00	14·84	14·15
Apr.	11·93	11·79	11·61	11·44	11·33	11·45	11·57	11·78	11·95	12·12	12·21	12·25	12·25	12·24	12·19	12·05	11·91	11·90	12·10	12·28	12·40	12·48	12·37	12·28	12·17	12·00
May	19·73	19·61	19·48	19·41	19·34	19·42	19·49	19·61	19·65	19·69	19·75	19·73	19·74	19·72	19·63	19·51	19·48	19·47	19·48	19·57	19·78	19·95	20·05	20·03	19·96	19·64
June	16·19	16·14	15·97	15·79	15·71	15·66	15·66	15·74	15·77	15·69	15·65	15·56	15·54	15·44	15·21	15·12	14·99	14·83	14·93	15·02	15·17	15·33	15·43	15·41	15·42	15·48
July	07·60	07·44	07·26	07·05	06·93	06·85	06·86	06·87	06·92	06·93	06·91	06·92	06·93	06·92	06·98	06·90	06·79	06·76	06·87	07·04	07·30	07·46	07·54	07·55	07·50	07·06
Aug.	16·29	16·20	16·07	15·94	15·86	15·95	16·07	16·24	16·35	16·46	16·50	16·52	16·54	16·53	16·50	16·38	16·24	16·21	16·27	16·40	16·55	16·65	16·65	16·63	16·58	16·34
Sept.	21·40	21·36	21·23	21·06	20·92	20·90	21·00	21·22	21·33	21·52	21·53	21·51	21·42	21·31	21·17	21·00	20·89	20·88	20·96	21·11	21·20	21·30	21·36	21·33	21·29	21·20
Oct.	16·57	16·50	16·43	16·19	16·12	16·08	16·17	16·40	16·56	16·67	16·75	16·78	16·70	16·58	16·48	16·32	16·30	16·52	16·73	16·82	16·91	16·93	16·90	16·86	16·76	16·56
Nov.	02·89	02·74	02·65	02·70	02·62	02·69	02·69	02·80	03·01	03·13	03·30	03·34	03·28	03·17	03·08	03·07	03·12	03·15	03·30	03·31	03·28	03·21	03·02	02·85	02·61	03·01
Dec.	13·72	13·59	13·67	13·68	13·57	13·55	13·53	13·69	13·86	14·13	14·29	14·31	14·12	13·87	13·72	13·76	13·77	13·85	13·94	13·93	13·96	13·99	14·04	14·04	14·00	13·86
Annual	12·53	12·42	12·32	12·20	12·09	12·09	12·15	12·30	12·43	12·55	12·63	12·64	12·59	12·48	12·40	12·33	12·30	12·34	12·46	12·57	12·68	12·73	12·73	12·67	12·58	12·44

The initial 9 or 10 of the value is omitted, i.e. 1001·42 is printed as 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.

65 ABERDEEN: North-wall screen on tower: h_t = 12·5 m. 1939

	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.	76·10	76·09	75·88	75·86	75·78	75·76	75·69	75·66	75·81	75·77	75·98	76·40	76·85	77·16	77·25	77·24	76·90	76·74	76·63	76·45	76·45	76·60	76·42	76·34	76·28	76·33
Feb.	78·35	78·42	78·23	78·13	77·98	77·88	77·98	78·00	77·98	78·29	78·88	79·53	79·94	80·16	80·20	80·30	79·98	79·70	79·39	79·17	79·04	78·89	78·71	78·53	78·36	78·90
Mar.	77·53	77·45	77·42	77·35	77·28	77·24	77·30	77·35	77·71	78·34	78·91	79·44	79·98	80·02	80·10	80·02	79·75	79·24	78·78	78·34	77·92	77·77	77·57	77·42	77·57	78·34
Apr.	78·40	78·10	77·85	77·57	77·44	77·46	77·91	78·68	79·47	80·13	80·86	81·12	81·47	81·56	81·49	81·31	81·38	81·10	80·79	80·28	79·75	79·24	78·81	78·56	78·42	79·61
May	81·38	81·19	80·98	80·82	80·74	81·04	81·73	82·57	83·27	83·98	84·28	84·50	84·70	84·64	84·49	84·44	84·17	83·98	83·81	83·47	82·79	82·35	82·01	81·73	81·48	82·88
June	84·14	83·79	83·38	83·15	83·11	83·61	84·38	85·34	86·18	86·80	87·57	88·19	88·24	88·33	88·46	88·27	88·16	88·21	87·72	87·02	86·24	85·51	85·10	84·67	84·15	86·07
July	85·40	85·31	85·05	84·83	84·74	84·82	85·35	85·91	86·49	87·05	87·46	87·98	88·27	88·35	88·41	88·24	88·43	88·42	88·07	87·51	86·98	86·40	86·10	85·82	85·51	86·73
Aug.	86·48	86·32	86·29	86·10	85·87	85·75	86·08	86·72	87·53	88·05	88·47	88·86	88·99	89·19	89·17	88·92	88·77	88·65	88·18	87·78	87·48	87·12	86·90	86·74	86·53	87·52
Sept.	84·31	84·27	84·19	83·99	83·92	83·76	83·78	84·11	84·91	85·99	86·74	87·37	87·66	87·72	87·69	87·46	87·20	86·72	86·16	85·68	85·25	84·88	84·52	84·22	84·06	85·52
Oct.	80·16	80·02	79·93	80·04	79·89	79·82	79·73	79·65	79·94	80·70	81·49	82·27	82·69	82·78	82·73	82·57	82·29	81·79	81·31	80·92	80·65	80·61	80·36	80·24	80·15	80·94
Nov.	79·43	79·34	79·28	79·34	79·36	79·24	79·22	79·43	79·45	79·96	80·18	80·69	81·00	81·11	81·10	80·88	80·53	80·32	80·10	79·99	79·90	79·79	79·75	79·56	79·42	79·96
Dec.	77·20	77·08	76·98	76·79	76·81	76·85	76·91	76·79	76·83	77·06	77·26	77·66	77·94	78·15	78·18	78·08	77·88	77·69	77·42	77·29	77·19	77·05	76·96	77·05	76·95	77·29
Annual	80·75	80·62	80·47	80·34	80·25	80·28	80·52	80·86	81·31	81·86	82·35	82·84	83·15	83·27	83·28	83·15	82·96	82·72	82·37	82·00	81·64	81·36	81·11	80·92	80·75	81·68

The initial 2 or 3 of the readings is omitted, i.e. 275·00 degrees Absolute is printed 75·00.

Add 0·16° to obtain temperature in degrees Kelvin where $T(°K.) = t(°C.) + 273·16$.

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 $T(^{\circ}K.) = t(^{\circ}C.) + 273{\cdot}16$

66 ABERDEEN: North-wall screen on tower: h_t (height of thermometer bulb above ground) = 12·5 m. 1939

	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	76·7	70·7	74·0	77·8	76·0	77·0	80·2	76·6	78·2	79·0	78·1	78·5	81·1	78·0	79·4	85·9	82·0	83·8
2	77·3	72·6	74·6	76·0	72·3	74·1	82·7	78·4	80·7	80·1	78·0	78·8	81·3	76·7	79·6	93·8	80·7	87·6
3	74·6	71·3	73·1	78·8	71·6	75·5	82·0	78·8	80·4	79·7	77·5	78·4	82·1	77·9	80·1	95·6	82·6	89·5
4	72·7	68·8	71·1	83·1	77·9	80·5	82·2	79·7	81·1	79·7	73·8	77·5	85·0	78·9	81·6	97·6	84·6	90·7
5	74·5	71·6	73·1	83·2	80·0	81·6	82·9	77·7	80·0	79·3	73·8	76·7	83·6	80·4	81·5	99·4	85·4	93·6
6	76·7	67·1	71·7	84·2	81·6	82·7	82·9	76·0	78·8	79·5	74·6	77·1	81·0	80·0	80·5	01·5	84·3	93·7
7	78·5	74·9	76·8	85·0	81·7	83·1	79·6	75·2	77·3	82·7	72·7	78·1	83·0	79·9	81·2	90·0	84·9	87·3
8	81·7	77·4	80·7	83·7	79·8	81·5	78·5	74·8	77·1	83·7	77·7	80·2	82·1	80·4	81·1	89·3	83·1	85·8
9	80·7	75·3	78·7	83·5	79·9	81·8	81·3	74·9	77·9	79·7	75·4	77·9	88·6	80·6	84·9	95·5	80·8	88·4
10	77·0	73·2	75·4	88·5	79·5	83·3	81·1	72·6	76·9	81·1	78·3	79·5	89·5	82·8	85·7	88·6	82·0	86·7
11	74·0	71·0	72·4	86·4	82·0	84·1	80·6	76·3	78·6	83·3	79·2	80·7	84·0	80·1	82·1	85·0	79·7	82·1
12	76·8	73·9	75·4	82·5	76·8	79·9	82·1	74·9	78·0	89·0	78·6	83·9	82·3	77·8	81·0	82·3	77·1	79·5
13	77·0	73·1	75·7	78·8	76·3	77·7	85·5	76·9	81·3	87·0	82·0	84·0	85·0	75·6	81·2	84·8	76·9	81·2
14	78·2	71·8	74·8	81·7	75·1	78·9	84·8	77·0	81·2	84·9	81·1	82·8	84·7	80·7	82·5	85·9	80·1	83·5
15	81·8	77·4	79·5	84·3	76·3	81·1	78·5	76·0	77·3	86·2	80·5	83·2	82·8	79·7	81·4	89·7	83·7	86·2
16	79·9	77·8	78·9	79·8	74·5	77·5	82·1	76·5	79·7	86·7	79·1	82·7	84·1	80·0	81·8	91·6	84·2	86·7
17	79·8	78·2	79·1	79·6	74·3	75·8	78·8	75·4	77·0	81·9	76·5	79·3	82·7	79·6	81·0	88·4	82·4	86·2
18	79·6	78·0	78·9	78·5	74·0	76·2	83·7	76·0	78·9	86·1	76·1	81·9	83·5	77·6	80·9	89·5	84·7	86·3
19	79·9	78·4	79·3	81·2	77·0	79·0	77·8	75·8	76·8	87·4	76·6	82·7	84·5	77·7	81·0	90·8	84·3	86·9
20	80·2	76·2	79·1	80·4	73·6	77·7	83·8	74·2	78·0	87·2	79·1	82·6	84·1	74·5	80·6	86·1	82·8	84·5
21	80·4	78·8	79·9	80·0	78·4	79·2	80·0	73·9	77·3	83·3	76·9	80·2	87·2	80·3	83·3	89·1	83·1	85·8
22	79·2	74·1	77·3	79·4	77·0	77·9	81·8	75·4	78·7	81·1	75·6	78·7	89·1	80·6	84·9	88·2	82·4	84·6
23	79·5	76·5	78·5	78·6	76·7	77·5	80·2	74·4	77·7	79·9	74·3	77·3	91·3	83·6	87·0	94·6	81·7	85·9
24	78·4	75·2	76·4	81·4	76·5	78·2	78·1	75·8	77·3	78·1	75·0	77·1	92·9	82·5	86·3	83·9	81·4	82·6
25	76·1	72·4	74·3	80·1	75·2	77·9	77·5	73·8	76·2	80·4	74·1	76·7	86·8	80·6	83·6	84·9	81·3	82·9
26	77·9	74·9	76·0	79·1	73·8	75·8	78·9	73·8	76·2	80·4	74·3	76·7	87·5	81·0	84·8	87·2	80·4	83·6
27	77·0	74·6	75·6	79·6	73·7	76·4	78·4	75·0	77·0	82·2	74·1	78·3	88·9	83·2	85·9	87·9	82·7	85·4
28	77·4	74·8	75·7	78·7	75·1	77·2	79·7	76·8	78·3	80·5	74·6	78·6	85·9	81·2	83·7	89·7	84·3	86·3
29	78·2	74·4	75·9				78·6	76·7	77·9	81·6	75·6	79·2	91·6	81·4	86·8	93·0	86·0	89·3
30	79·0	74·2	76·8				79·6	77·6	78·4	82·1	74·4	79·0	94·5	84·0	89·4	89·9	82·8	85·4
31	78·2	77·1	77·8				79·7	77·6	78·7				86·6	81·9	84·2			
Mean	78·0	74·4	76·3	81·2	76·7	78·9	80·8	76·0	78·3	82·5	76·6	79·6	85·7	80·0	82·9	90·0	82·4	86·1

	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	86·9	80·9	83·6	90·0	85·9	87·5	90·0	87·6	88·7	83·7	76·8	80·5	81·4	79·5	80·7	83·4	78·0	81·1
2	90·0	82·1	85·3	90·1	84·1	87·1	89·1	87·1	88·3	83·7	76·3	80·0	81·5	79·3	80·7	83·3	77·3	79·8
3	89·0	81·1	85·7	87·6	85·2	86·4	89·6	87·6	88·6	84·0	76·2	80·3	82·7	81·1	82·0	80·8	76·3	78·4
4	88·1	85·4	86·6	87·7	82·0	85·6	92·9	85·3	88·8	85·5	77·6	83·5	83·2	81·6	82·3	77·8	74·5	76·4
5	90·2	85·2	87·2	88·3	81·6	85·6	92·1	82·3	87·3	84·7	83·5	84·2	83·6	81·5	82·6	79·9	73·8	76·4
6	88·5	84·0	86·0	89·6	85·8	86·9	92·4	87·1	89·4	85·8	84·3	85·0	83·5	80·4	81·8	78·1	73·5	76·2
7	92·1	84·6	87·4	86·6	83·8	85·2	92·0	87·3	89·4	86·1	82·7	84·9	83·9	80·2	83·0	80·0	72·4	76·9
8	91·8	85·1	87·7	87·6	84·5	86·1	93·7	85·8	89·5	83·6	81·7	82·8	84·7	82·8	83·8	80·3	78·2	79·4
9	86·9	82·3	84·8	90·1	84·5	87·4	91·0	85·2	87·8	84·1	81·9	83·3	85·1	79·2	82·4	82·3	76·9	79·8
10	88·3	82·3	85·0	92·0	84·3	88·0	90·7	85·1	86·9	84·2	81·3	83·0	82·5	78·2	79·9	82·6	81·5	81·9
11	89·3	82·5	85·7	90·3	83·6	87·0	87·5	84·1	85·9	84·1	83·2	83·6	82·0	78·4	80·4	81·8	79·0	80·7
12	86·6	82·8	85·3	91·2	83·5	87·1	87·1	81·9	84·9	83·6	81·5	82·8	79·4	74·6	77·0	79·6	78·0	78·9
13	89·4	84·8	86·3	89·5	83·0	87·2	89·1	82·5	85·8	83·1	81·0	82·1	84·7	75·2	81·4	79·4	77·2	77·8
14	87·0	84·6	85·5	93·7	87·2	90·5	86·5	82·5	84·3	82·7	79·4	81·2	84·7	81·6	83·4	78·3	75·3	77·2
15	86·5	84·9	85·5	91·9	87·0	89·1	87·2	83·8	85·3	83·2	78·5	80·0	81·6	77·9	79·5	78·7	75·2	77·1
16	88·3	84·9	86·3	91·5	85·3	88·2	87·1	81·1	85·0	83·2	76·7	79·8	79·9	75·0	77·8	78·8	76·8	77·5
17	92·0	85·3	88·3	90·2	82·5	87·1	86·6	80·9	84·1	82·6	74·8	78·4	79·5	75·5	77·6	77·0	72·5	75·2
18	92·3	86·1	88·3	93·4	82·6	88·0	86·6	82·2	84·7	82·9	72·9	77·7	83·8	76·6	80·6	73·2	69·0	71·1
19	87·9	83·6	86·0	90·0	85·5	87·1	87·9	81·1	84·9	82·2	74·1	77·6	82·2	76·9	80·1	78·1	70·8	75·5
20	90·6	86·5	87·9	88·4	86·4	87·3	88·4	82·2	85·3	85·4	74·1	80·0	80·5	75·1	78·5	75·9	73·4	74·8
21	90·0	85·5	87·2	89·6	86·5	87·6	87·5	82·8	85·2	86·0	78·3	82·4	83·1	74·0	79·5	81·1	74·3	78·1
22	90·5	84·9	87·1	91·1	85·4	88·0	86·8	83·7	85·5	85·9	79·3	82·8	82·7	76·4	80·4	82·2	78·9	80·8
23	88·6	81·3	85·4	91·6	85·1	88·6	85·6	82·9	84·0	84·2	80·3	82·2	79·0	75·2	77·1	82·5	77·7	80·6
24	88·8	79·1	84·8	90·5	86·7	88·3	86·4	82·6	84·1	81·7	75·4	79·0	78·2	73·8	76·3	84·0	81·8	82·9
25	91·5	81·4	87·3	90·5	87·3	88·9	87·1	81·9	84·3	79·0	74·9	76·4	80·9	74·2	77·3	82·9	76·3	79·8
26	90·2	84·6	88·0	91·1	86·7	88·5	86·2	80·2	83·2	79·8	75·1	77·4	83·6	75·0	78·8	76·4	73·0	74·8
27	91·8	86·5	88·8	89·4	87·8	88·4	85·6	77·5	82·4	80·7	75·9	78·0	79·3	75·7	77·7	73·9	71·9	72·9
28	92·1	86·7	88·7	90·4	86·3	88·4	84·1	76·0	80·1	80·6	74·6	77·5	78·3	73·2	76·3	73·6	71·5	72·7
29	94·0	86·9	90·2	88·7	86·0	87·2	86·0	75·3	80·6	82·6	77·0	80·6	81·7	72·4	79·5	77·2	69·7	73·5
30	93·1	84·9	88·6	88·4	86·2	86·9	84·2	78·3	81·3	82·3	81·2	81·9	82·6	79·0	80·3	74·9	72·8	73·7
31	92·1	86·2	87·7	89·6	85·4	87·7				81·4	78·6	80·2				75·5	72·0	74·1
Mean	89·8	84·1	86·7	90·0	85·1	87·5	88·2	82·8	85·5	83·3	78·4	80·9	82·0	77·3	80·0	79·1	75·1	77·3
								Annual		84·2	79·1	81·7						

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

67 ABERDEEN: North-wall screen on tower: h_t = 12·5 m. 1939

	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	91·0	6·0	78·3	6·4	88·2	7·8	87·4	7·9	79·0	7·6	73·4	9·5	74·5	9·5	82·6	13·6	94·7	16·9	81·4	8·4	72·3	7·6	93·9	10·1
2	89·5	6·1	78·1	5·2	92·9	9·8	80·2	7·4	80·8	7·9	60·9	10·1	76·8	11·0	82·3	13·2	98·0	17·0	81·0	8·1	79·5	8·4	75·7	7·5
3	84·1	5·2	71·0	5·2	86·9	9·0	73·4	6·6	78·8	8·0	54·3	10·2	74·7	11·0	81·6	12·6	94·6	16·8	78·2	8·0	85·9	9·9	81·9	7·3
4	87·8	4·6	85·3	8·8	89·2	9·6	66·9	5·6	79·8	8·9	59·7	12·1	80·7	12·6	77·3	11·3	85·0	15·3	65·4	8·3	90·0	10·5	83·4	6·5
5	84·3	5·2	87·6	9·8	80·6	8·1	82·1	6·5	87·1	9·7	50·0	12·1	87·7	14·2	83·5	12·2	85·5	13·9	74·6	9·9	94·8	11·3	88·9	6·9
6	83·5	4·6	83·6	10·1	68·3	6·3	66·9	5·5	94·4	9·8	49·7	12·1	86·9	13·0	93·1	14·8	82·1	15·3	91·5	12·8	81·3	9·2	83·7	6·4
7	92·9	7·4	78·4	9·7	67·8	5·6	66·9	5·9	88·3	9·6	64·2	10·5	81·4	13·4	95·1	13·5	86·3	16·1	79·0	11·0	89·4	11·0	87·3	7·1
8	78·4	8·2	80·7	9·0	73·4	6·0	75·6	7·7	92·1	9·9	57·8	8·5	74·5	12·5	94·0	14·2	77·7	14·6	67·6	8·2	88·8	11·5	93·5	9·0
9	77·0	7·1	79·2	9·0	74·7	6·5	93·2	8·1	84·9	11·8	60·8	10·7	84·9	11·8	86·7	14·2	76·3	12·8	70·8	8·9	73·7	8·7	90·5	8·9
10	69·1	5·0	88·3	11·1	85·5	6·9	93·2	9·0	72·0	10·6	65·2	10·2	66·7	9·4	74·2	12·7	89·9	14·3	77·1	9·5	75·4	7·5	86·0	9·8
11	82·7	4·8	81·3	10·7	87·9	8·0	85·9	9·0	74·2	8·6	71·1	8·2	67·5	9·9	72·9	11·6	80·1	11·9	82·7	10·6	91·1	9·4	90·4	9·9
12	92·4	6·7	67·0	6·7	70·9	6·2	80·6	10·5	84·0	9·0	73·8	7·1	88·5	12·7	73·2	11·8	78·4	10·9	87·0	10·5	80·0	6·5	76·1	7·1
13	82·8	6·1	77·9	6·7	74·2	8·1	79·7	10·5	86·4	9·4	70·0	7·6	97·4	14·9	76·6	12·4	81·4	12·0	74·3	8·6	90·0	9·9	73·9	6·4
14	79·1	5·5	81·6	7·6	79·7	8·7	79·2	9·6	81·6	9·7	82·7	10·5	96·1	13·9	83·7	16·7	84·9	11·4	75·3	8·2	80·5	10·2	76·4	6·3
15	86·9	8·4	76·2	8·2	74·6	6·2	68·4	8·5	89·6	9·9	84·9	12·9	98·2	14·2	85·5	15·6	82·1	11·7	84·4	8·5	78·7	7·6	83·0	6·8
16	88·5	8·2	61·3	5·2	78·5	7·7	55·1	6·6	79·3	9·0	74·1	11·6	92·9	14·2	78·0	13·5	84·3	11·8	82·3	8·1	70·5	6·1	84·1	7·1
17	86·2	8·1	79·1	5·9	83·3	6·8	66·9	6·4	79·0	8·5	73·6	11·2	84·4	14·7	81·3	13·1	85·2	11·3	83·0	7·4	78·3	6·6	77·3	5·5
18	74·3	6·9	71·1	5·5	84·0	7·8	64·7	7·4	69·2	7·4	87·2	13·3	79·1	13·7	79·8	13·6	74·5	10·2	84·2	7·2	74·5	7·8	84·0	4·5
19	96·3	9·2	69·7	6·5	68·5	5·5	66·9	8·1	70·4	7·6	71·3	11·3	95·1	14·2	89·5	14·4	77·6	10·8	83·0	7·0	81·7	8·2	87·8	6·4
20	94·0	8·9	79·2	6·8	71·8	6·3	68·9	8·2	81·9	8·6	91·1	12·4	89·9	15·2	91·1	14·8	82·5	11·8	82·4	8·3	80·6	7·3	74·5	5·2
21	94·1	9·4	89·6	8·5	79·2	6·6	78·1	7·9	81·7	10·3	84·1	12·4	89·5	14·5	96·1	16·0	87·2	12·4	83·3	9·8	84·5	8·2	72·3	6·3
22	87·6	7·3	88·5	7·7	66·9	6·1	69·6	6·4	82·1	11·4	79·3	10·8	90·1	14·5	78·4	13·4	83·3	12·1	82·4	10·0	82·4	8·5	73·6	7·8
23	85·3	7·7	86·5	7·3	78·0	6·7	74·6	6·2	70·1	11·2	78·5	11·7	77·5	11·2	75·0	13·3	75·1	9·9	73·9	8·6	84·6	6·9	66·6	7·0
24	72·9	5·7	81·3	7·2	82·3	6·8	84·2	6·9	81·9	12·5	81·2	9·7	76·0	10·5	91·0	15·8	83·3	11·0	75·8	7·1	76·1	5·9	67·9	8·3
25	89·2	6·0	69·7	6·0	67·3	5·2	75·5	6·0	75·7	9·7	75·0	9·1	74·9	12·2	91·9	16·6	79·8	10·7	82·9	6·5	86·0	7·1	79·7	7·8
26	85·8	6·5	72·6	5·4	83·2	6·4	74·9	6·0	76·9	10·7	79·8	10·2	85·5	14·6	94·9	16·7	73·8	9·2	78·3	6·6	71·0	6·6	83·2	5·8
27	87·2	6·4	80·3	6·3	74·3	6·0	70·5	6·3	72·5	10·8	82·5	11·9	81·6	14·6	97·3	17·0	75·5	8·9	78·9	6·9	71·6	6·1	84·4	5·1
28	87·8	6·5	85·6	7·1	81·6	7·3	77·5	7·1	85·4	11·0	88·4	13·5	88·9	15·9	94·7	16·6	78·1	7·9	75·5	6·4	64·0	5·0	88·5	5·3
29	83·5	6·3			85·6	7·4	78·0	7·4	76·6	12·1	61·9	11·5	67·9	13·3	94·5	15·3	81·3	8·5	73·9	7·7	85·5	8·3	77·4	4·9
30	83·8	6·7			84·2	7·6	76·6	7·2	69·8	13·0	78·3	11·3	77·7	13·8	91·1	14·5	84·7	9·3	71·6	8·2	69·8	7·1	82·3	5·3
31	78·5	6·8			86·3	7·9			79·0	10·5			81·4	13·6	92·2	15·4			79·6	8·1			78·9	5·2
Mean*	85·0	6·7	78·9	7·5	79·0	7·1	75·4	7·4	80·1	9·8	72·2	10·8	82·9	13·1	85·8	14·2	82·8	12·2	78·8	8·5	80·4	8·2	81·5	6·9

* Mean of the column.

RELATIVE HUMIDITY

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

68 ABERDEEN: h_t = 12·5 m. 1939

	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.	85·1	85·2	86·5	85·4	86·2	85·9	87·0	87·7	87·9	88·3	87·4	86·3	83·0	82·3	82·2	82·0	82·3	83·5	83·6	85·1	85·3	84·0	84·5	84·5	84·7	85·0
Feb.	79·6	79·1	81·4	81·2	82·1	82·6	81·5	81·4	80·9	80·5	77·9	75·6	74·4	74·1	75·1	75·4	76·7	77·1	78·7	79·5	79·2	79·3	79·7	80·5	80·1	78·9
Mar.	81·3	82·2	82·6	83·1	82·8	82·1	81·5	81·7	81·1	78·3	77·1	75·3	72·0	72·1	72·9	73·3	73·5	76·5	78·5	80·4	81·9	81·9	82·5	82·2	80·9	79·0
Apr.	80·1	79·8	80·6	81·1	82·4	81·8	81·6	80·8	77·8	75·7	71·7	71·0	68·6	68·7	68·8	69·5	69·4	70·4	71·1	72·4	73·8	75·7	78·1	78·5	80·2	75·4
May	87·1	87·4	87·0	87·2	86·7	86·2	83·9	80·9	77·6	75·3	73·5	73·7	72·4	73·9	74·0	74·4	75·5	75·4	76·8	78·1	81·4	83·2	85·7	86·2	86·7	80·1
June	80·1	80·5	81·3	81·4	81·7	79·5	77·1	74·1	69·9	68·0	64·5	63·5	64·1	63·7	63·5	64·5	66·3	65·0	67·4	70·4	73·4	75·6	77·1	78·9	80·5	72·2
July	87·2	88·0	88·3	88·2	88·4	89·0	87·5	86·4	84·2	81·3	79·6	78·2	77·2	77·3	77·8	79·5	77·5	77·4	78·0	80·2	82·2	84·2	85·3	86·1	87·1	82·9
Aug.	90·4	90·4	90·5	90·6	91·7	91·8	90·7	89·5	85·5	82·9	81·1	79·3	79·4	78·3	78·3	79·9	80·5	81·3	84·0	86·3	87·3	88·9	89·3	90·1	90·8	85·8
Sept.	88·2	88·2	87·5	87·8	88·5	88·6	88·5	87·8	85·7	82·6	78·6	75·7	74·1	73·3	73·5	74·7	76·4	78·6	81·2	82·9	84·6	86·0	86·6	87·3	87·9	82·8
Oct.	82·6	82·2	82·1	80·7	81·5	80·3	80·9	81·3	80·5	79·3	76·9	73·5	70·7	70·4	72·0	73·2	75·3	77·2	80·5	81·2	81·5	81·8	82·8	81·8	82·5	78·8
Nov.	83·3	84·2	83·0	81·9	81·1	81·1	80·9	79·2	80·6	79·7	81·0	78·5	76·3	75·8	75·4	76·3	79·0	80·2	82·2	82·0	82·0	81·7	81·8	83·0	83·1	80·4
Dec.	82·3	82·0	82·2	82·6	82·5	82·3	81·8	81·9	82·2	81·2	81·7	79·9	79·7	79·4	79·0	79·5	79·3	80·8	82·2	83·0	82·6	83·1	83·1	82·0	82·3	81·5
Annual	84·0	84·2	84·4	84·3	84·7	84·3	83·6	82·7	81·2	79·4	77·6	75·9	74·4	74·1	74·4	75·2	76·0	77·0	78·7	80·2	81·3	82·2	83·1	83·5	84·0	80·3

VAPOUR PRESSURE

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

69 ABERDEEN: h_t = 12·5 m. 1939

	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.	6·6	6·5	6·5	6·4	6·4	6·4	6·5	6·5	6·6	6·6	6·6	6·7	6·7	6·8	6·8	6·8	6·7	6·7	6·6	6·7	6·7	6·6	6·6	6·6	6·6	6·6
Feb.	7·2	7·1	7·2	7·2	7·2	7·1	7·1	7·1	7·0	7·2	7·2	7·3	7·4	7·5	7·6	7·7	7·7	7·6	7·6	7·5	7·4	7·4	7·3	7·3	7·2	7·3
Mar.	6·8	6·9	6·9	6·9	6·9	6·8	6·8	6·8	6·9	7·0	7·2	7·3	7·2	7·2	7·4	7·4	7·3	7·3	7·3	7·2	7·1	7·0	7·0	6·9	6·9	7·1
Apr.	7·2	7·0	7·0	6·9	6·9	6·9	7·1	7·4	7·5	7·7	7·6	7·7	7·6	7·7	7·6	7·6	7·6	7·6	7·5	7·4	7·3	7·2	7·2	7·1	7·2	7·3
May	9·6	9·5	9·3	9·2	9·1	9·3	9·5	9·7	9·7	9·9	9·8	10·0	9·9	10·1	10·0	10·0	10·0	9·9	10·0	9·9	9·9	9·8	9·8	9·7	9·6	9·7
June	10·6	10·4	10·2	10·1	10·1	10·2	10·4	10·6	10·6	10·7	10·6	11·0	11·1	11·1	11·2	11·2	11·4	11·2	11·3	11·3	11·2	11·0	10·9	10·8	10·7	10·8
July	12·5	12·6	12·4	12·2	12·2	12·3	12·6	12·9	13·0	13·0	13·1	13·3	13·4	13·4	13·6	13·8	13·6	13·6	13·4	13·3	13·1	12·9	12·9	12·9	12·6	13·0
Aug.	13·8	13·8	13·8	13·7	13·6	13·5	13·7	14·0	14·1	14·2	14·2	14·3	14·4	14·4	14·4	14·4	14·4	14·5	14·5	14·5	14·4	14·3	14·2	14·2	14·1	14·1
Sept.	11·8	11·8	11·6	11·5	11·6	11·4	11·4	11·6	11·9	12·4	12·4	12·4	12·4	12·3	12·3	12·3	12·4	12·3	12·3	12·2	12·1	12·0	11·8	11·6	11·6	12·0
Oct.	8·4	8·2	8·2	8·1	8·1	7·9	8·0	8·0	8·0	8·3	8·5	8·6	8·5	8·5	8·7	8·7	8·8	8·7	8·8	8·7	8·5	8·5	8·5	8·3	8·4	8·4
Nov.	8·0	8·1	7·9	7·8	7·8	7·7	7·7	7·6	7·8	8·0	8·2	8·2	8·2	8·2	8·1	8·1	8·2	8·2	8·3	8·2	8·2	8·1	8·1	8·1	8·0	8·0
Dec.	6·7	6·7	6·7	6·6	6·6	6·6	6·6	6·6	6·6	6·6	6·8	6·8	6·9	7·0	7·0	7·0	6·9	6·9	6·9	6·9	6·8	6·8	6·7	6·7	6·7	6·8
Annual	8·9	8·8	8·7	8·6	8·6	8·6	8·7	8·8	8·9	9·0	9·1	9·2	9·2	9·3	9·3	9·3	9·3	9·3	9·3	9·2	9·1	9·0	9·0	8·9	8·9	9·0

* Mean of values, 1,2,.....23, ½(0 + 24).

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

70 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. 1939

	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	5·5	5·6	(10)	...	...	...	10·0	8·4	8	...	...	...	0·3	0·4	...	...	...	...
2	5·0	2·2	(20)	...	...	...	2·2	5·3	1	...	...	...	0·2	0·1	...	...	...	...
3	1·1	1·7	(3)	3·0	2·2	(5)	...	...	...	0·2	0·3	...	...	...	...	...	...	...
4	...	...	...	2·1	1·6	(3)	...	...	...	0·4	1·2	...	...	...	...	...	...	...
5	...	...	...	...	...	...	5·0	2·6	8	1·7	1·6	5	...	...	...	...	...	...
6	0·4	0·5	...	...	...	...	...	...	...	0·3	0·3	(2)	13·2	7·1	17	...	...	...
7	11·5	10·3	(5)	...	...	...	3·2	1·0	9	...	...	...	...	...	...	...	...	...
8	...	...	...	0·1	0·4	...	2·8	1·0	10	...	...	...	...	...	...	...	...	...
9	0·1	0·2	...	0·7	2·3	...	...	...	...	...	...	...	0·1	0·5	...	...	...	...
10	...	...	...	1·5	3·1	(3)	...	...	...	...	...	...	...	...	...	7·9	3·1	71
11	0·8	1·3	...	...	...	...	4·7	4·5	(3)	...	...	...	0·3	1·9	...	0·4	1·0	2
12	7·5	4·6	6	...	...	...	...	...	...	0·4	1·5	(2)	0·9	2·0	2	3·8	3·4	15
13	2·2	6·9	4	0·6	2·1	...	0·6	2·4	1	0·8	0·8	(2)	3·6	7·0	1	0·3	0·3	3
14	...	...	...	...	...	...	3·1	5·7	7	0·1	0·2	...	2·6	5·4	18	0·1	0·4	...
15	24·7	10·0	12	...	...	...	0·5	0·4	(3)	0·6	0·7	(2)	2·1	2·2	11	0·2	0·9	...
16	1·6	1·5	?	...	...	...	4·3	2·0	15	...	...	...	...	...	...	2·5	3·3	(3)
17	0·9	1·6	?	3·4	1·5	9	1·3	2·1	(2)	0·6	0·4	5	...	...	...	0·2	0·5	...
18	0·1	1·0	?	...	...	...	3·7	2·9	4	...	...	...	...	...	...	0·4	0·7	...
19	3·6	13·7	...	0·7	0·3	12	...	...	...	...	...	...	...	...	...	1·3	0·8	3
20	2·7	3·8	...	...	...	...	1·4	1·1	24	1·2	0·8	5	...	...	...	2·8	5·0	2
21	0·4	2·2	...	7·5	7·1	6	2·5	3·7	(2)	0·9	5·0	...	2·3	2·0	7	...	...	...
22	5·4	3·9	21	17·8	17·9	2	0·3	0·1	4	3·3	5·8	7	0·4	0·8	...	...	...	...
23	8·2	10·2	(3)	13·9	12·9	19	1·1	1·5	(2)	2·6	2·6	5	...	...	...	0·5	0·3	6
24	...	...	...	2·0	2·3	1	1·7	2·4	4	5·2	9·2	4	1·5	2·1	(4)	1·7	1·6	4
25	5·8	10·0	(12)	0·1	0·2	...	0·7	0·5	2	0·7	0·9	5	...	...	...	0·3	0·9	...
26	4·3	3·9	7	...	...	...	1·7	0·8	7	0·5	0·6	1	1·2	1·7	(3)	5·6	3·7	7
27	1·9	1·1	?	...	...	...	0·7	0·6	5	0·4	0·5	2	...	...	...	0·2	0·1	...
28	...	...	...	3·9	4·9	(3)	3·4	6·7	18	1·4	0·8	11	...	...	...	1·1	3·1	(2)
29	0·5	0·7	...				2·9	3·8	17	...	...	...	...	...	...	...	...	...
30	0·5	0·7	?				0·5	3·7	...	...	...	...	...	...	...	3·3	1·8	5
31	...	...	...				0·4	2·5	...				...	...	...			
Total	94·7	97·6	-	57·3	58·8	-	58·7	65·7	-	21·3	33·2	-	28·7	33·2	-	32·6	30·9	-

	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	0·1	0·2	...	10·9	3·2	46	3·0	1·7	14	7·1	4·0	52	5·0	4·0	6	17·5	8·1	8
2	3·8	1·1	76	0·6	0·3	(4)	10·7	2·4	22	0·3	0·6	2	1·7	1·4	9	2·9	2·5	4
3	3·9	0·9	30	0·1	0·1	...	10·1	3·0	25	...	...	...	0·8	1·6	...	0·6	2·3	...
4	...	...	...	...	...	...	...	...	...	...	...	...	10·0	7·8	4	1·6	2·5	1
5	3·2	3·2	5	0·8	0·4	2	...	...	...	3·3	3·8	26	3·0	2·1	3	5·5	2·2	19
6	6·9	4·4	23	2·5	1·9	8	0·6	0·6	1	2·9	3·5	11	8·5	3·5	44	0·4	0·6	...
7	8·9	4·5	24	...	...	...	2·9	2·6	4	1·2	0·3	16	0·7	1·2	...	...	...	...
8	6·4	1·9	27	1·4	1·0	2	0·2	0·7	3	2·1	1·0	29	1·5	1·0	3	5·0	5·1	2
9	1·2	1·9	...	11·5	4·8	18	...	...	...	5·1	2·3	43	0·4	0·3	1	6·2	7·3	3
10	...	...	...	2·0	2·5	6	18·9	10·0	58	5·4	7·3	6	...	...	...	0·5	1·7	...
11	...	...	...	2·1	2·3	7	1·0	1·5	7	2·4	4·2	2	6·5	12·0	3	0·5	1·7	...
12	13·0	12·9	7	0·5	0·3	...	0·1	0·2	...	5·2	7·8	6	...	...	...	0·2	0·8	...
13	25·4	16·1	9	...	...	...	2·4	3·5	4	8·6	4·4	94	1·9	3·9	2	0·2	0·3	2
14	12·4	7·2	7	...	...	...	1·9	1·2	27	4·2	3·1	32	6·3	2·4	11	...	...	...
15	19·4	4·7	40	0·4	0·5	...	0·1	0·3	...	2·3	1·9	4	5·4	4·9	3	4·0	3·0	25
16	0·1	0·0	...	...	...	...	...	...	...	0·2	0·4	...	1·2	1·6	7	0·1	0·1	3
17	0·7	0·5	(3)	...	...	...	...	...	...	...	...	...	1·6	2·3	3	...	...	...
18	0·1	0·8	...	...	...	...	...	...	...	0·9	0·2	8	...	...	...	...	...	...
19	2·1	1·7	(3)	...	...	...	...	...	...	...	...	...	2·6	2·3	15	0·2	1·5	...
20	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
21	...	...	...	0·1	0·2	...	0·1	0·5	...	...	...	...	...	...	...	0·2	0·4	...
22	5·2	4·5	24	...	...	...	0·1	1·0	...	...	...	...	3·3	3·0	15	...	...	...
23	3·9	3·9	3	...	...	...	0·3	0·2	2	0·2	0·5	...	0·2	0·3	...	...	...	...
24	...	...	...	...	...	...	1·8	1·0	(6)	6·3	2·5	19	...	...	...	...	...	...
25	...	...	...	...	...	...	0·7	1·2	4	2·5	2·3	6	4·2	6·4	3	1·3	4·2	5
26	...	...	...	...	...	...	...	...	...	7·7	4·7	12	3·5	1·4	18	0·9	1·5	?
27	0·2	0·3	...	...	...	...	...	...	...	5·4	2·1	(11)	0·8	0·3	7	1·3	1·4	?
28	2·7	2·9	(4)	0·3	3·0	...	...	...	...	0·4	0·4	(2)	...	...	...	0·7	0·5	?
29	...	...	...	0·1	1·0	...	...	...	...	0·2	0·3	1	6·4	5·3	9	1·2	2·1	2
30	1·8	1·1	7	...	...	...	0·5	1·7	(2)	...	...	...	0·1	0·3	...	0·2	0·4	?
31	2·7	2·9	(3)	...	...	...				1·7	2·5	5				...	...	...
Total	124·1	77·6	-	33·3	21·5	-	55·4	33·3	-	75·6	60·1	-	75·6	69·3	-	51·2	50·2	-

RAINFALL

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

71 ABERDEEN: h_r = 24·1 m. + 0·6 m. 1939

	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
	millimetres																								
Jan.	3·6	4·2	5·9	5·6	6·5	7·9	9·6	6·0	3·5	4·0	2·1	1·6	2·2	2·1	1·2	1·4	0·8	1·5	2·1	1·6	4·4	8·8	5·3	2·8	94·7
Feb.	4·2	2·2	3·8	1·4	1·6	2·6	2·2	3·1	2·6	3·0	1·7	0·7	0·8	3·7	2·8	2·7	2·0	3·3	2·4	1·4	0·8	3·5	1·7	3·1	57·3
Mar.	2·4	3·0	3·3	2·6	2·5	4·4	2·1	4·1	5·5	2·0	0·8	0·2	1·6	1·4	2·4	2·5	3·9	0·7	4·5	2·0	0·9	3·8	1·8	0·3	58·7
Apr.	0·9	2·2	1·8	0·8	0·9	1·1	1·0	1·5	1·4	0·7	1·5	0·4	0·8	0·4	1·2	0·7	0·2	0·4	0·4	0·2	0·3	0·6	0·8	1·1	21·3
May	1·8	0·9	0·9	0·5	2·6	1·8	0·9	0·8	···	0·4	3·7	4·5	1·6	0·5	1·0	1·2	0·6	0·8	0·9	0·9	0·4	0·5	1·0	0·5	28·7
June	1·6	0·9	0·9	0·6	2·0	0·9	0·8	0·4	0·6	0·4	0·1	0·1	1·0	2·1	0·6	2·5	1·0	3·3	4·5	4·4	0·9	0·3	0·8	1·9	32·6
July	5·7	7·3	8·3	13·9	4·0	4·2	4·0	3·8	7·0	3·2	2·8	1·8	2·7	7·4	10·6	3·4	2·4	4·1	8·1	5·5	2·0	3·0	3·7	5·2	124·1
Aug.	0·7	1·5	0·5	0·1	0·3	0·2	1·6	0·5	1·3	0·1	0·1	0·3	···	···	···	4·4	3·1	2·5	1·7	3·8	4·9	3·3	0·5	1·9	33·3
Sept.	0·4	0·9	1·1	1·7	3·5	2·8	4·2	4·3	1·8	1·6	2·5	6·6	1·4	0·1	2·8	0·6	3·8	2·9	0·5	1·3	4·6	2·8	1·3	1·9	55·4
Oct.	2·8	3·8	1·4	4·6	2·8	2·7	1·5	1·1	1·7	2·7	2·7	0·9	0·5	0·8	2·2	2·5	3·4	8·3	5·8	11·2	2·1	3·0	3·7	3·4	75·6
Nov.	5·4	3·6	5·3	1·0	1·4	2·7	3·6	1·7	1·7	4·3	1·4	2·0	3·9	3·4	6·0	4·4	3·2	3·8	1·2	1·1	0·7	2·5	5·5	5·8	75·6
Dec.	1·1	1·7	4·4	2·6	2·4	1·3	1·0	0·5	0·8	2·2	0·4	1·3	1·6	0·9	2·7	0·4	1·6	3·6	4·2	2·4	7·0	4·2	1·0	1·9	51·2
Annual	30·6	32·2	37·6	35·4	30·5	32·6	32·5	27·8	27·9	24·6	19·8	20·4	18·1	22·8	33·5	26·7	26·0	35·2	36·3	35·8	29·0	36·3	27·1	29·8	708·5

RAINFALL

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

72 ABERDEEN: h_r = 24·1 m. + 0·6 m. 1939

	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.	4·0	5·0	6·9	5·1	6·8	6·2	7·0	7·5	6·8	6·1	3·5	3·3	2·0	3·0	1·9	1·8	0·9	3·4	3·1	1·6	1·6	4·2	3·0	2·9	97·6
Feb.	5·1	4·7	4·3	2·5	1·3	2·3	2·8	2·6	2·2	2·0	2·0	1·0	1·7	3·1	2·9	2·9	3·0	2·4	1·3	0·6	1·1	2·3	2·3	2·4	58·8
Mar.	2·3	3·7	2·9	3·6	4·4	4·0	3·4	2·5	3·9	2·8	0·9	0·1	0·7	2·4	3·6	2·8	4·9	3·1	2·5	2·1	1·8	3·0	3·1	1·2	65·7
Apr.	1·4	2·2	2·1	1·5	2·0	1·7	0·8	1·7	1·8	1·1	1·8	1·3	2·4	1·3	1·5	1·2	1·0	0·7	1·2	0·2	0·4	0·5	1·0	2·4	33·2
May	2·2	2·9	2·0	1·8	1·0	1·2	1·3	1·1	···	0·4	0·9	1·4	1·9	0·8	0·9	1·0	0·6	1·8	2·1	1·0	0·8	1·0	2·1	3·0	33·2
June	1·5	1·4	2·1	1·7	2·8	2·2	1·6	0·4	0·9	0·5	0·2	0·2	0·8	1·0	0·5	2·2	0·9	2·0	0·9	1·4	1·0	0·5	1·7	2·5	30·9
July	2·2	4·1	4·2	3·9	3·7	3·1	3·5	3·3	3·7	2·2	2·5	2·1	3·5	4·6	6·3	3·3	2·5	2·7	2·7	3·0	2·7	4·2	1·6	2·0	77·6
Aug.	2·0	2·6	1·8	1·0	0·4	0·2	0·6	0·5	0·9	0·1	0·1	0·1	···	···	···	0·6	0·4	1·6	1·9	1·6	1·0	1·7	1·0	1·4	21·5
Sept.	1·9	1·4	1·1	2·2	1·4	1·0	1·6	1·5	1·8	0·4	0·7	1·5	1·4	0·5	0·4	1·2	1·7	1·5	0·5	1·0	3·6	2·2	1·1	1·7	33·3
Oct.	2·8	1·6	1·7	2·4	2·5	3·1	2·2	2·0	1·9	4·0	2·6	0·8	0·6	1·0	2·8	2·0	2·9	5·6	4·5	3·7	2·0	1·9	2·7	2·8	60·1
Nov.	3·6	4·1	2·1	0·6	1·1	1·9	2·8	3·2	2·7	2·3	2·9	3·4	5·3	4·1	4·1	4·5	3·4	3·6	2·8	1·3	1·6	1·8	3·5	2·6	69·3
Dec.	0·9	2·2	2·3	1·8	1·5	1·1	0·5	1·4	0·8	1·1	1·5	1·8	1·8	1·0	1·3	1·0	2·8	6·3	6·9	3·5	3·1	3·2	1·3	1·1	50·2
Annual	29·9	35·9	33·5	28·1	28·9	28·0	28·1	27·7	27·4	23·0	19·6	17·0	22·1	22·8	26·2	24·5	25·0	34·7	30·4	21·0	20·7	26·5	24·4	26·0	631·4

NOTES ON RAINFALL

73 ABERDEEN: 1939

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, but there were 14 consecutive rainless days from May 27–June 9
"Partial drought": No occasions
"Dry spells": August 12–31

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	81	41	84	20	5

Continuous or Heavy Falls

The longest continuous fall – on February 22 – endured 14 hr. and yielded 15 mm. 70 mm. of rain in 72 hr. were recorded between July 12 and 15, and 41 mm. in 69 hr. between February 21 and 24

Heavy Falls in short periods

The heaviest fall in a short period was 10 mm. in 2 hr. 12 min. on July 15

Rate of Rainfall (Jardi recorder)

The highest instantaneous rate of rainfall was 94 mm./hr. on October 13.

74 ABERDEEN: h_s (height of recorder above ground) = 20·7 m. 1939

	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
	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%
1	···	···	···	···	2·7	26	···	···	5·9	38	11·9	68	6·6	37	0·5	3	0·1	1	3·3	29	···	···	0·5	7
2	1·7	25	4·8	57	···	···	0·1	1	10·7	69	15·8	91	5·5	31	4·6	28	···	···	5·8	50	1·1	12	···	···
3	0·2	3	1·1	13	3·6	34	2·2	17	5·9	38	14·7	84	2·2	12	2·9	18	0·1	1	8·8	77	···	···	···	···
4	4·4	65	···	···	···	···	9·6	72	7·0	45	15·4	88	1·2	7	12·4	77	10·2	74	3·8	34	···	···	···	···
5	5·6	82	···	···	3·0	28	4·6	35	2·4	15	15·2	87	3·7	21	11·4	71	10·5	77	···	···	···	···	0 8	12
6	2·0	29	2·2	25	9·0	83	2·9	22	···	···	14·9	85	5·4	31	0·4	3	5·2	39	0·2	2	4·8	55	2·0	29
7	···	···	0·5	6	7·3	66	9·4	70	4·6	29	12·3	70	5·0	28	···	···	1·8	13	1·0	9	···	···	···	···
8	···	···	1·8	20	6·5	59	6·1	45	···	···	11·0	63	3·9	22	···	···	2·8	21	4·0	36	1·7	20	···	···
9	4·6	66	2·1	24	8·0	71	1·1	8	4·7	29	4·9	28	0·4	2	4·3	27	6·3	47	0·1	1	3·7	44	···	···
10	5·9	84	3·2	36	5·6	50	0·2	1	4·3	27	2·0	11	13·4	77	5·6	36	1·9	14	···	···	···	···	0·5	7
11	···	···	3·2	35	0·1	1	5·2	38	5·0	31	6·0	34	3·4	20	8·0	52	1·2	9	···	···	···	···	···	···
12	0·1	1	4·3	47	8·2	72	3·7	27	7·2	44	8·8	50	···	···	4·7	30	8·1	62	···	···	5·5	66	···	···
13	0·2	3	···	···	1·9	17	1·2	9	4·7	29	6·3	36	···	···	9·7	63	2·9	22	0·6	6	···	···	0·9	13
14	4·2	58	0·1	1	1·8	16	2·2	16	2·4	15	···	···	···	···	0·1	1	5·2	40	1·1	10	1·8	22	···	···
15	0·5	7	0·4	4	···	···	1·2	9	1·4	9	0·3	2	···	···	4·7	31	0·6	5	7·6	73	2·9	36	···	···
16	0·7	10	8·4	88	5·7	49	12·5	88	8·7	53	6·5	37	1·0	6	2·9	19	4·1	32	4·6	45	4·4	55	···	···
17	···	···	2·4	25	0·6	5	5·6	39	···	···	12·0	67	7·7	45	9·4	62	···	···	7·7	75	2·3	29	3·4	52
18	0·1	1	3·5	36	0·9	8	4·9	34	4·9	30	1·4	8	3·1	18	10·8	72	0·1	1	6·0	59	4·0	51	3·8	58
19	···	···	6·5	67	0·3	3	5·0	34	6·7	40	6·0	34	···	···	2·7	18	4·8	38	7·6	75	3·0	38	···	···
20	···	···	5·6	57	2·7	23	0·6	4	8·2	49	2·1	12	1·3	8	···	···	5·0	40	6·5	65	0·4	5	···	···
21	···	···	···	···	2·5	21	4·2	29	3·4	20	4·7	26	4·4	26	···	···	0·3	2	3·6	36	1·5	19	···	···
22	0·4	5	···	···	7·5	61	11·2	76	4·5	27	7·9	44	0·1	1	5·1	35	0·8	7	7·5	76	···	···	1·0	15
23	···	···	···	···	5·0	41	1·7	11	4·8	28	5·1	29	10·2	61	9·2	63	2·9	24	4·5	46	···	···	2·0	31
24	5·5	71	3·5	35	1·3	10	···	···	5·6	33	1·9	11	10·2	61	4·2	29	2·7	22	3·2	33	5·7	76	0·1	1
25	0·2	3	7·7	75	6·6	53	5·5	37	6·2	36	0·7	4	8·2	49	2·0	14	1·1	9	5·1	53	···	···	···	···
26	1·1	14	3·4	33	3·7	30	7·7	51	2·2	13	5·0	28	1·7	10	1·2	8	7·5	63	4·5	47	3·2	43	···	···
27	0·4	5	0·3	3	1·0	8	5·6	37	3·0	18	4·7	26	1·1	7	···	···	7·2	61	3·5	37	0·9	12	0·4	6
28	0·6	7	···	···	···	···	9·6	63	7·0	41	1·5	8	0·1	1	3·4	24	7·4	63	5·3	56	4·4	60	···	···
29	2·0	25			···	···	14·2	93	9·2	53	7·0	39	10·4	63	1·8	13	4·7	40	2·4	26	2·8	39	0·1	1
30	1·5	18			···	···	10·8	71	15·2	88	3·1	17	6·1	37	0·1	1	0·3	3	0·4	4	2·2	31	2·4	36
31	···	···			···	···			4·5	26			2·1	13	5·3	38			0·1	1			2·5	38
Mean	1·35	–	2·32	–	3·08	–	4·96	–	5·17	–	6·97	–	3·82	–	4·11	–	3·53	–	3·51	–	1·88	–	0·66	–
											Annual mean		3·45	–										

DURATION OF BRIGHT SUNSHINE

Monthly and annual totals between exact hours, local apparent time

75 ABERDEEN: h_s = 20·7 m. 1939

	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
	hours																			%
Jan.	–	–	–	–	···	···	3·9	9·0	7·3	8·0	8·0	5·2	0·5	···	–	–	–	–	41·9	18
Feb.	–	–	–	···	0·6	5·8	9·2	10·4	9·9	9·7	7·9	6·3	3·8	1·4	···	–	–	–	65·0	25
Mar.	–	–	···	0·2	6·3	8·8	7·9	9·2	11·2	12·0	12·3	11·6	9·7	6·1	0·2	···	–	–	95·5	26
Apr.	–	0·4	6·2	10·2	10·9	11·7	13·0	12·5	13·6	13·8	12·2	12·9	12·5	7·9	6·9	3·9	0·2	–	148·8	35
May	···	2·2	6·6	8·1	10·7	13·9	13·4	13·2	14·5	12·4	13·1	13·1	8·9	9·0	8·8	8·7	3·7	···	160·3	31
June	0·3	9·8	12·6	13·0	15·0	15·8	15·6	16·0	15·5	14·1	15·0	11·9	12·6	15·0	12·2	10·1	4·6	···	209·1	39
July	···	1·9	4·6	5·7	8·8	10·3	8·8	8·0	9·1	8·8	8·5	7·4	9·0	9·4	8·3	7·3	2·4	0·1	118·4	22
Aug.	···	0·5	4·3	4·8	9·8	9·9	12·7	11·8	10·3	11·8	12·9	11·1	10·5	10·1	4·2	2·1	0·6	···	127·4	27
Sept.	–	–	···	2·9	8·9	10·1	10·5	11·6	9·9	8·7	10·5	10·9	11·3	7·9	2·6	···	–	–	105·8	28
Oct.	–	–	–	0·2	2·7	12·1	15·9	15·2	14·2	13·5	11·7	10·8	9·9	2·5	0·1	–	–	–	108·8	34
Nov.	–	–	–	–	···	0·9	6·5	10·1	14·0	11·9	7·9	4·2	0·8	···	–	–	–	–	56·3	23
Dec.	–	–	–	–	–	···	1·1	2·4	6·2	5·3	3·8	1·6	···	–	–	–	–	–	20·4	10
Annual	0·3	14·8	34·3	45·1	73·7	99·3	118·5	129·4	135·7	130·0	123·8	107·0	89·5	69·3	43·3	32·1	11·5	0·1	1257·7	28

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

76 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. 1939

	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	3·1	15	2·8	11	3·1	10	4·8	11	3·8	11	2·3	6	3·9	12	2·3	11	3·2	10	2·1	10	6·0	14	2·2	9
2	3·0	14	2·9	11	6·1	18	3·7	8	2·6	8	1·5	5	3·8	15	2·3	11	2·3	10	2·4	9	6·4	16	7·0	20
3	4·1	16	1·5	9	4·9	19	4·3	12	5·2	14	1·7	8	2·2	10	2·7	11	5·0	16	1·6	5	7·6	19	4·2	20
4	3·5	8	2·2	13	6·4	19	4·4	13	5·3	15	1·8	8	2·4	10	3·0	12	1·8	11	5·2	18	6·4	17	1·5	6
5	3·9	11	3·9	15	4·1	13	6·8	23	5·7	16	2·7	13	2·5	12	2·4	9	1·9	10	9·8	21	3·1	19	3·0	11
6	2·6	13	5·0	21	4·6	16	3·7	13	4·7	11	2·8	14	3·3	13	2·0	8	2·9	9	8·9	20	3·8	17	1·9	7
7	4·5	18	6·4	23	6·7	20	3·1	12	4·0	10	4·0	12	3·3	14	0·7	4	3·1	12	5·8	15	4·6	21	4·1	16
8	2·3	11	3·8	15	6·6	22	4·4	15	3·3	9	6·0	21	2·7	13	0·9	4	3·2	12	6·1	19	5·4	20	2·0	11
9	4·3	19	2·7	17	4·3	15	2·4	7	3·4	14	3·3	16	4·2	16	3·0	12	2·0	9	10·5	22	4·4	18	4·0	20
10	5·1	15	3·8	13	3·0	10	3·5	10	3·4	14	3·5	13	7·1	19	3·2	12	2·4	8	10·7	25	2·1	7	4·3	16
11	1·5	10	5·0	19	4·3	16	3·3	9	6·3	17	4·5	15	3·0	12	3·2	12	5·6	19	9·3	20	2·2	8	4·3	12
12	4·8	14	5·8	19	3·3	10	2·5	13	3·6	12	5·8	19	2·3	10	3·1	13	2·7	10	7·1	18	2·0	7	3·6	12
13	4·9	14	5·4	20	3·1	13	4·2	15	2·3	11	4·1	16	1·3	7	2·8	12	2·0	10	4·3	14	4·1	15	4·1	13
14	2·3	16	1·8	9	6·5	19	3·7	12	3·6	11	3·4	13	1·7	7	1·8	8	6·1	18	2·9	11	4·2	21	3·0	13
15	6·8	22	3·8	18	3·9	12	4·6	16	3·1	9	4·2	13	2·0	9	1·1	6	3·8	12	3·1	9	3·6	15	1·6	12
16	2·7	21	6·1	20	5·4	18	5·4	18	6·2	18	2·8	13	1·2	5	1·1	5	1·2	4	3·2	10	3·9	15	0·7	4
17	3·0	14	6·5	20	2·6	12	6·8	27	5·2	14	4·8	17	2·9	11	1·8	8	1·9	5	1·4	4	2·3	11	2·1	11
18	5·9	16	4·2	19	4·5	15	2·9	11	3·6	11	3·4	13	1·7	9	1·3	7	2·0	8	1·7	6	2·8	14	1·0	7
19	3·2	11	3·3	15	5·1	16	2·4	11	2·8	9	4·4	12	1·0	3	1·2	6	2·2	8	1·4	5	4·2	15	1·7	9
20	2·7	11	3·8	18	6·3	24	3·5	15	2·7	9	3·1	10	2·6	8	0·5	4	2·1	7	1·4	9	1·9	7	1·8	5
21	3·4	12	8·1	20	5·1	18	3·1	12	1·9	13	4·4	13	2·1	7	1·1	5	4·6	14	1·3	6	2·4	17	2·5	10
22	2·1	9	7·6	23	3·1	10	8·8	25	3·0	13	6·0	15	2·9	11	2·8	11	4·7	13	2·2	10	4·7	22	2·9	11
23	6·0	19	6·2	21	2·2	8	3·7	12	3·7	14	4·9	19	2·5	11	2·3	10	3·5	12	2·6	10	1·3	6	4·1	17
24	4·1	17	2·4	10	4·4	16	4·4	13	2·1	9	6·1	17	2·4	7	3·3	11	2·6	11	3·5	12	4·5	17	5·5	16
25	1·9	11	4·9	23	3·6	12	4·7	17	2·3	9	4·8	16	1·4	8	1·8	7	2·7	10	4·7	17	3·1	16	3·8	15
26	3·4	16	3·6	13	3·6	13	3·9	13	3·1	11	2·4	9	0·7	4	0·9	5	3·2	11	4·8	18	6·6	25	3·5	12
27	3·0	11	4·5	20	4·2	14	4·5	12	3·9	14	2·3	11	1·9	12	1·0	5	1·5	5	3·3	16	3·9	15	3·7	14
28	2·4	7	3·0	11	4·7	13	3·5	14	2·4	8	4·3	13	3·4	16	0·5	4	1·4	4	2·8	10	6·1	21	4·4	11
29	1·4	5			5·3	16	2·6	8	2·5	10	3·4	13	2·6	10	0·9	4	1·2	6	3·1	11	2·8	13	3·8	15
30	2·1	7			3·1	9	4·2	13	2·5	12	1·7	10	1·6	10	0·8	5	1·3	4	3·6	13	3·4	18	3·9	12
31	1·7	7			3·6	10			1·6	8			2·1	9	1·6	7			4·1	13			3·0	9

WIND

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

77 ABERDEEN: h_a = 24 m. + 13 m. 1939

	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.	3·7	3·6	3·5	3·6	3·4	3·3	3·4	3·1	3·0	3·0	3·3	3·6	3·7	3·4	3·3	3·2	3·3	3·2	3·2	3·4	3·6	3·5	3·5	3·7	3·4
Feb.	4·7	4·9	4·7	4·7	4·6	4·3	3·9	3·9	3·8	3·9	4·3	5·0	5·2	5·2	4·7	4·7	4·3	4·2	4·0	3·6	3·6	3·6	4·0	4·1	4·3
Mar.	4·1	4·0	3·8	3·8	3·7	3·8	3·7	3·9	4·2	4·5	4·7	5·2	5·6	5·5	5·5	5·4	5·1	4·8	4·6	4·2	4·2	4·1	3·9	4·1	4·4
Apr.	3·3	3·1	3·3	3·5	3·6	3·4	3·5	3·8	4·2	4·9	5·2	5·5	5·6	5·5	5·5	5·0	4·6	4·5	3·9	3·6	3·3	3·3	3·2	3·4	4·1
May	2·8	2·9	2·9	2·7	2·6	2·7	3·0	3·3	3·9	4·2	4·3	4·6	4·6	4·6	4·7	4·5	4·5	4·0	3·5	3·2	2·9	2·8	2·8	2·9	3·5
June	2·7	2·9	2·9	2·8	3·0	3·5	3·7	3·9	4·1	4·1	4·5	4·6	4·8	4·6	4·7	4·6	4·5	4·3	3·8	3·4	2·9	2·7	2·7	2·6	3·7
July	1·6	1·7	1·7	1·7	1·6	1·8	2·0	2·4	2·6	2·9	3·1	3·4	3·5	3·4	3·5	3·5	3·4	3·4	3·1	2·7	2·3	2·0	1·8	1·6	2·5
Aug.	1·4	1·3	1·2	1·2	1·2	1·2	1·3	1·4	1·7	2·1	2·5	2·7	2·7	3·0	2·9	2·7	2·5	2·3	1·9	1·5	1·4	1·4	1·4	1·4	1·8
Sept.	2·4	2·4	2·4	2·5	2·4	2·5	2·5	2·5	2·7	2·9	3·2	3·4	3·5	3·6	3·7	3·4	3·0	2·7	2·6	2·5	2·5	2·5	2·7	2·6	2·8
Oct.	4·4	4·4	4·1	4·1	4·2	4·4	4·3	4·4	4·6	4·7	4·8	4·9	4·7	4·6	4·4	4·4	4·2	4·1	3·9	4·0	4·1	4·2	4·3	4·4	4·4
Nov.	3·6	3·8	3·7	3·8	3·9	3·9	3·9	4·1	4·1	4·3	4·4	4·5	4·4	4·3	3·9	3·9	3·9	3·8	3·7	4·0	3·9	4·2	4·0	3·8	4·0
Dec.	3·3	3·1	3·0	3·0	3·0	2·9	2·7	2·8	2·9	3·0	3·2	3·2	3·3	3·5	3·4	3·6	3·5	3·6	3·5	3·2	3·3	3·2	3·2	3·1	3·2
Annual	3·2	3·2	3·1	3·1	3·1	3·1	3·2	3·3	3·5	3·7	4·0	4·2	4·3	4·3	4·2	4·1	3·9	3·8	3·5	3·3	3·2	3·1	3·1	3·1	3·5

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

78 ABERDEEN: h_a = 24 m. + 13 m. 1939

	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	3	121	473	147	0	150	12	15 4	22	15 {3 45 / 5 40}
Feb.	–	0	1	1	205	379	87	0	140	11	23 3	23	7 0 25
Mar.	–	0	3	11	202	484	47	0	320	12	8 14	24	20 17 50
Apr.	–	0	3	17	111	539	53	0	340	13	22 10	27	17 12 10
May	–	0	0	0	112	541	91	0	360	8	16 11	18	16 10 55
June	–	0	1	2	149	451	118	0	320	13	8 7	21	8 6 25
July	–	0	0	0	47	441	256	0	320	9	10 11	19	10 7 20
Aug.	–	0	0	0	4	383	357	0	180	6	11 12	13	12 10 25
Sept.	–	0	0	0	62	489	169	0	{350 / 320}	8	{11 14 / 14 12}	19	11 13 30
Oct.	–	0	5	29	181	432	102	0	120	13	10 10	25	10 10 05
Nov.	–	0	1	1	207	399	113	0	300	11	28 11	25	26 2 50
Dec.	–	0	0	0	87	506	151	0	300	10	2 8	20	3 18 35
Year	–	0	15	64	1488	5517	1691	0	{340 / 320 / 120}	13	{Apr. 22 10 / June 8 7 / Oct. 10 10}	27	Apr. 17 12 10

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

79 ABERDEEN 1939

	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	75·9	78·5	76·0	77·0	76·3	77·7	78·3	78·3	80·9	79·8	85·5	82·6	86·3	84·3	88·5	86·1	89·1	87·2	84·2	85·9	80·6	82·3	77·8	80·0
2	75·7	78·4	75·6	77·1	76·8	77·7	78·2	78·3	81·0	79·8	85·6	82·7	86·0	84·4	88·3	86·2	89·0	87·3	83·9	85·9	80·5	82·3	78·5	80·0
3	75·4	78·3	75·5	77·1	77·6	77·7	78·6	78·4	81·5	80·0	86·0	82·8	85·9	84·3	88·2	86·2	88·9	87·3	83·9	85·7	80·6	82·2	78·1	79·9
4	75·3	78·2	75·2	77·0	77·9	77·6	78·7	78·6	81·3	79·9	86·4	82·9	86·0	84·4	88·2	86·3	88·7	87·3	83·7	85·5	81·0	82·1	78·1	79·9
5	75·2	78·1	75·6	77·0	78·0	77·6	78·7	78·6	81·5	80·0	87·0	83·1	86·1	84·3	88·1	86·3	88·9	87·3	83·7	85·3	81·1	82·1	77·8	79·9
6	75·1	78·0	76·5	77·0	78·0	77·8	78·5	78·6	81·6	80·0	87·1	83·2	86·6	84·4	88·3	86·3	89·0	87·3	83·8	85·2	81·5	82·1	77·5	79·9
7	74·8	78·0	77·2	77·0	77·7	77·9	78·1	78·6	81·3	80·2	87·3	83·5	86·5	84·5	88·3	86·4	89·0	87·3	84·2	85·0	81·2	82·0	77·0	79·7
8	74·8	77·7	77·6	77·0	77·2	77·9	78·3	78·7	81·7	80·2	87·2	83·6	86·7	84·6	88·3	86·4	88·9	87·2	84·3	85·0	81·5	82·0	77·0	79·7
9	74·9	77·7	77·8	77·1	77·0	78·0	78·7	78·6	81·8	80·4	86·5	83·8	86·7	84·6	88·1	86·5	88·6	87·3	84·0	85·0	81·7	82·1	77·5	79·6
10	74·9	77·5	77·9	77·3	76·9	77·9	78·9	78·7	82·6	80·5	86·7	83·8	86·2	84·8	88·3	86·5	88·3	87·3	83·7	84·9	81·2	82·0	77·9	79·5
11	74·8	77·5	78·6	77·5	77·0	77·9	79·0	78·7	82·9	80·6	86·0	83·9	86·2	84·8	88·3	86·5	88·1	87·2	83·5	84·9	80·6	82·0	78·6	79·4
12	74·8	77·3	78·6	77·5	77·1	77·9	79·6	78·8	82·9	80·8	85·6	84·0	86·1	84·7	88·1	86·6	87·8	87·3	83·6	84·8	80·5	82·1	78·7	79·4
13	74·7	77·2	78·0	77·7	77·2	77·9	80·3	78·8	82·7	80·9	85·0	84·0	86·1	84·8	88·1	86·6	87·7	87·2	83·5	84·7	80·0	82·0	78·5	79·4
14	74·7	77·2	77·4	77·8	77·9	77·9	80·7	78·9	82·9	81·0	84·9	84·0	86·3	84·8	88·3	86·7	87·5	87·2	83·1	84·6	80·4	82·0	78·1	79·4
15	74·6	77·1	77·3	77·8	78·3	78·0	80·7	79·0	83·0	81·0	84·7	83·9	86·5	84·9	88·8	86·7	87·1	87·1	83·0	84·6	80·6	81·9	77·8	79·4
16	74·7	76·9	77·5	77·9	78·1	78·0	80·4	79·2	82·8	81·1	85·0	84·0	86·7	84·9	89·0	86·7	87·0	87·0	82·8	84·5	80·2	81·8	77·7	79·4
17	74·9	76·8	77·0	77·9	78·0	78·0	80·4	79·2	82·9	81·1	85·4	83·9	87·1	85·0	88·8	86·8	86·9	87·0	82·3	84·3	79·6	81·7	77·6	79·3
18	75·5	76·8	76·7	77·9	77·9	78·0	80·0	79·4	82·7	81·3	85·8	83·9	87·8	85·0	88·8	86·9	86·7	86·9	81·7	84·2	79·2	81·7	77·0	79·2
19	75·9	76·8	76·5	77·9	78·1	78·1	80·1	79·4	82·7	81·3	85·8	83·9	87·9	85·0	89·0	86·9	86·6	86·9	81·3	84·0	79·2	81·6	76·4	79·2
20	76·6	76·8	76·7	77·8	78·0	78·1	80·7	79·4	82·7	81·3	86·0	83·9	87·8	85·1	89·0	86·9	86·5	86·9	81·0	84·0	79·3	81·5	76·0	79·1
21	76·7	76·9	76·7	77·8	77·8	78·2	80·6	79·5	83·0	81·5	86·0	84·0	88·0	85·2	88·9	86·9	86·6	86·7	81·0	83·8	79·0	81·3	75·9	79·0
22	76·9	77·0	77·1	77·7	78·0	78·2	80·4	79·8	83·1	81·5	86·3	84·0	88·0	85·3	89·0	87·0	86·5	86·6	81·6	83·6	79·0	81·2	75·9	78·9
23	76·8	77·1	77·1	77·6	77·9	78·1	80·0	79·6	83·6	81·6	86·2	84·1	87·9	85·4	89·0	87·0	86·3	86·5	81·9	83·5	79·0	81·1	76·4	78·9
24	76·8	77·1	77·1	77·6	78·0	78·2	79·9	79·6	84·1	81·7	86·2	84·2	87·8	85·6	89·0	87·0	86·1	86·4	81·7	83·4	78·6	81·0	76·7	78·7
25	76·3	77·1	77·2	77·7	78·0	78·1	79·3	79·8	84·2	81·8	85·7	84·2	87·8	85·7	89·0	87·0	86·0	86·5	81·1	83·2	77·9	81·0	77·5	78·7
26	75·8	77·2	77·0	77·8	77·8	78·2	79·3	79·7	84·3	81·9	85·4	84·2	88·0	85·7	89·0	87·0	85·9	86·4	80·6	83·2	78·0	80·7	77·6	78·7
27	75·7	77·2	76·6	77·8	77·8	78·2	79·5	79·7	84·0	82·0	85·6	84·3	88·3	85·8	89·1	87·0	85·6	86·3	80·2	83·1	78·0	80·7	77·0	78·6
28	75·6	77·1	76·2	77·7	77·9	78·2	79·7	79·7	84·1	82·0	85·9	84·2	88·6	85·8	89·1	87·1	85·2	86·2	80·0	83·0	77·6	80·6	76·5	78·7
29	75·7	77·1			77·9	78·2	80·0	79·8	84·5	82·1	86·1	84·3	88·6	85·9	89·3	87·1	84·7	86·1	79·8	82·8	77·2	80·3	76·1	78·6
30	75·6	77·1			78·0	78·3	80·4	79·8	85·1	82·2	86·2	84·3	88·6	86·0	89·2	87·1	84·4	86·0	80·2	82·7	77·6	80·2	76·0	78·6
31	75·7	77·0			78·2	78·3			85·6	82·3			88·6	86·1	88·9	87·3			80·5	82·5			75·8	78·5
Mean	75·5	77·4	76·9	77·5	77·7	78·0	79·5	79·1	82·9	81·0	86·0	83·8	87·2	85·0	88·7	86·7	87·3	86·9	82·4	84·3	79·7	81·6	77·3	79·3
											Year		81·8	81·7										

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

80 ABERDEEN 1939

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
						degrees Absolute						
1	65·7	75·6	75·1	77·0	77·3	80·0	78·7	84·3	86·1	75·8	76·7	75·7
2	72·7	69·7	73·2	76·8	74·2	73·2	78·6	80·2	86·1	73·3	76·8	77·0
3	70·2	65·7	79·1	76·8	75·5	76·5	76·3	81·9	87·1	73·4	79·5	70·3
4	64·8	74·0	75·4	73·6	75·6	78·6	81·8	81·2	81·9	73·9	79·9	71·4
5	68·5	75·6	76·2	71·7	79·2	79·0	81·8	78·1	80·8	81·7	79·7	68·3
6	65·1	76·5	71·8	73·8	79·6	76·3	83·3	84·8	83·6	82·1	78·9	72·2
7	71·4	80·6	71·4	67·4	78·6	82·4	82·4	79·9	84·7	83·7	74·2	66·3
8	72·8	73·7	73·1	75·8	79·2	79·4	82·8	83·2	85·9	79·1	80·5	75·6
9	73·6	78·4	71·2	71·4	78·3	73·5	82·6	79·3	81·3	80·1	78·1	73·2
10	72·1	77·2	68·6	77·5	78·8	82·9	79·9	83·6	80·1	79·5	72·3	78·9
11	65·8	80·3	73·0	76·3	80·1	78·1	78·2	78·8	83·6	81·9	71·8	79·0
12	70·0	75·3	70·7	76·3	79·2	74·2	76·2	80·2	79·5	81·4	71·2	76·2
13	73·0	73·9	69·7	79·8	72·7	74·0	84·5	77·6	72·6	79·4	70·2	75·2
14	66·3	70·7	78·1	78·0	80·2	72·8	84·1	84·8	78·9	78·2	79·5	74·1
15	73·9	72·4	74·3	75·8	79·1	81·5	84·1	87·1	81·8	76·9	73·2	71·2
16	75·1	74·7	76·1	72·8	77·4	82·0	84·6	81·8	83·1	74·7	70·9	74·7
17	73·7	70·9	71·9	72·2	79·3	75·7	83·6	76·3	78·5	71·7	72·3	72·3
18	76·1	71·9	70·2	72·4	79·2	82·3	84·7	77·3	79·1	70·1	71·8	63·1
19	77·2	73·4	74·8	70·1	75·6	82·9	79·7	81·9	76·4	71·8	71·7	62·9
20	78·8	67·1	73·9	77·6	72·4	82·3	85·7	84·9	81·9	70·2	74·2	72·6
21	71·9	76·1	72·0	71·7	78·7	79·0	84·9	85·2	78·3	71·8	69·6	69·7
22	71·9	76·8	72·3	76·1	78·6	80·1	84·7	85·3	83·2	72·2	77·9	76·2
23	76·9	74·9	69·0	71·9	81·2	80·5	81·9	79·6	81·2	77·4	72·1	71·6
24	73·1	74·8	74·7	75·1	83·7	79·6	75·8	82·1	79·7	75·3	67·9	78·9
25	72·7	73·4	72·6	71·4	77·4	79·6	77·1	86·9	78·3	72·3	69·1	79·2
26	71·3	67·9	70·2	72·4	75·1	77·3	80·1	85·1	77·2	72·5	74·7	73·0
27	72·2	69·6	72·2	71·6	78·1	80·8	85·3	85·8	76·7	72·1	75·0	68·3
28	73·0	70·3	75·8	71·7	81·7	82·8	84·8	84·1	73·6	71·3	71·9	69·2
29	72·4		75·7	71·6	74·6	83·7	82·1	80·9	72·1	73·2	65·8	64·4
30	71·8		76·2	71·9	81·1	75·9	79·9	82·3	74·4	78·6	74·1	70·3
31	75·8		76·2		73·8		84·2	78·7		77·4		70·3
Mean	71·9	73·6	73·4	73·9	77·9	78·9	81·8	82·0	80·6	75·9	74·1	72·3
						Year	76·4					

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 $T(°K.) = t(°C.) + 273·16$.

M.O. 599

THE OBSERVATORIES' YEAR BOOK 1939

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

ESKDALEMUIR

Decimal Index
55.038(058)
551.506.1
551.594(058)

Obs. Yearb., 1939
London, 1956

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 and reference should be made to the 1938 volume for details.

NOTES ON THE METEOROLOGICAL SUMMARIES

The extreme temperatures recorded during the year were 299·8°A. (80·2°F.) on June 4 and 262·2°A. (12·6°F.) on February 2. February 2, with a mean temperature of 266·8°A. (20·8°F.), was the coldest day of the year and June 4, with 290·7°A. (63·9°F.) was the hottest. There were two ice days, i.e. days with maximum temperature below 273°A.; these occurred on January 3 and January 4.

The total rainfall for the year 1471·2 mm. (57·92 in.) was above normal. Snow fell on 39 days.

The total duration of bright sunshine 1184·2 hr. was a little below the normal.

The highest gust of wind during the year was 31·9 m./sec. (69 m.p.h.) and was recorded in a shower of sleet on March 20; the highest hourly speed 17·2 m./sec. (38 m.p.h.), occurred on January 15.

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 are also given derived from the mean inequalities for the period 1911-20 by Dr. A. Crichton Mitchell*.

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* MITCHELL, A. CRICHTON: On the diurnal variation of atmospheric pressure at Eskdalemuir and Castle O'er, Dumfries-shire. *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, α_n in the series $\sum c_n \sin(15nt + \alpha_n)$, t being local mean time reckoned in hours from midnight

	c_1		α_1		c_2		α_2		c_3		α_3		c_4		α_4	
	1939	1911-20	1939	1911-20	1939	1911-20	1939	1911-20	1939	1911-20	1939	1911-20	1939	1911-20	1939	1911-20
	mb.	mb.	°	°	mb.	mb.	°	°	mb.	mb.	°	°	mb.	mb.	°	°
January	0·27	0·09	203	346	0·24	0·23	143	152	0·18	0·13	15	345	0·05	0·05	243	214
February	0·05	0·12	305	215	0·40	0·27	144	138	0·11	0·08	2	341	0·02	0·04	65	68
March	0·07	0·13	226	185	0·26	0·30	158	145	0·08	0·05	317	335	0·06	0·05	30	25
April	0·08	0·21	59	92	0·38	0·30	158	155	0·05	0·02	159	156	0·05	0·05	15	356
May	0·21	0·23	23	53	0·27	0·27	154	147	0·07	0·07	157	160	0·02	0·03	342	330
June	0·18	0·15	15	54	0·29	0·23	143	146	0·08	0·08	147	161	0·01	0·02	332	326
July	0·22	0·17	131	69	0·23	0·21	147	141	0·09	0·08	163	156	0·03	0·02	0	300
August	0·15	0·11	15	115	0·27	0·24	146	148	0·07	0·06	156	157	0·04	0·05	344	331
September	0·08	0·12	84	88	0·34	0·31	150	152	0·02	0·01	309	111	0·07	0·05	358	345
October	0·20	0·11	116	76	0·34	0·31	163	159	0·11	0·06	4	8	0·01	0·04	340	33
November	0·32	0·13	280	183	0·12	0·24	153	168	0·14	0·10	6	9	0·01	0·01	249	146
December	0·27	0·14	343	97	0·32	0·21	168	147	0·15	0·12	354	4	0·05	0·07	222	213
Arithmetic mean	0·17	0·14			0·29	0·26			0·10	0·07			0·03	0·04		
Year	0·03	0·09	12	91	0·28	0·26	153	150	0·04	0·02	18	42	0·02	0·02	345	342
Winter	0·14	0·04	280	165	0·26	0·24	152	151	0·14	0·11	5	355	0·02	0·02	231	189
Equinox	0·07	0·11	107	104	0·33	0·31	157	153	0·03	0·02	342	4	0·05	0·04	11	9
Summer	0·13	0·15	42	67	0·26	0·24	147	146	0·08	0·07	156	159	0·03	0·03	347	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.

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 1939 with those for 1938 it is noted that H increased by 3γ, D(west) decreased by 9·8′ and V increased by 24γ. The changes in the deduced quantities N, W, I and T are +14γ, −44γ, +0·4′, +23γ. 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, 1420γ; D, 1°40·0′; V, 805γ. The range of 1°40′ in declination is equivalent to a range of about 480γ in the component of force perpendicular to the magnetic meridian.

Table I summarizes the magnetic character figures assigned locally, the international mean character figures and the mean values of the numerical index of disturbance $(HR_H + VR_V)10^{-4}$ for all, q and d days. Comparative totals and means are given for several earlier years.

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.

TABLE I

	Magnetic character figures: Number of 0 days	1 days	2 days	Mean character figures: Eskdalemuir	International	Mean value of $\frac{HR_H + VR_V}{10000\gamma^2}$ *: All days	q days	d days
January	17	14	0	0·45	0·51	177	86	315
February	8	17	3	0·82	0·87	576	142	1976
March	6	21	4	0·94	0·98	550	217	1255
April	6	20	4	0·93	1·19	949	263	2691
May	10	20	1	0·71	0·94	779	275	1769
June	14	15	1	0·57	0·79	476	246	822
July	13	16	2	0·65	0·84	614	258	1523
August	20	7	4	0·48	0·67	752	235	2945
September	17	12	1	0·47	0·67	456	241	1349
October	15	11	5	0·68	0·88	758	197	2336
November	23	7	0	0·23	0·48	237	93	566
December	18	12	1	0·45	0·64	284	100	732
Year								
1939	167	172	26	0·61	0·77	551	196	1523
1938	183	135	47	0·63	0·76	560	202	1652
1937	116	205	44	0·81	0·73	454	198	1137
1936	144	198	24	0·67	0·65	335	177	698
1935	130	212	23	0·71	0·67	298	150	624
1934	167	178	20	0·60	0·56	261	138	542
1933	156	175	34	0·67	0·64	300	135	658
1932	126	208	32	0·74	0·71	327	139	701
1931	137	208	20	0·68	0·66	345	185	679
1930	94	230	41	0·85	0·83	556	195	1246
1929	118	213	34	0·75	0·67	..	..	..

TABLE II – ABSOLUTE DAILY RANGE AND MEAN MONTHLY VALUES

	Mean absolute daily range: 1939 H	D	V	Mean 1916-26 N	W	V	Mean daily range expressed as percentage of yearly mean: 1939 H	D	V	Mean 1916-26 N	W	V
	γ	γ	γ	γ	γ	γ	%	%	%	%	%	%
January	47	53	22	69	73	39	38	56	29	80	88	81
February	126	103	82	69	76	38	102	108	106	80	92	80
March	120	109	78	95	94	57	98	115	101	110	113	119
April	220	126	130	98	88	54	179	133	169	114	106	113
May	156	103	116	102	88	59	127	108	151	119	106	123
June	122	89	61	92	85	46	99	94	79	107	102	96
July	144	92	84	86	82	43	117	97	109	100	99	90
August	159	106	109	98	88	55	129	112	141	114	106	115
September	104	102	63	100	92	63	85	107	82	116	111	131
October	168	119	107	94	93	57	137	125	139	109	112	119
November	55	64	32	62	66	34	45	67	42	72	80	71
December	59	75	41	60	64	33	48	79	53	70	77	69
Winter	72	74	44	65	70	36	59	78	57	76	84	75
Equinox	153	114	95	97	92	58	124	120	123	113	111	121
Summer	145	97	93	95	86	51	118	102	121	110	104	106
Year	123	95	77	86	83	48	..	..	..	..	..	..

* $\frac{NR_N + WR_W + VR_V}{10000\gamma^2}$ in 1930 and 1931.

The frequency distribution of absolute daily ranges recorded in 1939 is shown in Table III which contains also the percentage distribution for 1939 and for the period 1916–26.

TABLE III – FREQUENCY DISTRIBUTION OF ABSOLUTE DAILY RANGE

Range	Number of cases, 1939			Percentage distribution					
				H	N	D	W	V	
	H	D	V	1939	1916–26	1939	1916–26	1939	1916–26
γ				%	%	%	%	%	%
0 – 9	0	0	10	0·0	0·0	0·0	0·0	2·7	6·3
10 – 19	2	1	35	0·5	1·7	0·3	0·9	9·6	20·2
20 – 29	10	10	74	2·7	4·9	2·7	4·5	20·3	24·8
30 – 39	24	19	58	6·6	7·8	5·2	7·5	15·9	14·3
40 – 49	21	20	31	5·8	9·9	5·5	10·6	8·5	8·1
50 – 59	26	28	24	7·1	12·2	7·7	12·0	6·6	4·8
60 – 69	42	48	22	11·5	12·9	13·2	13·1	6·0	4·2
70 – 79	40	41	17	11·0	10·3	11·2	12·4	4·7	3·1
80 – 89	36	49	8	9·9	8·1	13·4	8·6	2·2	2·3
90 – 99	22	38	10	6·0	6·5	10·4	7·5	2·7	2·1
100 – 109	17	27	7	4·7	5·3	7·4	4·7	1·9	1·1
110 – 119	22	15	4	6·0	4·0	4·1	3·5	1·1	1·2
120 – 129	9	8	7	2·5	3·5	2·2	2·7	1·9	0·8
130 – 139	10	9	10	2·7	2·6	2·5	2·2	2·7	0·8
140 – 149	12	8	3	3·3	1·7	2·2	2·2	0·8	0·3
150 – 159	14	8	4	3·8	1·3	2·2	1·2	1·1	0·7
160 – 169	7	9	3	1·9	1·2	2·5	0·9	0·8	0·5
170 – 179	5	3	0	1·4	0·8	0·8	1·0	0·0	0·4
180 – 189	3	3	3	0·8	0·6	0·8	0·7	0·8	0·5
190 – 199	1	4	2	0·3	0·5	1·1	0·6	0·5	0·3
200 +	42	17	33	11·5	4·4	4·7	3·1	9·1	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 1939 values expressed as a percentage of the average values. The units employed are 1γ for force and 1′ for declination.

TABLE IV – AVERAGE RANGE OF DIURNAL INEQUALITY 1916–26, WITH 1939 VALUE AS PERCENTAGE

		All days					International quiet days					International disturbed days				
		N	W	V	H	D	N	W	V	H	D	N	W	V	H	D
Year	1916–26	36·6	38·7	21·9	35·6	8·26	33·7	37·5	12·0	33·4	8·10	46·1	54·4	64·5	47·5	11·28
	1939(%)	124	117	168	128	114	119	105	115	118	108	145	124	174	153	111
Winter	1916–26	22·1	27·7	15·9	18·3	6·31	18·4	19·7	5·0	15·3	4·48	31·5	51·1	53·9	28·9	10·82
	1939(%)	99	109	116	108	105	107	97	108	120	94	85	118	111	124	111
Equinox	1916–26	41·5	44·2	27·2	39·0	9·57	39·0	42·3	13·0	38·4	9·10	53·9	65·6	81·0	53·3	13·82
	1939(%)	128	126	177	135	123	128	110	122	124	114	154	135	181	166	119
Summer	1916–26	54·0	55·6	26·5	56·1	11·33	46·6	53·7	19·9	47·7	11·18	75·4	67·2	68·1	82·6	12·66
	1939(%)	125	115	177	127	113	116	109	116	114	111	149	126	226	146	120

Irregular changes in declination.– In connexion with the supply of declination data to mine surveyors it has been the practice to classify the hourly periods between the exact hours G.M.T. into four groups according to the range in declination within each

period. The range limits, which were adopted in consulation 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 144γ in the component of horizontal force perpendicular to the magnetic meridian.

Number of cases per month, 1939

Range interval	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
5 – 15′	34	92	155	169	156	92	108	66	80	114	37	66	1169
15 – 30′	2	19	9	22	13	6	12	21	8	31	4	9	156
>30′	0	2	3	12	1	0	0	0	1	8	0	1	37

Hourly distribution, 1939

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′	65	52	58	60	46	48	43	41	37	33	44	38	34	32	39	32	48	39	43	63	63	81	67	63
15 – 30′	6	10	9	12	7	7	4	8	5	3	0	1	0	2	3	6	8	13	10	14	7	9	4	8
>30′	2	3	5	1	1	0	2	1	1	0	0	0	0	0	1	1	2	1	3	0	5	2	4	2

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, 1939

No.	From	To	Horizontal force					Declination					Vertical force				
			Max.	Time	Min.	Time	Range	Max.	Time	Min.	Time	Range	Max.	Time	Min.	Time	Range
	d. h. m.	d. h.	γ	d. h. m.	γ	d. h. m.	γ	′	d. h. m.	′	d. h. m.	′	γ	d. h. m.	γ	d. h. m.	γ
1*	Feb. 5 19 50	Feb. 7 6	589	6 18 45	351	6 23 17	238	36·8	6 18 47	-11·0	7 2 54	47·8	1141	6 18 52	911	6 23 44	230
2	Feb. 24 13	Feb. 25 24	1086	24 19 14	-52	25 1 34	1138	50·7	24 19 15	-47·1	24 21 46	97·8	1314	24 18 27	703	24 21 53	611
3	Feb. 28 14	Mar. 7 2	630	3 23 49	412	4 0 20	218	23·6	1 13 33	-11·3	4 3 42	34·9	1052	1 22 43	870	2 3 16	182
4	Mar. 21 5	Mar. 24 24	609	23 21 10	438	21 10 40	171	22·9	22 13 2	-8·3	23 21 40	31·2	1032	22 16 18	916	23 2 50	116
5	Mar. 26 14	Apr. 5 22	747	28 18 33	195	28 22¾ 30	552	34·8	28 16 17	-21·7	28 23 3	56·5	1234	28 17 12	886	29 3 36	348
6	Apr. 8 13	Apr. 12 13	647	11 17 53	430	11 11 11	217	23·8	10 23 42	-13·7	10 19 35	37·5	1024	11 17 41	889	10 0 51	135
7*	Apr. 16 21 25	Apr. 22 22	994	17 14 53	193	17 7 51	801	44·7	17 15 22	-27·4	17 6 18	72·1	1296	17 14 52	746	17 4 13	550
8	Apr. 22 22	Apr. 24 5	766	23 15 49	147	23 6 36	619	35·8	23 6 12	-13·3	23 8 3	49·1	1190	23 15 11	787	23 6 11	403
9	Apr. 24 11	Apr. 26 6	875	24 18 15	-130	24 20 25	1005	33·1	25 2 18	-36·9	25 0 46	70·0	1072	25 16 50	761	25 1 44	311
10*	Apr. 27 21 0	Apr. 28 5	564	27 21 25	363	27 23 30	201	12·5	27 21 22	-11·7	27 23 54	24·2	1001	27 21 0	802	27 23 41	199
11*	May 1 6 40	May 4 4	690	1{14 1 / 14 22}	281	1 23 56	409	31·5	1 13 56	-12·0	2 2 3	43·5	1167	1 17 17	787	1 23 58	380
12*	May 5 20 40	May 9 24	721	5 20 45	300	6 23 0	421	25·7	6 15 38	-12·1	7 3 19	37·8	1092	6 17 6	774	7 1 42	318
13	May 21 13	May 27 5	653	25 15 54	397	22 9 7	256	23·1	21 14 11	-10·7	22 23 22	33·8	1073	21 18 20	880	4 2 53	193
14*	May 27 20 50	May 29 24	612	29 17 43	422	29 7 34	190	19·5	29 12 42	-14·9	29 3 13	34·4	1036	29 18 16	855	28 2 44	181
15	June 1 14	June 2 24	622	2 17 34	465	2 13 9	177	18·8	1 14 45	-3·7	2 7 14	22·5	1042	2 19 11	955	2 4 11	87
16	June 13 1	June 15 1	613	13 18 56	273	14 9 48	340	24·3	14 9 55	-18·7	14 2 0	43·0	1079	14 16 23	873	14 1 48	206
17*	July 3 0 35	July 6 12	779	5 16 0	321	5 8 43	458	36·3	5 15 40	-5·9	3 18 25	42·2	1203	5 15 45	996	4 22 11	407
18	July 11 8	July 12 24	644	12 15 0	481	11 9 32	163	20·0	11 13 58	-2·3	11 9 31	22·3	1033	12 18 11	944	11 12 37	89
19*	July 14 3 45	July 15 5	586	14 15 22	404	14 12 30	182	17·8	14 12 56	-2·4	14 22 27	20·2	1078	14 17 9	941	15 0 22	137
20	July 16 10	July 18 7	664	16 17 53	403	17 7 58	261	18·4	16 17 52	-7·0	17 2 5	25·4	1033	16 19 14	937	17 1 41	96
21*	July 19 21 15	July 23 4	685	21 13 35	354	21 13 58	331	28·1	21 13 32	-6·5	20 4 25	34·6	1089	20 16 58	879	20 0 19	210
22	July 26 4	July 28 2	605	26 15 48	399	26 8 30	206	19·8	26 9 7	-5·4	27 22 11	25·2	1048	26 18 26	916	26 6 52	132
23	Aug. 10 2	Aug. 14 7	625	12 1 41	273	12 4 30	352	20·1	12 9 50	-29·3	12 3 38	49·4	1076	12 12 22	741	12 4 43	345
24	Aug. 16 11	Aug. 19 20	923	16 15 34	375	16 23 4	548	31·8	16 23 2	-17·9	17 2 37	49·7	1261	16 15 56	849	16 23 16	412
25*	Aug. 21 21 30	Aug. 25 7	942	22 16 1	-76	23 0 28	1018	40·1	22 16 3	-41·2	22 3 33	81·3	1340	22 17 20	535	23 0 24	805
26*	Sept. 2 21 45	Sept. 4 5	618	2 21 46	404	3 11 5	214	14·8	3 14 6	-21·1	3 3 19	35·9	1030	3 21 25	898	3 3 16	132
27	Sept. 16 24	Sept. 18 2	662	17 17 57	393	17 20 7	269	29·8	17 16 30	-23·1	17 19 52	52·9	1270	17 17 14	922	17 19 59	348
28	Sept. 19 1	Sept. 20 20	596	20 18 44	395	19 10 32	201	18·1	19 17 0	-17·4	20 1 37	35·5	1141	19 17 11	881	20 4 8	260
29	Oct. 3 7	Oct. 6 22	554	5 19 50	113	3 22 1	441	24·0	3 13 41	-29·4	4 2 57	53·4	1191	3 18 41	641	4 3 4	550
30	Oct. 8 21	Oct. 9 22	536	9 1 29	316	9 7 39	220	20·5	9 13 40	-10·5	9 1 21	31·0	1057	9 19 15	986	9 8 13	71
31*	Oct. 13 2 5	Oct. 20 3	695	13 19 53	-334	13 22 54	1029	45·1	13 19 53	-49·3	13 22 15	94·4	1209	13 20 11	754	15 4 3	455
32	Nov. 12 21	Nov. 15 4	593	13 4 7	429	13 11 3	164	18·2	13 14 19	-23·1	13 20 47	41·3	1101	13 14 23	937	14 1 40	164
33	Dec. 6 18	Dec. 9 2	567	6 20 8	398	7 2 46	169	19·0	7 3 43	-25·0	6 20 55	44·2	1127	7 18 52	899	7 3 50	228

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, 16000γ; D, 13°; V, 44000γ.

REMARKS ON THE AUTOGRAPHIC RECORDS, AND ON ALLIED PHENOMENA, 1939

Magnetic activity, like sunspot activity and interruptions of radio communication, was at a maximum in 1937–38, the year 1939 showing a decided return towards the quieter conditions of 1936. In the notes which follow, the sunspot data have been extracted from *The Observatory* for February 1940.

JANUARY (average character figure 0·45).– The month was very quiet, ranges due to individual disturbances being all less than 150γ. Seventeen days were classified as "0".

No notable disturbance occurred during the first three days of the month, but minor activity began on the night of January 4–5, and continued until the 12th. Disturbance set in again on the 16th, and thereafter continued until the 24th with breaks on the 19th and 23rd. From the 25th to the 28th conditions were very quiet, and there was only slight activity during the rest of the month.

FEBRUARY (average character figure 0·82).– Conditions were fairly quiet except for two periods, from the 5th to the 7th and from the 24th to the 26th. The ranges recorded during these periods were H 238γ, D 47·8′, V 230γ on the 6th, and H 1138γ, D 97·8′, V 611γ on the 24th to the 25th.

There was moderate, but decreasing activity from the 1st to the 4th. The 5th was quiet until 19h.50m. when a "sudden commencement" initiated a disturbance which at about 6d.18h.45m. gave the ranges noted above. Subsequently H remained low while D and V decreased to considerably below average until 7d.3h. when gradual recovery set in. The disturbance recurred on the ensuing night, but not on the 8th. There followed two periods of moderate activity (9th–11th, 15th–19th) and two of quiet conditions (12th–14th, 20th–22nd) with no outstanding features. The storm of the 24th–26th began at about 24d.13h., and large oscillations set in at 24d.16h. to 24d.17h. The H component reached its maximum value at 24d.19h.14m. and then fell through 1138γ to a minimum at 25d.1h.34m. The V component increased to its maximum at 24d.18h.27m., and this was followed by an oscillatory decrease of 611γ to the minimum value at 24d.21h.53m. There was a second almost equal minimum at 25d.1h.40m. but thereafter changes were less marked until the cessation of disturbance at about 24h. The range in D was 97·8′. Large oscillations ceased shortly after 25d.2h. and on the 27th H had nearly recovered from its residual low value. Some disturbance appeared again in the afternoon of the 28th.

MARCH (average character figure 0·94).– The month was moderately disturbed. Outstanding ranges were 121γ in H, 34·0′ in D, 182γ in V on the 1st–2nd, 218γ in H, 33·9′ in D, 132γ in V on the 3rd–4th, and 552γ in H, 56·5′ in D, 348γ in V on the 28th–29th.

The disturbance which began on the last day of February became moderate on March 1. The V component showed a range of 182γ between 1d.22h.43m. and 2d.3h.16m., while the D and H traces showed corresponding, but less marked, deviations. Moderate disturbance recurred on the 3rd–4th, the most noteworthy feature in H being a single oscillation of 218γ at midnight. The variations of V and D were not unlike those of the 1st–2nd but rather smaller.

A period of alternating quiet and moderately disturbed conditions with no outstanding features then set in and lasted until the 25th. On the night of the 25th however, activity was renewed. It increased on the 27th, especially in V, which reached a sharp peak at 19h.5m. A storm ensued which began during the 28th afternoon with progressive increases in all three components. The increase in H terminated in an oscillation reaching a maximum at 28d.18h.33m., followed by a progressive decrease of 552γ to the minimum at 22h.30m. Thereafter H returned slowly towards normal with continued moderate oscillation. The V component reached a maximum at 28d.17h.12m., and a similar high value accompanied the principal oscillation in H. The minimum in V was recorded at 29d.3h.36m., the range being 348γ. Variations in D were not great. The disturbance recurred but with decreasing strength on the remaining two nights of the month.

APRIL (average character figure 0·93).- The month was generally disturbed, though there was only one period of great activity. The ranges in the period 9th–11th, were 217γ in H, 37·5′ in D, 135γ in V, and in the period 16th–25th, 1124γ in H, 81·6′ in D, 550γ in V.

Moderate disturbance of about the same order as at the end of March continued until the 4th. Conditions were then mainly quiet until the 16th though there were several marked bays in the traces. At 16d.21h.25m. a "sudden commencement" occurred, and at 17d.2h. a much more marked similar deviation was followed at once by a major disturbance. After an introductory peak at 17d.2h. H decreased with some oscillation to a minimum at 7h.51m. and then increased progressively with a final sharp rise to the maximum at 14h.53m.; the range was 801γ. An oscillatory decrease followed to a minimum at about 21h., but the disturbance then quickly stopped, and from 17d.22h. to 18d.7h. conditions were quiet. In the V record there was a marked decrease accompanying the first low value in H, followed by an increase of 550γ to a maximum which corresponded with the maxima in H and D. The trace then showed a fairly rapid decrease, and recovery to about normal by 18d.2h. The changes in D were not great. The principal phase of the storm recurred markedly on the next two days, and thereafter activity was moderate until the 23rd. The disturbance on the 17th may have been associated with a large sunspot whose central meridian passage occurred at April 16·1. Aurora, reaching intensity 3, was observed at Lerwick on the night of April 17.

The storm of the 24th–25th was preceded on the 23rd by a range of 619γ in H between a minimum at 6h.36m. and a maximum at 15h.49m. with a return to normal at 21h. In the course of the same period V had a range of 403γ, and D a range of 49′. The principal phase of the storm began in H with a large and rapid increase at 24d.17h.35m., and continued in three main large oscillations concluding at 25d.4h. The range of 1005γ occurred between a maximum at 24d.18h.15m. and a minimum at 20h.25m. There was little or no residual effect in H after the end of principal phase. The V component showed no large variations; it remained some 200γ below normal with several minima between 24d.20h.25m. and 25d.2h.25m. The variations of D also were not large. In connexion with this storm large sunspots were noted with central meridian passage at April 26·1 and 26·6, and aurora of intensity 2 on the 24th and 25th at Lerwick.

Considerable activity was recorded again between midday and midnight of the 25th, but the 26th and 27th were quiet, apart from a single marked deviation of all components at about midnight of the 27th–28th. Slight to moderate disturbance with no outstanding features then persisted until the end of the month.

MAY (average character figure 0·71).- The month was less disturbed than April but there was moderate activity on most days.

At 1d.11h.35m. a sharp increase of over 100γ in H with accompanying changes in V and D was followed by considerable disturbance, especially in V. There were peaks in all three traces between 14h. and 14h.22m., but somewhat higher values occurred in V between 16h.40m. and 20h. After the peaks in H and D and the last peak in V the three components decreased progressively with moderate oscillations to minima at midnight, the ranges being 409γ in H, 40·2′ in D and 380γ in V. There was another minimum in D at 2d.2h. accompanied by less marked dips in H and V. After recurrence with decreasing strength on the next two nights, the 4th was relatively quiet.

At 5d.20h.40m. a very marked "sudden commencement" in which H increased by about 400γ was followed by slight activity until 6d.12h.20m. when a fairly strong disturbance, resembling that of the 1st, set in. The component H reached its maximum at 5d.20h.45m. and two minima were recorded at 6d.23h. and 7d.2h.5m., the range being 421γ. The maximum of V occurred at 6d.17h.6m., and in this element also there were two minima at about the times of the minima in H; the range was 318γ. There were two maxima and two minima in D with a range of 37·8′. Recurrences were shown on the following two days, principally in V. A large sunspot, central meridian passage May 5·2, was crossing the sun's disc during this disturbed period and another spot had its central meridian passage at May 8·2.

After the disturbance of the 5th–7th there was quiet until the 16th when a period of moderate disturbance set in, lasting until the 27th. On the 27th a "sudden commencement" introduced a further disturbance which was however of no great strength. It gave a well marked minimum in V at 28d.2h.44m. without much change in H or D. There was some activity on the next two days, but the last two days of the month were quiet.

JUNE (average character figure 0·57).– The month was fairly quiet. Fourteen days were characterized as "0", and one major disturbance on the 13th–14th gave ranges of 340γ in H, 43·0′ in D, and 206γ in V.

There was a little minor activity until the 4th, followed by a quiet period until the 13th. A disturbance similar to a "sudden commencement" was recorded at 10d.1h.15m. but there was no further development. At 13d.1h.10m. a deflection of the traces occurred which might be classed as an ill defined "sudden commencement". Disturbance ensued which became moderate during the following night. Activity then decreased until the 17th which was mainly quiet, but there was a renewal on the 17th evening, and conditions remained more or less disturbed during the rest of the month. There was another disturbance similar to a "sudden commencement" at 26d.20h.20m. but again no development occurred.

JULY (average character figure 0·65).– July was also fairly quiet. There were thirteen "0" days, and one noteworthy period of activity from the 3rd to the 5th during which the ranges were 458γ in H, 42·2′ in D and 407γ in V.

The month opened slightly disturbed, and a "sudden commencement" at 3d.0h.35m. was followed at 18h.25m. by peaks in H and V and a bay in D. Preceding these there occurred some moderate oscillations in H and two slightly higher peaks in V. The ranges on this day were 269γ in H, 39·5′ in D and 164γ in V. The disturbance recurred with increased intensity on the following two evenings. A "sudden commencement" at 4d.14h.5m. was followed by a progressive increase in H to a maximum soon after 17h. In V and D the increase was not outstanding. Marked minima of H and V were recorded at about 22h., giving ranges for the day of 314γ in H and 272γ in V. Low values of all three elements from about 5d.6h. to 5d.9h. were succeeded by more or less continuous increases in H and V to peaks at 16h. and 15h.45m. respectively. Rather similar progressive decreases followed to minima at 6d.2h.57m. and 6d.3h.32m. respectively. The corresponding ranges were 458γ in H and 393γ in V. Changes in D were not great. The disturbance ceased at about 6d.15h., and quiet conditions then prevailed until the 10th. Large sunspots, central meridian passage June 29·9 and July 8·2, may be mentioned in connexion with this period of activity.

The rest of the month was characterized mainly by slight to moderate disturbance, although a large sunspot crossed the central meridian at July 17·7 and others were recorded with central meridian passage July 17·1, 20·1 and 23·4. There were relatively quiet periods on the 13th and from the 17th to the 19th and some disturbance following the occurrence of "sudden commencements" at 14d.3h.45m., 19d.21h.15m. and 21d.10h. A large single oscillation in H was recorded shortly before 21d.14h. without any large changes in V or D.

AUGUST (average character figure 0·48).– The month was mainly quiet, twenty days being characterized as "0". Nevertheless there were three periods of major activity, and a storm on the 22nd–23rd gave ranges of 1018γ in H, 81·3′ in D and 805γ in V.

Disturbance was slight until the 10th, but became moderate on the 11th and rather strong on the 12th. A "sudden commencement" with superposed small oscillations occurred at 12d.1h.45m. This was followed by an oscillating fall of 350γ in H to a minimum at about 4h.30m. and a fall of 260γ in V. An oscillation in D between 3h.35m. and 4h.35m. had a range of 43′. Low values of H and V recurred on the morning of the 13th, but the disturbance was decreasing and conditions were quiet from the 14th until near midday of the 16th. A large sunspot, central meridian passage August 11·1, was observed during this period.

Large increases in H and V set in shortly before midday of the 16th and led to peaks between 15h. and 16h. These were followed by minima after a few hours of about normal values, the ranges being 548γ in H and 412γ in V. Only moderate increases in D accompanied the peaks and dips in H and V.

After a period of slight activity on the 17th–18th, a "sudden commencement" at 19d.6h.15m. introduced increases in all three elements culminating in moderate peaks of H at 15h.10m., D at 15h.5m., and V at 16h.50m. There followed a moderate oscillation in H at 17h., but D and V returned to normal without oscillation. The ranges were 150γ in H, 24·7′ in D and 72γ in V.

Conditions were fairly quiet on the 20th–21st, but "sudden commencements" at 21d.21h.30m. and 22d.0h.40m. were succeeded between 1h. and about 5h. by a large decrease and recovery in V, a similar though not so large change in H and a marked oscillation in D. The ranges amounted to 311γ in H, 385γ in V and 77·4′ in D; nevertheless this was only a preliminary to the main disturbance. After several hours of fairly sharp oscillations H began to increase at about 22d.14h.30m. and reached its maximum at 16h. An oscillatory decrease then gave a minimum at 23d.0h.28m., the range being 1018γ. The trace remained low, with moderate oscillation until 23d.10h., but recovered to about normal by mid afternoon. The principal changes in V comprised a marked increase from 22d.11h. to 17h.20m. and an oscillatory decrease to the minimum at 23d.0h.24m. (range 805γ). After 23d.1h. a recovery with only minor oscillations restored V to normal at 9h. In D the disturbance was not very strong. An oscillatory rise until 22d.16h. was followed by a fall with greater oscillation, and minima occurred at various times between 22d.19h.45m. and 23d.4h.20m. The range over this period was almost 67′. A temporary rise above normal soon after 5h. was succeeded by a return to normal later in the morning. Activity continued moderate during this day, but was mainly slight for the rest of the month. In connexion with this disturbance a large sunspot, central meridian passage August 21·9, may be noted.

SEPTEMBER (average character figure 0·47).– There was no strong disturbance and seventeen days were classified as "0". The greatest disturbance occurred on the 17th–18th. It gave ranges of 269γ in H, 52·9′ in D and 348γ in V.

The month opened quiet, but at 2d.21h.45m. a "sudden commencement" initiated a period of moderate activity lasting until the early morning of the 4th. When this disturbance began, a large sunspot was nearly two days past the central meridian (central meridian passage September 1·0). From the 4th to the 8th there was no further disturbance, and from the 8th to the 16th only slight activity. On the 16th–17th however disturbance set in not long after midnight, and at 14h. progressive increases began in H and V. The maximum of H was recorded at 17h.57m., while in V there were maxima at 17h.14m. and 18h. Both elements had minimum values at about 20h., the ranges being 269γ in H and 348γ in V. In D there was a sharp rise to a maximum value at 16h.30m., and this value was reached again in a sharp oscillation at 17h.10m. Minima were recorded at about 19h.40m. and 19h.50m. followed immediately by a rise to a peak at 20h. corresponding to the peaks in H and V. From about 20h.30m. onwards there was only slight disturbance in all three elements.

Quiet conditions recurred on the 18th, but there was considerable activity on the 19th–20th. This gave ranges of 181γ in H and 31·7′ in D on the 20th and of 260γ in V between 19d.17h. and 20d.4h. There was little disturbance during the rest of the month.

OCTOBER (average character figure 0·68).– The first half of the month was disturbed. There were nevertheless fifteen "0" days, and the only large ranges occurred from the 13th to the 15th; these ranges were: H 1029γ, D 94·4′, V 455γ.

Conditions were fairly quiet until the morning of the 3rd. A well defined commencement at about 7h. then introduced a disturbance which increased at noon when there were moderate oscillations of H and D while V began to increase. The increase in V continued to a peak at 18h.41m. and amounted to 195γ. In this phase there was no great activity in H and D.

After the peak the V component decreased fairly uniformly through about 120γ until 21h.30m. There were then abrupt dips of about 216γ in V and 352γ in H, giving minima at about 22h. The dips were followed by recovery in H and partial recovery in V. The most disturbed phase set in at 4d.1h.5m., after which H and V returned fairly sharply to normal at 4h.15m. and about 7h. respectively. The minimum in H which was not so marked as that at 3d.22h.1m. occurred at about 4d.3h.25m. while that in V was at 4d.3h.4m. The total ranges were: H 441γ, V 550γ. Moderate oscillations in D accompanied the chief oscillations in the other elements. The largest spot group on the sun in this period crossed the central meridian on October 4·2. On the 4th–5th there was little activity but moderate oscillations occurred in H and D on the 5th–6th. There was an undulation of about 144γ in V between midnight and 9h., accompanied by disturbance which gave a downward oscillation of 140γ in H and an upward oscillation of 31′ in D between 4h. and 6h.

Subsequently, the only large deviation until the 13th was an isolated dip and recovery in H amounting to 195γ at 9d.7h.35m. The intense disturbance which set in on the 13th began with a decided "sudden commencement" at 13d.2h.5m. A series of rapid oscillations (some of moderate amplitude in H and D) followed until after 16h. when V began to increase decidedly. The first peak in V (not far short of the maximum) was reached about 17h.45m. and at this time the large disturbance of H and D began. The value of V remained high until 20h.40m., with some oscillation, the maximum being at about 20h.11m. Meanwhile H oscillated through more than 280γ and D through more than 70′. After the last peak in V at 13d.20h.40m. an oscillatory decrease set in accompanied by oscillatory decreases in H and D. This was the phase of greatest disturbance in H. The maximum value of H occurred at 19h.55m. and the minimum at about 22h.54m., the range being 1029γ; the maximum of D was at 19h.53m., the minimum at 22h.15m. and the range 94·4′; while the maximum of V was at 20h.11m., the minimum values were at about 22h.50m. and 23h.20m. and the range in this period was 377γ. The disturbance continued with diminished intensity through the night, V gradually recovering to about its normal value by noon of the 14th while H remained low until the late forenoon and then began to increase. The principal disturbance recurred at about 14d.16h.35m., V rising to a peak at 16h.55m. and then falling fairly uniformly until 15d.4h.3m., at which time on the previous day there had been a secondary minimum. In H and D the disturbance, also beginning at about 16h.35m., gave some moderate oscillation until about midnight, but the most active period coincided with the low values of V from midnight to 4h. The ranges were approximately: H 330γ (maximum at 20h.40m., minimum at 15d.1h.10m.), D 43′ (no very decided maximum or minimum), V 387γ. All three components had resumed their usual values before 8h., but there was still rapid oscillation of moderate amplitude at times in H. This period of disturbance was probably associated with an active sunspot group whose central meridian passage occurred on October 12·3. Subsequently moderate activity recurred daily until the 19th, but the remainder of the month had no disturbance worthy of note.

NOVEMBER (average character figure 0·23).– The month was quiet and no outstanding disturbance was recorded. There were twenty-three "0" days.

Conditions were very quiet until the 11th–12th, when slight activity began to show itself during the night. There were moderate deviations in all three traces at about 13d.4h., and moderate disturbance during the night of the 13th–14th. The activity was however decreasing again on the 14th–15th, and thence until the 24th conditions were either quiet or only slightly disturbed. Moderate disturbance re-appeared on the 24th–25th and continued on the 25th–26th, but there was nothing outstanding, and conditions were almost quiet again on the 26th–27th. The rest of the month was undisturbed.

DECEMBER (average character figure 0·45).– This also was a month of little activity, but had one period of disturbance. The number of days classified as "0" was eighteen.

The first four days of the month were quiet. Slight activity set in during the afternoon and evening of the 5th, and there was marked disturbance in all three elements during the night, 6th–7th. The disturbance began at about 6d.18h. with moderate short-lived

increases of V and H, and a fairly large decrease in D. The single peaks in H and V at 20h.8m. and 20h.50m. respectively were followed by minimum values at 7d.2h.46m. and 3h.50m. with some irregularity in the interim. Deviations of the D trace were of similar type to those of the H trace. The ranges in this period were : H 169γ, D 44·2′, V 191γ. Moderate disturbance recurred on the following day with less regular and somewhat smaller ranges in V and D and much smaller range in H. The disturbance was dying out on the 8th-9th and was only slight by the 9th evening. At the time of this storm only three sunspot groups were present on the visible hemisphere. The largest of these crossed the central meridian on December 7·4.

From the 10th conditions remained quiet or only slightly disturbed until the 21st-22nd. On these days there was considerable irregular oscillation hardly reaching moderate intensity however. Thereafter quiet or only slightly disturbed conditions recurred and persisted until the end of the month.

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

81 ESKDALEMUIR: h_b(height of barometer cistern above M.S.L.) = 237·3 m. 1939

	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE		
	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean
									millibars									
1	68·3	57·6	59·9	92·1	90·3	91·0	72·5	60·4	68·3	86·7	80·9	84·1	95·2	93·3	94·1	04·5	02·0	03·2
2	74·3	60·4	68·8	92·2	90·7	91·4	74·4	68·9	71·8	80·9	70·9	76·0	94·7	89·7	92·1	04·3	00·3	02·3
3	78·9	73·8	77·0	92·8	91·3	92·0	79·6	74·0	77·0	70·9	63·3	66·9	89·7	83·7	86·5	01·6	97·9	99·9
4	78·1	73·6	74·7	92·7	90·6	91·7	75·1	72·5	74·0	64·4	60·6	61·8	83·7	71·6	77·6	98·6	95·7	97·3
5	86·3	78·1	81·9	91·5	87·7	88·8	77·6	66·5	71·8	75·9	64·4	68·8	71·6	68·1	68·9	98·1	95·8	97·1
6	90·5	83·8	88·3	88·4	85·3	87·1	83·5	77·6	80·6	88·2	75·9	82·8	78·0	69·1	72·5	96·5	92·7	94·5
7	83·8	72·6	76·8	89·4	82·9	84·4	85·8	82·9	84·5	89·9	86·8	88·6	85·6	78·0	81·5	97·1	94·3	95·5
8	75·3	69·8	73·5	89·9	76·0	85·7	86·3	77·2	81·6	86·8	80·9	83·2	91·1	85·6	88·5	98·7	95·2	97·0
9	73·3	65·0	68·3	84·7	74·2	79·9	97·1	86·2	91·6	88·0	83·4	86·5	96·4	91·1	93·8	98·9	88·6	94·7
10	80·8	73·3	78·7	94·0	84·7	90·3	99·1	96·8	98·1	88·0	85·6	87·1	97·8	95·8	96·5	88·6	78·6	83·2
11	77·2	63·7	68·5	94·1	83·8	90·1	99·4	89·3	93·5	88·1	82·8	85·2	00·0	97·8	99·1	81·9	76·4	78·9
12	64·1	62·3	63·2	84·0	78·9	80·4	08·2	99·4	05·9	83·9	80·4	82·2	00·4	97·6	98·7	87·9	81·7	84·8
13	72·5	62·9	67·1	01·5	81·0	90·8	07·9	02·7	05·1	80·4	72·8	75·7	00·4	91·5	96·4	87·8	83·6	86·2
14	72·9	53·6	68·7	02·1	97·5	00·0	03·7	98·3	00·8	73·0	69·0	70·9	91·5	82·7	86·2	83·6	74·8	79·2
15	53·6	41·1	47·1	97·5	86·3	91·7	03·1	98·4	01·2	77·0	72·2	74·8	87·2	81·7	84·2	74·8	71·0	72·7
16	48·4	42·8	45·3	88·6	86·2	87·7	98·4	89·3	92·3	83·1	75·7	80·1	88·7	85·3	87·3	79·8	73·4	76·5
17	57·2	48·0	54·0	86·2	71·5	77·8	00·4	91·3	95·7	99·7	77·4	85·5	85·4	82·2	83·8	81·6	78·6	80·4
18	71·2	57·2	62·9	86·6	79·8	84·0	00·4	91·9	95·5	06·6	99·7	04·3	82·4	81·3	81·9	84·6	77·3	80·0
19	78·2	71·1	75·3	92·4	80·3	87·5	96·3	92·0	94·5	06·3	02·4	04·5	82·1	80·6	81·1	89·8	84·5	88·1
20	71·1	65·7	67·2	95·8	89·1	93·3	92·0	80·1	85·1	02·4	96·9	99·0	82·2	80·3	80·9	97·1	89·5	92·6
21	73·8	60·4	64·4	89·1	72·3	80·1	84·2	70·3	80·9	96·9	77·2	89·2	86·0	81·6	83·3	99·8	96·7	98·3
22	74·8	53·6	65·6	72·3	54·5	64·9	70·3	62·4	65·1	81·4	73·5	78·6	95·0	85·7	90·2	97·1	92·3	94·7
23	84·6	53·9	69·9	61·4	48·0	51·7	69·9	62·9	67·5	81·2	68·1	75·4	99·7	94·9	97·7	92·7	79·3	85·9
24	89·7	78·1	86·0	77·6	61·4	72·4	75·4	69·9	72·1	69·7	63·2	65·3	03·2	99·4	01·1	81·7	79·6	80·4
25	78·1	68·0	71·0	74·3	67·5	69·3	97·0	75·4	86·7	83·5	69·7	77·9	04·0	02·4	03·3	82·6	78·7	79·8
26	81·9	73·5	77·7	75·2	69·0	71·7	00·4	96·2	98·7	93·9	83·5	87·6	03·0	94·3	98·1	89·6	82·6	85·5
27	87·5	81·8	85·2	77·2	67·3	72·6	96·2	85·6	91·5	98·9	93·9	97·2	01·0	92·8	96·1	91·1	84·3	89·3
28	93·6	87·5	90·0	67·4	55·8	60·6	85·6	79·6	82·9	99·2	97·2	98·1	04·8	01·0	03·6	84·3	71·2	75·0
29	95·8	93·2	94·7				83·6	78·1	79·8	00·6	98·8	99·6	04·6	01·8	03·2	80·5	72·3	77·2
30	95·8	93·4	94·5				88·4	83·6	86·5	99·2	93·9	96·0	02·0	99·3	00·8	80·7	78·4	79·3
31	94·8	92·1	93·7				88·2	86·7	87·4				02·4	99·9	00·9			
Mean	77·63	68·13	72·91	86·82	78·00	82·46	89·68	82·14	86·07	87·45	80·03	83·77	93·22	88·39	90·65	90·53	84·91	87·65

	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	86·3	80·4	84·1	87·9	81·4	85·6	87·8	84·4	85·8	85·8	80·7	82·7	84·5	81·1	82·4	79·5	64·3	73·1
2	86·0	79·8	82·3	88·0	80·7	84·4	87·7	81·7	85·1	93·2	85·8	89·2	81·5	79·9	80·9	82·6	62·8	75·3
3	87·8	84·3	86·5	90·4	80·5	84·0	81·7	73·1	77·0	94·3	92·9	93·5	79·9	71·2	75·6	82·5	59·3	70·6
4	86·4	78·6	81·8	94·1	90·4	92·8	89·1	80·6	85·4	93·4	79·8	87·1	71·2	60·9	64·8	59·3	51·6	54·8
5	78·6	73·4	75·6	93·8	84·9	89·5	91·2	89·1	89·8	79·8	69·8	72·8	65·0	48·7	59·9	78·3	53·6	65·0
6	79·8	74·6	77·5	84·9	80·6	81·9	94·1	91·0	92·5	82·6	70·3	74·9	69·6	49·4	61·0	89·3	78·3	86·0
7	76·8	70·1	74·3	81·1	76·5	78·2	93·9	88·7	92·5	93·5	82·6	88·3	69·5	61·0	66·3	89·1	79·0	84·0
8	77·2	73·7	75·6	81·0	76·1	78·2	90·3	86·7	88·1	93·4	83·5	89·2	61·0	55·5	59·1	79·0	74·2	76·8
9	86·3	73·9	78·9	81·3	72·1	77·8	91·4	88·1	90·2	83·5	75·1	77·5	75·1	55·6	66·0	80·9	68·3	75·6
10	94·4	86·3	90·9	81·7	71·9	76·3	88·2	76·6	81·1	77·6	75·2	76·5	81·1	75·1	79·4	78·7	67·2	70·1
11	94·4	91·0	92·5	87·7	81·6	83·9	91·4	77·8	84·6	76·9	75·7	76·5	80·8	77·1	78·4	98·2	78·7	90·8
12	91·1	81·5	87·0	94·4	87·5	90·8	92·1	85·4	89·9	76·6	75·1	75·8	88·1	77·8	84·4	99·2	98·1	98·6
13	81·5	74·8	77·3	97·3	94·4	96·1	85·4	78·4	80·5	76·2	72·9	75·0	86·6	77·6	81·5	98·3	84·3	92·3
14	74·8	71·0	72·3	98·5	96·8	97·5	86·2	79·3	82·7	72·9	70·0	71·0	77·6	59·1	71·8	86·3	82·5	84·5
15	76·4	72·4	74·2	99·1	97·4	98·2	95·1	86·1	90·0	78·0	71·1	73·5	75·5	62·0	66·7	91·6	85·3	87·1
16	76·1	71·3	73·4	98·0	96·3	97·0	01·3	95·1	98·5	90·7	78·0	85·2	81·2	70·8	74·4	01·3	91·6	97·6
17	76·6	70·9	73·0	97·4	93·6	95·6	05·1	01·1	03·1	94·2	90·7	92·4	88·0	80·9	85·7	02·0	00·1	00·9
18	78·2	76·6	77·4	93·6	91·3	92·5	06·0	04·7	05·3	95·9	93·6	94·4	89·1	77·3	85·3	00·1	95·0	97·4
19	78·6	75·9	76·8	91·5	89·2	90·5	05·7	03·7	04·8	97·0	95·5	96·2	97·5	76·9	86·6	96·3	92·7	93·9
20	85·4	78·4	81·5	89·5	86·9	88·0	03·7	00·3	01·6	97·9	96·3	97·0	03·9	97·5	01·5	00·8	96·3	99·4
21	86·1	82·7	84·8	87·1	83·0	84·6	00·5	98·7	99·5	98·1	97·2	97·7	04·1	98·2	02·5	99·8	94·5	96·9
22	82·7	77·6	79·3	89·1	83·2	85·7	99·0	97·4	98·3	97·8	93·4	96·1	98·2	85·8	90·3	94·9	93·4	94·1
23	78·1	72·5	74·5	92·1	89·1	91·1	01·8	98·0	99·7	93·4	85·7	89·0	87·9	80·8	83·2	94·2	91·2	92·5
24	81·7	73·1	77·1	92·2	89·5	90·9	03·8	01·5	02·6	86·2	83·5	84·9	90·9	82·4	86·8	91·4	89·3	90·4
25	87·2	81·7	84·3	89·8	86·9	88·5	03·4	97·1	00·6	87·4	84·8	86·4	90·8	57·1	76·3	89·8	85·1	87·0
26	89·9	86·9	87·9	86·9	84·5	85·8	00·4	96·0	97·9	89·5	80·7	84·2	57·1	51·6	53·4	92·2	84·9	88·2
27	89·0	83·8	87·3	89·8	85·8	87·4	03·9	00·4	02·9	93·8	89·5	91·9	68·6	54·5	57·6	93·6	91·3	92·5
28	83·8	73·2	78·7	91·7	89·6	90·4	03·2	94·2	98·8	94·6	89·3	92·9	81·3	68·6	77·6	91·9	89·5	90·5
29	76·3	73·1	75·0	91·5	89·5	90·6	94·2	86·1	90·1	91·0	86·1	88·1	79·6	72·4	75·6	92·1	84·3	89·1
30	73·8	69·7	72·0	90·0	87·6	88·7	86·1	81·4	83·2	95·3	90·9	93·1	87·0	74·9	83·4	84·3	82·1	83·2
31	81·6	72·1	74·9	87·8	84·4	86·1				94·0	84·5	89·2				89·8	83·4	85·8
Mean	82·67	76·95	79·64	90·30	85·91	88·02	95·46	90·09	92·73	88·85	83·23	85·88	81·74	70·72	76·61	89·91	81·68	85·94
									Annual	87·86	80·87	84·37						

PRESSURE AT STATION LEVEL

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

82 ESKDALEMUIR: h_b = 237·3 m. 1939

	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.	72·61	72·50	72·50	72·39	72·17	72·03	72·13	72·32	72·67	73·07	73·21	73·30	73·12	72·93	72·88	73·05	73·13	73·25	73·29	73·35	73·41	73·38	73·37	73·35	73·38	72·91
Feb.	83·30	83·09	82·87	82·67	82·46	82·36	82·37	82·59	82·84	82·99	83·03	83·05	82·82	82·46	82·13	81·97	81·84	81·86	82·03	82·13	82·17	82·16	82·22	82·14	82·17	82·46
Mar.	85·65	85·68	85·62	85·51	85·42	85·55	85·69	85·80	86·03	86·15	86·28	86·31	86·35	86·18	86·08	85·93	85·94	86·02	86·25	86·52	86·63	86·58	86·57	86·54	86·50	86·07
Apr.	83·96	83·77	83·52	83·36	83·31	83·41	83·63	83·85	83·99	84·01	84·04	83·94	83·84	83·74	83·57	83·45	83·35	83·38	83·53	83·78	84·13	84·23	84·23	84·24	84·21	83·77
May	90·78	90·63	90·57	90·44	90·42	90·53	90·72	90·85	90·90	90·90	90·88	90·79	90·65	90·57	90·45	90·35	90·25	90·21	90·30	90·44	90·70	90·96	91·02	91·06	91·05	90·65
June	88·26	88·15	87·96	87·75	87·73	87·77	87·85	87·98	88·06	88·03	87·98	87·90	87·74	87·60	87·48	87·31	87·13	87·04	87·02	87·15	87·30	87·52	87·62	87·68	87·54	87·65
July	80·00	79·79	79·59	79·38	79·30	79·37	79·46	79·48	79·56	79·60	79·56	79·53	79·53	79·60	79·58	79·57	79·45	79·42	79·58	79·74	79·91	80·08	80·15	80·10	80·03	79·64
Aug.	88·18	88·13	87·98	87·83	87·78	87·87	88·05	88·15	88·28	88·30	88·24	88·20	88·10	88·03	87·92	87·81	87·66	87·58	87·60	87·82	88·07	88·23	88·32	88·32	88·30	88·02
Sept.	93·00	92·93	92·83	92·62	92·43	92·40	92·58	92·75	92·87	92·98	92·97	92·95	92·85	92·71	92·58	92·37	92·26	92·32	92·44	92·76	92·97	93·00	93·03	93·02	92·88	92·73
Oct.	86·15	86·03	85·86	85·66	85·59	85·49	85·48	85·69	85·94	86·07	86·11	86·02	85·82	85·61	85·51	85·44	85·47	85·70	85·97	86·15	86·26	86·33	86·35	86·28	86·23	85·88
Nov.	76·46	76·48	76·50	76·50	76·41	76·42	76·57	76·62	76·90	77·04	77·20	77·21	76·95	76·79	76·70	76·57	76·61	76·60	76·57	76·58	76·41	76·29	76·26	76·15	76·29	76·61
Dec.	85·76	85·69	85·73	85·82	85·76	85·78	85·86	85·99	86·30	86·51	86·68	86·43	86·15	85·80	85·54	85·46	85·53	85·63	85·77	85·93	86·03	86·05	86·08	86·07	86·09	85·94
Annual	84·51	84·41	84·30	84·16	84·07	84·09	84·20	84·34	84·53	84·64	84·69	84·64	84·50	84·34	84·21	84·11	84·06	84·09	84·21	84·37	84·51	84·58	84·61	84·59	84·57	84·37

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.

83 ESKDALEMUIR: h_b = 237·3 m. 1939

	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.	01·67	01·56	01·55	01·44	01·22	01·08	01·17	01·38	01·74	02·14	02·25	02·28	02·04	01·79	01·74	01·95	02·07	02·24	02·31	02·37	02·44	02·42	02·42	02·44	02·46	01·92
Feb.	12·43	12·21	12·01	11·80	11·61	11·50	11·52	11·76	12·01	12·13	12·09	12·08	11·79	11·39	11·04	10·90	10·78	10·84	11·06	11·18	11·25	11·23	11·30	11·22	11·27	11·52
Mar.	14·87	14·92	14·88	14·78	14·71	14·84	15·00	15·09	15·25	15·27	15·34	15·31	15·31	15·09	14·97	14·82	14·86	15·02	15·34	15·70	15·86	15·79	15·80	15·79	15·73	15·21
Apr.	13·03	12·88	12·65	12·51	12·46	12·56	12·74	12·86	12·86	12·77	12·75	12·57	12·40	12·27	12·09	11·98	11·91	12·00	12·23	12·61	13·07	13·22	13·25	13·31	13·28	12·63
May	19·76	19·63	19·60	19·49	19·46	19·56	19·65	19·66	19·58	19·49	19·39	19·23	19·03	18·87	18·72	18·63	18·54	18·55	18·71	18·96	19·39	19·74	19·88	19·98	20·02	19·31
June	16·92	16·85	16·70	16·51	16·52	16·52	16·45	16·41	16·36	16·23	16·09	15·95	15·73	15·53	15·37	15·19	15·03	14·99	15·03	15·26	15·59	15·94	16·14	16·25	16·17	15·96
July	08·20	08·02	07·83	07·63	07·56	07·60	07·63	07·54	07·53	07·51	07·41	07·33	07·29	07·32	07·28	07·24	07·15	07·16	07·38	07·61	07·87	08·14	08·26	08·25	08·22	07·61
Aug.	16·54	16·52	16·38	16·26	16·21	16·31	16·44	16·41	16·43	16·34	16·21	16·10	15·95	15·85	15·72	15·59	15·45	15·42	15·49	15·82	16·22	16·46	16·60	16·63	16·64	16·14
Sept.	21·73	21·66	21·56	21·36	21·16	21·14	21·32	21·42	21·41	21·41	21·30	21·22	21·08	20·92	20·81	20·60	20·52	20·63	20·87	21·31	21·59	21·68	21·77	21·80	21·65	21·26
Oct.	15·21	15·12	14·97	14·77	14·69	14·57	14·57	14·77	14·93	14·95	14·85	14·68	14·41	14·19	14·10	14·06	14·13	14·48	14·84	15·08	15·23	15·33	15·38	15·32	15·30	14·78
Nov.	05·15	05·19	05·21	05·23	05·14	05·15	05·24	05·37	05·63	05·73	05·83	05·77	05·49	05·31	05·21	05·11	05·18	05·22	05·21	05·23	05·07	04·93	04·92	04·81	04·98	05·26
Dec.	15·11	15·04	15·09	15·19	15·13	15·16	15·25	15·39	15·73	15·95	16·06	15·73	15·39	15·00	14·73	14·67	14·82	14·94	15·11	15·27	15·38	15·42	15·47	15·47	15·51	15·28
Annual	13·38	13·30	13·20	13·08	12·99	13·00	13·08	13·17	13·29	13·33	13·29	13·19	12·99	12·79	12·65	12·56	12·54	12·63	12·80	13·04	13·25	13·37	13·44	13·45	13·45	13·07

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.

84 ESKDALEMUIR: Louvered hut: h_t = 0·9 m. 1939

	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.	74·03	74·10	74·16	74·10	74·09	74·03	74·15	73·92	73·89	74·09	74·40	74·96	75·52	75·94	75·96	75·66	75·32	74·88	74·68	74·64	74·58	74·49	74·33	73·96	74·09	74·58
Feb.	76·31	76·29	76·09	76·08	75·93	75·90	75·83	75·72	75·74	76·05	76·84	77·17	77·64	77·88	77·99	77·76	77·54	77·24	76·87	76·71	76·53	76·54	76·44	76·36	76·27	76·64
Mar.	76·09	75·93	75·77	75·65	75·50	75·44	75·36	75·58	76·32	77·16	77·76	78·33	78·70	79·20	79·28	79·21	79·02	78·26	77·49	76·70	76·34	76·43	76·22	76·10	76·22	77·00
Apr.	77·05	76·63	76·33	76·15	76·16	76·16	76·55	77·55	78·90	79·96	80·52	81·13	81·89	82·20	82·21	82·02	81·74	81·09	80·36	79·26	78·29	77·87	77·55	77·18	77·07	78·95
May	79·63	79·46	79·15	78·92	78·92	79·16	80·11	81·21	82·54	83·35	84·13	84·77	85·44	86·07	86·42	86·21	86·11	85·69	84·87	83·87	82·40	81·51	80·85	80·31	79·76	82·55
June	81·90	81·45	81·06	80·84	80·61	80·91	82·36	84·06	85·29	86·41	87·17	87·77	88·33	88·93	89·27	89·22	89·00	88·48	87·94	86·84	85·19	83·95	83·05	82·62	81·92	85·11
July	83·86	83·53	83·37	83·24	83·13	83·33	84·01	85·05	85·93	86·53	87·21	87·63	88·12	88·45	88·70	88·93	88·69	88·19	87·63	86·95	86·09	85·22	84·81	84·35	83·95	85·96
Aug.	84·57	84·29	84·11	83·80	83·74	83·65	84·15	85·40	86·65	87·68	88·38	88·95	89·49	89·75	89·96	90·12	89·92	89·46	88·85	87·88	86·49	85·77	85·30	85·01	84·68	86·81
Sept.	82·46	82·39	82·43	82·28	82·27	82·21	82·27	82·98	84·23	85·32	86·31	86·94	87·24	87·38	87·23	87·11	86·75	86·24	85·13	84·05	83·48	82·88	82·34	81·99	82·09	84·32
Oct.	77·65	77·42	77·19	77·06	77·11	77·37	77·32	77·35	78·25	79·35	80·61	81·36	82·05	82·08	81·98	81·65	81·22	80·20	79·44	78·92	78·57	78·31	78·03	77·88	77·70	79·10
Nov.	78·38	78·34	78·23	78·17	78·07	78·03	78·04	77·97	78·21	78·55	79·27	79·88	80·05	80·18	80·19	79·86	79·56	79·12	78·97	78·86	78·70	78·80	78·69	78·66	78·38	78·87
Dec.	74·97	74·94	74·95	74·81	74·84	74·70	74·70	74·65	74·39	74·38	75·05	75·56	76·08	76·38	76·37	76·17	75·51	75·35	75·15	75·09	75·05	74·90	74·74	74·65	74·53	75·13
Annual	78·92	78·74	78·58	78·43	78·37	78·42	78·75	79·30	80·05	80·75	81·49	82·06	82·57	82·89	82·98	82·85	82·55	82·04	81·47	80·83	80·16	79·73	79·37	79·10	78·90	80·43

The initial 2 or 3 of the readings is omitted, i.e. 275·00 degrees Absolute is printed 75·00.

Add 0·16° to obtain temperature in degrees Kelvin where $T(°K.) = t(°C.) + 273·16$.

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 $T(°K.) = t(°C.) + 273·16$

85 ESKDALEMUIR: Louvered hut: h_t(height of thermometer bulb above ground) = 0·9 m. 1939

	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	74·6	72·7	73·5	76·1	65·6	72·1	80·1	71·6	76·2	82·7	75·4	78·3	82·9	74·2	78·4	89·5	77·1	83·9
2	74·4	70·5	73·2	73·0	62·2	66·8	82·9	77·9	81·5	84·1	75·1	77·6	83·0	74·0	78·3	96·1	73·7	86·6
3	72·4	62·8	68·1	74·4	66·5	71·5	82·8	77·1	79·7	78·6	75·8	76·9	85·0	72·3	79·5	98·5	76·0	89·4
4	71·8	64·3	68·9	77·9	74·4	76·8	82·5	78·1	80·9	79·7	71·2	75·6	85·0	72·0	79·8	99·8	79·1	90·7
5	73·8	62·6	68·6	80·0	77·4	78·7	80·4	76·4	78·3	82·2	68·8	75·5	81·8	75·9	80·7	98·1	78·7	89·7
6	73·1	63·2	68·4	80·6	79·4	80·0	80·6	74·7	77·2	78·1	70·3	75·0	87·5	73·8	81·4	98·8	78·5	90·0
7	81·6	73·0	76·5	81·3	78·3	79·7	77·1	73·2	75·3	81·4	67·6	75·5	87·9	78·2	82·6	94·6	79·9	87·9
8	81·2	78·4	80·0	82·7	78·9	80·6	78·0	73·8	76·0	80·7	76·1	78·4	88·0	78·0	83·2	91·2	79·8	85·7
9	79·3	74·1	77·8	83·6	78·3	80·3	81·8	71·3	76·8	84·2	78·6	81·7	89·7	80·8	84·8	92·3	76·6	85·9
10	76·4	68·2	72·8	84·0	81·4	82·5	80·2	69·2	75·5	89·2	80·3	84·0	91·9	79·6	85·7	88·3	81·4	84·1
11	74·2	68·9	72·7	83·4	79·9	81·4	78·8	75·3	77·3	92·6	76·2	83·7	88·8	75·8	82·7	86·6	79·4	82·4
12	74·2	67·0	71·0	81·1	75·0	77·7	82·0	72·7	76·6	87·3	78·2	81·9	83·4	75·5	80·3	85·2	76·5	80·4
13	75·8	66·8	72·1	80·4	71·3	76·1	82·4	76·0	79·8	82·9	80·3	81·7	89·1	76·5	82·6	86·2	76·0	81·6
14	76·0	66·3	72·5	80·9	70·1	76·6	84·4	79·2	81·3	83·2	79·8	80·7	84·0	77·4	81·1	85·6	79·6	82·5
15	81·3	75·8	79·1	80·6	77·0	79·2	82·5	75·8	78·9	83·3	79·4	80·7	84·2	77·8	80·2	88·7	82·7	84·7
16	80·3	77·8	79·2	77·1	72·7	75·2	85·2	74·9	80·4	84·4	78·1	80·7	86·0	78·3	81·3	88·1	80·4	84·5
17	80·7	78·0	79·5	78·9	73·7	75·6	79·0	71·7	76·0	84·1	74·0	78·7	83·7	78·1	80·3	88·6	77·8	83·9
18	78·8	77·0	77·9	79·3	70·2	75·4	82·0	72·3	76·7	85·8	71·3	79·7	82·7	77·9	79·9	88·9	83·7	85·7
19	80·2	77·4	78·6	80·3	74·8	77·8	79·0	72·5	75·6	87·2	76·0	81·5	83·7	77·9	80·5	90·5	81·8	85·9
20	80·2	74·7	77·6	78·6	73·1	76·5	82·8	70·6	75·7	86·6	74·5	81·0	84·4	77·2	80·6	85·1	82·2	83·8
21	79·6	75·2	78·5	78·9	76·0	77·6	80·1	74·9	77·4	84·1	77·1	80·8	86·0	79·3	82·2	90·4	83·4	85·6
22	78·0	73·3	76·0	78·4	74·4	76·3	79·4	74·2	76·0	83·4	74·9	78·7	88·9	78·6	83·6	90·1	81·5	84·8
23	78·9	74·9	76·9	77·4	73·7	75·3	80·3	72·6	76·1	83·0	74·8	78·7	87·1	78·3	82·8	92·0	80·8	85·7
24	78·1	71·5	74·3	80·4	74·0	76·4	81·3	68·2	73·8	83·3	74·9	78·7	88·7	81·0	84·2	86·8	80·0	82·7
25	74·0	71·3	72·4	77·6	73·9	75·8	78·7	71·5	74·2	81·7	73·7	76·8	90·6	77·6	84·6	88·8	78·8	83·1
26	75·3	73·7	74·3	76·6	73·1	74·4	79·1	72·0	74·8	79·5	71·1	76·0	88·7	75·0	83·1	89·4	77·6	83·6
27	75·6	74·1	74·5	78·3	73·5	75·4	76·4	73·0	74·2	81·7	70·0	75·9	90·2	82·5	86·3	89·1	79·4	84·5
28	76·7	73·2	74·1	77·2	71·5	74·3	77·9	74·1	75·5	82·4	70·4	76·8	92·6	81·3	85·9	87·5	82·7	85·1
29	75·0	71·6	73·7				77·1	74·4	76·0	84·2	73·7	78·5	93·7	80·4	87·6	88·6	83·1	85·6
30	77·3	73·6	74·9				82·1	72·1	76·5	83·8	75·4	78·9	95·4	77·9	88·4	87·3	80·4	83·7
31	75·7	73·6	74·2				81·2	71·9	76·6				92·8	78·0	86·3			
Mean	76·9	71·8	74·6	79·3	73·9	76·6	80·6	73·7	77·0	83·5	74·8	78·9	87·3	77·5	82·5	90·4	79·6	85·1

	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	88·0	77·1	83·1	89·1	83·0	85·5	90·8	83·3	88·1	83·7	75·3	80·0	78·7	74·7	77·5	84·5	78·1	83·3
2	87·9	75·3	82·8	87·1	81·0	84·4	93·6	83·6	89·4	83·3	74·0	78·8	80·4	74·3	77·8	82·2	74·0	77·9
3	87·8	82·6	84·9	88·1	80·9	84·8	95·0	87·0	89·1	83·8	74·3	78·9	81·6	78·6	80·5	79·4	74·1	76·6
4	94·3	82·0	87·5	88·4	81·2	84·7	92·1	83·6	87·9	84·2	74·7	80·0	81·7	78·2	80·6	75·4	70·4	73·2
5	89·9	82·1	87·2	89·4	82·3	85·6	91·3	84·7	87·1	85·4	80·0	82·8	82·8	78·9	80·5	76·6	70·4	74·2
6	88·3	82·5	84·9	92·3	79·9	86·8	89·5	85·0	87·1	86·4	77·0	82·7	82·4	78·7	80·6	78·1	67·9	73·8
7	88·4	84·1	85·7	90·0	80·2	85·2	91·3	82·6	86·7	83·9	75·3	80·6	85·4	79·5	82·3	77·9	70·2	74·4
8	88·0	82·1	84·9	89·8	83·7	86·4	89·1	84·5	87·9	83·4	76·5	80·0	83·9	81·6	82·7	79·5	77·3	78·6
9	89·5	82·2	85·0	89·9	78·5	85·5	90·3	81·2	85·2	82·0	79·2	80·9	82·2	75·9	80·0	83·2	74·2	78·4
10	92·4	80·0	86·0	87·3	80·3	84·9	87·8	82·4	85·7	85·4	78·5	82·1	82·4	76·6	79·5	81·3	79·0	80·0
11	88·1	75·0	83·1	88·5	79·7	84·3	90·0	78·6	85·1	85·5	81·1	82·6	82·3	78·0	80·8	80·6	77·2	79·1
12	86·1	80·1	84·2	90·1	81·8	85·5	89·4	76·0	83·2	85·5	79·1	82·1	81·2	75·0	78·3	77·7	75·6	76·1
13	87·4	85·2	86·4	90·3	75·0	84·5	89·2	82·0	84·8	81·4	80·2	81·0	83·1	78·5	81·3	75·9	73·9	74·8
14	90·8	85·0	86·9	92·7	82·2	87·1	88·4	80·2	84·1	81·8	78·4	80·1	83·4	78·3	82·4	73·9	72·8	73·5
15	92·1	84·6	87·5	93·0	80·9	86·9	86·8	81·1	83·8	83·3	74·7	79·0	80·9	73·8	78·9	75·5	73·0	73·9
16	91·2	82·8	86·7	93·6	79·2	87·8	88·3	79·2	84·4	84·0	69·2	75·9	79·6	73·1	76·4	75·7	74·0	74·7
17	92·4	81·7	87·0	95·0	76·4	86·2	88·7	80·2	84·8	82·2	70·7	76·7	81·8	71·2	75·9	75·1	74·0	74·6
18	91·8	83·3	87·6	95·3	77·7	87·7	85·0	82·3	83·4	83·1	73·0	77·4	82·3	78·4	81·0	74·1	66·0	71·7
19	93·9	85·8	88·5	93·9	83·8	88·7	85·2	77·7	82·5	82·3	73·7	77·0	82·9	76·3	79·2	76·8	64·6	70·9
20	93·0	86·1	88·7	91·2	84·8	87·8	86·4	77·5	83·0	84·3	67·6	75·5	77·5	70·1	74·1	76·3	72·7	74·3
21	93·1	85·4	88·7	93·2	86·8	88·6	87·4	81·4	84·7	84·1	70·4	77·4	80·6	74·2	78·2	76·3	71·5	74·0
22	87·8	81·0	85·7	89·4	84·6	87·4	87·2	79·6	84·8	85·4	80·2	81·7	82·2	72·8	79·3	80·3	74·9	77·8
23	87·0	76·0	82·4	92·0	85·3	88·6	86·1	79·9	83·0	84·2	78·9	81·7	78·1	72·4	75·2	79·2	75·1	77·3
24	90·4	76·1	84·2	94·2	84·0	88·9	87·1	79·3	83·4	83·1	74·4	79·6	78·0	71·7	74·9	81·6	77·8	79·9
25	91·0	74·3	83·7	90·3	83·6	87·3	86·2	79·7	82·7	79·8	70·6	75·0	83·1	72·1	77·9	81·4	77·0	79·6
26	90·3	80·0	86·1	92·7	85·8	88·3	86·3	77·9	81·6	79·1	67·7	74·9	83·6	74·3	77·9	81·2	69·9	75·1
27	91·5	84·1	87·2	93·2	85·4	88·8	87·3	75·0	81·7	79·0	73·9	76·0	77·9	74·6	76·0	73·6	69·6	71·7
28	88·4	86·9	87·5	95·3	87·4	90·0	85·3	72·9	78·9	80·1	71·1	75·6	76·9	74·8	75·8	74·6	67·0	70·6
29	90·9	84·8	87·6	91·2	86·3	88·2	82·6	72·0	77·0	80·3	75·5	78·2	85·2	76·0	81·1	73·4	63·6	68·6
30	90·4	84·0	86·8	90·1	84·0	87·0	85·5	70·9	78·5	82·6	75·6	79·3	84·0	77·2	79·4	74·2	66·4	72·3
31	90·2	84·3	86·0	92·4	84·1	87·9				79·7	77·5	78·7				74·2	64·2	68·3
Mean	90·1	81·8	86·0	91·3	82·3	86·8	88·3	80·0	84·3	83·0	75·1	79·1	81·5	75·7	78·9	77·7	72·1	75·1
									Annual	84·2	76·5	80·4						

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

86 ESKDALEMUIR: Louvered hut: h_t = 0·9 m. 1939

	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	94·3	6·0	86·0	4·9	80·9	6·2	83·8	7·5	75·9	6·8	72·8	9·5	69·8	8·6	83·8	12·1	90·3	15·5	86·3	8·7	85·6	7·2	94·3	11·8
2	83·9	5·2	97·4	3·8	92·9	10·3	84·9	7·2	64·4	5·7	44·7	7·0	83·2	10·1	90·6	12·2	83·7	15·6	81·1	7·5	92·0	7·9	80·8	7·0
3	86·6	3·7	99·2	5·4	87·0	8·5	95·8	7·7	64·7	6·3	56·3	10·5	78·5	10·9	86·4	12·0	90·8	16·6	82·0	7·6	87·3	9·1	91·0	7·2
4	88·3	4·0	96·7	7·8	86·0	9·2	78·0	5·7	74·0	7·3	57·7	11·7	81·1	13·4	75·3	10·4	86·5	14·7	68·9	6·9	89·6	9·3	87·7	5·4
5	79·5	3·5	97·1	8·9	87·4	7·8	67·2	4·9	83·4	8·8	53·2	10·1	87·6	14·2	78·9	11·5	83·7	13·5	83·7	10·1	90·9	9·4	85·3	5·7
6	90·8	4·0	93·7	9·4	79·8	6·6	64·9	4·6	75·5	8·3	57·9	11·2	85·0	11·8	84·4	13·3	91·3	14·7	84·2	10·1	83·7	8·7	85·1	5·5
7	97·7	7·7	96·9	9·5	82·7	6·0	66·1	4·8	79·5	9·5	64·1	10·9	88·1	12·9	90·4	12·8	92·9	14·6	86·1	9·0	85·5	10·0	94·6	6·4
8	94·9	9·5	98·3	10·3	82·1	6·2	92·5	8·3	77·7	9·7	59·7	8·8	85·4	11·9	84·2	12·9	90·7	15·4	77·3	7·7	88·9	10·7	96·3	8·8
9	85·0	7·3	89·8	9·2	77·6	6·2	91·6	10·3	85·1	11·8	68·6	10·2	85·0	11·9	87·2	12·6	82·4	11·7	85·0	9·1	87·0	8·7	93·7	8·4
10	85·3	5·1	95·8	11·4	91·1	6·7	69·5	9·1	71·3	10·5	79·0	10·4	67·5	10·1	84·7	11·8	93·9	13·8	87·5	10·1	90·3	8·7	93·9	9·4
11	86·7	5·2	94·8	10·5	90·7	7·5	69·9	9·0	74·2	8·9	74·6	8·8	72·9	9·0	83·3	11·1	75·2	10·6	90·0	10·8	95·8	10·1	91·1	8·6
12	86·4	4·6	82·5	7·1	65·6	5·2	86·5	9·9	74·8	7·7	65·9	6·8	86·8	11·5	75·7	11·0	81·3	10·1	87·4	10·1	85·7	7·6	83·0	6·3
13	88·5	5·1	74·3	5·7	88·2	8·7	93·9	10·6	68·9	8·2	62·6	7·0	97·1	14·9	78·0	10·6	79·7	11·0	92·5	9·9	95·7	10·5	84·1	5·9
14	92·2	5·4	89·7	7·1	73·4	8·0	93·8	9·9	85·5	9·2	95·2	11·3	91·2	14·5	87·6	14·1	74·1	9·8	84·5	8·5	91·9	10·8	84·5	5·4
15	90·0	8·5	91·8	8·7	84·2	7·8	86·4	9·1	81·3	8·3	93·7	12·9	85·0	14·0	87·7	13·9	75·2	9·7	83·0	7·8	83·4	7·7	88·8	5·8
16	91·3	8·7	82·2	5·9	73·7	7·6	68·7	7·2	67·8	7·4	73·0	9·9	89·3	14·0	80·8	13·6	83·2	11·2	84·5	6·4	87·8	6·8	85·0	5·9
17	95·8	9·3	86·9	6·4	71·1	5·4	80·1	7·3	71·6	7·3	85·0	11·1	81·7	13·1	70·1	10·6	82·0	11·3	90·4	7·2	89·0	6·7	81·9	5·6
18	92·0	8·0	84·3	6·1	91·7	7·3	70·2	6·9	72·5	7·2	86·3	12·7	76·3	12·7	79·6	13·3	78·5	9·9	86·5	7·2	87·0	9·3	92·3	5·1
19	96·3	8·8	77·9	6·7	72·0	5·3	72·2	8·0	78·0	8·1	63·5	9·4	86·1	15·2	86·3	15·4	80·5	9·6	80·3	6·5	78·8	7·5	92·9	4·9
20	94·0	8·0	88·1	6·9	78·1	5·8	72·2	7·7	87·6	9·1	88·1	11·4	84·8	15·1	87·5	14·7	85·0	10·4	89·6	6·6	90·0	5·9	88·3	5·9
21	94·9	8·6	92·4	7·8	76·6	6·4	84·0	8·9	83·5	9·7	83·7	12·2	82·4	14·7	94·0	16·7	79·5	10·9	91·9	7·7	92·0	8·1	93·7	6·2
22	91·1	6·9	91·3	7·1	81·6	6·2	70·3	6·4	86·3	11·0	78·5	10·9	90·5	13·3	91·9	15·1	86·1	11·9	86·9	9·8	92·5	8·8	87·5	7·5
23	81·5	6·6	90·3	6·5	74·6	5·7	78·7	7·2	90·3	10·9	77·3	11·4	81·3	9·6	90·1	16·0	73·9	9·1	82·3	9·3	92·6	6·6	89·2	7·4
24	76·7	5·1	89·1	6·9	79·4	5·1	79·1	7·2	87·7	11·7	69·1	8·3	68·9	9·2	85·0	15·4	79·2	10·0	73·6	7·2	79·4	5·6	85·5	8·5
25	91·0	5·3	83·3	6·2	79·5	5·3	74·7	6·0	68·6	9·4	68·8	8·5	79·7	10·3	92·6	15·1	86·3	10·4	72·7	5·1	93·1	8·1	82·9	8·1
26	90·1	6·0	83·9	5·7	84·0	5·8	68·7	5·2	77·5	9·6	72·5	9·3	82·5	12·4	91·0	15·8	80·2	9·0	75·6	5·3	77·9	6·7	85·3	6·1
27	88·4	6·0	90·9	6·6	85·2	5·7	65·4	4·9	70·8	10·8	79·8	10·8	87·4	14·2	89·7	16·1	81·8	9·2	82·5	6·3	85·7	6·5	75·0	4·2
28	89·8	5·9	92·3	6·2	87·9	6·4	73·5	5·9	74·1	11·0	97·7	13·8	98·1	16·2	85·1	16·5	79·9	7·4	76·2	5·6	81·9	6·1	82·6	4·2
29	83·9	5·4			89·1	6·8	69·7	6·3	75·3	12·5	81·2	11·8	82·0	13·6	90·5	15·6	80·5	6·5	83·8	7·4	89·2	9·6	90·7	4·0
30	84·2	5·9			82·0	6·4	61·7	5·7	70·1	12·3	86·5	11·1	85·3	13·5	89·3	14·3	79·3	7·2	85·9	8·2	83·5	8·0	87·7	5·1
31	81·6	5·4			79·9	6·3			71·8	11·0			85·3	12·8	83·3	14·1			88·7	8·1			87·2	3·8
Mean*	88·8	6·3	89·9	7·3	81·8	6·7	77·1	7·3	76·4	9·2	73·2	10·3	83·4	12·6	85·3	13·6	82·9	11·4	83·6	8·0	87·8	8·2	87·8	6·5

* Mean of the column.

RELATIVE HUMIDITY

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

87 ESKDALEMUIR: h_t = 0·9 m. 1939

	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.	89·2	88·3	89·1	89·5	88·5	89·3	89·6	90·9	91·3	90·5	90·8	89·8	87·6	86·9	86·0	86·5	87·5	87·7	88·5	89·0	89·1	89·2	87·6	89·3	88·9	88·8
Feb.	90·0	90·0	91·1	90·0	90·6	90·9	91·5	91·3	91·6	91·4	89·3	88·7	86·6	86·3	87·2	89·0	89·4	90·9	91·0	90·1	90·8	89·6	89·7	90·0	90·2	89·9
Mar.	85·5	85·8	85·1	85·5	85·7	86·5	86·0	85·2	84·3	81·9	79·3	77·3	75·0	72·5	72·2	74·5	73·8	78·3	81·2	84·6	85·5	85·3	85·9	86·4	85·5	81·8
Apr.	85·0	87·0	88·3	89·1	87·6	87·7	87·5	84·1	77·4	71·8	69·3	67·1	63·2	62·3	62·9	64·3	66·3	68·5	72·7	77·4	81·3	82·1	83·7	84·9	84·9	77·1
May	88·4	88·2	88·2	89·2	88·7	89·1	85·8	82·6	77·7	73·3	69·3	65·9	63·7	61·7	59·7	61·9	62·3	64·5	69·4	73·6	79·0	81·8	83·9	86·4	88·6	76·4
June	85·2	86·2	87·1	88·7	87·6	87·2	82·9	77·2	70·7	65·6	65·0	63·3	60·4	58·5	58·4	58·7	60·6	61·8	64·5	69·5	75·8	78·3	81·4	83·0	85·1	73·2
July	91·9	92·8	92·7	93·1	92·8	92·7	90·5	88·3	84·0	80·2	78·0	76·3	74·2	73·3	70·3	71·2	72·5	75·6	77·8	81·7	85·3	88·3	88·7	89·9	91·8	83·4
Aug.	92·6	93·2	93·2	94·0	93·6	94·6	93·7	90·3	86·1	82·3	78·2	76·9	76·1	74·3	73·3	74·0	75·1	77·8	80·9	84·9	88·6	90·1	91·3	92·5	92·8	85·3
Sept.	89·1	90·0	89·6	89·7	89·6	89·2	89·3	88·1	84·9	81·2	75·8	72·5	71·6	70·9	71·0	72·7	75·4	78·3	83·1	85·1	86·5	87·6	89·0	89·9	89·0	82·9
Oct.	88·0	88·9	89·2	89·0	90·6	90·3	89·5	89·1	87·3	84·6	81·0	77·1	72·8	70·8	72·1	73·4	75·8	81·6	82·9	84·1	85·8	86·7	87·5	87·6	87·9	83·6
Nov.	89·6	89·3	88·8	88·5	89·1	89·8	88·4	89·1	89·5	89·0	87·3	85·0	83·8	83·5	82·9	84·7	86·4	87·6	87·5	87·9	89·1	89·8	89·9	90·3	90·0	87·8
Dec.	88·9	88·9	89·5	89·3	89·1	89·2	88·7	89·1	89·5	88·8	87·8	87·1	85·5	84·2	84·0	83·8	86·3	87·5	87·5	88·3	88·7	88·6	88·8	88·9	89·0	87·8
Annual	88·6	89·1	89·3	89·7	89·5	89·7	88·6	87·1	84·5	81·7	79·2	77·2	75·0	73·7	73·3	74·5	75·9	78·3	80·5	83·0	85·4	86·5	87·3	88·3	88·6	83·2

VAPOUR PRESSURE

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

88 ESKDALEMUIR: h_t = 0·9 m. 1939

	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.	5·9	5·8	5·9	5·9	5·9	5·9	6·0	5·9	6·0	6·0	6·1	6·3	6·4	6·6	6·5	6·4	6·3	6·1	6·1	6·1	6·1	6·1	5·9	5·8	5·9	6·1
Feb.	7·0	7·0	6·9	6·9	6·8	6·8	6·9	6·8	6·8	7·0	7·2	7·3	7·4	7·5	7·6	7·6	7·6	7·5	7·3	7·2	7·2	7·1	7·0	7·0	7·0	7·1
Mar.	6·5	6·5	6·3	6·3	6·3	6·3	6·2	6·3	6·5	6·7	6·8	6·9	6·9	6·9	6·9	7·1	6·9	7·0	6·8	6·7	6·6	6·7	6·6	6·6	6·6	6·6
Apr.	6·9	6·9	6·9	6·8	6·7	6·7	6·9	7·1	7·2	7·2	7·2	7·3	7·2	7·3	7·3	7·4	7·5	7·4	7·5	7·4	7·2	7·1	7·1	7·0	6·9	7·1
May	8·6	8·5	8·3	8·3	8·3	8·4	8·7	9·0	9·2	9·2	9·2	9·1	9·2	9·3	9·2	9·4	9·4	9·5	9·7	9·6	9·3	9·1	8·9	8·8	8·7	9·0
June	9·7	9·5	9·4	9·4	9·2	9·3	9·8	10·2	10·1	10·1	10·5	10·6	10·5	10·6	10·8	10·8	11·0	10·9	11·0	11·0	10·8	10·2	10·0	9·9	9·7	10·2
July	12·0	11·8	11·7	11·6	11·5	11·6	11·9	12·4	12·5	12·4	12·6	12·7	12·7	12·9	12·5	12·9	12·9	13·1	13·0	13·0	12·9	12·6	12·3	12·1	12·0	12·4
Aug.	12·6	12·5	12·3	12·2	12·1	12·1	12·4	13·0	13·5	13·8	13·7	13·9	14·3	14·2	14·2	14·5	14·5	14·6	14·6	14·4	13·7	13·3	13·1	13·0	12·7	13·4
Sept.	10·6	10·6	10·6	10·5	10·5	10·4	10·4	10·8	11·3	11·6	11·6	11·5	11·6	11·6	11·5	11·7	11·9	11·9	11·7	11·2	11·0	10·7	10·5	10·3	10·3	11·1
Oct.	7·5	7·4	7·3	7·3	7·4	7·5	7·4	7·4	7·8	8·1	8·5	8·5	8·4	8·2	8·3	8·2	8·3	8·3	8·0	7·8	7·8	7·7	7·6	7·6	7·5	7·8
Nov.	8·0	8·0	7·9	7·8	7·8	7·9	7·7	7·8	7·9	8·1	8·3	8·4	8·4	8·5	8·4	8·4	8·4	8·3	8·2	8·2	8·2	8·3	8·2	8·3	8·1	8·1
Dec.	6·3	6·2	6·3	6·2	6·2	6·2	6·1	6·1	6·0	6·0	6·2	6·4	6·5	6·6	6·5	6·4	6·3	6·3	6·2	6·3	6·3	6·2	6·2	6·1	6·1	6·3
Annual	8·2	8·2	8·1	8·1	8·0	8·1	8·1	8·3	8·5	8·6	8·8	8·9	8·9	9·0	9·0	9·1	9·0	9·0	8·9	8·8	8·6	8·5	8·4	8·3	8·2	8·6

* Mean of values, 1,2,.....23, ½(0 + 24).

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

89 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. 1939

	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	8·9	12·8	...	...	...	...	4·9	3·9	3	...	...	...	...	...	...	...	...	...
2	3·4	8·8	...	...	...	...	33·9	18·0	5	0·1	...	...	...	...	...	...	...	...
3	...	...	...	0·1	...	...	8·0	10·8	3	1·7	3·3	1	...	...	...	...	...	...
4	...	...	...	5·6	10·3	2	3·3	1·8	4	0·2	...	...	...	...	...	...	...	...
5	...	...	...	11·5	13·4	7	15·3	5·4	26	...	...	...	8·3	11·0	3	...	...	...
6	2·5	2·7	...	15·9	12·9	5	0·4	0·3	1	...	...	...	...	...	...	...	...	...
7	20·1	16·1	5	24·6	15·0	13	10·7	5·7	10	...	...	...	0·3	0·2	2	...	...	...
8	30·6	19·6	4	34·4	10·7	14	24·4	7·8	19	6·7	10·4	3	0·2	...	...	...	...	...
9	14·3	11·0	13	18·6	15·6	6	...	...	...	0·2	0·7	...	...	...	...	...	...	...
10	...	...	...	2·3	7·3	2	0·2	...	...	...	...	...	...	...	...	3·3	3·5	11
11	0·7	2·8	...	5·9	6·2	5	11·2	10·4	3	...	...	...	...	...	...	4·3	2·6	12
12	...	...	...	9·6	6·1	14	...	...	...	...	...	...	0·2	0·3	...	1·6	2·0	5
13	0·1	...	...	...	...	...	0·2	...	...	12·6	7·9	3	7·0	4·8	3	...	...	...
14	2·7	2·9	2	0·3	0·9	...	...	...	...	9·1	10·2	15	4·7	7·2	4	12·2	15·1	9
15	29·5	11·3	7	1·9	3·8	1	2·1	3·1	2	13·1	9·1	10	0·3	0·2	...	16·4	14·7	14
16	21·0	13·1	7	3·6	2·2	5	0·4	0·9	...	2·5	0·8	33	...	...	...	4·6	4·3	2
17	18·7	15·1	5	6·5	6·8	3	1·1	0·9	3	5·1	5·8	6	...	...	...	4·8	5·0	21
18	1·4	5·1	1	1·1	3·3	...	2·1	3·1	3	...	...	...	...	...	...	4·4	3·3	3
19	1·8	2·7	2	1·6	1·9	2	...	...	...	...	...	...	...	...	...	...	...	...
20	5·3	5·6	2	0·1	0·3	...	0·9	1·1	1	...	...	...	1·9	1·1	9	2·9	4·8	2
21	2·6	7·2	2	27·7	20·1	4	5·2	4·6	12	3·8	3·7	4	5·8	2·3	68	...	...	...
22	3·1	5·8	2	11·2	9·8	10	5·2	6·1	4	3·7	3·9	3	1·7	3·8	2	...	...	...
23	1·8	3·8	1	6·9	6·3	3	0·1	0·9	...	...	...	...	...	...	...	...	...	...
24	...	...	...	0·1	0·3	...	...	...	...	2·6	5·4	2	...	...	...	0·4	0·8	...
25	1·5	3·5	...	17·4	7·7	6	1·1	1·9	...	0·9	0·9	1	...	...	...	0·9	1·0	5
26	6·3	11·7	...	3·1	2·4	...	2·3	2·2	...	0·1	...	...	0·2	0·3	...	...	...	...
27	1·7	2·5	...	22·4	11·8	16	2·3	6·3	...	...	...	...	...	...	...	3·0	2·4	2
28	...	...	...	2·7	1·2	3	5·1	12·6	2	0·1	0·3	...	...	...	...	38·2	16·4	71
29	0·2	0·1	...				2·4	7·9	...	0·3	0·7	...	...	...	...	2·3	3·7	6
30	0·1	...	...				...	...	...	...	...	...	...	...	...	8·2	3·4	16
31	...	...	...				...	...	...				...	...	...			
Total	178·3	164·2	—	235·1	176·3	—	142·8	115·7	—	62·8	63·1	—	30·6	31·2	—	107·5	83·0	—

	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	...	...	...	6·2	2·8	48	0·2	0·1	2	2·2	4·7	6	0·3	0·4	...	27·5	17·0	18
2	5·2	5·0	37	3·9	3·8	18	0·3	0·1	5	0·4	0·2	3	0·4	0·3	...	7·4	7·0	7
3	1·0	1·0	2	3·3	1·9	13	27·6	7·5	93	...	...	...	1·5	2·8	1	19·5	11·4	24
4	3·1	2·1	25	...	...	...	2·6	1·4	23	0·3	0·5	...	0·5	0·8	1	1·9	3·5	1
5	11·6	3·9	96	...	...	...	0·1	...	...	10·3	5·8	25	10·8	4·7	9	1·8	0·7	10
6	15·2	6·8	36	7·2	1·4	85	1·7	2·0	2	0·1	...	...	7·9	4·0	36	...	...	...
7	17·8	6·1	52	4·2	2·9	31	3·5	3·9	2	...	...	...	2·6	3·0	13	5·4	6·4	2
8	2·6	2·5	2	...	...	...	6·1	4·8	5	...	...	...	27·5	10·9	43	5·8	7·7	2
9	11·0	4·4	65	12·9	4·3	40	...	...	...	22·5	14·7	6	12·1	9·9	13	18·0	8·5	30
10	...	...	...	6·2	3·5	51	24·3	14·0	5	6·4	5·8	2	0·7	1·1	1	5·3	6·4	3
11	...	...	...	2·9	1·2	30	...	...	...	15·2	9·1	35	7·6	6·4	10	...	...	...
12	2·8	3·3	2	...	...	...	...	...	...	...	...	...	1·1	2·5	1	...	...	...
13	18·9	16·5	22	...	...	...	6·4	6·2	26	8·8	12·1	2	11·3	10·7	3	...	...	...
14	9·3	8·7	28	...	...	...	...	...	...	3·6	4·4	10	22·1	9·5	27	...	...	...
15	0·2	...	...	...	...	...	...	...	...	...	...	...	7·7	6·9	13	0·1	...	...
16	...	...	...	...	...	...	...	...	...	...	...	...	1·8	1·6	2	...	...	...
17	...	...	...	...	...	...	...	...	...	...	...	...	1·5	1·8	5	...	...	...
18	...	...	...	...	...	...	...	...	...	0·2	...	...	2·7	3·3	2	...	...	...
19	1·0	0·5	27	...	...	...	...	...	...	0·1	...	...	...	...	...	0·3	...	...
20	...	...	...	0·1	...	...	...	...	...	...	...	...	...	...	...	0·1	...	...
21	...	...	...	4·8	2·1	44	...	...	...	0·1	...	...	...	...	...	...	...	...
22	1·2	1·3	5	...	...	...	...	...	...	2·0	6·1	1	30·0	12·3	13	...	...	...
23	5·5	2·0	27	...	...	...	...	...	...	1·5	2·2	1	...	...	...	0·2	...	...
24	...	...	...	...	...	...	0·1	...	...	...	...	...	...	...	...	0·3	...	...
25	0·1	...	...	5·7	2·4	74	...	...	...	...	...	...	23·3	14·9	7	0·1	...	...
26	0·3	0·1	...	2·7	2·2	1	...	...	...	0·2	0·3	...	14·4	7·7	19	0·1	...	...
27	5·3	3·6	24	...	...	...	...	...	...	4·0	3·5	8	8·6	4·7	11	...	...	...
28	55·6	22·5	28	...	...	...	...	...	...	...	...	...	1·4	0·9	1	...	...	...
29	1·6	2·2	2	0·4	0·8	...	...	...	...	1·3	2·1	1	19·3	9·7	12	...	...	...
30	6·2	2·3	10	...	...	...	...	...	...	2·6	6·8	1	3·0	4·0	2	0·3	...	...
31	6·5	5·8	16	...	...	...				2·7	6·6	1				...	...	...
Total	182·0	100·6	—	60·5	29·3	—	72·9	40·0	—	84·5	84·9	—	220·1	134·8	—	94·1	68·9	—

RAINFALL

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

90 ESKDALEMUIR: h_r = 242·0 m. + 0·4 m. 1939

	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
	millimetres																								
Jan.	5·3	6·7	7·9	11·1	12·6	5·6	11·4	8·8	9·3	9·3	8·0	5·8	6·1	5·2	5·8	8·1	5·1	6·7	7·4	8·0	5·7	8·9	5·1	4·4	178·3
Feb.	12·0	9·2	7·5	11·2	14·8	12·4	10·1	8·8	11·9	4·9	4·9	8·4	5·5	6·1	10·5	16·7	17·7	10·2	7·9	5·6	9·2	7·9	10·6	11·1	235·1
Mar.	4·4	4·6	5·6	7·1	9·5	11·2	14·5	8·2	10·0	6·2	3·7	7·3	8·1	7·7	4·0	4·3	3·7	1·7	2·9	5·6	2·3	1·7	3·4	5·1	142·8
Apr.	1·9	0·8	3·6	4·2	3·5	2·1	2·5	2·9	3·4	0·6	0·2	2·2	3·2	3·7	2·7	3·1	2·5	3·2	6·9	2·0	0·9	3·3	2·0	1·4	62·8
May	1·4	0·9	0·8	0·5	0·6	0·7	0·2	0·6	0·7	0·2	0·0	5·8	1·9	0·4	3·3	0·6	1·0	0·3	1·2	2·6	2·9	1·7	1·0	1·3	30·6
June	4·1	6·5	7·8	7·9	6·7	5·2	3·2	3·7	5·8	3·3	5·9	6·3	4·9	2·2	3·4	4·0	2·3	2·3	4·1	7·8	3·0	1·3	3·2	2·6	107·5
July	7·4	3·1	2·1	6·6	12·5	6·6	5·5	3·8	6·7	4·0	11·5	14·3	11·3	10·2	7·1	6·3	7·4	6·6	16·1	12·6	6·6	6·0	4·7	3·0	182·0
Aug.	0·7	0·0	1·2	0·2	0·0	2·6	1·4	0·2	0·9	1·2	1·8	2·4	2·9	1·0	4·8	3·6	8·5	3·7	7·9	5·7	1·7	5·1	0·3	2·7	60·5
Sept.	4·6	2·6	4·7	4·0	1·9	3·5	2·6	2·2	4·8	2·5	3·7	3·1	3·1	6·3	11·0	3·5	1·3	1·8	2·3	2·0	0·0	0·3	0·0	1·1	72·9
Oct.	1·1	1·2	3·5	3·1	5·4	3·3	3·1	5·2	2·8	2·3	2·8	4·3	4·7	4·3	5·6	6·9	3·4	4·4	3·7	2·0	3·3	3·3	3·7	1·1	84·5
Nov.	7·5	5·3	8·5	11·1	9·9	5·0	6·8	5·7	6·9	5·8	3·9	6·7	15·2	12·9	11·0	11·1	7·2	7·3	8·1	7·9	18·0	11·8	12·9	13·6	220·1
Dec.	3·6	4·9	4·9	4·8	2·1	1·3	1·3	0·9	1·0	1·6	1·8	3·2	5·1	5·1	6·1	10·3	9·0	4·1	4·0	2·7	4·4	6·2	3·2	2·5	94·1
Annual	54·0	45·8	58·1	71·8	79·5	59·5	62·6	51·0	64·2	41·9	48·2	69·8	72·0	65·1	75·3	78·5	69·1	52·3	72·5	64·5	58·0	57·5	50·1	49·9	1471·2

RAINFALL

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

91 ESKDALEMUIR: h_r = 242·0 m. + 0·4 m. 1939

	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.	5·7	5·3	7·5	7·8	7·0	6·8	9·0	6·9	8·8	7·6	8·3	7·4	8·1	5·8	6·8	6·0	6·7	6·4	7·5	7·2	5·3	7·1	3·9	5·3	164·2
Feb.	7·3	7·4	9·0	7·0	6·3	7·9	7·8	6·4	7·8	6·3	4·0	6·5	7·9	5·9	7·8	9·9	11·1	7·9	6·8	7·7	7·1	6·5	6·7	7·3	176·3
Mar.	5·9	4·5	5·8	5·6	5·2	7·1	6·7	6·2	7·4	4·2	5·0	6·1	6·3	3·0	2·5	3·7	3·2	2·9	2·8	2·6	4·5	4·3	5·4	4·8	115·7
Apr.	2·0	1·3	3·4	4·8	3·6	2·5	3·0	1·9	2·2	0·5	0·4	2·2	2·7	3·4	2·6	3·1	4·3	3·2	3·0	2·2	2·1	2·3	3·1	3·3	63·1
May	1·0	1·6	1·7	1·3	2·5	2·1	0·3	0·5	1·2	0·4	0·0	1·9	1·7	1·0	1·5	1·0	1·8	0·8	0·6	2·1	2·2	1·7	1·3	1·0	31·2
June	4·1	5·4	5·5	5·6	5·9	4·6	4·7	3·5	5·1	2·5	2·9	3·9	2·8	1·4	2·1	2·3	2·5	1·7	1·3	2·1	3·4	2·7	3·4	3·6	83·0
July	5·0	4·1	3·9	4·3	4·6	5·0	4·0	4·7	5·9	2·4	3·4	5·6	5·9	3·8	3·7	4·0	4·2	3·4	5·3	5·5	3·5	3·3	2·7	2·4	100·6
Aug.	0·3	0·0	0·4	0·8	0·0	0·7	1·5	0·5	0·6	0·1	0·9	1·2	1·5	1·0	2·5	1·5	3·9	2·8	2·3	1·6	1·0	2·0	1·2	1·0	29·3
Sept.	1·7	1·2	1·3	2·4	2·3	2·9	2·9	2·4	2·1	1·8	2·1	2·0	1·9	3·2	3·0	1·9	1·2	1·7	1·0	0·4	0·0	0·1	0·0	0·5	40·0
Oct.	2·4	3·2	3·2	4·3	4·7	4·3	4·3	6·0	4·9	4·1	2·6	4·1	4·8	3·2	4·7	3·0	1·9	3·3	2·0	2·2	3·3	2·6	4·3	1·5	84·9
Nov.	5·0	5·0	4·6	5·9	5·7	4·3	6·1	7·1	5·2	2·7	3·3	4·0	5·4	6·8	4·7	4·3	5·0	5·8	4·8	4·6	8·2	7·7	9·2	9·4	134·8
Dec.	4·0	3·7	3·0	2·5	1·8	1·0	1·0	1·5	2·1	1·5	2·3	3·6	4·7	4·8	5·0	4·5	2·4	3·5	2·7	3·0	2·2	2·7	2·9	2·5	68·9
Annual	44·4	42·7	49·3	52·3	49·6	49·2	51·3	47·6	53·3	34·1	35·2	48·5	53·7	43·3	46·9	45·2	48·2	43·4	40·1	41·2	42·8	43·0	44·1	42·6	1092·0

NOTES ON RAINFALL

92 ESKDALEMUIR 1939

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" September 14–30
"Partial drought" No occasions
"Dry spell" May 23–June 9; September 14–30; December 11–31 (persisting until January 8, 1940)

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 29–November 18
"Wet spell" No occasions

Rainfall Duration

There were 167 days on which no duration of rainfall was registered. The day with the greatest duration was July 28 when the duration was 22·5 hr., the amount falling being 55·6 mm.

Hours	0·1–1·0	1·1–2·0	2·1–6·0	6·1–12·0	>12·0
Number of days	34	17	74	50	23

Notable Falls of the Year

The greatest amount in a 60 min. period was 8·6 mm. which was recorded between 18h. and 19h. on July 28; on this occasion 5 mm. of rain fell in 25 min. Falls of 5 mm. in 1 hr. or less occurred on 13 days.

Details of the greatest continuous falls are as follows

	March 1–2	July 28–29	November 22
Amount (mm.)	29	53	27
Duration of rainfall (hr.)	12·9	16·5	8·1

Rate of Rainfall (Jardi recorder)

The highest instantaneous rate of rainfall was 96 mm./hr. at 14h. 5m. on July 5. The maximum rate exceeded the 50 mm./hr. four times on September 3, three times on June 28, twice on each of July 7 and August 25 and once on each of May 21, July 5, July 9, August 6 and 10.

93 ESKDALEMUIR: h_s(height of recorder above ground) = 1·5 m. 1939

	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
	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%
1	...	...	6·2	72	7·0	66	0·7	5	5·9	39	10·6	63	8·3	48	2·3	14	0·7	1	0·1	1	...	...	...	...
2	2·5	35	5·4	62	...	...	1·7	13	7·1	47	15·3	90	1·3	8	0·3	2	2·8	20	9·9	86	...	...	1·2	16
3	2·3	32	...	...	...	...	...	...	4·1	27	14·8	87	2·0	12	2·9	18	3·2	23	4·6	40	...	...	·	
4	1·3	18	...	...	0·1	1	6·1	46	0·1	1	14·7	86	2·0	12	6·9	44	3·9	29	5·2	46	...	...	2·2	30
5	5·8	80	...	...	0·5	5	10·5	79	...	...	14·7	86	2·1	12	6·5	41	4·8	35	...	...	0·8	9	2·0	27
6	2·6	36	...	...	2·5	23	3·4	25	6·9	45	14·3	84	4·2	24	5·0	32	...	...	1·2	11	4·1	46	5·2	71
7	...	...	...	...	3·0	27	10·5	78	3·9	25	10·9	64	1·8	11	0·3	2	0·1	1	1·2	11	0·6	7	...	...
8	...	...	...	...	...	...	...	...	7·8	50	12·6	73	1·1	6	1·4	9	1·4	11	3·5	32	0·3	3	...	...
9	...	...	0·8	9	3·6	32	...	...	1·5	10	7·1	41	2·2	13	4·9	32	3·9	29	...	...	1·1	13	...	...
10	6·5	88	...	...	...	...	7·4	54	11·6	74	1·2	7	11·9	70	4·5	29	...	...	4·4	40	2·0	23	...	...
11	...	...	...	...	...	...	7·6	55	7·7	49	4·7	27	1·1	6	3·9	25	7·7	59	...	...	...	...	0·5	7
12	2·7	36	2·4	26	3·7	32	3·0	22	2·6	16	8·1	47	...	...	6·5	43	9·3	71	5·7	53	2·5	29	...	...
13	1·0	13	5·1	54	...	...	...	...	5·5	34	9·8	57	...	...	8·5	56	5·4	42	...	...	...	...	...	...
14	...	...	...	...	3·0	26	0·6	4	0·2	1	...	...	0·7	4	2·3	15	5·2	40	4·1	39	0·3	4	...	...
15	0·3	4	...	...	1·8	15	...	...	0·7	4	0·5	3	3·2	19	1·8	12	2·7	21	5·4	51	1·2	14	...	...
16	...	...	1·9	20	4·3	37	8·7	62	6·8	42	9·5	55	1·1	7	3·8	59	0·7	6	7·0	67	0·9	11	0·8	11
17	...	...	...	...	1·9	16	5·3	37	1·4	9	5·5	32	7·0	42	12·7	85	...	...	2·0	19	1·0	12	...	...
18	...	...	1·6	16	1·1	9	7·3	51	0·5	3	3·5	20	7·5	45	11·4	77	...	...	6·3	61	...	...	5·9	84
19	...	...	5·3	54	5·4	45	11·5	80	0·7	4	10·4	60	3·0	18	1·5	10	0·2	2	7·5	73	2·9	36	4·0	57
20	...	...	...	...	3·6	30	6·8	47	0·4	2	...	...	6·5	39	1·0	7	...	...	5·0	49	0·3	4	0·3	4
21	...	...	...	...	4·2	35	1·0	7	1·3	8	5·4	31	2·4	14	1·7	12	...	...	2·6	26	...	...	...	...
22	...	...	0·5	5	4·1	34	10·6	73	7·0	43	10·0	58	1·9	11	...	...	...	...	1·8	18	...	...	2·9	41
23	1·6	20	...	...	6·5	53	0·9	6	1·8	11	6·3	36	8·2	50	...	...	7·0	57	4·3	43	...	...	3·1	44
24	4·9	61	3·8	37	5·9	48	6·1	42	0·3	2	4·6	26	11·8	72	7·2	50	4·2	35	5·1	52	6·8	87	...	...
25	...	...	1·5	15	6·2	50	8·0	54	5·8	35	4·1	24	10·7	65	...	...	0·1	1	4·6	47	...	...	1·6	23
26	0·5	6	0·5	5	5·5	44	4·1	29	4·2	25	8·9	51	3·9	24	2·7	19	3·1	26	6·8	70	1·2	16	0·6	9
27	1·9	23	...	...	0·5	4	6·8	46	13·5	81	2·2	13	2·0	12	3·2	23	6·7	56	3·0	31	0·4	5	...	...
28	1·9	23	...	...	0·7	6	5·1	34	9·1	54	...	...	...	...	5·7	40	3·8	32	3·5	37	0·7	9	...	...
29	0·1	1			...	...	7·6	51	8·8	52	5·0	29	2·6	16	0·1	1	3·6	31	...	...	1·5	20	0·2	3
30	1·5	18			3·3	26	10·2	68	13·8	82	3·0	17	6·6	41	0·5	4	5·3	45	3·7	39	1·8	24	...	...
31	0·3	4			6·3	49			15·1	89			2·1	13	6·1	44			...	...			6·3	89
Mean	1·22	16	1·25	13	2·73	23	5·06	36	5·04	31	7·26	42	3·85	23	3·89	26	2·86	22	3·50	33	1·01	12	1·19	17
											Annual mean		3·24	26										

DURATION OF BRIGHT SUNSHINE

Monthly and annual totals between exact hours, local apparent time

94 ESKDALEMUIR: h_s = 1·5 m. 1939

	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
	hours																			%
Jan.	–	–	–	–	...	2·2	5·6	6·4	5·8	5·1	5·9	5·8	0·9	...	–	–	–	–	37·7	16
Feb.	–	–	–	...	1·0	5·5	5·4	5·6	5·9	3·7	3·6	2·3	2·0	...	...	–	–	–	35·0	13
Mar.	–	–	...	1·5	5·8	11·2	8·7	9·2	8·2	8·2	9·0	10·3	7·7	4·6	0·3	...	–	–	84·7	23
Apr.	–	...	2·2	8·3	13·1	16·1	14·6	12·6	14·5	15·1	12·1	12·2	11·8	9·0	7·6	2·5	...	–	151·7	36
May	...	0·6	3·0	6·6	10·4	10·5	11·4	10·2	11·9	14·0	13·6	13·3	12·8	13·2	12·1	10·9	1·6	...	156·1	31
June	...	3·5	9·6	12·8	14·4	15·9	17·0	15·4	17·8	16·8	16·6	15·9	16·8	15·6	15·0	11·3	3·3	...	217·7	42
July	...	0·6	3·7	5·5	8·1	7·4	8·2	9·2	8·1	9·6	11·7	13·6	11·0	6·7	8·6	5·7	1·5	...	119·2	23
Aug.	–	...	1·3	5·4	8·5	10·0	10·0	9·2	12·4	9·2	10·4	13·0	11·1	9·5	7·0	3·3	0·3	–	120·6	26
Sept.	–	–	...	1·8	6·4	8·6	11·2	11·5	9·5	8·5	7·4	6·7	6·7	5·8	1·7	...	–	–	85·8	22
Oct.	–	–	–	...	4·1	11·3	14·1	14·7	15·7	13·6	10·6	10·2	10·1	4·1	...	–	–	–	108·5	33
Nov.	–	–	–	–	...	2·0	4·7	5·4	5·1	4·9	4·2	3·0	1·1	...	–	–	–	–	30·4	12
Dec.	–	–	–	–	–	0·6	4·3	7·9	7·5	6·1	5·9	4·4	0·1	–	–	–	–	–	36·8	17
Annual	...	4·7	19·8	41·9	71·8	101·3	115·2	117·3	122·4	114·8	111·0	110·7	92·1	68·5	52·3	33·7	6·7	...	1184·2	26

WIND

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

95 ESKDALEMUIR: 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. 1939

	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	7·6	21	2·0	9	5·3	19	4·5	11	7·4	18	5·1	11	3·1	13	5·0	14	2·4	11	4·8	14	5·2	15	11·4	25
2	6·6	24	0·4	5	14·1	27	5·0	11	4·9	14	1·2	7	5·6	18	4·1	13	1·0	5	5·6	17	3·8	11	8·9	27
3	0·8	9	3·4	15	5·2	22	5·9	17	3·8	13	1·1	7	5·6	15	5·0	17	6·4	20	2·9	10	5·0	15	6·4	18
4	3·5	13	6·3	15	8·6	21	8·4	21	3·7	15	1·1	7	3·0	12	6·3	16	1·9	9	6·3	22	3·7	16	3·3	15
5	0·9	7	9·0	19	8·2	20	2·5	10	3·9	16	1·8	9	3·8	17	4·6	12	2·5	10	8·1	26	3·3	14	4·8	14
6	1·1	10	11·5	23	8·8	22	3·1	9	1·7	13	3·0	12	5·9	18	2·3	10	2·8	11	4·0	18	9·2	22	1·5	10
7	6·2	21	10·1	25	8·8	27	2·2	9	3·4	11	3·1	18	8·4	19	1·5	8	2·1	11	3·0	12	6·8	22	2·6	10
8	5·4	15	9·1	25	9·7	24	6·6	17	2·9	10	3·4	16	6·7	17	1·4	7	6·8	20	6·1	19	11·6	26	1·9	10
9	7·2	22	8·2	24	2·9	9	1·7	7	3·5	11	3·9	13	5·8	17	3·4	14	2·9	10	9·8	21	8·6	24	4·8	22
10	2·7	16	11·4	23	1·1	5	4·1	15	3·9	15	5·3	15	4·4	13	6·0	14	6·6	19	4·6	13	4·0	11	6·8	17
11	5·1	15	12·7	24	5·5	22	3·1	10	3·3	10	3·0	11	2·3	9	5·5	15	5·6	15	3·3	10	4·0	11	3·8	11
12	1·2	12	9·0	24	3·2	14	6·1	17	5·3	16	3·8	16	5·2	14	4·8	16	2·0	9	2·7	9	1·7	8	2·3	9
13	2·4	14	5·7	23	5·4	21	12·1	22	2·9	11	1·9	8	6·7	16	2·3	9	3·9	14	5·5	12	6·7	21	3·5	13
14	2·8	22	4·2	17	7·0	19	9·9	21	2·2	9	4·0	15	3·7	13	2·2	8	2·4	11	8·2	22	10·2	27	1·2	6
15	11·3	28	8·3	23	3·8	15	9·6	25	6·3	17	5·9	16	3·4	13	1·7	8	4·6	16	3·6	11	8·4	22	0·9	5
16	11·0	23	8·1	19	6·1	20	11·4	25	10·1	27	4·0	12	3·0	11	2·1	10	3·2	10	1·0	7	3·6	18	2·0	9
17	5·7	14	7·0	17	4·6	19	7·9	24	9·0	24	6·8	19	2·9	11	1·0	6	2·8	9	1·6	6	1·3	18	2·0	8
18	7·9	23	3·9	14	2·5	11	3·0	13	3·4	11	4·8	14	2·5	9	1·2	6	3·8	10	3·0	10	6·5	19	1·8	7
19	2·9	13	5·2	24	3·5	14	5·5	17	2·1	10	5·1	15	3·1	10	2·2	10	3·3	10	2·6	10	4·9	17	1·4	10
20	2·0	8	5·3	17	7·7	31	5·7	18	2·8	11	5·2	14	3·9	11	3·6	10	2·4	11	0·6	6	0·3	6	3·2	12
21	2·2	10	7·3	17	8·2	23	6·8	17	4·9	15	6·6	17	1·1	5	3·6	11	2·9	11	1·1	8	3·1	15	2·3	10
22	3·2	13	5·0	18	7·4	23	10·9	25	4·5	12	9·5	23	3·7	13	2·8	9	2·7	11	3·9	11	8·3	24	2·3	11
23	7·8	19	5·1	15	5·9	18	3·4	16	5·3	15	5·8	20	4·3	17	0·6	5	5·1	15	4·4	15	1·6	11	3·0	11
24	4·1	17	4·8	14	1·1	8	5·3	15	3·6	10	5·3	16	1·8	9	1·3	6	2·9	11	5·0	15	3·9	16	4·3	16
25	4·4	19	9·4	26	5·2	19	5·0	14	2·7	10	2·8	9	2·6	13	2·8	10	0·9	7	2·1	12	6·8	22	4·7	17
26	7·5	22	9·6	20	5·6	13	3·2	11	5·8	17	3·2	14	2·5	10	2·9	12	3·3	13	7·2	23	12·1	30	1·8	8
27	5·0	15	10·3	27	7·6	20	2·6	11	5·6	20	4·7	15	3·9	11	2·1	8	2·3	9	6·1	19	7·4	18	1·2	10
28	2·0	8	2·5	12	8·7	19	4·5	15	2·2	9	8·4	23	9·4	23	1·5	7	0·9	4	4·7	16	3·8	19	1·6	10
29	3·7	13			6·8	20	5·9	16	1·2	7	6·8	16	4·1	12	3·6	9	0·4	4	6·1	19	7·2	24	2·1	15
30	3·8	11			3·2	11	8·6	21	2·4	9	2·3	11	5·6	16	3·5	9	0·7	4	5·0	15	4·8	23	1·6	13
31	4·6	13			3·6	11			4·0	11			5·2	18	2·8	9			5·9	18			0·2	3

WIND

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

96 ESKDALEMUIR: h_a = 235 m. + 15 m. 1939

	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.	4·4	4·3	4·2	4·4	4·4	4·7	4·4	4·2	4·5	4·2	4·7	5·1	5·1	5·1	4·8	4·6	4·4	4·4	4·6	4·7	5·0	5·1	4·7	4·6	4·6
Feb.	7·4	7·6	7·4	7·8	7·5	6·9	6·5	6·3	6·4	6·7	7·1	7·2	7·4	7·6	7·2	7·1	6·7	6·3	6·2	6·0	6·4	6·9	7·1	7·2	7·0
Mar.	5·5	5·5	5·7	5·8	5·3	5·2	5·2	5·9	6·3	6·8	6·8	7·0	7·0	6·8	6·6	6·6	6·4	5·9	5·5	5·1	5·6	5·7	5·8	5·7	6·0
Apr.	4·7	4·8	4·9	4·9	4·9	5·1	5·0	5·5	6·2	6·6	6·8	7·1	7·3	7·5	7·4	7·0	7·0	6·4	5·8	5·1	4·9	4·9	4·8	4·9	5·8
May	3·0	3·1	2·9	2·9	2·8	3·2	3·6	4·5	5·0	5·2	5·2	5·6	5·5	5·8	5·9	5·6	5·5	5·1	4·5	3·4	2·8	2·7	3·0	2·8	4·1
June	3·0	3·0	2·9	2·7	2·8	2·8	3·5	4·3	4·7	5·1	5·4	5·5	5·8	5·9	6·0	6·0	5·6	5·4	5·1	4·2	3·4	3·5	3·3	3·1	4·3
July	2·3	2·7	2·6	2·4	2·7	2·8	3·4	4·2	5·1	5·2	5·6	5·8	6·1	5·9	6·2	6·1	6·2	5·8	5·1	4·0	3·6	3·0	3·3	2·9	4·3
Aug.	1·9	1·9	1·9	2·0	1·9	1·9	2·3	2·8	3·3	3·6	4·1	4·5	4·6	4·5	4·5	4·6	4·2	3·8	3·1	2·9	2·4	2·3	2·1	1·7	3·0
Sept.	1·9	2·1	2·2	2·2	2·5	2·6	2·7	2·8	3·7	4·3	4·5	4·4	4·4	4·4	4·0	4·3	4·1	3·4	2·8	2·2	2·1	2·1	1·7	1·9	3·1
Oct.	3·5	3·5	3·3	3·4	3·6	4·0	4·2	4·3	4·6	5·2	5·6	6·2	6·2	6·3	6·2	5·6	4·9	4·5	3·9	3·8	3·5	3·7	3·6	3·5	4·5
Nov.	5·0	5·0	5·2	5·3	5·2	5·3	5·3	5·7	5·6	5·8	6·2	6·8	6·8	6·8	6·6	5·8	5·7	5·5	5·2	4·9	5·1	5·4	5·2	5·1	5·6
Dec.	2·8	2·8	3·1	3·1	3·2	2·8	3·1	2·9	3·0	2·9	3·3	3·6	3·8	3·7	3·6	3·4	3·2	3·4	3·2	3·4	3·5	3·4	3·0	3·1	3·2
Annual	3·7	3·8	3·8	3·9	3·9	3·9	4·1	4·4	4·9	5·1	5·4	5·7	5·8	5·8	5·7	5·5	5·3	5·0	4·6	4·1	4·0	4·0	3·9	3·9	4·6

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

97 ESKDALEMUIR: h_a = 235 m. + 15 m. 1939

	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.	15	1	8	47	240	285	171	0	210	17	15 22	28	15 8 30
Feb.	–	0	15	110	310	188	64	0	200	17	27 16	27	27 16 25
Mar.	2	1	14	64	345	245	89	0	200	17	2 12	31	20 15 40
Apr.	–	0	11	93	247	302	78	0	310	15	22 8	25	22 7 25
May	–	0	3	19	211	351	163	0	20	16	16 23	27	16 22 10
June	–	0	3	18	236	300	166	0	200	15	28 16	23	22 11 55
July	–	0	3	20	229	335	160	0	200	14	28 15	23	28 17 45
Aug.	–	0	–	0	113	408	223	0	230	9	11 16	17	3 14 20
Sept.	–	0	3	5	111	375	229	0	190	13	3 17	20	3 16 55
Oct.	–	0	5	19	259	317	149	0	90	14	5 8	26	5 7 30
Nov.	8	1	12	89	262	232	136	0	180	17	8 21	30	26 15 45
Dec.	–	0	5	29	98	354	263	0	230	16	1 12	27	2 2 10
Year	3	3	82	513	2661	3692	1891	0	210, 200, 180	17	Jan. 15 22; Mar. 2 12; Nov. 8 21	31	Mar. 20 15 40

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

98 ESKDALEMUIR 1939

	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	76·7	80·0	76·1	78·9	76·7	78·9	77·7	78·8	80·2	79·9	86·4	81·7	86·0	83·7	87·9	84·9	88·7	85·9	84·2	85·2	80·5	82·9	79·5	81·5
2	76·6	80·1	75·9	78·9	76·8	78·8	78·0	78·8	80·2	79·9	86·2	81·8	85·9	83·7	87·7	85·0	88·5	85·9	84·0	85·1	80·4	82·8	80·2	81·5
3	76·5	80·1	75·6	78·8	77·7	78·8	78·4	78·8	80·4	79·9	86·5	82·1	85·7	83·8	87·5	85·0	88·6	85·8	83·9	85·1	80·4	82·8	80·0	81·3
4	76·1	79·8	75·6	78·7	78·3	78·7	78·3	78·8	80·7	80·0	87·0	82·2	85·7	83·8	87·1	85·0	88·8	86·0	83·7	85·1	80·6	82·7	79·3	81·3
5	76·0	79·7	75·6	78·6	78·6	78·7	78·2	78·8	80·7	79·9	87·5	82·3	86·0	83·8	87·0	85·1	88·9	86·1	83·4	84·9	80·8	82·7	78·8	81·2
6	75·9	79·7	75·9	78·5	78·5	78·7	78·0	78·8	80·6	80·1	87·8	82·4	86·1	83·9	87·1	85·1	88·8	85·9	83·5	84·9	81·0	82·7	78·2	81·2
7	75·8	79·6	76·7	78·5	78·2	78·7	77·8	78·9	81·1	80·1	87·9	82·4	86·2	83·9	87·4	85·1	88·6	86·0	83·5	84·9	81·0	82·7	77·9	81·2
8	75·8	79·4	77·3	78·5	77·6	78·7	78·1	78·9	81·8	80·1	87·5	82·5	86·1	84·0	87·5	85·1	88·5	86·1	83·3	84·6	81·1	82·5	77·8	81·1
9	75·7	79·4	78·0	78·5	77·3	78·8	78·4	78·9	82·4	80·1	87·1	82·8	86·1	84·0	87·7	85·1	88·3	86·1	83·2	84·8	81·5	82·5	78·0	80·9
10	76·1	79·4	78·5	78·5	77·3	78·8	79·2	79·0	83·0	80·2	86·9	82·8	86·1	84·0	87·8	85·1	88·0	86·2	83·0	84·6	81·3	82·4	78·3	80·8
11	76·0	79·4	79·0	78·6	77·3	79·0	80·0	79·0	83·4	80·2	86·4	82·8	86·2	84·1	87·5	85·1	87·9	86·1	83·2	84·5	81·3	82·4	78·8	80·8
12	75·9	79·2	79·3	78·7	77·5	79·0	80·5	79·0	83·5	80·2	86·1	83·1	86·2	84·1	87·2	85·1	87·5	86·1	83·4	84·5	81·3	82·4	79·0	80·7
13	75·7	79·2	79·0	78·9	77·7	78·9	80·8	79·0	83·0	80·4	85·7	83·1	86·1	84·1	87·2	85·1	87·1	86·1	83·4	84·4	81·2	82·4	78·8	80·7
14	75·6	79·1	78·1	78·8	78·0	78·9	80·7	79·1	83·1	80·6	85·8	83·1	86·1	84·1	87·3	85·2	87·1	86·1	83·3	84·4	81·3	82·4	78·6	80·7
15	75·6	79·0	78·0	78·9	78·4	78·9	80·9	79·2	82·9	80·6	85·7	83·2	86·2	84·1	87·4	85·1	86·9	86·1	83·2	84·4	81·6	82·4	78·3	80·7
16	75·9	79·1	78·0	79·0	78·8	78·9	80·7	79·3	82·5	80·9	85·5	83·2	86·6	84·1	87·7	85·1	86·5	86·0	82·7	84·3	81·3	82·4	78·0	81·0
17	76·1	79·1	77·8	78·9	78·9	78·9	80·7	79·3	82·2	81·0	85·8	83·3	86·7	84·1	88·0	85·1	86·5	85·9	82·3	84·3	80·6	82·4	78·0	81·0
18	77·0	79·0	77·3	78·9	78·4	78·8	80·2	79·4	82·2	81·0	85·7	83·3	87·1	84·1	88·1	85·1	86·5	85·9	82·0	84·2	80·3	82·3	78·0	80·7
19	77·2	79·0	77·3	79·1	78·3	79·1	80·4	79·3	82·2	81·0	85·9	83·3	87·3	84·1	88·4	85·2	86·2	85·8	81·7	84·0	80·5	82·5	77·6	80·9
20	77·6	79·0	77·3	79·0	78·2	79·1	80·8	79·4	82·3	80·9	86·0	83·3	87·6	84·3	88·3	85·2	86·0	85·8	81·5	83·9	80·1	82·2	77·2	80·7
21	77·8	79·1	77·4	79·0	78·1	79·1	81·0	79·5	82·4	81·0	85·7	83·3	87·9	84·3	88·2	85·2	85·9	85·7	81·4	84·0	79·9	82·2	77·0	80·8
22	77·9	79·1	77·6	79·0	78·1	79·1	81·0	79·6	82·7	81·0	85·8	83·3	88·2	84·4	88·3	85·3	86·0	85·6	81·5	84·0	80·0	82·2	77·0	80·7
23	77·7	79·1	77·7	79·0	78·0	79·1	80·6	79·6	83·2	81·0	85·8	83·4	87·7	84·4	88·3	85·4	86·0	85·6	81·9	83·9	80·0	82·1	77·1	80·3
24	77·3	79·1	77·5	79·0	78·0	79·1	80·8	79·8	83·4	81·1	86·0	83·4	87·3	84·5	88·3	85·4	85·7	85·6	82·0	83·7	79·8	82·1	77·5	80·2
25	76·9	79·1	77·6	78·9	77·9	79·1	80·8	79·8	83·6	81·1	85·8	83·4	87·2	84·6	88·6	85·5	85·6	85·4	82·0	83·7	79·4	82·0	77·9	80·2
26	76·7	79·1	77·4	79·0	77·7	79·0	80·6	79·9	84·0	81·2	85·7	83·5	87·4	84·6	88·3	85·5	85·5	85·5	81·2	83·6	79·1	81·9	78·0	80·1
27	76·3	79·1	77·0	78·9	77·6	79·0	80·2	79·9	84·3	81·2	85·7	83·5	87·6	84·6	88·4	85·6	85·3	85·4	80·8	83·6	79·1	81·8	77·9	80·1
28	76·1	79·0	76·9	78·9	77·4	79·0	80·1	80·0	84·6	81·3	85·9	83·5	87·7	84·7	88·7	85·6	85·2	85·4	80·3	83·4	78·0	81·8	77·4	80·1
29	76·1	79·0			77·4	78·9	80·0	79·8	85·3	81·3	85·7	83·6	87·9	84·8	89·0	85·6	84·8	85·4	80·0	83·3	78·5	81·7	77·0	80·1
30	76·1	78·9			77·4	79·0	80·1	79·9	86·0	81·4	85·9	83·6	88·0	84·9	88·8	85·6	84·5	85·3	80·2	83·1	79·1	81·6	76·6	80·0
31	76·1	78·9			77·6	78·8			86·3	81·6			88·0	84·9	88·7	85·8			80·4	83·1			76·4	80·0
Mean	76·4	79·3	77·3	78·8	77·9	78·9	79·8	79·6	82·7	80·7	86·2	83·0	86·8	84·2	87·9	85·2	86·9	85·8	82·4	84·2	80·4	82·3	78·1	80·7
											Year		81·9	81·9										

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

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	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
	degrees Absolute											
1	66·5	69·1	69·2	72·3	75·3	78·9	79·0	81·3	84·8	72·0	76·3	77·1
2	72·9	60·6	74·6	74·2	71·3	69·8	71·9	78·0	81·9	75·0	73·0	78·0
3	62·8	64·9	76·7	76·2	69·7	72·4	81·8	78·8	87·0	69·9	76·4	71·9
4	59·4	72·6	78·6	74·3	69·2	75·9	80·4	81·7	86·3	71·3	77·8	71·1
5	60·2	76·9	76·4	65·3	78·5	75·1	85·1	78·6	81·2	76·9	76·5	68·0
6	59·9	79·2	74·4	69·9	71·5	75·1	79·5	83·5	83·2	78·9	77·9	70·8
7	70·3	78·0	72·8	64·9	77·3	77·5	82·4	76·6	80·5	72·6	78·2	64·6
8	76·3	78·6	74·2	75·0	*	79·7	82·9	80·2	84·2	74·9	77·1	74·9
9	76·7	79·5	72·9	77·2	77·9	74·0	80·5	75·3	78·1	77·0	80·1	71·8
10	70·2	78·2	67·5	83·0	80·2	82·6	79·7	83·2	77·0	75·7	73·2	79·6
11	66·5	81·3	76·5	73·5	76·0	80·2	72·8	76·1	79·4	80·9	74·4	78·5
12	65·7	78·4	70·2	75·3	73·9	76·0	78·4	81·3	72·7	75·8	71·9	75·1
13	66·3	73·4	70·2	80·5	72·4	74·0	84·6	72·3	79·2	77·9	77·4	73·6
14	64·0	67·6	78·0	79·7	79·1	79·0	84·9	82·0	76·5	78·7	82·1	72·0
15	73·6	78·0	74·5	78·1	75·1	82·9	84·4	78·0	75·3	76·2	77·5	72·6
16	76·0	74·0	77·7	77·2	77·1	80·9	82·4	84·4	76·5	66·3	71·3	73·0
17	78·5	71·1	72·4	76·3	77·9	74·3	79·4	74·6	82·5	66·9	68·2	74·0
18	76·9	67·6	69·2	69·1	77·2	83·4	81·1	74·7	77·8	70·3	76·8	72·8
19	77·8	75·0	73·8	74·1	77·4	80·6	85·0	81·5	81·3	70·9	73·6	60·8
20	76·8	70·1	68·9	72·9	76·3	81·1	85·6	83·9	73·9	64·5	67·4	73·6
21	72·5	75·8	73·4	78·3	78·0	83·0	85·2	86·4	78·8	68·9	73·0	69·9
22	71·7	75·7	73·6	74·7	77·1	80·9	83·2	85·7	83·6	79·0	78·2	73·3
23	75·2	73·0	73·3	73·0	76·2	80·5	76·2	82·1	77·0	79·9	71·6	71·9
24	70·7	73·0	66·2	76·0	81·8	78·9	72·8	82·9	77·3	76·3	69·1	76·2
25	67·8	72·5	69·0	72·4	75·2	75·2	71·5	80·7	78·8	67·7	69·5	74·8
26	71·6	72·8	70·9	68·1	72·3	76·1	78·9	85·3	75·9	63·4	76·0	75·5
27	72·3	70·9	72·1	68·3	82·2	77·6	83·2	84·4	74·6	73·3	74·1	65·2
28	72·2	70·2	73·2	67·3	80·2	82·7	86·5	86·2	69·1	67·5	72·9	66·2
29	71·7		73·3	71·6	78·1	82·2	84·5	87·5	68·3	72·7	74·0	61·3
30	72·1		71·0	74·3	75·4	80·6	82·4	82·4	67·7	78·1	76·2	68·2
31	72·1		69·3		74·0		83·3	83·4		73·2		62·9
Mean	70·6	73·5	72·7	73·8	†76·1	78·4	81·0	81·1	78·3	73·3	74·7	71·6
						Year	75·4					

* No reading – mercury column broken.

† Mean for 30 days only.

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 $T(°K.) = t(°C.) + 273·16$.

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

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	JANUARY, factor 4·69				FEBRUARY, factor 4·61				MARCH, factor 4·75			
	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.
	volts per metre											
1	-	-	195	50	150	140	300	555	215	145	175	-105
2	Z+	Z+	275	630	295	325	520	Z+	Z-	Z-	Z-	200
3	275	440	405	570	(560)	465	170	125	Z-	-105	110	120
4	470	370	625	660	105	60	255	145	205	Z-	165	310
5	240	265	200	340	55	15	25	130	225	-20	Z-	Z-
6	145	175	465	385	Z-	170	220	215	120	165	Z-	160
7	140	10	Z-	10	10	Z-	135	405	Z+	105	-	-
8	-35	Z-	45	Z-	480	335	Z-	Z-	-	-	180	220
9	-120	155	Z-	225	Z-	Z-	140	60	200	160	195	440
10	165	170	275	290	90	95	155	160	250	190	460	375
11	135	245	305	-	130	130	-	225	265	120	Z-	170
12	-	-	575	645	45	Z-	255	135	160	195	135	265
13	295	325	345	(690)	110	130	175	150	45	130	160	165
14	110	500	360	475	265	205	45	145	100	130	145	285
15	Z-	Z±	150	Z-	185	110	135	Z-	-20	85	210	405
16	130	Z-	-30	Z-	75	Z±	Z+	165	150	80	120	410
17	Z-	Z-	185	Z-	85	Z-	Z-	165	155	90	100	235
18	Z-	Z-	-40	Z-	95	285	145	230	75	Z+	155	Z-
19	Z±	360	145	250	Z-	115	70	180	50	75	100	110
20	Z-	110	85	30	80	340	220	225	100	85	80	160
21	(15)	(0)	(10)	280	-40	Z-	-175	Z-	125	160	55	Z-
22	200	30	Z-	Z-	Z-	Z-	Z±	385	95	Z±	135	195
23	(-20)	(325)	185	255	-325	Z±	125	80	120	160	135	335
24	125	90	280	315	255	160	125	320	130	130	265	100
25	235	225	180	Z±	-25	45	190	185	330	140	190	175
26	Z±	Z-	Z±	175	110	105	135	220	85	90	Z-	Z-
27	Z±	Z+	265	315	115	145	Z-	Z+	Z±	95	85	155
28	240	160	295	265	175	140	Z+	325	-180	Z-	-15	170
29	245	165	275	190					-145	160	105	285
30	110	165	180	330					270	405	90	115
31	85	75	230	190					150	205	190	245
(a)	187	208	261	329	165	176	177	214	157	143	156	232
(b)	179	230	295	374	154	170	162	216	133	151	168	235
Mean	(a) 246		(b) 269		(a) 183		(b) 175		(a) 172		(b) 172	

	APRIL, factor 4·85				MAY, factor 4·83				JUNE, factor 4·83			
	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.
	volts per metre											
1	145	175	220	230	95	70	165	140	140	105	190	330
2	260	170	150	300	Z-	115	155	115	160	95	155	230
3	645	320	-	-	60	170	215	235	135	140	130	95
4	-	-	190	255	240	165	130	175	85	110	120	130
5	430	190	245	470	170	-75	-65	-195	80	220	280	130
6	245	(185)	145	280	110	145	120	(115)	60	155	135	230
7	150	130	170	240	(45)	115	Z±	(40)	80	100	100	195
8	100	95	-225	230	(15)	100	180	260	105	180	150	200
9	365	25	175	500	115	230	195	345	240	260	135	215
10	160	350	205	470	395	215	(70)	(70)	50	180	85	145
11	430	(735)	275	420	(50)	(0)	180	260	60	(0)	85	(5)
12	315	395	320	240	-30	90	115	170	(0)	190	165	155
13	60	Z-	40	180	130	165	190	145	170	180	105	60
14	-60	240	55	205	85	85	Z+	220	-65	95	15	-35
15	-125	105	-180	60	Z-	Z-	110	165	(20)	(-5)	(15)	(0)
16	75	90	125	100	100	90	135	155	(0)	160	115	120
17	90	85	Z±	405	70	70	125	50	55	100	135	50
18	330	110	130	275	70	-125	125	60	60	180	115	210
19	95	125	150	190	60	95	115	240	250	265	225	270
20	470	165	130	175	85	155	130	160	80	85	290	(50)
21	-95	210	95	Z-	245	230	155	360	(80)	(25)	145	210
22	Z-	190	145	175	125	355	180	315	210	165	195	85
23	185	-35	Z-	130	225	85	160	205	115	50	155	75
24	65	(75)	180	Z-	195	425	180	180	70	115	195	Z-
25	75	135	Z-	110	340	135	135	100	180	200	170	-140
26	185	250	220	190	215	265	130	70	60	140	210	295
27	425	180	125	215	115	165	210	315	130	105	165	150
28	175	100	115	140	35	65	115	125	15	180	Z-	Z+
29	110	130	20	125	20	50	110	245	20	165	220	265
30	(95)	(115)	160	125	275	220	165	175	225	Z±	Z+	Z±
31					190	170	165	135				
(a)	227	188	158	238	138	151	149	178	101	141	150	156
(b)	208	193	130	247	138	138	142	171	95	135	148	138
Mean	(a) 203		(b) 195		(a) 154		(b) 147		(a) 137		(b) 129	

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.

100 ESKDALEMUIR 1939

	JULY, factor 4·87				AUGUST, factor 4·92				SEPTEMBER, factor 5·02			
	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.
	volts per metre											
1	-50	260	180	300	175	150	Z+	130	285	235	110	175
2	135	-95	75	130	200	315	Z-	Z-	140	100	140	255
3	75	210	135	155	130	320	Z±	135	Z±	Z-	Z±	195
4	135	-115	180	410	80	155	150	170	205	240	-	285
5	360	-45	20	90	75	95	125	275	505	315	180	215
6	-10	70	160	325	225	140	110	300	190	240	Z-	130
7	120	120	165	Z-	245	205	180	320	235	325	295	240
8	195	145	145	290	390	270	90	125	375	150	Z+	315
9	35	15	Z±	Z-	75	175	180	120	80	180	155	330
10	165	165	300	340	Z-	175	Z±	240	220	Z-	Z-	250
11	115	165	145	385	470	Z-	170	190	45	205	275	190
12	275	175	30	170	-	-	170	465	300	200	190	265
13	165	275	65	340	175	215	220	605	120	260	190	320
14	(525)	(35)	205	195	160	270	300	440	125	245	305	385
15	(-20)	(65)	355	165	280	280	285	175	280	190	245	255
16	220	(20)	150	105	-	220	235	540	200	150	155	185
17	95	105	90	135	310	215	240	125	180	200	140	185
18	40	130	130	95	205	240	185	285	80	120	160	(70)
19	115	175	160	355	35	160	75	-	(35)	(10)	90	345
20	225	235	190	310	-	-	-	-	100	150	105	270
21	(30)	(15)	80	225	-	-	Z±	190	115	140	130	315
22	270	75	280	190	-	-	75	40	30	20	135	160
23	90	155	Z±	235	20	85	110	155	110	95	185	(15)
24	135	360	120	210	110	60	30	-	(20)	(70)	125	(0)
25	80	235	160	260	-	-	55	25	(0)	(30)	200	390
26	495	180	125	135	150	Z±	Z±	Z-	205	30	165	105
27	35	230	285	310	350	325	125	190	130	170	140	280
28	465	265	Z+	Z-	15	110	140	185	120	155	90	(160)
29	350	460	205	255	360	350	120	40	-	130	160	230
30	225	200	160	130	60	120	70	110	60	120	170	240
31	50	65	Z+	195	175	105	135	275				
(a)	186	164	159	230	186	198	149	225	160	160	169	225
(b)	168	143	159	231	188	197	163	229	146	155	170	223
Mean	(a) 185		(b) 175		(a) 189		(b) 194		(a) 179		(b) 173	

	OCTOBER, factor 5·07				NOVEMBER, factor 5·01				DECEMBER, 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.
	volts per metre											
1	70	-200	105	125	95	135	205	195	Z-	115	140	Z-
2	70	80	125	255	115	160	200	130	Z-	90	-	210
3	80	140	215	195	165	Z-	-25	255	200	120	Z-	Z-
4	225	50	225	345	140	-70	220	135	20	145	270	150
5	190	-50	Z-	275	200	210	70	Z-	140	275	Z+	285
6	295	310	60	325	(-55)	(20)	Z-	200	205	105	190	485
7	395	660	245	70	225	50	280	320	170	360	305	135
8	45	30	190	305	165	Z±	Z±	Z-	340	180	Z-	600
9	180	-20	Z-	Z-	60	Z-	20	(570)	230	505	-90	Z-
10	Z-	565	195	Z-	225	330	225	515	85	90	220	145
11	Z-	245	Z±	260	Z-	Z+	(115)	(390)	455	265	250	215
12	410	200	110	125	80	235	270	115	5	130	145	200
13	Z±	70	130	-20	(10)	235	125	165	75	120	330	160
14	Z-	30	105	65	Z-	255	175	Z±	175	220	255	150
15	-50	60	100	110	105	85	Z±	155	95	215	295	390
16	240	210	170	395	95	Z-	Z-	225	200	245	120	160
17	165	130	100	345	85	260	115	Z-	80	105	160	215
18	200	235	155	Z-	(30)	(120)	220	Z±	160	280	625	495
19	155	155	170	245	120	205	145	205	325	235	150	345
20	190	265	245	305	105	240	205	390	40	85	155	300
21	480	(655)	295	315	350	(775)	(455)	(230)	125	210	235	430
22	270	315	155	275	60	(50)	Z-	(240)	-	295	380	510
23	10	145	140	330	110	460	280	340	350	565	245	190
24	145	180	160	355	245	135	255	-	200	180	160	195
25	170	175	405	385	-	-	Z-	195	120	170	255	235
26	205	215	Z±	295	Z-	125	260	Z+	20	105	55	395
27	(70)	-	Z±	Z±	105	130	Z±	275	245	480	455	405
28	115	135	115	620	145	165	300	(10)	225	275	-	510
29	55	175	-205	110	(-5)	215	130	Z-	360	225	530	500
30	60	Z-	210	315	-	-	(435)	210	180	145	115	395
31	80	55	-	-75					285	150	220	230
(a)	176	211	172	270	132	209	214	248	183	216	250	308
(b)	177	193	156	277	148	243	243	229	173	210	250	283
Mean	(a) 207		(b) 201		(a) 201		(b) 216		(a) 239		(b) 229	

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)	167	180	180	238
(b)	159	180	182	238
	(a) 191		(b) 190	

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. 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	Non-cyclic change†	No. of days used	Mean
	volts per metre																										v./m.
	0a days only*																										
Jan.	+17	+13	-71	-94	-86	-56	-80	-93	-63	-56	-70	-46	-35	+11	+17	+61	+107	+117	+90	+108	+101	+41	+21	+34	-29	7	275
Feb.	+4	-19	-13	-32	-47	-41	-52	-45	-64	-41	-15	+33	+31	-38	-21	-11	+51	+64	+43	+3	+31	+79	+75	+18	+237	2	236
Mar.	+3	-4	-22	-24	-9	+2	+2	+7	-8	-28	-42	-51	-58	-65	-35	-34	-22	+95	+79	+37	+36	+43	+68	+31	+57	6	232
Apr.	+11	+24	+60	+26	+17	-3	-15	-12	-17	-45	-48	-49	-39	-32	-26	-27	-35	-16	+22	+65	+72	+25	+22	+13	-4	9	203
May	+12	-3	-8	-17	-20	+16	+30	+12	-2	-20	-17	-19	-28	-31	-13	-27	-16	-9	+27	+37	+8	+35	+33	+29	0	11	169
June	+3	-27	-31	-35	-49	-31	-13	-9	+10	+17	+7	-11	-17	-6	+2	+12	+12	+12	+26	+36	+35	+32	+12	+8	-13	9	158
July	-16	-33	-31	-35	-29	+10	+22	+44	+43	+13	-16	-24	-34	-42	-34	-29	-25	-28	-4	+31	+49	+65	+83	+9	+14	7	202
Aug.	-31	-27	-19	-25	-22	-34	-21	-28	-2	-32	-31	-7	+17	+6	-13	+1	+2	+19	+45	+40	+80	+64	+12	+16	+16	6	176
Sept.	+16	-24	-34	-51	-57	-24	+42	+21	-24	-47	-40	-18	-16	-37	-33	-25	-5	+19	+41	+58	+53	+55	+60	+39	-14	9	212
Oct.	+13	+16	+1	+1	+21	+32	+27	+26	+25	-18	+3	-29	-50	-58	-51	-32	-25	+6	+28	+18	+11	+8	+17	+20	+84	8	244
Nov.	-12	-42	-111	-115	-104	-88	-79	-40	+13	+59	+22	+28	-20	-97	-37	-39	-21	+25	+109	+142	+129	+157	+95	+29	+60	1	238
Dec.	-11	-25	-66	-66	-68	-50	-74	-55	-29	-30	-12	-24	-5	+46	+37	+5	+56	+105	+85	+62	+70	+35	+19	-7	-10	12	253
Year	+1	-13	-29	-39	-36	-22	-18	-14	-10	-19	-22	-18	-21	-29	-17	-12	+7	+34	+49	+53	+56	+53	+43	+20	-	-	217
Winter	-1	-18	-65	-77	-76	-59	-71	-58	-36	-17	-19	-2	-7	-19	-1	+4	+48	+77	+82	+79	+83	+78	+53	+19	-	-	251
Equinox	+11	+3	+1	-12	-2	-2	+14	+11	-6	-35	-32	-37	-41	-48	-36	-29	-22	+26	+43	+45	+43	+33	+42	+26	-	-	223
Summer	-8	-23	-22	-28	-30	-10	+5	+5	+12	-5	-14	-15	-15	-18	-15	-11	-7	-1	+23	+36	+43	+49	+35	+15	-	-	176
	1a and 2a days only*																										
Jan.	-139	-30	-55	-139	-184	-109	-17	+35	-113	-58	-15	-91	-93	-17	+61	+172	+256	+203	+182	+121	+79	+85	-51	-93	+32	2	387
Feb.	-41	-52	-29	-61	-83	-12	-13	-6	+10	+34	+46	+92	+52	-2	+6	+12	+29	+37	+31	+66	+6	-4	-61	-65	-6	4	165
Mar.	-16	+27	-18	-25	-26	-42	-41	-37	-26	-60	-66	-47	-23	+53	-13	+25	+77	+54	+61	+79	+64	+18	-11	-5	+85	3	133
Apr.	+2	+39	+21	-39	-68	-77	-62	-51	-59	-67	-117	-98	-46	-43	-2	+57	+9	+87	+121	+129	+166	+91	+12	-14	-147	3	233
May	+12	-17	+8	+12	+26	+46	+34	-2	-5	-46	-29	-28	-23	+12	-6	-96	-12	+1	+16	+20	+17	+10	+30	+15	+87	5	143
June	+25	+31	-25	-17	-20	-11	-11	-20	-22	-15	-29	-39	+20	+10	+4	+37	+42	+29	+14	+1	-49	-23	+37	+27	-6	5	162
July	+2	-7	-33	-17	+55	+63	+14	-49	-64	-68	-64	-84	-47	-70	-16	+6	+19	+65	+68	+130	+27	+17	+3	+55	-137	5	202
Aug.	-36	+10	+19	-5	+42	+36	+49	+17	+34	-38	-41	-66	-57	-36	-26	-13	-28	-28	-2	+41	+40	+34	+33	+22	-41	7	176
Sept.	+39	+14	+6	-11	-13	+11	-7	-36	-73	-57	-40	-47	-29	-30	-27	+8	+31	+45	+62	+70	+18	+16	+27	+20	+50	4	176
Oct.	-7	-21	-40	-77	-24	-23	-1	+3	-20	-15	+33	+46	+16	-33	-45	-34	-18	-1	+17	+25	+42	+103	+56	+5	+106	4	183
Nov.	-32	-9	-21	-44	-16	-24	-34	+16	+18	+18	+3	-2	-9	-1	+9	-14	+19	-6	+48	+43	-4	+54	+8	-13	+119	5	200
Dec.	-1	-17	-40	-47	-52	-30	-78	-47	0	-26	-13	-7	+26	+23	-13	-9	+31	+62	+69	+32	+55	+40	+44	-9	-2	9	212
Year	-16	-3	-17	-39	-30	-14	-14	-15	-27	-34	-28	-31	-18	-11	-6	+13	+38	+46	+57	+63	+38	+37	+11	-5	-	-	198
Winter	-53	-27	-36	-73	-84	-44	-35	-1	-21	-11	+5	-2	-6	+1	+16	+40	+84	+74	+83	+65	+34	+44	-15	-45	-	-	241
Equinox	+5	+15	-8	-38	-33	-33	-28	-30	-45	-50	-47	-37	-21	-13	-22	+14	+25	+46	+65	+74	+73	+57	+21	+1	-	-	181
Summer	+1	+4	-8	-7	+26	+33	+21	-13	-14	-42	-41	-54	-27	-21	-11	-17	+5	+17	+24	+48	+9	+9	+26	+30	-	-	171

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

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

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

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	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
		hr.		hr.		hr.		hr.		hr.		hr.
1	(2b)	(2·7)	0a	···	2b	4·1	0a	···	1a	0·1	1a	0·1
2	1b	0·5	0a	···	2c	17·1	1a	0·1	1b	0·8	0a	···
3	0a	···	1a	0·1	2b	8·9	(1b)	0·1	0a	···	0a	···
4	1a	0·1	1a	0·1	1b	2·3	(1b)	(-)	1a	0·5	0a	···
5	0a	···	2b	3·9	2c	7·1	0a	···	2b	8·4	0a	···
6	1b	0·4	2b	5·8	1b	1·0	(0a)	···	1b	0·6	0a	···
7	2b	9·7	2c	8·1	(1b)	(1·0)	1a	0·3	1b	1·5	0a	···
8	2c	16·5	2c	7·6	(2c)	(3·1)	2b	5·4	0a	···	0a	···
9	2c	9·3	2c	11·5	0a	···	1a	0·2	1a	0·1	0a	···
10	1a	0·1	1a	0·1	0a	···	0a	···	0a	···	1a	0·7
11	(0a)	···	(2b)	1·4	2c	9·5	0a	···	1a	(0·9)	(2b)	4·1
12	(0a)	···	2b	6·0	0a	···	1a	0·1	2b	3·1	1b	2·7
13	0a	···	0a	···	1a	0·3	2c	5·2	1b	3·0	1b	0·7
14	1b	1·8	1a	0·3	0a	···	2c	6·5	2c	3·8	2b	6·7
15	2c	10·2	1b	0·7	1b	2·4	2b	7·0	1b	2·8	2a	3·2
16	2c	9·5	1b	3·0	1a	0·3	1b	1·2	0a	···	1a	1·2
17	2c	9·6	2b	7·7	1b	1·7	2c	5·0	1a	0·4	1b	0·9
18	2c	13·9	1b	0·8	2b	3·9	0a	···	1b	2·5	1a	0·3
19	1b	1·3	1b	2·4	1a	0·4	0a	···	1a	1·6	0a	···
20	2b	3·7	1a	0·6	1b	1·7	0a	···	1b	2·9	2b	3·9
21	1b	2·3	2c	18·6	2b	4·6	1b	2·9	1b	2·9	0a	···
22	2b	8·3	2c	10·9	2c	3·7	2c	4·4	1b	0·6	1a	0·3
23	2b	7·7	2c	8·9	(0a)	(···)	2b	4·2	0a	···	1a	0·2
24	0a	···	1a	0·5	1b	0·9	2c	6·3	0a	···	2c	3·6
25	1b	1·7	2c	6·5	1b	0·5	1b	1·5	0a	···	1a	1·3
26	2c	6·3	1b	(1·2)	1b	1·8	0a	···	0a	···	1b	0·8
27	1b	1·5	2c	7·0	1b	0·8	0a	···	0a	···	1b	2·1
28	0a	···	1b	1·4	2b	8·3	1b	3·0	0a	···	2c	7·8
29	0a	···			2b	5·3	1b	1·5	0a	···	1b	0·9
30	1b	1·7			0a	···	0a	···	0a	···	2c	3·7
31	0a	···			0a	···			0a	···		
Total	-	118·8	-	115·1	-	90·7	-	54·9	-	36·5	-	45·2
No. of days used	-	31	-	28	-	31	-	29	-	31	-	30
Mean	-	3·8	-	4·1	-	2·9	-	1·9	-	1·2	-	1·5

	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
		hr.		hr.		hr.		hr.		hr.		hr.
1	1b	1·1	1c	2·4	1b	0·7	2b	5·4	1a	0·2	2c	8·1
2	2b	4·0	1b	2·7	1b	0·2	1b	1·7	1a	0·7	2c	(8·7)
3	0a	···	1b	2·4	2c	5·3	0a	···	1b	2·6	2c	8·4
4	2b	3·7	0a	···	1b	1·2	1b	1·1	1b	2·4	1b	0·7
5	1b	2·3	0a	···	0a	···	2b	5·2	2b	3·9	1b	1·4
6	2b	5·0	2b	3·1	1b	0·8	0a	···	1b	(2·0)	0a	···
7	2b	3·2	1b	2·4	1b	0·3	0a	···	1a	1·5	0a	···
8	1b	2·4	1a	1·0	1b	0·4	1a	0·2	2c	7·7	2c	6·9
9	2c	7·5	1b	2·0	0a	···	2c	14·0	2c	8·1	2c	5·7
10	0a	···	2c	4·2	2b	9·5	2b	5·9	1b	0·1	1b	1·7
11	0a	···	2b	3·2	1b	0·5	2c	5·7	2c	5·0	1a	0·2
12	1a	1·0	0a	···	1a	0·1	1a	0·6	1a	3·3	1a	0·9
13	2b	3·3	0a	···	1b	0·5	2c	11·6	1a	0·9	1a	0·1
14	2b	3·5	1a	0·1	0a	···	2b	6·1	2c	7·5	0a	···
15	1b	0·4	0a	···	0a	···	1a	1·2	2c	4·6	1a	0·2
16	1a	0·3	0a	···	0a	···	0a	···	1b	2·3	0a	···
17	0a	···	0a	···	0a	···	0a	···	1b	0·3	0a	···
18	1a	1·1	0a	···	0a	···	1b	0·5	2b	3·2	0a	···
19	1b	0·6	1a	0·1	0a	···	0a	···	1a	0·1	1a	0·5
20	0a	···	(1a)	(-)	0a	···	0a	···	0a	···	1a	0·6
21	0a	···	2c	(4·4)	1a	0·2	0a	···	(0a)	···	0a	···
22	1a	0·3	1a	(-)	1a	1·2	1a	0·1	2b	6·0	0a	···
23	2c	3·1	1a	0·6	0a	···	1b	1·9	1a	0·1	1a	0·5
24	0a	···	0a	···	0a	···	1a	0·1	(1a)	(-)	1a	0·3
25	0a	···	1b	(2·1)	0a	···	0a	···	(2c)	(5·7)	0a	···
26	1a	0·3	2c	3·1	1a	0·2	1b	1·1	2c	5·0	1a	0·9
27	1a	0·9	1a	0·4	0a	···	(2c)	2·9	2c	3·0	0a	···
28	2c	8·0	1a	0·7	0a	···	1b	0·7	(1b)	(0·4)	0a	···
29	0a	···	1a	0·1	0a	···	2b	3·9	(1b)	(5·7)	0a	···
30	1b	1·7	0a	···	0a	···	2b	5·2	(1b)	(0·2)	0a	···
31	2c	3·5	1a	0·3			(2b)	(4·3)			0a	···
Total	-	57·2	-	35·3	-	21·1	-	79·4	-	82·5	-	45·8
No. of days used	-	31	-	29	-	30	-	31	-	29	-	31
Mean	-	1·8	-	1·2	-	0·7	-	2·6	-	2·8	-	1·5

Annual values: Character 0 1 2
No. of days used 113 154 98

Duration: Total 782·5 hr.
No. of days 361
Mean 2·17 hr.

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT

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

103 ESKDALEMUIR (H) — 16,000γ (0·16 C.G.S. unit) + — JANUARY 1939

	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 q	516	521	523	526	528	530	530	531	527	518	514	513	521	521	518	512	516	519	520	522	520	516	516	520	521
2	522	521	522	522	526	534	535	531	528	524	516	516	515	518	521	519	521	524	526	529	531	529	526	519	524
3 q	518	523	526	525	528	528	529	524	518	514	516	515	514	521	515	514	514	518	521	522	522	522	522	522	520
4	523	522	523	526	527	529	531	526	516	512	507	507	511	516	516	515	518	522	526	529	532	532	532	525	522
5 d	525	530	534	538	529	523	528	530	527	524	522	522	526	525	526	523	522	527	517	518	522	538	534	507	526
6	510	515	522	518	518	521	521	519	514	506	504	498	503	514	516	520	514	511	512	515	521	523	515	513	514
7	513	522	514	514	518	517	519	520	516	510	505	510	514	516	517	514	514	520	526	510	526	506	509	510	515
8	500	510	509	518	514	516	518	515	509	504	498	499	510	514	509	506	504	504	508	525	515	505	508	522	510
9 d	505	505	509	514	529	528	512	509	495	494	492	487	503	506	505	506	509	514	514	518	515	521	514	498	508
10	507	510	507	518	538	518	519	525	514	508	502	503	494	502	506	506	509	516	520	514	509	511	511	504	511
11	503	506	510	519	523	516	514	512	511	510	498	497	496	509	514	509	506	506	514	517	522	518	513	509	511
12	505	511	515	515	517	515	514	518	516	512	510	510	522	522	513	514	516	522	523	526	522	520	517	516	516
13	516	511	510	515	518	518	518	515	511	510	517	520	522	524	523	527	517	518	522	523	526	524	520	522	519
14	521	513	516	519	518	520	529	527	519	514	516	512	514	513	501	503	513	520	524	523	521	508	500	504	515
15	514	516	517	518	526	532	521	519	513	500	501	497	495	497	503	510	517	521	518	517	517	517	517	514	513
16	521	514	517	518	521	521	525	525	521	511	511	510	514	516	517	517	518	518	522	513	529	488	497	503	515
17 d	497	506	505	508	521	517	509	506	505	505	504	488	482	502	497	539	504	511	517	512	508	508	539	512	508
18	512	500	511	515	525	525	517	519	512	509	503	497	501	511	508	506	507	511	516	517	517	514	520	508	512
19	514	515	513	515	517	519	521	517	513	516	513	506	503	508	509	510	510	516	521	519	513	519	506	508	513
20	507	517	521	513	521	518	530	531	526	521	506	508	506	511	513	515	513	517	517	513	505	514	517	510	515
21 d	508	502	513	513	521	523	529	526	528	515	512	506	513	500	508	499	508	496	480	513	517	515	516	516	512
22 d	517	517	517	526	526	530	530	525	526	520	513	506	506	506	511	516	519	520	497	505	516	509	497	529	516
23	509	507	509	510	518	513	519	521	520	493	500	505	512	510	489	495	500	511	514	513	510	519	519	518	510
24	518	519	518	523	528	543	532	526	514	508	502	496	497	500	502	510	513	516	517	516	514	513	528	509	515
25	517	517	518	522	527	525	526	523	520	515	503	503	501	513	514	511	516	518	521	521	519	520	518	517	517
26 q	518	518	519	522	526	529	529	527	524	517	512	507	508	510	517	517	518	521	525	525	525	525	524	523	520
27 q	522	522	524	525	527	529	529	527	521	512	503	503	508	515	519	521	521	525	528	530	530	529	529	528	522
28	528	528	528	530	531	535	540	539	537	534	527	518	511	515	522	526	523	524	517	515	528	525	525	515	526
29	502	499	513	519	525	526	525	524	521	515	508	504	509	513	517	517	519	522	528	529	527	521	513	513	517
30 q	517	518	523	526	527	532	528	528	524	513	504	498	497	505	517	516	517	517	521	529	528	526	528	527	519
31	526	526	526	531	531	533	533	528	525	508	504	496	501	505	510	513	515	519	522	525	526	525	523	525	520
Mean	514	515	517	520	524	525	525	523	518	518	508	505	507	512	512	514	514	517	518	519	520	518	518	515	516

MAGNETIC DECLINATION (WEST)

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

104 ESKDALEMUIR (D) — 13° + — JANUARY 1939

	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	10·7	11·9	12·4	12·5	12·5	12·1	12·1	11·8	10·9	11·4	12·2	12·5	13·7	13·5	12·5	11·6	12·6	13·8	14·0	13·1	12·5	11·9	11·4	12·0	12·3
2	12·4	12·6	12·6	12·9	12·7	11·7	11·7	11·3	11·5	12·6	13·6	15·0	15·8	16·9	15·9	16·0	14·5	13·6	13·1	12·2	11·9	12·2	12·1	11·9	13·2
3 q	12·4	13·5	13·1	12·7	12·1	11·8	11·4	11·3	11·4	12·0	12·9	14·2	15·2	15·3	14·2	14·1	13·9	14·0	13·3	12·5	12·1	11·8	12·1	12·2	12·9
4	12·4	12·5	12·6	13·0	12·7	12·4	11·5	11·0	10·5	10·4	11·6	13·3	14·5	14·9	14·1	14·1	14·9	14·8	14·2	13·0	12·4	11·8	12·5	12·4	12·8
5 d	12·7	13·1	13·3	14·0	12·7	11·4	11·1	11·1	11·2	12·0	13·3	14·2	15·4	16·2	15·4	16·2	17·4	15·2	16·1	13·9	11·2	8·7	8·6	9·5	13·1
6	10·5	11·1	10·9	11·2	11·2	11·8	11·8	11·2	10·7	11·1	12·4	14·2	16·0	17·1	15·3	15·3	17·2	15·3	16·7	14·1	11·3	6·6	9·9	9·5	12·6
7	10·8	9·4	10·9	11·3	10·5	11·1	11·2	11·1	11·5	11·7	11·5	15·1	15·6	14·7	13·6	13·5	15·4	14·2	13·5	12·6	8·8	8·7	9·8	8·9	11·9
8	7·7	10·1	7·8	8·7	10·5	11·0	10·3	10·5	11·0	11·7	12·3	13·7	14·3	13·9	14·3	14·6	15·9	15·4	13·9	13·2	7·2	11·1	10·3	8·3	11·6
9 d	6·8	5·7	5·8	7·7	7·8	9·5	12·8	13·7	13·3	13·6	14·1	12·6	12·8	12·5	11·7	12·4	13·6	14·4	15·0	13·2	15·2	10·4	9·4	9·6	11·4
10	10·0	10·3	9·7	10·6	10·6	11·0	11·0	11·4	11·6	12·5	13·4	16·7	17·0	15·5	15·4	14·1	13·5	12·6	12·5	12·4	9·1	8·0	11·0	9·9	12·1
11	9·4	9·9	8·6	9·5	9·4	9·7	10·5	10·7	11·4	12·5	12·9	14·1	15·0	14·2	14·0	14·6	13·3	16·8	14·5	14·3	11·4	11·2	11·3	10·5	12·1
12	8·6	9·4	11·1	9·8	11·4	11·5	11·4	11·2	11·3	12·4	12·7	13·7	15·4	14·7	13·4	13·2	14·0	13·5	12·6	12·3	12·0	11·4	11·3	12·0	12·1
13	10·8	10·0	10·1	10·2	11·2	11·3	11·0	11·2	11·7	12·6	13·9	15·2	15·4	14·8	13·6	14·3	14·4	13·6	12·7	12·3	12·3	12·2	11·4	8·8	12·3
14	10·5	7·1	7·7	9·5	8·8	11·1	11·4	11·4	11·6	12·7	14·7	15·6	17·3	16·8	16·1	14·7	15·1	12·6	12·3	11·9	12·0	5·3	3·9	10·9	11·7
15	12·1	12·4	12·2	13·0	14·4	12·3	12·1	12·1	12·9	12·6	12·9	14·5	16·4	17·2	16·9	14·4	13·6	12·9	12·5	11·7	11·6	11·5	11·8	11·8	13·2
16	11·6	11·2	11·3	11·4	11·7	11·7	11·6	11·4	11·5	12·2	12·8	14·2	15·7	14·2	13·2	13·6	14·7	15·1	13·7	13·7	8·5	12·4	11·7	11·4	12·5
17 d	8·5	8·2	2·6	8·4	10·0	12·8	12·6	12·2	11·4	10·9	12·0	13·4	15·7	14·4	15·5	13·8	13·1	13·1	12·4	12·1	10·7	6·9	11·2	10·6	11·4
18	8·5	6·7	9·5	10·5	11·5	14·5	18·8	15·5	11·1	11·0	11·7	12·2	13·2	14·5	14·1	14·1	14·0	13·4	12·9	12·3	12·2	12·0	6·9	10·5	12·1
19	11·4	11·5	11·3	11·8	12·1	12·4	11·4	11·1	11·1	11·2	11·8	12·3	13·3	13·7	13·7	13·6	13·8	13·5	13·1	12·1	11·3	9·6	8·7	6·8	11·8
20	8·6	8·9	6·5	9·0	8·7	12·3	14·1	12·1	11·9	11·9	11·6	12·1	13·4	14·7	13·6	14·5	13·7	13·3	13·3	13·4	12·0	11·2	11·4	10·6	11·8
21 d	8·2	8·2	11·3	10·9	12·2	12·1	12·0	12·2	11·9	14·1	14·8	14·3	16·0	15·9	17·1	16·2	17·6	16·0	5·8	12·7	11·9	11·4	11·2	11·5	12·7
22 d	11·4	11·5	12·2	13·3	13·1	12·6	12·3	12·0	12·5	12·0	12·2	12·5	14·0	14·5	13·5	14·1	13·6	13·1	9·5	7·6	11·5	10·3	2·0	8·6	11·7
23	6·6	9·5	9·6	11·2	11·9	13·3	12·5	12·4	12·3	12·5	14·4	15·5	15·1	15·5	13·7	12·5	13·7	12·5	11·8	11·3	10·3	9·6	11·1	11·4	12·1
24	11·5	11·7	11·6	11·9	12·4	12·4	11·8	10·7	11·0	10·0	10·5	11·7	14·5	14·2	13·6	12·8	12·5	12·5	12·1	11·7	11·5	11·3	9·4	10·3	11·8
25	13·5	12·0	11·2	11·3	11·5	11·4	12·1	11·3	11·3	11·4	11·5	13·8	13·3	13·4	13·4	12·8	12·6	12·5	12·4	11·6	11·4	11·2	11·4	11·4	12·1
26 q	11·5	11·5	11·4	11·5	11·6	11·7	11·7	11·4	11·4	11·4	12·4	13·3	14·5	14·3	13·7	13·3	13·4	13·4	13·0	12·4	11·9	11·5	11·3	11·2	12·3
27 q	11·1	11·1	11·3	11·2	11·9	11·9	11·5	11·2	10·7	11·0	12·2	13·8	15·1	15·3	14·7	14·1	13·6	13·3	13·2	12·5	12·1	11·7	11·3	11·2	12·4
28	11·2	11·3	11·5	11·9	12·0	12·2	11·4	11·2	11·4	11·9	12·3	13·0	13·6	15·2	15·3	15·1	15·1	14·1	15·1	13·9	12·5	11·6	11·2	4·7	12·4
29	1·7	2·0	8·9	10·5	11·7	12·3	12·0	11·6	10·8	11·0	11·1	12·3	13·4	14·0	13·5	13·1	13·3	13·3	13·4	12·9	13·1	12·4	10·2	9·4	11·2
30 q	9·5	10·5	11·3	11·4	11·0	11·4	11·3	10·8	10·5	10·5	11·0	13·0	15·0	16·0	15·7	14·4	14·2	14·2	13·3	12·6	12·4	11·8	12·0	11·9	12·3
31	11·9	11·7	11·6	12·5	11·0	11·3	11·1	10·6	10·6	10·9	12·0	12·4	15·0	15·1	15·5	15·0	14·0	13·6	13·1	12·5	12·3	12·2	11·5	11·5	12·5
Mean	10·1	10·2	10·4	11·1	11·4	11·8	11·9	11·6	11·4	11·8	12·5	13·7	14·9	14·9	14·4	14·1	14·3	13·9	13·1	12·5	11·5	10·6	10·3	10·4	12·2

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

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT

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

105 ESKDALEMUIR (V) — 44,000γ (0·44 C.G.S. unit) + — JANUARY 1939

	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 q	970	967	965	965	965	965	966	966	967	968	970	970	966	968	970	970	969	969	970	970	971	971	971	971	968
2	968	968	967	967	965	964	964	964	964	964	970	965	964	964	964	965	969	969	969	970	968	967	968	969	967
3 q	969	965	963	963	963	964	964	965	965	964	965	966	965	968	970	969	967	965	966	969	970	970	969	968	966
4	967	966	965	965	964	964	964	964	965	964	966	965	964	967	970	968	965	965	966	967	965	965	964	965	965
5 d	965	964	963	959	962	963	963	960	958	955	958	959	959	962	961	962	965	968	972	975	974	965	953	962	963
6	969	970	967	965	966	965	965	965	967	966	969	970	967	968	970	969	972	976	976	979	977	978	972	971	970
7	971	971	970	970	969	968	965	965	964	964	966	964	964	968	970	969	969	968	969	973	970	966	971	973	968
8	975	972	971	965	967	969	968	968	967	965	970	970	965	965	968	970	970	976	977	978	965	968	973	972	970
9 d	974	976	976	972	965	964	963	960	963	969	973	976	976	977	977	974	974	974	976	977	976	980	971	977	973
10	977	976	974	968	955	958	963	961	962	964	969	965	970	970	972	974	976	976	974	974	977	977	975	976	970
11	976	976	975	970	964	965	968	967	964	964	965	964	964	965	970	974	977	978	978	978	980	972	976	976	971
12	978	976	974	972	971	971	971	970	968	965	965	963	959	963	969	969	970	971	971	970	970	971	971	971	970
13	971	970	970	970	970	970	970	970	968	965	965	965	968	970	970	970	971	971	971	971	970	970	970	973	970
14	967	969	970	968	970	970	969	969	969	968	965	963	964	970	976	981	976	974	971	970	970	974	977	971	970
15	970	969	968	965	959	958	962	964	964	965	971	968	964	968	972	975	975	974	975	974	971	971	970	970	968
16	966	964	965	965	965	966	966	967	967	969	968	960	958	963	967	970	970	970	970	975	971	976	987	984	969
17 d	983	971	938	938	934	942	953	962	968	974	976	974	970	971	973	976	977	976	974	976	979	983	982	978	968
18	978	978	974	971	966	956	951	953	962	968	977	980	968	963	967	970	971	971	971	971	971	971	972	970	969
19	970	970	970	969	966	965	964	965	965	969	971	973	971	970	970	970	971	970	970	970	972	971	970	967	969
20	963	947	948	953	958	954	948	951	953	957	964	964	964	966	970	970	970	970	971	973	978	976	972	971	963
21 d	971	970	963	963	963	964	964	964	964	967	968	970	968	975	983	983	984	996	1013	987	978	975	971	970	974
22 d	969	968	968	965	964	963	964	964	964	967	969	970	969	970	970	967	970	970	979	987	974	972	977	954	969
23	952	954	960	962	960	960	961	964	964	968	968	965	965	967	978	983	982	980	977	977	977	974	970	970	968
24	970	967	967	966	965	954	954	958	960	966	971	971	967	970	970	964	968	970	971	971	970	970	964	965	966
25	962	963	966	966	965	966	965	965	965	968	971	971	971	971	973	974	972	972	971	970	970	970	970	970	969
26 q	969	969	968	968	967	967	967	968	966	967	970	969	967	970	971	970	969	969	969	968	967	966	967	966	968
27 q	965	965	965	964	964	965	965	967	969	969	969	968	965	964	964	963	964	964	965	965	964	964	964	964	965
28	964	964	963	963	963	962	962	960	957	957	964	964	963	962	961	963	964	967	971	974	971	970	971	976	965
29	976	973	968	965	965	965	965	964	965	965	965	965	962	959	961	961	964	964	965	968	969	970	974	974	966
30 q	971	969	967	965	965	964	965	965	965	967	969	968	965	963	964	964	965	967	969	968	968	966	966	965	966
31	964	964	964	962	960	960	961	964	964	965	966	970	966	966	970	970	968	969	969	970	967	966	969	968	966
Mean	970	968	966	965	963	963	963	964	964	966	968	968	966	967	970	970	971	972	973	973	972	971	971	970	968

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

106 ESKDALEMUIR — JANUARY 1939

	TERRESTRIAL MAGNETIC ELEMENTS															Magnetic character of day (0-2)	Temperature in magnet house 200 +
	Horizontal force					Declination				Vertical force					$\frac{HR_H + VR_V}{10{,}000\gamma^2}$ §		
	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			°A
1 q	7 52	533	510	15 9	23	12 42	14·3	10·4	0 20	3·9	21 33	973	964	4 0	9	79	0	84·1
2	6 35	537	510	12 35	27	13 38	17·5	10·7	8 0	6·8	19 44	970	963	12 22	7	76	0	84·0
3 q	2 2	533	510	15 57	23	12 51	16·1	11·0	8 1	5·1	21 30	970	962	2 11	8	74	0	84·0
4	20 0	538	506	11 0	32	13 20	15·3	10·0	9 7	5·3	14 5	970	964	12 25	6	80	0	84·0
5 d	21 57	577	496	23 30	81	13 0	19·2	3·9	21 50	15·3	20 3	977	951	22 27	26	251	1	83·9
6	2 25	535	494	12 0	41	18 5	19·7	5·1	21 36	14·6	19 43	981	964	6 41	17	145	0	83·9
7	20 34	547	494	21 22	53	12 3	17·0	6·6	20 49	10·4	19 50	976	964	9 8	12	141	1	83·8
8	19 48	561	492	20 8	69	19 59	16·6	3·9	20 30	12·7	19 35	983	963	20 0	20	204	1	83·9
9 d	21 57	553	478	9 6	75	20 38	16·0	3·0	21 48	13·0	21 41	982	958	7 44	24	232	1	83·8
10	4 29	546	479	12 52	67	12 29	18·8	6·6	21 31	12·2	20 33	980	952	4 48	28	237	1	83·8
11	21 4	559	492	21 31	67	17 26	18·0	3·9	20 49	14·1	20 31	981	963	9 43	18	192	1	83·8
12	19 48	530	498	0 4	32	12 49	16·3	7·8	0 40	8·5	0 16	981	958	12 30	23	156	0	83·8
13	23 53	534	507	2 24	27	12 3	16·9	9·5	3 9	7·4	23 30	975	964	11 40	11	94	0	83·7
14	0 16	536	489	22 34	47	13 9	19·9	−0·6	21 55	20·5	15 29	983	963	11 19	20	168	1	83·7
15	5 6	535	493	11 59	42	14 6	17·9	11·2	23 49	6·7	18 21	976	956	5 5	20	159	0	83·7
16	20 33	558	478	20 56	80	17 4	16·4	4·9	20 22	11·5	22 15	988	957	11 57	31	271	1	83·7
17 d	2 3	538	473	11 34	65	1 59	19·9	−0·3	2 23	20·2	21 36	984	932	4 7	52	341	1	83·6
18	4 43	529	496	{1 10 / 1 35}	33	6 55	20·6	4·9	1 18	15·7	11 14	981	949	7 7	32	198	1	83·6
19	21 47	531	500	12 47	31	13 59	14·2	5·8	23 52	8·4	20 29	974	964	6 0	10	96	0	83·6
20	1 25	546	501	20 15	45	6 20	15·9	5·1	2 40	10·8	20 33	980	941	1 39	39	249	1	83·5
21 d	6 52	535	456	18 12	79	13 3	20·0	−0·3	18 30	20·3	18 28	1024	958	2 51	66	427	1	83·6
22 d	23 32	541	472	18 52	69	12 10	15·5	−4·7	22 38	20·2	19 11	994	947	23 50	47	325	1	83·6
23	{7 47 / 18 20}	526	476	14 31	50	13 59	16·8	3·8	0 35	13·0	15 12	986	948	0 1	38	254	0	83·6
24	22 13	554	493	11 54	61	12 22	15·6	7·7	22 49	7·9	14 0	971	953	5 45	18	182	1	83·6
25	5 2	529	496	12 15	33	0 45	15·7	10·2	0 1	5·5	15 14	976	959	0 53	17	131	0	83·6
26 q	{5 51 / 6 7}	530	505	11 39	25	12 42	15·1	11·0	23 0	4·1	14 14	972	965	8 30	7	72	0	83·6
27 q	20 29	531	501	10 31	30	13 25	15·6	10·6	8 28	5·0	9 30	970	962	15 52	8	85	0	83·6
28	6 51	541	506	12 37	35	{14 18 / 18 22}	16·0	2·3	24 0	13·7	23 24	977	956	8 42	21	153	0	83·6
29	18 33	530	487	1 4	43	13 37	14·3	1·0	0 20	13·3	1 0	977	958	13 19	19	156	0	83·6
30 q	5 25	534	493	11 57	41	13 46	17·1	8·8	0 55	8·3	0 1	974	962	13 10	12	122	0	83·5
31	3 50	537	493	11 45	44	12 48	16·7	10·0	9 10	6·7	14 50	970	958	4 0	12	127	0	83·5
Mean	− −	540	493	− −	47	− −	16 9	5·9	− −	11·0	− −	979	957	− −	22	177	0·45	83·7

§ For explanation see p. 61.

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT

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

107 ESKDALEMUIR (H) — 16,000γ (0·16 C.G.S. unit) + — FEBRUARY 1939

	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	520	520	517	516	517	518	519	521	525	525	528	520	520	509	508	516	522	528	516	500	466	482	475	469	511
2	459	464	483	501	492	494	496	495	500	503	496	494	497	503	498	495	497	514	492	477	481	499	489	492	492
3	494	493	494	503	505	501	502	502	503	503	500	495	496	505	504	514	512	513	516	514	511	509	497	501	504
4	499	505	505	503	506	506	504	505	507	504	496	475	492	499	502	494	500	505	508	511	508	509	512	512	503
5	506	508	508	507	508	514	509	508	509	516	505	506	504	509	507	503	501	507	516	524	512	512	509	507	509
6 d	511	507	512	512	516	520	513	514	513	516	471	467	467	487	499	487	471	499	490	444	441	437	418	427	485
7 d	448	446	429	452	467	469	475	480	487	483	472	480	478	472	487	491	483	483	487	491	487	480	490	492	475
8	492	489	491	492	495	496	501	503	502	499	494	485	482	484	489	496	500	504	510	499	498	500	474	492	494
9	494	494	496	496	499	509	512	513	512	507	503	491	490	501	501	504	507	512	484	496	482	487	491	500	499
10	487	501	498	505	499	498	501	506	502	495	495	495	498	492	502	493	508	472	485	505	515	516	516	525	500
11	520	503	512	514	507	516	512	510	515	505	486	478	490	495	497	496	500	504	505	509	510	509	512	510	505
12 q	514	512	515	514	514	514	516	516	519	514	510	509	509	504	503	503	507	509	516	520	521	521	520	520	513
13 q	519	518	516	516	516	517	520	526	527	519	508	508	508	508	512	512	514	520	523	525	516	503	509	518	516
14	519	523	524	521	527	525	530	525	522	518	509	503	498	504	505	512	514	508	511	503	516	525	524	527	516
15	524	542	519	512	525	532	542	530	527	520	512	507	507	510	518	503	507	514	517	519	521	520	523	524	520
16	518	518	520	512	515	512	519	521	512	522	507	501	496	498	492	507	489	501	510	509	511	506	509	516	509
17	516	515	513	513	514	523	523	506	510	504	504	501	490	483	491	487	490	507	512	505	503	516	507	516	506
18	516	516	512	512	514	516	521	507	514	512	507	503	502	496	507	513	500	516	518	513	511	524	528	505	512
19	503	512	508	512	513	524	531	521	514	510	497	497	492	497	497	505	511	519	520	520	515	516	513	517	511
20	516	518	520	520	519	522	522	518	511	502	495	493	497	509	515	501	506	497	507	510	514	523	525	513	511
21 q	515	513	511	513	514	520	520	520	519	513	503	496	498	504	510	514	517	518	522	521	523	522	522	522	515
22 q	522	522	522	523	525	526	524	521	516	513	513	505	509	514	521	522	525	523	518	526	518	521	518	521	519
23	537	513	503	507	513	516	517	518	517	512	507	501	505	525	525	527	531	529	531	533	533	518	528	524	520
24 d	520	513	521	519	525	523	521	514	510	507	511	520	514	498	513	513	525	581	667	853	633	294	217	259	511
25 d	207	152	407	431	420	403	383	345	420	407	462	471	452	466	479	498	493	462	465	466	452	499	473	473	424
26	475	475	473	475	479	479	481	477	466	456	454	458	460	468	472	475	484	489	494	494	494	494	513	499	479
27 q	495	497	498	498	498	501	502	502	501	496	490	484	489	494	486	494	494	500	505	506	506	506	508	507	498
28	507	507	503	505	508	508	510	509	509	505	496	492	490	500	507	519	495	491	492	496	489	484	482	491	500
Mean	495	493	501	504	505	507	508	505	507	503	498	494	494	498	502	503	504	508	512	517	507	498	493	496	502

MAGNETIC DECLINATION (WEST)

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

108 ESKDALEMUIR (D) — 13° + — FEBRUARY 1939

	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	11·0	10·1	9·3	9·8	10·5	10·9	10·8	10·5	11·0	11·6	12·6	13·5	17·0	17·1	18·9	18·9	17·8	16·1	16·9	18·0	15·2	8·7	2·9	1·7	12·5
2	9·9	7·7	1·6	6·7	9·0	8·8	9·5	11·3	10·9	11·5	13·6	14·0	14·2	15·1	15·2	14·1	14·4	18·1	7·6	16·1	13·5	10·9	3·1	7·8	11·0
3	9·2	7·6	6·9	4·4	2·7	5·8	7·4	8·9	10·5	11·3	12·4	13·9	16·8	17·0	16·1	17·0	17·9	16·5	17·2	16·0	16·0	7·6	10·5	10·6	11·7
4	8·5	7·8	8·4	8·8	11·0	9·7	10·0	11·4	11·0	11·2	13·1	13·2	14·2	13·6	14·6	14·1	13·3	13·3	12·7	11·6	11·2	11·3	10·4	9·2	11·4
5	8·5	9·0	7·6	9·0	9·2	9·2	8·9	9·0	9·7	11·5	12·4	14·4	12·5	13·3	15·1	15·2	15·4	13·2	14·2	14·2	14·2	12·5	8·7	11·1	11·6
6 d	9·3	7·8	7·7	10·0	8·6	8·9	16·1	10·0	9·7	11·4	14·1	14·6	15·2	18·6	14·4	14·1	12·4	11·0	19·1	14·2	8·5	6·5	3·1	1·5	11·1
7 d	-3·3	-5·1	-8·3	-1·7	3·0	6·7	10·3	11·6	13·7	15·5	14·1	14·7	16·5	18·0	18·3	16·1	15·1	18·4	10·0	10·9	12·9	10·3	8·9	8·6	9·8
8	6·0	6·0	7·3	9·6	10·3	10·3	10·9	11·1	11·3	11·3	11·0	11·0	12·1	13·6	14·3	13·6	13·7	13·7	14·1	13·2	15·2	10·9	5·8	6·5	10·9
9	8·3	7·7	7·1	7·8	9·4	10·0	10·4	10·9	11·4	11·5	13·8	15·4	15·6	16·9	14·9	14·5	15·3	14·1	10·2	15·4	14·8	7·8	9·4	5·1	11·6
10	3·8	7·7	6·5	5·2	6·9	8·6	10·6	11·0	10·0	10·6	11·6	12·9	17·3	17·3	18·7	16·4	16·8	13·4	13·1	12·4	11·2	11·6	10·3	8·4	11·3
11	6·1	7·6	13·3	8·9	7·7	9·4	11·4	11·7	11·8	12·2	13·6	14·1	16·2	16·3	16·7	14·3	12·5	11·9	10·5	10·4	10·7	10·6	10·5	10·5	11·6
12 q	10·9	11·0	10·7	9·7	9·7	10·0	10·4	10·7	11·2	11·3	11·8	12·5	13·8	14·4	14·1	14·3	14·1	13·6	13·1	12·3	11·8	11·3	11·1	10·8	11·9
13 q	10·7	10·5	10·7	10·7	10·6	10·5	10·5	10·6	10·6	10·4	10·9	12·4	13·4	14·1	14·2	14·0	13·7	13·1	13·7	12·7	12·4	8·4	7·7	11·1	11·6
14	11·5	11·2	11·4	10·8	10·7	10·5	9·7	11·6	10·9	10·5	11·4	12·7	13·5	13·5	13·5	12·6	12·3	12·0	12·4	9·9	11·5	11·6	11·7	11·6	11·6
15	10·9	10·6	3·2	8·3	11·7	9·5	9·7	10·7	10·9	10·7	11·9	14·0	14·7	15·6	16·7	15·0	13·5	14·0	12·5	11·4	10·2	10·9	9·6	9·7	11·5
16	10·4	10·8	11·5	11·6	12·4	9·8	11·0	11·8	11·1	11·0	11·3	14·3	15·6	16·1	14·8	18·1	15·5	10·4	11·7	11·1	10·5	5·2	9·2	11·2	11·9
17	11·0	11·1	10·3	10·7	12·5	11·6	11·0	11·8	14·9	14·9	11·3	13·4	15·1	13·7	16·6	13·3	6·9	12·0	11·9	11·0	2·6	7·9	8·8	11·4	11·5
18	11·4	10·9	9·7	10·2	10·0	10·6	11·2	11·7	14·6	13·3	11·8	13·2	14·6	13·3	12·7	13·5	12·4	11·4	11·5	11·9	11·0	9·4	5·4	2·2	11·2
19	5·9	8·2	9·6	10·1	10·5	13·2	12·3	12·2	10·8	10·7	11·7	13·8	15·9	14·8	14·1	13·1	11·7	11·9	11·7	10·6	2·9	9·0	10·0	10·3	11·0
20	10·4	10·4	12·1	13·5	10·2	9·4	9·4	9·3	8·4	7·5	8·7	11·1	13·7	16·0	14·5	11·6	9·3	11·5	11·3	10·4	10·2	8·9	8·5	9·9	10·7
21 q	10·2	11·3	11·8	11·8	12·5	11·0	10·3	10·1	9·5	8·5	9·6	12·1	13·8	14·0	13·6	13·1	12·3	11·9	11·4	11·1	11·1	11·0	10·5	10·4	11·4
22 q	10·5	10·8	11·1	11·2	11·0	10·3	9·9	9·6	9·5	10·1	12·9	14·6	16·1	15·7	14·9	14·2	13·8	14·0	13·4	13·5	12·8	11·8	10·3	10·3	12·2
23	9·8	5·6	4·1	6·2	8·4	8·1	9·2	9·3	9·5	9·7	11·9	13·2	14·1	16·7	15·3	14·8	15·7	15·5	15·5	15·1	15·1	8·5	8·6	8·9	11·2
24 d	6·9	5·8	5·4	3·1	7·5	9·1	9·5	9·2	8·5	9·2	12·2	15·8	18·1	18·3	20·8	21·4	21·6	24·4	29·4	37·5	23·8	-17·9	-7·6	-0·8	12·1
25 d	-8·7	-27·8	-2·0	4·6	7·6	13·8	28·1	33·1	18·5	14·0	17·6	16·2	18·2	17·4	13·5	9·7	14·6	17·9	10·0	11·2	7·3	7·5	7·4	7·7	10·7
26	8·8	9·4	9·2	8·7	9·3	8·9	9·2	8·9	8·6	8·8	11·1	13·0	14·3	14·1	12·9	12·1	11·9	12·0	11·6	11·2	11·0	11·3	6·6	9·0	10·5
27 q	9·2	9·3	9·2	9·3	9·4	9·3	9·3	9·4	8·9	8·3	9·4	10·9	13·8	16·2	13·3	13·1	11·9	11·9	11·6	11·1	11·0	10·7	10·1	9·1	10·7
28	9·4	9·3	9·2	9·7	9·6	9·1	8·9	8·4	7·6	7·3	8·7	12·0	13·3	15·6	16·1	17·7	15·5	14·0	12·3	11·9	12·0	6·8	4·5	6·5	10·6
Mean	8·1	7·2	7·7	8·5	9·4	9·7	10·9	11·3	10·9	10·9	12·0	13·5	15·0	15·6	15·3	14·6	14·0	14·0	13·2	13·4	11·8	8·6	7·7	8·2	11·3

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

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT

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

109 ESKDALEMUIR (V) — 44,000γ (0·44 C.G.S. unit) + — FEBRUARY 1939

	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	967	967	965	965	964	964	964	962	959	960	964	963	962	965	966	961	963	965	976	997	1030	1032	1023	1020	976
2	990	957	960	961	970	975	974	972	972	972	969	968	967	971	977	976	976	981	1006	1000	1011	1007	1008	987	979
3	983	983	981	974	958	955	960	964	966	970	973	974	976	976	978	980	981	978	981	983	986	989	987	986	976
4	987	984	981	977	976	974	973	970	970	970	972	978	977	975	975	977	977	976	976	976	977	976	974	971	976
5	973	972	973	973	972	968	965	964	961	958	965	965	971	970	972	974	976	979	975	974	982	996	991	987	973
6 d	976	973	968	968	970	964	947	953	957	957	968	978	994	1022	1064	1045	1071	1072	1066	1019	1033	1022	995	932	996
7 d	965	956	935	944	946	954	963	969	971	974	981	982	986	994	996	1004	1013	1013	1016	1011	1010	1006	1000	993	983
8	988	988	987	984	984	983	982	982	982	981	981	980	978	976	976	980	981	981	982	991	996	1001	1002	997	985
9	992	991	988	986	984	980	977	975	973	969	967	968	969	969	971	976	981	984	1001	1004	1017	1017	1008	998	985
10	996	987	980	971	971	974	979	980	980	979	978	978	975	976	971	977	987	1015	1018	1004	992	984	978	969	983
11	954	962	952	923	949	960	967	969	972	972	974	978	978	976	979	984	984	982	982	980	979	978	978	975	970
12 q	973	973	972	973	973	973	972	969	967	966	966	966	966	967	967	969	973	974	974	974	974	973	973	972	971
13 q	972	972	972	971	972	972	971	967	966	966	967	965	964	966	966	968	968	972	970	972	976	982	982	975	971
14	972	969	967	967	967	967	967	966	967	967	967	969	972	972	971	971	972	978	975	983	978	974	972	971	971
15	970	961	956	959	955	955	956	961	962	964	966	965	964	962	968	974	978	977	976	976	975	974	973	972	967
16	972	972	968	955	934	949	959	960	965	964	965	962	966	969	986	985	993	995	987	985	984	983	975	974	971
17	975	974	973	972	970	964	964	966	967	967	973	973	978	986	994	1003	1007	992	983	982	989	978	979	973	978
18	962	963	970	972	972	970	969	968	966	967	969	965	962	967	970	977	982	982	980	979	979	976	962	962	970
19	965	966	967	968	966	958	956	956	963	964	966	964	967	972	976	979	983	980	978	975	982	975	974	973	970
20	973	972	967	962	965	967	968	969	972	972	967	963	962	965	973	983	993	990	985	982	979	975	970	970	973
21 q	969	969	970	970	972	972	972	969	968	966	955	950	950	954	959	964	967	967	966	966	966	965	966	965	965
22 q	964	964	964	964	964	963	963	962	962	958	955	953	951	951	956	962	966	969	967	966	969	970	972	969	963
23	963	957	960	962	963	963	963	962	962	961	958	956	955	952	955	956	960	963	964	966	971	985	976	971	963
24 d	969	967	963	963	964	963	963	963	960	951	944	942	946	954	960	984	1016	1137	1253	1148	1160	912	812	922	988
25 d	936	792	922	1012	999	982	942	946	973	996	1033	1030	1035	1039	1063	1069	1070	1065	1054	1030	1033	1004	976	985	999
26	991	993	995	993	992	992	992	992	992	991	988	983	981	981	980	985	985	988	989	988	990	992	986	977	988
27 q	979	981	982	982	982	981	980	979	979	976	969	967	968	976	980	980	979	980	980	980	980	981	981	980	978
28	979	977	977	976	975	975	974	975	975	972	971	966	964	963	966	979	998	1020	1011	1007	1014	1012	1007	992	984
Mean	973	966	968	969	969	969	967	967	969	969	970	970	971	974	979	983	989	995	999	993	997	986	978	976	977

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

110 ESKDALEMUIR — FEBRUARY 1939

	TERRESTRIAL MAGNETIC ELEMENTS																		Magnetic character of day (0-2)	Temperature in magnet house 200 +
	Horizontal force					Declination					Vertical force					$\frac{HR_H + VR_V}{10{,}000\gamma^2}$ §		
	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			°A
1 d	18 4	547	444	20 4	103	19 57	24·8	0·4	23 26	24·4	20 43	1037	958	8 30	79	525	1	83·6
2	18 54	529	447	0 28	82	17 46	20·7	0·3	2 27	20·4	18 18	1019	947	1 59	72	459	1	83·5
3	21 19	535	483	22 11	52	18 21	18·9	1·3	4 19	17·6	21 11	994	953	4 59	41	271	1	83·6
4	22 51	520	461	11 25	59	14 49	16·1	6·0	3 16	10·1	0 28	988	967	7 50	21	192	0	83·6
5	19 57	565	479	21 47	86	21 36	18·0	4·7	22 16	13·3	21 50	1006	957	9 39	49	363	1	83·5
6 d	18 45	589	351	23 17	238	18 47	36·8	−7·2	23 25	44·0	18 52	1141	911	23 44	230	1428	2	83·5
7 d	19 0	514	398	0 1	116	13 50	20·3	−11·0	2 54	31·3	18 38	1025	932	2 29	93	610	1	83·5
8	21 34	521	463	22 28	58	20 53	18·0	4·8	22 40	13·2	21 28	1004	975	13 39	29	227	1	83·5
9	17 35	522	456	22 2	66	19 47	21·3	0·3	23 57	21·0	21 5	1027	966	10 30	61	384	1	83·5
10	23 55	545	457	17 30	88	14 56	21·9	1·0	0 1	20·9	18 10	1023	955	24 0	68	451	1	83·6
11	0 2	544	471	11 0	73	2 58	20·4	3·1	3 57	17·3	16 35	985	917	3 22	68	426	1	83·6
12 q	21 19	524	495	14 59	29	12 58	15·4	9·5	3 39	5·9	17 53	976	965	9 47	11	97	0	83·6
13 q	18 37	532	498	21 42	34	14 57	14·9	4·9	21 44	10·0	21 52	985	962	12 21	23	159	0	83·6
14	23 39	536	491	12 50	45	14 5	15·3	7·5	19 33	7·8	19 30	985	965	8 0	20	164	0	83·5
15	1 42	557	491	15 7	66	13 49	19·9	1·9	2 47	18·0	16 20	979	951	1 52	28	235	1	83·5
16	7 26	533	480	14 24	53	15 47	20·4	1·4	21 33	19·0	17 14	999	931	4 18	68	393	1	83·8
17	6 0	532	456	16 20	76	14 29	17·8	−1·7	20 27	19·5	16 35	1009	963	6 0	46	332	1	83·5
18	21 54	563	484	16 39	79	8 44	17·8	0·1	23 48	17·7	16 11	985	959	23 0	26	247	1	83·8
19	6 55	537	471	12 58	66	12 28	17·6	−0·3	20 31	17·9	20 30	985	952	{5 49 / 7 3}	33	258	1	83·6
20	21 56	534	484	15 36	50	13 42	16·7	7·3	9 51	9·4	17 8	996	961	3 33	35	240	0	83·8
21 q	18 51	525	494	{11 28 / 11 56}	31	12 52	14·7	8·4	9 30	6·3	6 0	973	949	11 37	24	159	0	83·8
22 q	19 37	529	499	11 43	30	13 44	17·1	9·1	8 13	8·0	22 25	972	950	12 45	22	148	0	83·8
23	0 25	550	498	11 11	52	13 45	18·9	2·8	2 41	16·1	21 29	990	951	13 4	39	261	1	83·8
24 d	19 14	1086	41	23 59	1045	19 15	50·7	−47·1	21 46	97·8	18 27	1314	703	21 53	611	4473	2	83·8
25 d	21 42	600	−52	1 34	652	7 30	36·4	−37·7	1 35	74·1	14 57	1101	708	1 40	393	2845	2	83·8
26	22 28	543	450	10 22	93	13 7	15·3	3·2	22 54	12·1	2 29	996	975	23 41	21	248	1	83·9
27 q	23 1	514	475	14 26	39	13 39	17·8	7·5	9 10	10·3	3 42	983	965	11 38	18	145	0	83·9
28	15 9	525	460	16 42	65	15 9	19·1	2·1	22 17	17·0	17 28	1023	962	13 50	61	382	1	84·1
Mean	− −	559	433	− −	126	− −	20·8	−0·6	− −	21·4	− −	1018	936	− −	82	576	0·82	83·6

§ For explanation see p. 61.

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT

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

111 ESKDALEMUIR (H) — 16,000γ (0·16 C.G.S. unit) + — MARCH 1939

	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	496	496	497	502	499	507	507	508	499	480	486	484	486	511	499	528	507	503	516	501	499	508	479	480	499
2	496	498	527	444	476	472	492	484	484	472	472	473	471	477	488	493	494	498	501	505	503	508	503	504	489
3	511	506	498	493	499	506	515	516	518	500	503	491	498	501	503	499	498	482	496	491	487	476	476	535	500
4	468	468	456	496	489	488	482	484	471	480	467	465	473	484	488	501	508	502	509	511	488	488	484	476	484
5	484	494	492	502	502	504	507	499	489	474	469	475	484	498	503	510	507	508	511	520	501	509	513	491	498
6	498	501	502	504	505	515	505	512	494	472	468	468	480	480	499	507	500	507	515	516	507	507	501	503	499
7 q	500	528	492	498	506	506	507	507	497	488	486	481	491	499	510	511	508	507	517	517	513	513	515	519	505
8	518	512	512	515	518	540	513	500	499	496	491	489	493	505	510	509	516	526	507	514	519	520	525	522	511
9	520	517	518	530	519	527	539	524	490	507	510	497	489	486	484	503	499	508	499	530	528	511	513	511	511
10	512	520	503	511	510	514	514	510	512	506	501	496	484	486	500	499	510	507	518	522	523	523	509	516	509
11	516	515	514	514	516	522	527	508	519	493	486	489	499	503	503	524	500	513	513	522	522	515	506	490	510
12	533	503	508	510	512	519	526	513	510	499	491	485	488	490	509	499	497	508	511	508	511	513	513	528	508
13 q	504	509	512	515	515	519	519	519	507	477	477	476	496	500	492	500	507	511	518	523	522	523	524	522	508
14	522	523	525	527	526	526	528	527	524	513	507	512	499	510	512	510	502	514	519	518	518	517	523	519	518
15	521	525	519	521	522	524	529	524	510	507	511	488	498	514	510	519	483	490	522	519	524	523	525	522	515
16	515	515	512	525	512	522	519	519	510	476	480	491	502	496	509	509	510	518	518	519	530	516	510	527	511
17	530	518	510	498	498	525	498	504	498	494	486	480	487	495	500	503	514	517	513	521	531	518	522	524	508
18 q	542	515	511	515	518	519	522	521	512	499	491	484	489	497	504	506	511	517	522	524	523	522	523	522	513
19 q	520	520	518	521	521	522	521	519	514	504	494	495	500	505	510	514	521	521	523	534	529	529	529	528	517
20	525	528	518	530	523	529	531	526	514	498	480	494	506	517	524	526	526	508	523	525	524	523	524	527	519
21	529	529	526	529	529	534	542	534	506	501	451	467	479	489	491	500	508	527	525	498	512	514	517	514	510
22 d	517	518	519	525	519	510	518	515	505	481	466	455	470	455	479	515	539	499	545	511	517	507	531	498	505
23	506	504	486	510	498	504	507	506	500	472	481	484	486	495	510	491	504	506	517	523	506	549	494	505	502
24	518	514	509	511	510	512	514	511	502	490	481	479	484	497	499	512	518	518	516	510	518	542	518	519	508
25 q	514	511	520	523	511	525	523	516	504	494	493	493	495	500	495	506	514	514	518	523	525	523	517	525	512
26	518	511	505	525	513	518	517	522	512	495	488	480	479	486	510	516	519	526	538	527	515	511	514	531	511
27 d	515	538	525	521	518	530	538	526	517	493	479	478	485	495	509	519	534	538	537	526	511	526	535	498	516
28 d	495	506	511	513	517	491	506	502	479	468	447	475	479	483	555	574	617	559	527	453	410	365	299	447	487
29 d	443	424	440	391	476	483	471	431	448	439	487	449	458	475	526	510	534	514	514	539	493	467	471	494	474
30 d	484	459	471	471	471	473	493	494	482	475	468	476	483	479	503	518	530	559	519	510	483	515	466	491	491
31	472	486	474	460	498	493	489	482	480	472	458	465	480	483	494	487	490	512	518	528	510	512	533	506	491
Mean	508	507	504	505	508	512	514	508	500	488	482	481	487	493	504	510	514	514	518	516	510	509	504	509	504

MAGNETIC DECLINATION (WEST)

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

112 ESKDALEMUIR (D) — 13° + — MARCH 1939

	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	7·5	12·5	8·6	7·3	7·5	6·0	9·0	8·4	7·4	9·6	10·5	12·1	15·1	20·1	19·0	20·0	20·7	18·0	18·1	17·7	15·6	11·2	4·7	-1·9	11·9
2	6·6	5·6	-2·0	-2·3	1·0	9·7	8·7	8·3	6·5	7·6	9·8	14·7	15·9	19·5	15·4	14·3	12·4	11·4	10·9	11·3	10·4	10·0	9·1	9·4	9·3
3	10·4	10·3	8·7	7·8	9·0	8·6	8·6	8·8	9·2	7·5	11·1	13·9	17·0	20·8	21·0	18·6	13·1	9·5	10·4	8·5	7·3	8·2	6·1	2·9	10·7
4	2·1	0·4	7·4	-6·5	-2·0	2·9	7·6	7·4	5·8	10·3	12·8	15·1	16·0	16·7	14·9	13·4	15·5	13·3	8·7	6·7	7·8	8·6	4·4	2·9	8·0
5	2·8	4·2	6·4	5·9	6·7	6·7	8·0	8·3	9·5	10·2	13·1	15·7	17·1	17·5	15·1	16·3	15·5	14·0	12·2	6·6	9·2	10·3	3·3	3·7	9·9
6	7·2	9·5	8·7	8·7	8·9	7·1	8·4	8·0	9·4	14·2	14·3	15·6	18·1	19·2	17·5	17·4	13·1	9·5	11·3	9·5	5·6	4·8	5·6	8·9	10·9
7 q	8·2	6·0	5·7	6·0	9·5	6·9	7·5	7·6	7·9	8·6	11·0	13·4	15·8	16·0	15·1	13·4	12·0	10·6	10·7	10·9	10·9	10·2	9·9	10·2	10·2
8	6·5	1·6	3·3	3·1	6·8	6·3	6·1	7·0	5·6	6·2	9·2	13·2	16·3	17·0	16·7	15·1	14·0	14·1	14·3	10·9	12·9	10·8	10·4	10·4	9·9
9	9·7	8·2	8·1	11·0	8·7	7·4	9·0	9·9	16·0	15·6	13·3	14·4	15·1	16·3	14·5	13·5	12·0	11·9	11·2	6·6	6·9	9·6	9·1	9·3	11·1
10	9·4	7·3	6·2	9·7	9·0	9·3	9·9	8·6	8·2	8·3	9·6	12·1	15·5	16·7	16·9	13·9	12·5	12·0	10·8	10·8	10·4	4·0	7·7	9·1	10·3
11	9·5	9·3	9·1	9·5	9·7	9·8	10·1	10·3	9·7	10·4	11·1	12·3	14·6	17·1	16·1	15·1	7·3	11·0	12·0	11·4	10·9	9·6	6·6	5·9	10·8
12	2·4	5·6	8·3	10·2	11·5	10·4	9·7	9·7	8·1	8·9	8·9	11·8	14·2	15·1	16·3	15·8	14·4	13·8	11·8	4·0	6·2	10·3	7·1	2·7	9·9
13 q	6·4	9·3	9·1	8·6	8·7	9·1	9·5	9·3	9·7	12·0	14·6	13·2	15·1	16·0	14·9	13·4	13·1	12·3	11·9	11·3	11·5	11·4	10·8	9·7	11·3
14	8·9	9·1	8·9	8·5	9·0	8·7	8·9	8·9	8·7	8·8	11·5	15·7	17·6	15·1	14·7	14·5	13·7	12·2	12·0	11·5	10·9	9·2	8·9	10·4	11·1
15	10·2	10·1	9·0	8·6	8·2	8·9	8·9	7·3	7·5	8·8	12·1	14·3	16·5	16·5	14·1	13·3	11·2	8·3	11·1	10·8	9·3	9·7	10·7	9·2	10·6
16	5·3	9·4	12·2	13·0	4·9	6·5	8·3	8·8	10·9	12·8	15·9	14·2	17·0	14·9	13·4	12·9	7·6	8·4	10·4	11·2	5·6	7·3	7·4	13·9	10·5
17	8·8	8·7	6·8	7·3	10·3	10·9	11·1	10·9	5·8	6·2	8·9	11·8	13·8	15·6	16·7	15·1	13·0	12·0	10·1	4·5	7·1	9·9	10·2	9·3	10·2
18 q	9·0	8·9	9·4	9·2	8·9	8·7	8·7	8·1	7·3	8·3	9·8	12·2	13·4	14·7	14·2	13·3	11·6	10·9	10·8	10·5	10·4	9·8	10·1	9·7	10·3
19 q	9·9	10·0	9·7	10·0	9·3	9·3	9·0	7·5	6·5	7·9	10·1	12·5	15·1	15·9	15·3	13·8	12·1	11·3	11·2	10·5	10·6	9·7	6·5	8·3	10·5
20	10·1	9·8	14·2	7·3	7·0	7·4	7·6	6·7	5·4	5·2	8·5	13·0	16·2	17·3	16·1	14·1	13·1	11·3	10·7	10·5	10·5	10·4	10·2	9·6	10·5
21	8·9	8·8	8·7	8·9	8·8	9·1	10·7	11·5	9·5	10·2	10·7	15·9	16·8	17·6	16·7	15·9	13·0	12·4	12·4	4·7	9·3	9·4	10·3	10·3	11·3
22 d	9·2	9·2	9·5	12·1	6·5	3·1	5·7	5·7	4·7	6·3	11·0	13·2	19·0	20·0	18·6	20·5	10·4	11·1	3·8	5·5	5·5	6·7	4·7	5·6	9·5
23	9·2	8·5	13·5	9·7	5·7	8·5	8·3	7·5	5·7	7·5	9·3	12·1	15·3	18·7	20·2	17·6	16·0	14·0	12·2	11·0	7·5	-0·8	2·9	6·5	10·3
24	7·5	9·3	8·7	10·1	10·3	9·9	8·9	6·5	5·5	5·9	7·6	11·0	15·0	18·3	16·0	14·9	14·8	12·9	10·8	10·1	9·2	7·8	9·1	9·2	10·4
25 q	8·4	8·6	9·2	8·6	8·3	8·3	7·4	5·9	4·7	6·5	9·9	12·1	14·2	15·8	14·3	13·7	13·0	12·1	10·9	10·4	10·5	10·2	9·0	4·5	9·9
26	3·1	5·6	6·6	6·7	6·1	5·9	7·2	5·9	4·6	7·3	8·8	12·1	16·8	18·8	19·9	19·5	17·5	15·0	5·1	9·2	4·6	2·0	6·6	4·5	9·1
27 d	4·6	10·0	10·9	1·5	-1·3	3·7	5·0	6·6	6·5	7·3	9·7	13·0	15·5	17·7	18·2	17·1	16·3	15·5	18·8	1·0	12·1	4·8	-2·8	2·0	8·9
28 d	3·3	8·4	6·6	5·7	3·8	5·8	8·3	3·9	4·0	7·4	12·1	14·0	18·6	23·8	24·0	25·0	23·6	16·7	13·8	5·3	2·4	-4·9	-0·5	-6·2	9·4
29 d	-8·6	-10·4	-2·0	2·9	9·4	4·6	13·1	12·2	13·1	10·5	9·9	12·2	13·6	15·1	14·9	12·9	4·5	7·3	8·0	9·1	1·0	0·7	5·6	4·7	6·8
30 d	0·9	1·6	8·6	6·7	4·5	6·4	7·8	8·5	6·9	8·6	9·6	11·2	14·2	16·2	15·1	15·9	14·1	6·5	10·5	8·9	7·9	-1·5	2·8	4·1	8·2
31	12·0	6·8	3·6	7·4	5·4	5·6	5·2	3·8	4·0	6·4	7·5	11·0	12·8	14·5	17·2	14·9	13·1	12·1	10·2	4·9	7·3	5·7	3·8	0·3	8·1
Mean	6·8	7·2	7·8	7·2	7·1	7·5	8·5	8·0	7·6	8·8	10·7	13·2	15·7	17·2	16·5	15·6	13·4	12·0	11·2	8·9	8·6	7·3	6·8	6·4	10·0

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

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT

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

113 ESKDALEMUIR (V) — 44,000γ (0·44 C.G.S. unit) + — MARCH 1939

	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	987	977	965	970	977	977	979	980	980	979	972	970	968	975	980	993	1010	1012	1012	1022	1034	1027	1038	1012	991
2	991	977	931	886	929	956	956	972	978	981	981	976	978	981	988	988	987	987	986	986	986	986	984	983	972
3	977	970	975	977	974	968	961	967	968	969	970	968	968	978	991	1000	1017	1015	1001	1000	1000	1000	991	983	983
4	947	940	905	917	922	937	949	965	971	965	967	964	964	973	994	1011	1011	1018	1011	996	995	981	959	975	968
5	976	975	976	977	975	976	974	971	969	969	968	967	963	969	971	983	991	994	1006	998	993	991	993	987	980
6	986	985	985	981	974	973	973	973	973	971	975	971	980	983	983	994	1001	1005	989	987	984	986	981	981	982
7 q	983	974	972	976	973	974	976	976	973	970	970	970	965	967	973	978	981	984	981	981	983	985	983	975	976
8	963	963	963	965	954	923	933	946	956	957	959	957	957	960	967	974	976	980	988	994	987	988	985	981	966
9	980	978	975	962	956	959	959	963	963	956	955	956	961	971	979	987	991	999	1000	993	978	978	978	977	973
10	976	964	964	968	971	973	973	975	971	969	968	964	966	968	976	978	984	983	980	977	977	978	975	973	973
11	973	974	975	975	974	974	971	975	970	967	967	964	964	969	973	981	1008	1000	988	981	980	980	980	966	976
12	957	963	969	968	962	964	967	970	973	973	974	973	971	973	976	990	988	987	989	994	988	980	981	966	975
13 q	962	968	973	975	975	975	975	976	973	968	964	964	965	968	977	979	981	981	981	980	980	979	980	980	974
14	979	977	976	975	974	973	972	974	973	969	962	959	961	964	974	983	989	983	984	984	984	986	981	978	976
15	976	975	975	975	975	973	968	969	969	966	962	965	969	974	978	986	1009	1014	993	988	986	983	981	980	979
16	975	974	968	934	956	963	967	969	968	970	970	971	974	985	988	988	998	993	987	986	983	980	976	950	974
17	932	934	956	963	967	963	959	962	964	960	961	962	963	966	975	983	985	986	990	989	977	975	975	974	968
18 q	966	968	973	974	974	974	975	976	976	976	974	971	970	973	976	981	981	979	976	976	976	977	976	976	975
19 q	977	976	976	975	974	974	976	977	976	973	970	966	964	969	977	981	981	978	976	976	976	976	974	971	975
20	973	973	964	948	962	964	966	971	972	968	967	960	958	963	969	974	980	981	978	976	975	975	975	974	969
21	974	973	974	973	972	971	964	962	964	964	968	969	974	976	978	986	987	985	1002	1021	1000	991	983	980	979
22 d	980	980	973	947	941	947	949	955	961	963	961	962	969	983	991	1004	1025	1023	1011	987	986	976	956	963	975
23	966	955	933	923	944	958	964	967	967	967	970	964	960	965	980	1008	1013	1000	987	984	990	972	973	972	970
24	973	971	974	973	974	973	974	976	972	967	968	964	963	968	990	993	988	995	1000	1001	992	977	968	970	978
25 q	974	975	970	963	969	968	967	969	966	963	958	953	952	955	961	969	977	981	983	981	979	979	981	980	970
26	964	968	970	964	970	971	974	975	976	975	973	967	963	964	968	977	985	994	1005	997	1003	994	986	972	977
27 d	973	962	922	913	934	946	951	957	958	959	963	961	961	965	968	976	987	1000	1028	1057	1035	1014	947	961	971
28 d	971	961	957	971	969	971	971	973	973	970	969	966	963	969	1011	1068	1165	1153	1118	1042	1025	998	945	963	1002
29 d	939	911	920	894	919	955	961	967	976	993	999	1016	1035	1033	1040	1072	1064	1037	1041	997	973	973	974	956	985
30 d	964	961	947	951	964	962	964	974	982	981	986	983	981	990	997	1002	1023	1034	1028	1029	1005	981	976	981	985
31	946	928	936	929	963	981	987	991	986	981	981	974	970	971	980	998	997	991	997	997	994	993	967	960	975
Mean	970	965	961	956	962	965	966	970	971	970	969	968	968	973	982	992	1002	1002	1000	995	990	985	977	974	977

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

114 ESKDALEMUIR — MARCH 1939

	TERRESTRIAL MAGNETIC ELEMENTS																		Magnetic character of day (0-2)	Temperature in magnet house 200 +
	Horizontal force						Declination						Vertical force						$\frac{HR_H + VR_V}{10{,}000\gamma^2}$ §	
	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			°A
1	15 45	535		449	22 40	86	13 33	23·6	−10·3	22 58	33·9		22 43	1052	961	2 7	91		551	1	83·9
2	2 33	542		421	3 27	121	13 17	21·4	−7·5	2 39	28·9		0 1	1003	870	3 16	133		799	1	83·9
3	23 49	630		452	22 23	178	14 5	22·7	−8·4	23 40	31·1		17 5	1021	958	6 17	63		577	1	83·9
4	19 19	571		412	0 20	159	13 50	18·9	−11·3	3 42	30·2		17 52	1021	889	2 42	132		856	1	83·9
5	19 7	570		454	10 27	116	13 31	19·1	0·7	22 42	18·4		19 1	1014	963	12 26	51		420	1	83·8
6	5 49	523		458	11 23	65	13 12	20·7	2·6	20 52	18·1		17 2	1010	970	11 41	40		287	1	83·8
7 q	1 31	539		478	11 9	61	12 43	17·8	4·0	2 12	13·8		21 4	986	963	12 33	23		204	0	83·8
8	5 8	555		476	10 4	79	13 2	18·5	0·6	1 25	17·9		19 17	997	921	5 18	76		472	1	84·0
9	6 29	555		473	8 32	82	8 27	21·2	0·7	19 3	20·5		17 52	1004	953	10 54	51		364	1	84·0
10	21 26	545		471	12 56	74	14 21	18·6	1·0	21 21	17·6		16 39	986	957	1 58	29		253	1	84·0
11	15 45	543		479	10 7	64	13 26	19·5	1·7	16 35	17·8		16 44	1015	962	23 41	53		345	1	83·9
12	23 10	556		480	{12 0 / 15 48}	76	14 51	17·9	−1·9	19 46	19·8		19 59	997	956	0 20	41		310	1	84·0
13 q	22 41	528		459	11 10	69	13 54	17·2	2·8	0 1	14·4		16 27	981	960	0 24	21		209	0	84·0
14	22 7	539		483	12 1	56	12 16	19·3	5·9	22 15	13·4		16 9	992	956	11 41	36		254	0	84·0
15	20 53	537		457	16 49	80	13 30	18·9	5·7	7 58	13·2		17 16	1022	960	10 53	62		411	1	84·0
16	20 29	561		455	9 58	106	2 56	21·4	−0·5	20 21	21·9		16 41	1002	929	3 26	73		504	1	84·0
17	0 43	559		476	11 42	83	14 6	18·1	0·6	19 45	17·5		18 18	991	922	0 58	69		448	1	84·0
18 q	0 13	565		479	11 43	86	13 23	15·2	7·0	8 33	8·2		16 7	982	963	0 28	19		227	0	84·0
19 q	19 7	553		491	11 6	62	13 28	16·4	3·8	22 46	12·6		16 0	981	963	12 21	18		183	0	84·0
20	16 0	549		474	10 20	75	2 44	21·0	4·1	3 51	16·9		17 28	981	941	3 19	40		304	1	84·2
21	6 22	557		438	10 40	119	13 4	18·7	2·3	19 11	16·4		19 3	1028	960	7 36	68		502	1	84·0
22 d	18 50	585		440	11 14	145	13 2	22·9	−1·9	18 45	24·8		16 18	1032	939	4 11	93		658	2	84·0
23	21 10	609		455	9 51	154	14 20	20·7	−8·3	21 40	29·0		15 55	1016	916	2 50	100		704	1	84·1
24	21 36	581		470	11 12	111	13 40	19·8	0·7	21 30	19·1		18 50	1003	962	12 6	41		368	1	84·2
25 q	23 50	562		489	10 58	73	13 46	16·9	−3·8	23 45	20·7		18 40	983	951	12 40	32		264	0	84·1
26	18 40	553		475	12 31	78	14 16	20·6	−1·1	21 18	21·7		18 26	1010	962	{3 20 / 12 21}	48		345	1	84·0
27 d	{22 11 / 22 15}	587		470	11 2	117	18 35	23·4	−9·5	22 35	32·9		19 5	1104	910	3 25	194		1066	1	84·3
28 d	18 33	747		195	22 30	552	16 17	34·8	−21·7	23 3	56·5		17 12	1234	893	22 30	341		2446	2	84·6
29 d	19 23	609		352	3 33	257	19 33	25·6	−14·1	1 45	39·7		16 1	1088	886	3 36	202		1333	2	84·6
30 d	17 22	618		417	20 43	201	20 33	19·6	−19·8	21 1	39·4		17 7	1038	940	3 3	98		773	2	84·5
31	22 22	559		435	3 29	124	0 32	18·8	−1·0	22 15	19·8		15 55	1003	910	0 52	93		624	1	84·6
Mean	− −	568		449	− −	120	− −	20·3	−2·5	− −	22·8		− −	1019	940	− −	78		550	0·94	84·1

§ For explanation see p. 61.

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT

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

115 ESKDALEMUIR (H) — 16,000γ (0·16 C.G.S. unit) + — APRIL 1939

	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	482	497	474	486	491	519	519	510	471	475	474	470	459	478	491	502	518	532	526	522	500	495	498	527	497
2	499	489	508	482	507	522	506	499	487	476	464	457	473	486	502	510	522	525	538	520	534	511	514	542	503
3	507	508	509	498	500	505	504	498	464	472	471	467	479	477	492	518	510	525	519	517	514	511	496	491	498
4	499	502	497	511	518	514	515	498	485	482	475	475	488	502	500	513	515	530	554	519	512	494	502	514	505
5	510	510	498	502	514	519	524	517	498	498	464	471	474	506	483	506	514	523	525	522	519	515	516	516	506
6 q	517	516	517	518	522	525	512	523	509	495	484	483	484	486	500	508	519	527	526	527	527	527	529	530	513
7 q	527	525	527	526	529	530	531	527	514	498	486	467	476	491	503	534	520	514	522	524	522	523	527	529	515
8	526	524	519	519	515	527	526	519	515	507	494	486	487	497	513	521	523	533	547	519	550	526	535	532	519
9	529	523	528	522	525	534	538	530	522	510	497	491	498	498	510	519	533	537	538	538	528	534	517	535	522
10	524	491	511	517	517	519	535	513	464	475	487	487	486	470	502	502	531	523	521	542	521	514	530	547	510
11	485	506	513	513	506	519	518	514	497	471	462	472	485	491	499	498	529	568	577	526	513	534	505	504	509
12	500	502	509	498	493	499	493	477	471	487	472	471	466	491	496	503	517	527	528	526	528	524	528	519	501
13 q	533	517	513	512	511	518	510	482	497	493	477	466	481	478	494	504	514	525	536	525	527	534	524	525	508
14	520	521	512	522	525	521	522	511	504	490	470	475	494	490	505	518	509	524	533	533	537	523	522	524	513
15 q	520	520	521	520	522	521	522	516	512	501	486	488	490	501	508	516	527	523	528	529	525	526	526	526	516
16 q	525	522	518	518	522	522	522	518	506	487	482	479	482	486	500	505	511	519	524	529	533	551	564	560	516
17 d	563	550	584	470	360	426	405	347	468	443	463	477	486	533	750	786	607	564	505	488	517	400	474	470	506
18 d	469	461	463	456	461	462	458	417	417	459	439	447	465	499	537	628	577	581	548	497	482	487	463	469	485
19	494	474	469	485	481	490	506	509	492	481	467	469	494	505	529	539	549	648	538	523	485	484	482	490	503
20	474	486	497	481	466	494	495	469	432	426	424	434	446	473	490	481	545	537	509	514	505	490	489	487	481
21	499	490	503	497	501	518	505	494	474	451	457	458	448	471	503	529	541	562	517	519	517	505	498	498	498
22	499	480	502	496	493	488	481	478	467	454	446	453	493	513	533	551	545	536	545	510	504	502	497	482	498
23 d	508	518	515	499	527	434	274	371	422	399	432	461	479	505	574	672	558	537	572	550	497	494	490	506	491
24 d	492	478	480	489	481	481	484	479	462	445	439	438	446	462	477	490	507	596	746	660	249	266	419	189	465
25 d	251	130	253	415	447	422	415	395	419	428	422	410	460	454	494	537	563	538	549	541	486	494	492	437	435
26	426	474	473	478	474	485	483	479	474	464	450	449	454	468	487	503	509	500	518	509	503	508	513	502	483
27	501	499	500	498	499	497	497	494	485	467	462	461	471	485	490	522	524	523	518	512	509	546	521	423	496
28	482	504	510	512	501	495	494	490	481	467	466	454	466	488	489	505	544	541	539	535	535	510	502	511	501
29	507	502	500	486	496	497	492	482	474	462	461	478	474	487	506	526	519	565	555	531	523	511	514	513	503
30	512	506	501	504	505	501	495	490	483	478	473	476	497	506	526	514	546	560	545	529	513	510	509	513	508
Mean	496	491	497	498	497	500	493	485	479	471	465	466	476	489	513	532	532	541	542	528	507	502	507	497	500

MAGNETIC DECLINATION (WEST)

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

116 ESKDALEMUIR (D) — 13° + — APRIL 1939

	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	-0·8	-1·2	-0·1	5·5	6·8	9·2	10·7	11·4	11·2	13·9	12·4	13·9	14·0	16·0	18·3	14·0	15·2	9·2	10·1	1·2	5·4	3·9	4·6	7·3	8·8
2	4·1	1·6	1·0	5·5	9·7	8·0	6·0	4·3	3·9	5·6	9·0	11·8	14·9	16·8	16·5	16·4	15·7	9·2	7·3	8·3	6·2	6·3	3·5	-0·1	8·0
3	5·0	6·1	6·5	3·4	2·7	5·7	5·5	4·3	8·1	10·0	9·0	12·1	16·5	18·1	17·9	18·4	15·5	13·6	6·3	5·3	8·1	5·0	2·8	3·0	8·7
4	-0·2	3·4	5·3	9·4	2·0	4·4	5·6	5·3	6·3	8·2	9·4	11·2	13·1	16·1	15·4	14·5	13·3	12·9	13·6	9·1	9·0	0·2	3·7	5·5	8·2
5	8·1	8·2	5·3	12·7	10·2	7·0	6·1	5·2	3·9	4·1	8·3	13·3	15·9	20·6	17·8	15·3	12·5	11·2	9·9	9·4	9·6	8·9	9·1	9·0	10·1
6 q	8·7	8·3	8·6	8·6	9·4	10·0	9·0	6·9	5·0	4·2	4·9	8·4	13·2	15·1	15·4	13·8	11·8	10·6	10·3	10·0	10·0	9·9	9·4	9·1	9·6
7 q	8·4	8·7	9·0	7·4	7·6	8·1	8·6	5·0	3·4	3·8	5·3	8·7	13·4	17·3	17·4	17·0	14·4	12·5	10·6	10·6	9·2	9·0	9·3	9·1	9·7
8	8·6	8·8	8·7	8·4	8·2	9·4	7·8	6·3	5·7	6·6	7·9	12·1	16·9	18·8	18·0	14·7	12·7	12·2	9·2	10·4	10·2	6·3	11·2	7·5	10·3
9	8·8	8·7	10·1	5·7	6·0	6·0	5·5	7·1	5·0	6·2	8·6	11·3	15·8	16·9	15·8	14·1	12·4	11·8	0·8	8·5	9·8	6·3	7·1	5·6	8·9
10	11·8	4·4	3·5	5·4	8·9	10·7	8·8	5·0	5·4	11·9	10·9	11·9	15·6	13·5	15·7	12·4	8·6	9·1	9·4	-4·0	6·3	9·1	9·4	15·6	9·1
11	7·3	5·5	6·7	8·1	9·9	7·4	5·2	5·0	7·4	9·0	11·6	11·9	14·4	17·3	14·8	11·8	9·3	4·4	-0·2	5·2	1·4	5·3	4·9	5·5	7·9
12	9·2	13·3	11·1	14·3	9·4	10·1	8·3	8·3	6·5	8·4	9·6	11·0	13·5	12·3	11·3	10·1	9·7	9·4	9·4	9·6	9·4	7·2	7·1	6·9	9·8
13 q	9·5	11·0	7·1	5·9	5·8	6·5	6·7	7·4	5·8	5·7	8·0	9·9	14·9	16·5	16·5	14·0	13·0	11·3	8·2	7·1	9·0	8·9	9·0	9·7	9·5
14	9·6	10·9	10·9	9·3	6·3	5·3	5·5	4·8	3·9	4·8	8·9	13·7	17·4	19·1	17·8	15·6	12·6	10·3	10·1	9·1	8·2	7·1	6·5	6·2	9·7
15 q	9·1	9·8	9·7	8·9	7·1	6·3	6·1	4·6	3·4	4·4	8·1	10·6	13·5	15·6	14·9	12·9	11·2	9·5	9·0	8·7	7·3	8·8	9·8	9·5	9·1
16 q	9·8	9·2	8·8	8·5	7·6	6·1	5·6	5·1	3·9	3·1	6·7	10·3	13·9	16·3	16·0	13·8	12·1	10·9	10·2	10·1	9·9	10·5	11·0	8·7	9·5
17 d	8·9	6·5	3·5	7·3	-4·3	-10·4	-10·7	0·7	-4·0	0·5	5·3	13·8	18·6	24·2	25·9	29·8	27·2	20·3	12·0	11·9	14·2	11·5	5·9	8·0	9·4
18 d	8·2	8·2	8·1	7·6	6·5	5·2	3·2	0·6	5·2	8·3	10·1	12·0	13·9	16·5	17·9	14·6	13·7	10·0	10·8	5·3	5·4	7·2	4·8	-2·6	8·4
19	2·7	1·5	3·8	5·0	7·1	7·1	8·2	4·4	3·1	4·5	8·7	13·7	20·3	21·2	19·2	17·5	17·7	9·0	11·9	8·9	8·3	3·5	6·5	3·2	9·0
20	5·6	6·3	7·3	0·5	4·3	3·3	3·6	1·9	4·2	9·7	11·8	17·3	17·6	16·6	17·3	14·7	11·0	11·3	9·2	7·1	4·3	4·2	4·0	1·1	8·1
21	1·2	4·3	8·2	4·7	5·2	8·0	10·0	6·1	3·0	5·0	8·2	11·4	14·9	17·9	16·4	13·8	12·7	8·9	7·6	9·3	7·2	8·2	9·8	3·6	8·6
22	4·6	5·2	2·2	3·9	7·1	6·5	4·6	4·4	4·1	5·3	7·2	12·0	18·0	20·0	20·6	19·1	17·7	16·6	7·1	9·4	8·5	8·2	4·7	0·7	9·1
23 d	4·3	3·0	2·5	4·4	6·7	13·8	16·7	-6·6	-5·5	4·4	4·5	8·9	17·4	20·1	21·5	22·4	12·9	16·5	11·9	5·8	11·1	10·7	10·2	10·2	9·5
24 d	10·2	8·2	7·5	6·6	5·4	5·9	4·4	2·6	0·9	2·4	6·0	9·5	13·6	16·0	15·5	14·2	13·3	13·8	7·9	14·9	-4·0	-3·7	-2·2	-10·1	6·6
25 d	-21·3	1·6	15·7	4·4	0·7	-1·0	0·0	3·2	9·0	10·0	11·8	11·9	13·0	15·0	17·5	10·0	8·1	10·1	7·2	7·1	6·2	7·2	4·8	1·6	6·4
26	10·2	9·7	9·7	8·7	6·3	4·0	2·7	2·4	2·5	4·0	7·3	11·0	14·9	17·2	16·7	14·9	12·8	10·1	8·2	8·2	8·2	8·2	8·5	8·1	8·9
27	8·2	7·4	7·3	7·1	6·5	5·1	3·5	2·3	0·9	3·6	7·7	11·6	15·4	16·4	14·6	13·7	11·8	8·9	8·2	8·2	8·8	10·1	-0·5	-3·9	7·6
28	-1·9	5·3	4·7	0·4	0·2	3·1	3·9	3·5	2·5	4·6	8·1	11·3	14·5	17·3	14·8	11·4	11·1	10·2	8·9	6·1	4·3	4·7	3·6	7·6	6·7
29	7·1	7·1	6·4	9·7	4·7	1·7	1·1	-1·7	-0·3	1·8	6·8	11·4	13·5	14·3	12·8	12·6	11·1	10·9	8·3	6·0	6·4	8·1	9·0	8·7	7·4
30	6·9	8·2	8·2	6·9	5·4	4·1	3·5	3·4	3·7	5·4	8·3	10·5	14·0	15·6	15·7	13·3	13·3	13·4	8·7	9·0	9·0	9·6	9·1	8·8	8·9
Mean	5·7	6·6	6·9	6·8	6·0	5·9	5·5	4·1	3·9	6·0	8·3	11·6	15·2	17·2	16·9	15·0	13·1	11·3	8·7	7·9	7·6	7·0	6·6	5·4	8·7

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

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT

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

117 ESKDALEMUIR (V) — 44,000γ (0·44 C.G.S. unit) + — APRIL 1939

	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	947	940	936	947	956	932	943	958	966	965	970	973	976	979	990	1008	1014	1025	1018	1017	1001	1000	994	964	976
2	956	949	949	944	956	963	976	981	983	981	978	978	976	981	991	992	1004	1009	1010	1005	992	989	984	957	979
3	960	972	971	967	969	976	981	984	983	977	979	976	970	974	979	990	1000	1004	1015	1012	1003	997	986	979	983
4	983	984	987	965	963	970	973	976	976	977	979	977	976	977	980	984	984	984	991	1019	1040	1021	984	979	985
5	986	981	980	962	970	977	981	984	984	981	978	976	971	977	982	985	993	994	992	990	989	989	987	988	982
6 q	989	989	989	986	985	983	984	985	986	983	980	975	971	971	977	983	984	985	984	984	984	983	983	983	983
7 q	984	984	983	983	982	980	979	983	981	980	977	970	963	965	971	978	988	991	993	989	989	986	984	982	981
8	983	983	984	984	984	980	984	984	982	976	976	970	964	968	976	986	991	1001	1012	1011	996	999	988	986	985
9	984	981	965	972	978	979	980	980	978	977	974	971	971	974	980	987	993	997	1010	997	990	984	979	971	981
10	933	945	967	975	969	959	963	969	971	967	974	974	976	1001	1007	1013	1017	1013	1011	1011	993	989	977	942	980
11	925	962	975	977	977	978	984	983	982	984	983	984	979	983	994	1002	1009	1016	1017	1014	1003	966	960	972	984
12	973	966	961	945	966	966	971	977	980	983	986	986	983	987	988	989	989	989	990	989	987	989	984	979	979
13 q	972	967	975	981	983	981	983	984	981	977	971	965	962	966	973	982	984	987	994	1000	993	984	983	983	980
14	983	977	970	964	970	975	977	978	977	973	969	963	962	967	975	980	986	991	990	995	992	989	989	984	978
15 q	983	983	980	980	980	979	983	984	981	975	974	973	971	974	985	993	996	996	994	991	990	988	984	983	983
16 q	980	981	983	983	983	983	983	984	984	977	971	969	962	963	970	975	977	979	979	980	981	979	976	977	977
17 d	967	967	956	918	771	893	890	878	886	932	953	985	1010	1021	1158	1207	1154	1215	1091	1013	933	886	1000	1005	987
18 d	1007	1007	1003	1005	1006	1010	1012	1008	1001	996	992	984	1001	1024	1049	1079	1077	1072	1054	1028	1013	1001	971	937	1014
19	957	962	963	979	990	989	981	984	989	986	986	981	979	1001	1047	1088	1108	1092	1053	1058	1040	1019	995	984	1009
20	964	947	928	950	939	937	965	979	988	995	995	996	1000	1003	1017	1027	1043	1052	1041	1033	1025	1010	987	969	991
21	966	964	942	960	970	966	966	978	989	991	986	990	998	1006	1024	1037	1048	1067	1051	1031	1024	1004	1002	1001	998
22	992	981	988	989	996	1000	1001	1003	1003	998	991	983	977	989	1007	1031	1060	1072	1061	1014	1007	1004	998	990	1006
23 d	961	950	967	952	930	910	810	849	890	922	948	980	1020	1046	1094	1163	1171	1126	1123	1073	1024	1013	1006	983	996
24 d	970	983	990	998	1003	1002	1005	1007	1006	1002	1000	997	992	990	993	994	994	996	1005	1010	873	890	970	884	981
25 d	835	856	821	927	986	1006	1009	1007	997	1004	1024	1044	1054	1041	1045	1067	1068	1058	1057	1038	1027	1013	997	972	998
26	923	957	968	977	986	1000	1007	1008	1006	1001	1000	993	988	989	993	999	1005	1008	1013	1010	1006	1003	998	996	993
27	996	998	1000	1001	1001	1003	1003	1001	996	990	981	974	967	973	983	992	1003	1015	1016	1009	1003	989	958	852	988
28	896	945	956	968	983	981	981	986	986	983	982	978	979	984	999	1003	1004	1010	1013	1015	1012	1001	986	968	983
29	981	991	995	981	973	991	996	994	986	979	979	978	977	981	986	991	996	1002	1016	1014	1010	1003	997	981	991
30	978	977	984	989	994	996	995	993	987	981	974	970	968	977	989	998	998	1008	1025	1018	1011	1004	1002	997	992
Mean	964	968	967	970	970	975	975	978	979	980	980	980	981	988	1003	1017	1021	1025	1021	1012	998	989	986	971	987

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

118 ESKDALEMUIR — APRIL 1939

	TERRESTRIAL MAGNETIC ELEMENTS																			
	Horizontal force					Declination					Vertical force					$\frac{HR_H + VR_V}{10{,}000\gamma^2}$ §	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.	′	′	h. m.	′	h. m.	γ	γ	h. m.	γ			°A
1	19 15	605	450	12 37	155	13 54	20·1	-3·9	{19 7 / 19 12}	24·0	19 10	1038	926	5 31	112	760	1	84·7
2	23 20	574	447	11 30	127	13 57	18·2	-5·7	23 6	23·9	17 56	1013	942	3 31	71	529	1	84·7
3	18 47	538	458	8 54	80	{13 5 / 15 27}	19·5	0·1	22 55	19·4	18 50	1018	950	0 1	68	438	1	84·7
4	18 58	561	467	21 3	94	13 35	17·6	-1·8	21 43	19·4	20 39	1060	958	3 58	102	614	1	84·8
5	6 23	535	452	11 53	83	13 14	21·8	3·1	8 3	18·7	17 50	995	955	3 30	40	317	1	84·8
6 q	17 44	537	475	13 7	62	12 48	16·3	3·5	9 18	12·8	{0 47 / 1 50}	990	968	12 47	22	201	0	84·8
7 q	15 29	548	459	11 42	89	13 48	18·3	2·7	8 21	15·6	18 18	994	962	12 49	32	291	0	84·8
8	18 30	578	479	12 18	99	13 10	19·6	1·6	21 14	18·0	19 3	1018	962	12 39	56	415	1	84·8
9	{19 3 / 19 5}	579	482	13 9	97	13 31	20·2	-4·8	18 48	25·0	18 26	1013	960	2 35	53	399	1	84·8
10	23 32	598	431	13 8	167	23 42	23·8	-13·7	19 35	37·5	16 26	1020	889	0 51	131	865	1	84·9
11	17 53	647	430	11 11	217	13 33	14·7	-6·9	17 42	21·6	17 41	1024	896	0 4	128	934	1	84·9
12	22 42	554	450	10 50	104	3 32	17·5	3·2	21 53	14·3	18 22	991	940	3 33	51	401	1	85·0
13 q	21 20	549	462	11 10	87	14 7	17·4	4·5	9 11	12·9	19 38	1001	960	12 21	41	329	0	85·0
14	18 53	548	462	10 46	86	14 0	20·3	3·4	9 0	16·9	19 30	996	960	12 7	36	304	0	85·0
15 q	19 55	534	482	11 54	52	14 12	16·5	2·7	8 23	13·8	17 2	997	971	12 59	26	203	0	85·0
16 q	21 33	584	476	11 9	108	13 51	16·5	2·5	9 5	14·0	8 18	985	960	13 0	25	291	0	85·0
17 d	14 53	994	193	7 51	801	15 22	44·7	-27·4	6 18	72·1	14 52	1296	746	4 13	550	3797	2	85·1
18 d	15 51	656	352	7 58	304	14 8	20·4	-8·1	23 30	28·5	17 18	1104	920	23 35	184	1330	1	85·2
19	17 37	758	438	20 48	320	12 58	23·7	-6·6	0 1	30·3	17 22	1160	949	0 9	211	1477	1	85·2
20	17 21	574	419	9 57	155	12 5	18·8	-0·4	3 49	19·2	17 40	1054	922	1 57	132	850	1	85·2
21	17 21	585	443	12 50	142	13 26	18·6	-0·7	0 16	19·3	17 23	1071	934	2 34	137	851	1	85·3
22	18 34	612	444	10 25	168	14 50	23·1	-3·1	18 25	26·2	18 18	1078	977	12 31	101	732	1	85·2
23 d	15 49	766	147	6 36	619	6 12	35·8	-13·3	8 3	49·1	15 11	1190	787	6 11	403	2834	2	85·3
24 d	18 15	875	-130	20 25	1005	17 39	26·8	-30·4	22 59	57·2	19 27	1054	771	22 50	283	2931	2	85·4
25 d	14 17	663	-42	1 20	705	2 18	33·1	-36·9	0 46	70·0	16 50	1072	761	1 44	311	2562	2	85·4
26	18 53	524	390	0 18	134	13 33	17·5	0·8	7 30	16·7	18 42	1014	915	0 23	99	666	1	85·4
27	21 25	564	363	23 30	201	13 25	17·1	-11·7	23 54	28·8	17 53	1018	802	23 41	216	1304	1	85·5
28	16 20	553	443	12 15	110	13 45	18·6	-8·5	0 1	27·1	19 56	1018	851	0 1	167	932	1	85·4
29	17 43	580	445	9 59	135	13 8	15·6	-6·9	7 50	22·5	18 31	1018	966	4 12	52	457	1	85·5
30	18 44	573	472	10 23	101	14 24	16·5	2·9	7 4	13·6	18 31	1028	966	12 13	62	446	1	85·6
Mean	- -	612	391	- -	220	- -	21·0	-5·3	- -	26·3	- -	1044	914	- -	130	949	0·93	85·1

§ For explanation see p. 61.

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT

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

119 ESKDALEMUIR (H) — 16,000γ (0·16 C.G.S. unit) + — MAY 1939

	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	510	502	504	496	500	503	496	485	485	469	470	508	522	564	632	602	621	595	599	518	482	459	448	394	515
2 d	438	374	407	457	438	408	406	433	471	458	446	450	481	458	496	538	532	525	527	530	510	512	500	495	470
3	488	470	497	497	500	489	465	469	473	451	439	453	465	453	481	476	512	525	528	545	518	512	512	514	489
4	504	505	506	496	496	504	500	485	474	465	445	466	478	492	502	527	535	537	521	529	524	521	519	516	502
5	516	517	515	510	504	494	489	493	477	457	465	473	487	499	512	541	535	533	547	532	570	617	574	565	518
6 d	562	561	555	551	537	543	538	532	512	491	473	470	522	536	478	575	629	597	527	525	517	463	409	421	522
7 d	457	433	421	451	458	487	448	477	469	449	413	414	459	485	474	520	511	512	528	527	528	528	530	520	479
8 d	489	479	477	499	504	502	471	473	473	479	457	461	477	496	493	516	517	523	543	560	528	524	508	521	499
9	507	501	506	469	499	507	491	488	480	450	463	470	494	496	489	489	541	557	533	530	528	529	519	517	502
10	506	502	500	500	506	506	500	495	492	485	476	474	485	500	504	536	560	540	541	527	520	519	516	516	509
11 q	516	512	513	512	517	513	509	508	499	489	488	480	491	512	505	515	520	531	532	529	530	524	523	523	512
12 q	527	519	519	516	518	522	513	500	496	494	486	480	477	496	512	524	529	540	538	541	534	533	533	529	516
13 q	526	527	524	521	523	524	516	510	516	511	505	500	508	488	516	521	537	536	541	544	542	525	523	525	521
14 q	527	524	524	521	520	516	512	509	505	504	503	500	506	505	508	521	532	533	537	538	540	536	545	543	521
15	537	540	544	532	520	525	538	529	510	499	494	500	500	504	512	516	517	535	546	536	532	528	530	534	523
16	532	540	533	505	485	520	509	464	473	472	484	497	481	478	487	499	516	532	549	543	540	532	526	528	509
17	515	514	512	513	513	508	503	500	500	489	485	496	489	505	528	536	554	560	561	555	527	525	524	501	517
18	523	536	531	521	507	508	491	477	468	466	477	471	502	500	513	528	551	560	542	532	526	528	523	496	512
19	508	502	527	496	528	505	497	484	475	475	473	481	490	502	511	527	537	538	556	529	535	530	511	504	509
20	505	508	481	493	507	496	498	486	466	478	484	481	489	504	520	522	525	544	551	544	527	525	525	521	507
21	524	513	519	520	516	520	521	517	509	491	481	482	481	501	526	574	548	581	564	551	532	523	497	489	520
22	517	485	498	496	484	497	508	493	445	414	439	459	472	479	505	526	513	539	531	529	533	540	516	471	495
23	498	509	508	496	486	500	500	476	459	480	469	451	457	463	489	529	546	572	594	557	536	523	517	518	506
24	504	510	496	524	512	469	489	488	480	465	458	464	468	481	525	512	536	553	594	568	547	504	488	516	506
25	508	485	521	489	508	508	492	486	484	481	474	486	488	509	540	604	545	533	525	540	525	524	485	478	509
26	480	500	508	516	524	512	486	478	469	469	478	489	476	508	531	569	543	552	572	573	544	522	513	506	513
27	506	501	505	511	505	488	496	487	485	492	481	476	474	485	492	508	528	536	538	536	540	556	532	512	507
28	515	504	462	512	532	518	501	490	496	493	496	482	496	506	509	513	519	528	537	547	554	553	555	525	514
29	513	506	489	520	485	473	465	457	451	470	472	483	465	484	514	513	516	568	531	564	544	529	524	513	502
30	514	514	518	520	519	515	508	497	491	487	485	488	485	501	502	506	515	524	536	545	544	535	532	511	512
31 q	525	528	523	514	520	515	518	516	504	489	476	470	476	488	499	515	521	534	545	553	549	548	536	530	516
Mean	510	504	505	506	506	503	496	490	483	476	472	476	485	496	510	529	537	544	546	541	532	527	516	508	508

MAGNETIC DECLINATION (WEST)

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

120 ESKDALEMUIR (D) — 13° + — MAY 1939

	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	9·4	9·1	10·7	8·3	6·3	4·0	1·6	0·7	2·8	4·9	10·1	16·9	23·0	25·0	21·8	19·6	23·1	18·0	22·9	13·1	6·0	1·6	4·3	5·3	11·2
2 d	5·2	-1·2	-4·5	5·3	3·2	8·4	4·3	12·1	12·7	4·1	8·6	11·5	16·0	14·8	13·9	14·8	10·9	8·6	9·1	6·7	3·7	6·2	5·0	4·4	7·7
3	5·5	9·1	2·9	0·9	3·8	2·5	3·3	3·5	5·5	8·2	9·2	10·3	13·8	14·6	14·0	10·3	8·6	8·2	7·6	7·3	4·8	7·4	9·4	10·9	7·6
4	4·5	6·2	5·6	5·2	3·5	3·1	2·4	0·5	0·7	2·9	4·0	10·1	13·6	14·7	13·8	12·8	10·5	10·0	9·4	7·9	9·1	9·6	9·2	8·6	7·4
5	8·3	8·3	8·5	9·1	7·8	8·4	9·2	5·2	2·7	4·7	6·4	9·8	14·0	16·6	16·9	15·4	13·0	12·1	12·0	10·9	11·3	14·7	13·4	9·1	10·3
6 d	9·9	6·4	6·1	4·7	3·1	0·3	-0·3	1·3	1·3	4·4	6·7	12·8	16·6	19·4	18·1	22·0	16·0	14·7	11·0	10·2	5·1	7·0	1·4	1·6	8·3
7 d	3·5	6·2	-2·3	-5·0	11·9	12·7	3·9	9·1	8·2	9·2	8·9	14·3	15·3	14·7	12·9	8·8	9·9	11·0	11·6	10·1	7·8	8·1	8·1	5·4	8·5
8 d	13·8	10·0	3·5	4·4	2·5	3·6	7·3	11·9	11·8	7·1	9·5	10·1	12·9	14·0	11·9	11·0	12·7	12·2	9·1	7·2	8·8	5·5	6·4	7·1	8·9
9	2·8	4·6	3·4	11·0	1·9	3·7	4·9	5·3	5·4	9·1	8·9	9·7	11·9	14·0	12·5	11·9	9·6	6·3	10·2	10·9	9·9	9·0	8·7	7·5	8·0
10	7·3	10·1	8·3	8·1	6·6	5·2	4·4	3·4	3·6	4·5	7·6	10·2	11·9	13·8	13·2	13·2	12·7	9·1	8·7	10·0	10·1	9·8	9·0	8·2	8·7
11 q	8·2	7·1	6·0	5·0	4·7	4·4	3·5	3·3	4·5	5·8	8·2	10·2	11·2	11·8	10·2	9·7	9·3	9·0	8·7	9·0	9·0	9·2	9·2	9·1	7·8
12 q	8·5	7·1	6·8	6·2	6·2	4·3	3·3	3·5	3·8	5·4	7·3	10·2	12·9	13·9	13·8	12·3	11·3	9·9	8·7	10·0	10·1	9·9	10·0	9·1	8·5
13 q	8·3	7·9	7·1	6·4	4·6	4·1	4·1	5·3	8·7	8·1	8·9	10·4	13·5	13·0	12·9	12·6	11·9	11·2	10·1	9·7	8·7	7·1	7·9	9·0	8·8
14 q	8·5	8·3	8·2	7·2	6·3	4·7	4·8	4·9	4·7	6·3	8·9	12·0	14·6	15·0	14·7	13·7	13·0	11·6	10·3	10·1	9·8	9·8	9·9	8·8	9·4
15	7·5	7·1	7·0	5·5	4·4	3·5	2·4	0·0	1·6	5·2	9·0	12·0	15·5	18·4	17·1	14·9	12·6	11·0	10·1	9·2	8·9	8·2	8·1	10·1	8·7
16	7·5	5·5	1·6	8·7	5·4	2·6	1·4	-1·1	8·2	10·7	9·6	12·0	15·2	13·9	11·9	10·1	9·0	8·1	8·2	8·1	8·4	8·2	6·3	7·1	7·8
17	6·7	6·7	5·9	6·1	3·1	1·1	0·0	0·7	0·7	2·4	5·5	10·2	13·7	15·6	15·3	13·5	11·8	9·1	5·9	2·7	7·5	8·5	7·1	7·8	7·0
18	5·7	1·6	2·5	0·7	-2·1	-1·0	-0·2	0·4	1·6	5·3	10·0	14·7	19·2	19·8	18·5	15·7	13·2	9·2	8·9	8·6	8·8	9·0	5·5	4·4	7·5
19	0·5	-0·5	-0·3	1·6	3·6	2·2	6·0	3·0	4·5	7·3	10·2	13·8	16·6	17·6	16·6	15·2	13·9	11·8	8·2	7·4	8·8	8·1	1·5	3·2	7·5
20	1·7	1·4	1·4	5·4	10·6	10·8	4·5	3·7	2·5	3·7	6·5	12·9	15·8	17·4	18·4	17·0	12·9	10·7	10·2	9·8	7·9	8·3	9·1	7·3	8·7
21	1·0	2·5	3·5	1·7	0·4	0·6	0·7	-0·3	-0·3	1·3	5·0	10·1	16·4	19·6	20·6	17·4	17·8	15·6	10·0	7·2	7·2	9·1	3·3	6·1	7·4
22	4·7	1·3	1·4	5·5	4·4	6·3	3·4	1·3	1·1	7·2	10·4	12·1	17·8	18·8	19·7	17·3	14·1	13·5	10·2	10·0	9·9	10·8	7·9	-2·2	8·6
23	2·7	4·3	3·7	0·2	1·5	1·1	2·6	1·6	2·1	4·3	7·8	10·0	13·8	14·1	13·8	14·0	12·6	11·2	6·7	7·3	7·1	6·1	8·3	-0·7	6·5
24	3·6	2·7	7·5	0·7	4·8	1·7	5·5	4·0	3·7	5·0	7·1	9·1	12·0	13·8	16·7	14·7	13·7	11·9	12·9	7·4	6·2	1·8	4·2	6·7	7·4
25	10·0	1·6	2·2	5·2	1·4	1·6	2·2	2·5	3·6	4·4	9·1	10·1	12·4	13·7	15·8	12·0	9·4	10·3	10·6	10·6	7·2	5·3	8·3	5·4	7·3
26	6·3	9·1	0·5	-1·2	3·3	4·9	4·0	6·3	7·8	9·0	10·1	12·2	13·8	15·3	14·7	11·7	9·8	10·2	10·0	7·1	8·3	8·7	7·5	4·6	8·1
27	5·5	6·3	7·4	3·5	2·9	5·2	2·9	2·1	3·1	3·1	4·4	8·4	11·2	13·6	13·5	12·1	8·7	7·2	6·3	7·1	8·4	8·5	12·9	2·4	6·9
28	0·0	4·1	-2·3	-2·2	-3·9	-3·3	-4·0	-2·4	5·6	6·2	11·1	14·9	15·9	16·0	15·3	13·0	11·0	9·5	9·3	9·5	9·4	9·1	8·0	7·1	6·5
29	1·4	-2·3	-4·0	-11·6	-4·4	-5·0	-4·5	-2·3	9·1	12·8	12·3	13·5	17·6	15·6	14·4	13·4	13·5	13·5	8·8	8·9	8·2	5·5	10·3	9·5	6·4
30	8·8	8·0	8·7	6·4	5·5	3·7	4·3	5·4	6·1	8·2	8·7	11·9	14·1	15·5	13·8	11·8	9·9	9·4	9·1	9·2	9·1	9·2	8·7	8·9	8·9
31 q	8·1	7·3	6·7	7·1	6·1	1·4	-0·3	-0·1	1·6	2·5	5·0	10·0	14·0	16·4	15·8	14·4	11·9	10·1	9·0	8·7	8·6	7·4	4·2	6·3	7·6
Mean	6·0	5·4	4·0	3·9	3·9	3·4	2·8	3·1	4·5	5·9	8·2	11·5	14·7	15·8	15·2	13·8	12·2	10·8	9·8	8·8	8·2	8·0	7·5	6·4	8·1

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

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT

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

121 ESKDALEMUIR (V) — 44,000γ (0·44 C.G.S. unit) + — MAY 1939

	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	993	990	986	987	986	989	990	987	983	974	969	965	976	1032	1128	1119	1139	1144	1142	1121	1050	991	967	898	1021
2 d	865	870	904	930	943	915	917	917	947	986	997	1005	1013	1028	1033	1053	1091	1071	1037	1048	1048	1014	980	983	983
3	979	927	936	934	944	956	970	967	972	978	990	991	997	1008	1017	1024	1027	1023	1016	1015	1022	1014	1004	997	988
4	991	995	992	998	1000	1002	1003	1004	997	991	974	977	982	987	991	997	1003	1010	1008	1007	1004	1000	997	997	996
5	997	997	997	994	988	986	981	981	982	982	981	980	981	985	994	1002	1008	1008	1006	1008	1000	988	992	997	992
6 d	987	991	998	1000	1000	995	994	990	990	987	988	978	976	1001	1034	1039	1086	1088	1066	1052	1028	987	939	903	1004
7 d	934	833	832	864	880	894	950	969	978	988	992	991	993	1008	1028	1051	1053	1047	1035	1031	1021	1006	1000	981	973
8 d	915	864	899	952	978	990	982	975	982	990	995	994	995	1002	1039	1042	1025	1021	1021	1026	1014	998	965	977	985
9	979	960	945	901	921	967	977	988	989	990	991	996	999	1005	1005	1010	1018	1029	1017	1010	1007	1000	997	995	987
10	991	988	991	992	996	998	996	996	991	987	984	981	978	980	987	992	998	1013	1016	1009	1003	999	997	996	994
11 q	995	996	997	999	998	996	991	990	990	991	989	987	984	988	992	998	1002	1000	998	997	997	997	995	994	994
12 q	991	991	991	994	994	994	993	992	985	975	972	971	971	977	985	989	992	998	1002	1001	998	996	994	993	989
13 q	992	992	993	994	996	995	992	986	980	978	971	964	972	981	988	994	998	1003	1002	1001	1002	1002	999	994	990
14 q	991	991	991	992	995	995	991	985	982	973	967	960	961	971	977	980	982	988	994	992	992	991	989	990	984
15	991	990	989	991	990	982	971	972	973	967	965	961	969	981	997	1008	1007	1002	999	999	999	997	993	987	987
16	979	981	980	971	944	940	943	950	949	947	957	965	975	987	994	997	996	994	992	996	1000	999	988	987	975
17	990	991	993	995	994	995	990	982	978	973	972	972	980	987	996	1014	1026	1033	1039	1027	1005	997	990	986	996
18	961	950	940	935	944	953	967	975	972	958	951	954	960	973	991	1007	1015	1025	1020	1011	1004	997	992	981	977
19	965	961	953	948	953	956	957	970	975	974	975	972	971	976	982	987	991	997	1009	1013	1008	1001	992	970	977
20	958	951	947	948	945	947	971	980	983	981	981	975	973	978	990	1002	1018	1026	1023	1018	1015	1006	1000	997	984
21	991	980	972	968	968	962	961	961	964	964	967	958	951	963	991	1020	1050	1064	1069	1052	1030	1009	984	984	991
22	945	926	933	957	969	964	961	978	981	978	987	987	985	995	1009	1031	1032	1019	1009	1003	997	988	984	986	983
23	974	967	953	957	957	963	971	975	971	972	978	981	984	989	991	1003	1026	1045	1045	1027	1006	998	967	934	985
24	921	964	936	914	919	940	957	972	978	977	971	969	977	984	997	1013	1016	1021	1016	1021	1002	992	981	964	975
25	956	928	931	916	958	974	985	986	986	981	975	974	977	986	1002	1020	1028	1014	1004	999	1004	995	968	944	979
26	933	911	926	936	928	932	950	967	974	971	972	969	975	984	1004	1021	1024	1015	1012	1003	997	994	986	980	973
27	970	971	961	957	965	969	975	979	972	967	966	965	972	978	985	990	997	1001	1001	998	997	988	960	959	977
28	933	905	877	920	965	982	985	980	972	969	969	971	975	980	988	992	995	998	995	995	995	992	990	992	971
29	993	971	950	936	933	909	928	941	943	934	945	957	978	1008	1007	1008	1009	1012	1031	1024	1012	1005	998	992	976
30	994	997	995	995	994	996	997	993	991	987	981	972	972	977	987	995	999	1000	999	998	999	997	995	993	992
31 q	994	994	994	991	985	985	982	980	980	980	977	974	970	975	983	988	991	992	995	995	996	994	996	994	987
Mean	969	959	957	960	965	968	973	976	977	976	976	975	978	989	1003	1012	1021	1023	1020	1016	1008	998	986	978	986

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

122 ESKDALEMUIR — MAY 1939

	TERRESTRIAL MAGNETIC ELEMENTS												$\frac{HR_H + VR_V}{10{,}000\gamma^2}$ §	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. ′	′ h. m.	′	h. m. γ	γ h. m.	γ				°A
1 d	{14 1 / 14 22}	690	281	23 56	409	13 56 31·5	−8·7 24 0	40·2	17 17 1167	787 23 58	380		2385	2	85·5
2 d	16 37	574	312	1 20	262	12 40 19·4	−12·0 2 3	31·4	16 48 1108	795 0 1	313		1841	1	85·6
3	19 27	564	426	1 44	138	13 0 15·6	−2·0 2 3	17·6	16 51 1029	908 1 42	121		773	1	85·6
4	16 59	556	437	10 38	119	13 26 15·0	0·3 8 36	14·7	17 11 1012	971 10 43	41		381	0	85·6
5	20 45	721	453	9 54	268	21 32 20·3	0·9 8 19	19·4	16 41 1012	979 11 25	33		591	1	85·7
6 d	16 51	662	300	23 0	362	15 38 25·7	−9·6 22 17	35·3	17 6 1092	833 23 4	259		1762	1	85·8
7 d	23 21	547	340	2 7	207	5 22 18·4	−12·1 3 19	30·5	16 0 1061	774 1 42	287		1633	1	85·8
8 d	19 2	595	426	11 19	169	1 3 24·1	−3·8 2 26	27·9	14 50 1053	843 1 33	210		1224	1	85·8
9	17 42	567	426	3 33	141	3 30 21·1	−0·3 4 29	21·4	17 20 1032	876 3 53	156		935	1	85·8
10	16 51	600	464	11 19	136	13 26 14·5	2·6 7 57	11·9	18 34 1018	978 12 49	40		·404	0	85·8
11 q	{17 54 / 20 28}	535	459	11 54	76	12 56 12·3	2·5 6 53	9·8	16 0 1002	984 12 46	18		206	0	85·9
12 q	17 18	555	465	12 32	90	13 59 14·5	2·6 7 0	11·9	18 30 1003	969 12 1	34		302	0	85·9
13 q	18 58	548	475	13 13	73	12 48 14·1	2·1 6 37	12·0	17 26 1004	963 11 40	41		305	0	85·9
14 q	18 13	556	498	13 0	58	13 21 15·7	3·8 5 54	11·9	5 9 997	958 12 11	39		271	0	85·9
15	18 12	553	489	10 45	64	13 47 20·2	−1·2 7 50	21·4	15 58 1013	961 11 40	52		340	0	85·9
16	18 57	560	433	7 42	127	12 13 16·5	−3·3 7 40	19·8	21 3 1002	936 5 52	66		507	1	85·9
17	18 42	581	479	10 30	102	14 25 16·0	−1·2 6 20	17·2	18 32 1044	968 10 1	76		510	0	85·9
18	17 25	583	465	9 13	118	12 58 20·5	−3·6 5 38	24·1	17 33 1026	934 3 38	92		609	1	85·9
19	18 25	570	468	10 13	102	13 55 18·3	−2·3 1 20	20·6	19 3 1016	944 3 22	72		492	1	86·0
20	19 14	556	454	8 30	102	14 9 19·2	−0·3 {1 58 / 3 0}	19·5	17 32 1027	941 3 0	86		555	1	86·0
21	17 50	630	476	12 40	154	14 11 23·1	−2·1 9 30	25·2	18 20 1073	950 12 27	123		807	1	86·1
22	20 57	547	397	9 7	150	14 5 20·3	−10·7 23 22	31·0	15 56 1038	915 2 8	123		800	1	86·2
23	18 28	642	437	11 21	205	22 44 15·8	−4·9 23 10	20·7	18 15 1056	905 24 0	151		1017	1	86·3
24	18 30	615	451	10 31	164	2 39 18·8	−2·6 3 5	21·4	19 36 1026	880 2 53	146		928	1	86·2
25	15 54	653	434	23 12	219	15 13 17·2	−4·1 1 55	21·3	16 10 1034	908 3 22	126		928	1	86·3
26	19 2	613	446	0 47	167	{13 6 / 14 17} 15·8	−2·1 3 30	17·9	15 57 1029	903 1 49	126		843	1	86·3
27	21 52	595	469	12 53	126	22 15 17·5	0·0 23 43	17·5	17 41 1002	951 24 0	51		437	1	86·3
28	22 21	576	423	2 43	153	11 54 17·2	−8·3 6 3	25·5	17 25 999	855 2 44	144		900	1	86·4
29	17 43	612	422	7 34	190	12 42 19·5	−14·9 3 13	34·4	18 16 1036	905 5 20	131		902	1	86·5
30	19 42	547	472	11 53	75	13 29 16·1	3·0 5 40	13·1	16 50 1001	970 12 12	31		263	0	86·5
31 q	19 56	563	467	10 52	·96	13 52 16·6	−1·1 6 47	17·7	20 38 997	968 12 31	29		289	0	86·6
Mean	— —	589	434	— —	156	— — 18·4	−3·0 — —	21·4	— — 1033	917 — —	116		779	0·71	86·0

§ For explanation see p. 61.

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT

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

123 ESKDALEMUIR (H) — 16,000γ (0·16 C.G.S. unit) + — JUNE 1939

	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	534	535	529	533	538	535	523	507	505	495	489	495	503	512	547	576	511	546	551	571	550	552	555	552	531
2	559	539	532	508	519	516	539	527	494	492	484	484	505	492	527	527	563	594	575	559	550	544	543	535	529
3	531	519	524	530	531	524	519	498	483	484	476	454	471	488	515	524	539	544	556	557	551	531	531	529	517
4	535	528	515	515	514	506	524	511	499	491	476	472	482	503	527	549	575	551	563	548	544	535	536	537	522
5	531	527	524	522	531	528	515	507	492	488	468	477	486	488	543	515	530	550	541	535	535	531	531	531	518
6	520	519	522	506	512	519	522	511	497	487	477	471	472	491	508	528	531	543	542	541	543	543	533	534	515
7 q	538	529	526	526	531	529	521	510	503	492	483	484	484	495	516	539	544	551	547	548	539	537	534	531	522
8 q	531	532	530	529	531	528	521	504	489	485	481	480	493	507	525	530	541	543	555	543	543	543	541	539	523
9 q	536	535	531	531	533	535	531	520	507	499	492	497	511	509	527	539	539	547	547	543	542	543	550	547	529
10	535	545	547	544	543	551	541	531	517	501	508	506	517	527	536	547	546	554	569	568	559	551	546	546	539
11 q	542	545	539	540	540	536	538	538	523	500	485	491	489	507	521	528	533	539	549	556	552	556	551	544	531
12	537	537	543	546	539	537	527	512	507	496	495	503	511	503	514	523	539	546	548	551	552	552	549	539	529
13	534	540	530	519	524	526	519	523	515	510	507	510	520	522	555	545	557	574	585	593	574	565	549	545	539
14 d	554	561	510	506	502	510	509	458	356	323	396	452	519	525	533	562	553	553	527	522	510	503	510	491	498
15	507	495	493	490	478	482	474	459	463	468	475	471	483	506	536	515	527	541	542	551	528	518	517	503	501
16 d	507	504	510	514	498	467	430	408	408	431	500	498	498	496	526	519	526	521	526	528	518	519	515	516	495
17	513	508	507	508	511	506	496	487	485	484	475	474	482	487	506	511	522	538	549	549	550	542	519	519	509
18	519	534	534	506	498	495	506	487	483	474	444	462	483	506	486	507	507	555	539	550	554	544	543	570	512
19 d	533	521	508	506	483	495	491	500	476	461	464	467	479	490	530	526	530	550	538	543	542	537	534	515	509
20	494	505	483	498	491	511	491	475	456	468	466	452	463	463	518	510	527	549	554	538	535	528	527	534	501
21	520	519	506	519	520	489	491	456	467	472	463	467	511	523	542	558	529	536	558	562	550	526	519	518	513
22	515	511	518	510	522	517	502	488	502	485	472	478	475	487	498	506	526	549	549	549	543	549	542	533	514
23	520	510	523	511	515	510	514	515	502	488	491	487	504	486	518	533	553	555	559	570	543	530	526	534	521
24	519	519	506	518	520	521	498	496	502	496	490	486	489	484	518	521	514	523	533	538	533	536	529	531	513
25 q	515	515	516	523	527	522	515	504	497	494	488	484	489	491	513	530	537	538	546	541	548	535	529	526	518
26	523	527	525	532	534	537	534	529	522	503	490	483	491	506	516	526	547	550	549	554	593	545	549	561	530
27 d	546	535	542	547	545	542	526	520	511	503	476	503	506	511	514	526	519	533	550	550	547	542	534	530	527
28	530	526	525	529	525	522	518	507	496	487	475	475	491	483	514	562	534	569	566	566	562	565	555	530	525
29 d	540	535	541	523	514	534	524	512	511	514	494	481	514	518	514	550	539	534	543	547	544	542	534	527	526
30	526	516	508	511	521	511	511	507	484	460	491	499	511	507	503	514	542	538	550	541	543	540	533	530	517
Mean	528	526	522	520	520	518	512	500	488	481	479	481	494	500	522	532	536	547	550	550	546	539	535	533	519

MAGNETIC DECLINATION (WEST)

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

124 ESKDALEMUIR (D) — 13° + — JUNE 1939

	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	8·8	9·2	6·6	5·2	4·7	2·4	0·4	−0·5	−0·5	0·7	5·3	9·4	14·0	14·9	16·7	14·9	14·3	15·8	14·1	13·6	10·8	8·8	8·7	9·0	8·6
2	9·8	3·5	8·0	7·2	7·7	3·6	0·5	−1·0	1·6	3·5	7·2	11·3	13·8	14·8	16·5	15·6	14·0	11·8	12·0	10·2	9·9	10·2	8·0	8·5	8·7
3	8·1	8·3	7·1	4·6	4·8	4·2	2·5	2·7	4·6	2·5	4·6	9·4	10·8	13·2	13·7	12·1	10·3	8·0	7·9	7·8	8·3	6·7	8·7	9·1	7·5
4	10·9	12·1	9·0	6·9	8·2	7·7	1·8	2·5	1·6	1·0	4·3	7·0	11·9	14·7	15·6	14·7	9·9	10·3	8·9	7·5	8·3	8·7	8·4	9·2	8·4
5	9·5	9·3	9·0	10·4	6·2	4·7	1·6	−1·2	1·6	3·4	7·1	10·9	14·7	16·5	17·6	14·7	13·6	10·3	9·9	9·4	9·4	9·2	8·8	8·2	8·9
6	6·1	7·2	8·6	9·1	10·2	7·7	4·0	0·8	−0·2	1·6	5·2	9·0	11·3	13·7	14·8	14·5	11·9	9·4	7·7	8·6	9·5	9·9	8·5	9·2	8·3
7 q	10·3	9·2	7·3	5·5	4·3	3·0	1·6	0·4	0·5	2·9	6·0	9·5	11·8	13·2	12·0	11·6	10·4	9·4	8·9	9·1	10·1	9·4	9·2	9·1	7·7
8 q	8·3	9·1	9·7	5·7	4·7	2·8	0·7	1·6	3·9	5·1	7·1	9·8	12·7	14·7	14·1	14·0	13·8	11·9	10·0	8·6	8·7	8·7	9·0	8·9	8·5
9 q	8·5	8·5	7·0	6·3	5·4	4·4	3·3	0·5	0·9	1·6	4·8	8·6	11·0	13·0	13·9	12·8	11·8	10·9	9·1	8·5	8·8	9·2	9·8	10·2	7·9
10	7·3	7·2	6·3	8·0	4·5	1·0	0·1	−1·1	0·0	3·0	5·3	9·3	12·9	14·1	14·9	14·6	13·5	12·6	11·1	11·2	11·9	11·8	10·8	10·2	8·4
11 q	8·4	8·5	7·0	7·3	5·1	3·4	2·1	0·8	0·4	1·4	4·3	7·0	10·4	12·2	13·4	12·5	11·0	9·4	8·4	8·8	9·1	7·6	8·1	8·7	7·3
12	6·9	7·1	8·9	6·1	2·0	0·7	−0·1	0·4	1·5	3·6	8·2	11·9	15·1	15·5	14·9	13·6	11·8	11·0	10·1	9·9	10·2	10·2	10·1	8·6	8·3
13	9·6	9·5	3·4	0·0	0·2	1·6	−0·3	2·4	3·4	3·8	8·5	11·2	14·4	15·0	16·7	15·2	12·2	14·0	15·9	16·9	15·4	13·3	9·4	7·1	9·1
14 d	0·1	−8·7	−9·6	−5·7	−4·4	1·6	0·2	−0·6	7·4	11·2	17·8	17·5	16·6	15·6	16·6	16·6	12·6	12·2	10·9	11·1	9·0	8·5	9·1	8·6	7·3
15	4·0	1·6	1·8	1·6	4·7	2·8	0·6	1·2	3·3	5·5	8·8	11·3	10·9	10·7	13·1	11·4	11·8	9·6	8·1	7·1	7·7	7·8	5·7	9·1	6·7
16 d	5·6	2·5	4·4	6·3	10·1	7·6	7·1	5·0	6·8	7·2	8·1	11·0	16·7	15·9	15·9	15·0	10·6	10·5	9·8	10·1	9·6	9·5	8·8	8·4	9·3
17	8·5	6·6	5·4	4·7	3·9	1·5	1·0	0·7	2·4	4·0	5·7	8·5	11·2	12·3	12·2	11·0	11·1	11·1	11·0	11·3	10·5	9·1	6·9	7·0	7·4
18	6·3	6·3	1·9	−3·0	−1·4	0·2	1·1	0·8	3·8	4·6	9·0	14·8	17·0	18·9	18·1	17·2	15·7	14·4	10·2	6·6	9·5	9·1	8·6	11·7	8·4
19 d	4·0	0·8	−0·6	1·8	3·8	2·2	2·0	−1·1	−3·1	−1·2	3·3	9·1	14·6	16·6	16·6	16·2	13·1	10·7	8·3	8·7	6·8	8·6	8·0	−0·7	6·2
20	−0·7	4·6	6·1	7·2	8·4	6·3	3·7	4·3	3·5	2·6	4·4	8·2	11·8	12·9	15·4	14·5	13·5	11·9	10·1	9·3	9·1	8·2	7·2	7·3	7·9
21	5·7	7·3	11·2	7·6	8·1	3·8	2·5	−1·2	2·8	3·5	5·3	8·6	10·1	13·0	14·7	9·0	10·9	10·8	11·1	9·1	3·7	6·7	6·3	8·2	7·5
22	5·6	6·3	3·6	2·0	6·2	4·1	0·7	2·6	2·2	4·3	5·5	8·3	9·0	9·0	10·1	10·3	10·2	9·0	8·4	8·6	9·4	8·0	6·5	5·4	6·4
23	6·2	9·1	3·5	0·5	1·1	0·7	0·4	0·1	1·9	1·6	3·4	8·2	14·0	15·0	14·9	14·1	12·8	10·5	9·4	7·3	8·1	7·4	7·1	6·2	6·8
24	5·3	5·1	9·9	7·2	2·2	1·7	0·2	0·2	1·1	3·1	4·7	8·6	12·0	13·3	14·6	13·7	12·9	11·1	10·0	8·9	8·5	8·9	4·3	7·3	7·3
25 q	4·5	5·0	4·5	5·5	4·0	3·4	3·7	3·4	1·9	2·0	2·4	6·1	10·9	13·0	14·5	13·7	12·9	10·7	9·9	8·3	8·4	6·2	4·8	7·1	6·9
26	6·9	6·2	5·4	4·4	0·8	−0·4	−0·9	−1·2	−0·3	3·1	4·5	8·2	11·0	14·1	14·8	13·2	13·5	12·0	10·1	9·0	11·3	8·1	8·2	8·5	7·1
27 d	3·8	5·4	6·7	5·4	8·3	5·3	3·5	4·3	2·9	1·4	8·8	12·8	14·9	16·5	16·9	15·6	12·8	9·1	8·2	8·3	8·7	10·2	9·0	8·2	8·6
28	7·1	6·4	5·5	4·9	4·8	3·9	2·7	2·6	1·9	3·5	7·3	10·4	12·9	13·0	13·1	14·8	12·3	12·9	9·0	10·3	9·5	8·2	4·1	5·2	7·8
29 d	7·1	4·1	7·2	19·3	6·9	7·1	3·3	4·5	5·2	6·3	9·1	11·1	13·3	12·9	15·1	12·9	6·9	9·1	8·4	9·1	8·7	8·7	8·9	8·8	8·9
30	11·1	11·9	7·2	3·9	2·4	4·0	4·0	2·6	3·1	7·2	8·7	11·8	14·9	14·5	13·4	12·6	12·3	10·4	8·9	8·4	10·0	9·2	8·0	5·3	8·6
Mean	6·8	6·3	5·7	5·2	4·6	3·4	1·8	1·2	2·2	3·5	6·5	10·0	12·9	14·1	14·8	13·8	12·1	11·0	9·9	9·4	9·3	8·9	8·0	7·9	7·9

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

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT

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

125 ESKDALEMUIR (V) — 44,000γ (0·44 C.G.S. unit) + — JUNE 1939

	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	989	985	987	990	990	990	991	992	989	981	974	972	974	977	985	1005	1017	1015	1017	1011	1007	1004	995	990	993
2	984	975	981	973	957	965	975	982	985	982	977	977	980	986	993	1008	1020	1033	1035	1036	1020	1004	988	987	992
3	988	987	988	989	990	995	997	997	989	980	968	969	978	981	992	1003	1011	1019	1015	1009	1005	1002	997	992	993
4	988	974	959	968	974	973	981	986	986	982	984	981	977	985	1000	1012	1024	1021	1019	1019	1011	1001	997	992	991
5	989	988	990	985	985	985	990	995	988	982	980	976	975	987	995	1009	1010	1012	1008	1002	997	994	991	990	992
6	990	990	990	990	987	986	990	993	994	990	982	976	982	982	987	992	998	1002	1005	1002	998	994	992	990	991
7 q	987	980	984	991	995	998	998	998	995	987	979	975	981	984	986	991	995	993	995	998	997	992	990	990	990
8 q	989	987	984	986	990	992	991	985	981	977	971	969	971	975	975	979	983	987	991	992	991	989	987	986	984
9 q	985	986	988	990	990	987	986	985	984	977	970	965	970	976	978	980	984	987	986	985	986	985	984	984	982
10	985	981	981	982	985	984	982	979	975	967	963	965	967	968	967	969	978	986	990	991	991	990	988	986	979
11 q	985	982	984	985	984	982	982	980	980	975	968	967	972	974	978	980	983	984	985	985	985	986	984	981	980
12	979	979	977	974	981	982	980	978	976	972	965	960	961	972	978	978	986	990	986	986	986	985	985	985	978
13	984	977	967	970	977	979	980	976	972	967	961	957	960	970	974	982	994	993	994	995	998	971	958	961	976
14 d	939	885	907	932	940	953	974	984	971	961	974	1004	1049	1068	1057	1066	1074	1061	1042	1024	1006	991	974	950	991
15	964	968	967	975	971	980	990	986	978	973	975	977	984	991	1000	1002	999	999	1007	1012	1010	1005	996	975	987
16 d	978	973	928	921	912	919	936	956	969	980	997	992	980	990	1002	1028	1040	1026	1014	1002	999	995	994	992	980
17	988	989	993	997	997	998	997	996	992	985	974	968	975	985	991	991	994	994	995	998	1000	997	997	997	991
18	994	980	955	960	955	953	954	963	961	962	964	965	967	985	1004	1010	1019	1024	1037	1026	1008	998	991	963	983
19 d	951	955	944	944	951	947	959	969	975	984	980	979	977	985	1006	1019	1016	1013	1007	997	997	988	963	952	977
20	951	945	941	947	950	939	955	962	968	974	982	979	978	986	994	1004	1005	1005	1007	1004	999	997	994	986	977
21	982	980	964	954	953	963	971	978	971	969	968	965	972	986	998	1017	1011	1001	994	1004	1012	1000	990	977	983
22	969	963	974	983	977	964	967	968	966	963	967	965	965	971	980	986	990	998	1005	1007	999	995	982	967	978
23	960	940	950	959	974	978	980	982	984	980	979	980	980	983	987	990	995	1005	1014	1014	1005	999	994	980	983
24	973	970	963	944	963	975	983	982	978	973	973	974	980	982	981	988	994	997	995	992	995	991	991	980	980
25 q	977	980	977	977	983	986	985	985	986	982	980	981	981	983	987	992	995	992	993	995	992	996	995	991	986
26	990	986	985	985	985	987	981	980	977	971	968	964	969	971	971	975	981	988	992	991	982	992	991	984	981
27 d	967	978	980	981	976	974	977	974	972	969	968	967	972	992	1004	1013	1026	1029	1021	1012	1004	997	995	992	989
28	991	992	992	992	992	991	990	986	980	978	977	968	973	978	982	988	1009	1012	1020	1017	1011	989	975	978	990
29 d	980	979	979	975	945	952	963	971	975	974	979	980	988	1008	1017	1038	1046	1030	1017	1009	1005	996	989	988	991
30	985	959	971	985	990	987	985	985	980	978	972	967	971	977	988	994	1002	1007	1007	1002	997	993	987	983	985
Mean	979	973	971	973	973	975	979	981	979	976	974	973	977	985	991	1000	1006	1007	1006	1004	1000	994	988	982	985

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

126 ESKDALEMUIR — JUNE 1939

	TERRESTRIAL MAGNETIC ELEMENTS															$\frac{HR_H + VR_V}{10{,}000\gamma^2}$ §	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.	′		′	h. m.	′	h. m.	γ		γ	h. m.	γ			°A
1	15 11	616		486	11 12	130	14 45	18·8		-1·8	7 23	20·6	18 26	1020		970	11 23	50	440	1	86·6
2	17 34	622		465	13 9	157	14 46	17·8		-3·7	7 14	21·5	19 11	1042		955	4 11	87	650	1	86·5
3	18 30	567		445	11 35	122	13 54	14·6		0·3	7 7	14·3	17 45	1020		966	10 54	54	444	1	86·5
4	16 34	609		452	12 7	157	14 20	18·7		-2·2	7 11	20·9	16 20	1026		955	2 25	71	578	1	86·5
5	14 35	574		456	10 38	118	14 34	18·6		-3·6	7 34	22·2	17 20	1014		971	12 6	43	388	0	86·6
6	17 18	559		467	11 47	92	14 14	15·0		-0·7	8 50	15·7	18 17	1007		974	11 34	33	301	0	86·6
7 q	17 52	560		475	12 10	85	13 21	13·5		-0·5	7 23	14·0	19 40	1000		973	11 28	27	261	0	86·5
8 q	18 18	562		473	11 28	89	13 35	15·7		0·3	6 45	15·4	18 57	994		968	11 3	26	264	0	86·5
9 q	22 45	562		491	10 54	71	14 21	14·0		0·3	7 52	13·7	4 0	991		964	11 49	27	238	0	86·5
10	18 56	575		495	9 10	80	14 54	15·2		-2·2	7 11	17·4	19 45	992		962	10 2	30	267	0	86·5
11 q	22 0	567		482	10 30	85	14 44	13·7		-0·2	8 23	13·9	21 31	987		965	11 13	22	239	0	86·5
12	21 24	555		489	10 30	66	12 58	16·7		-0·9	6 30	17·6	17 41	990		956	12 0	34	262	0	86·5
13	18 56	613		495	11 25	118	19 0	18·8		-1·3	4 27	20·1	20 9	1002		955	11 16	47	406	1	86·5
14 d	2 19	609		273	9 48	336	9 55	24·3		-18·7	2 0	43·0	16 23	1079		873	1 48	206	1481	2	86·5
15	14 16	560		447	7 30	113	14 10	14·8		0·0	6 16	14·8	19 50	1014		959	0 1	55	433	1	86·5
16 d	16 40	546		387	7 24	159	13 18	18·4		-1·3	2 56	19·7	16 35	1044		908	4 20	136	874	1	86·6
17	21 1	571		470	11 26	101	13 32	12·7		0·5	7 7	12·2	20 28	1001		968	11 34	33	316	0	86·6
18	23 35	587		436	10 24	151	12 54 / 13 34	19·4		-3·9	4 56	23·3	18 30	1042		950	24 0	92	663	1	86·6
19 d	17 12 / 17 37	560		444	9 20	116	13 49	18·3		-4·6	23 59	22·9	15 42	1025		940	2 38	85	574	1	86·6
20	18 20	558		432	8 5	126	14 36 / 14 42	16·3		-4·0	0 1	20·3	17 58	1008		936	5 21	72	532	1	86·6
21	19 13	593		448	7 24	145	14 27	16·8		-2·2	7 47	19·0	15 41	1019		950	4 21	69	550	1	86·6
22	19 0	571		463	10 33	108	5 2 / 16 10	10·9		0·0	5 50	10·9	19 11	1009		959	1 29	50	403	0	86·6
23	19 22	601		466	13 2	135	13 56	16·2		-0·5	5 58	16·7	19 10	1016		937	1 19	79	558	1	86·5
24	19 27	547		476	13 11	71	14 39	14·9		-1·0	7 28	15·9	18 0	997		941	3 28	56	369	0	86·6
25 q	20 43	555		478	13 13	77	14 8	15·6		0·8	8 3	14·8	21 30	997		974	3 1	23	230	0	86·7
26	20 24	657		471	11 11	186	14 9	15·6		-2·6	7 40	18·2	21 26	996		961	11 37	35	464	0	86·7
27 d	0 1	572		456	10 20	116	14 56	18·1		-1·2	9 28	19·3	17 28	1031		963	0 23	68	497	1	86·7
28	17 42	597		462	12 2	135	15 4	16·8		-5·1	22 0	21·9	18 41	1024		965	11 31	59	488	1	86·7
29 d	15 33	580		467	11 50	113	3 57	19·6		-0·4	6 49	20·0	16 2	1051		940	4 43	111	685	1	86·6
30	18 5	566		449	9 12	117	12 45	16·7		1·0	8 13	15·7	17 20	1008		954	1 32	54	436	0	86·7
Mean	- -	579		457	- -	122	- -	16·5		-2·0	- -	18·5	- -	1015		954	- -	61	476	0·57	86·6

§ For explanation see p. 61.

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT

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

127 ESKDALEMUIR (H) — 16,000γ (0·16 C.G.S. unit) + — JULY 1939

	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	522	518	516	515	514	511	503	480	484	480	459	494	507	514	525	528	541	538	543	556	539	535	533	530	516
2	531	530	519	522	530	511	514	507	503	495	486	490	488	511	534	507	525	550	551	551	546	542	530	526	521
3 d	534	538	542	541	538	539	531	504	487	471	475	500	475	530	573	594	578	569	617	514	500	523	511	535	530
4 d	519	505	511	499	503	499	493	489	487	472	460	467	490	503	539	574	586	648	596	598	552	469	509	538	521
5 d	518	523	518	499	490	440	388	389	349	371	373	389	443	483	574	656	717	642	625	553	510	499	473	467	495
6	455	431	457	439	464	477	469	451	436	427	445	447	456	473	490	490	494	504	511	517	522	514	514	507	475
7 q	503	502	499	499	503	505	503	496	484	472	468	470	481	484	499	502	506	516	522	520	528	522	518	518	501
8	519	512	511	511	515	517	512	507	499	492	484	481	487	514	531	533	540	550	569	550	535	532	531	527	519
9 q	518	512	518	515	519	521	511	506	497	486	480	484	492	498	512	514	527	526	532	535	535	531	530	527	514
10 q	528	523	530	526	525	523	517	508	499	497	495	503	516	524	522	528	532	535	544	545	546	541	538	535	524
11	537	535	537	536	534	527	520	516	504	499	502	506	535	562	535	524	539	558	570	540	542	538	534	535	532
12	534	531	531	530	526	516	511	508	506	508	507	511	531	547	549	558	589	598	538	525	522	518	516	514	530
13 q	517	516	518	515	518	508	502	496	484	472	471	468	471	474	491	499	522	535	553	543	544	550	545	538	510
14	538	539	528	533	558	530	534	507	543	523	480	496	463	494	526	562	534	530	538	527	534	523	502	464	521
15	487	510	502	494	495	500	492	487	479	479	475	465	477	496	508	510	536	539	546	551	539	526	535	519	506
16	518	522	513	525	526	518	510	510	491	463	461	487	499	506	506	526	545	597	577	601	573	522	507	516	522
17	519	517	486	517	521	494	478	467	452	462	467	466	462	495	509	514	516	554	556	554	539	551	528	532	507
18	506	521	519	519	521	510	498	495	487	475	478	481	492	497	510	530	532	523	552	540	537	532	522	522	512
19	521	515	519	521	518	513	495	497	499	489	483	480	491	502	513	526	542	558	558	545	536	554	557	531	519
20 d	549	508	519	519	510	476	521	496	486	455	430	453	458	479	499	533	558	525	531	519	525	518	515	518	504
21 d	517	512	517	513	510	504	499	496	489	472	461	425	488	483	448	494	504	534	505	514	517	517	517	515	498
22	514	512	499	503	471	509	500	485	477	477	465	457	458	467	500	520	531	524	528	539	547	538	524	528	503
23	520	514	498	517	519	514	501	496	489	477	466	472	480	498	497	510	517	521	522	531	528	516	516	513	505
24	518	520	527	528	527	522	512	500	495	492	491	500	507	481	507	530	520	519	517	531	542	546	544	535	517
25	531	539	529	532	532	503	484	517	496	492	495	478	473	480	502	514	519	530	539	535	532	527	525	528	514
26	528	532	535	537	521	520	504	477	439	496	495	495	485	463	476	535	520	548	558	551	539	531	511	512	513
27	511	511	504	484	500	508	495	480	485	488	481	480	488	492	509	519	515	550	550	543	539	530	530	511	508
28	500	507	511	513	518	519	500	504	498	491	469	459	480	496	500	521	538	551	542	547	530	531	527	527	512
29	515	513	515	516	512	515	505	493	480	469	476	485	499	516	519	523	522	535	530	538	530	523	521	521	511
30 q	524	528	527	525	511	521	517	507	497	490	494	499	507	514	520	521	523	535	534	534	535	530	528	523	519
31	524	521	527	523	529	534	519	509	511	498	478	471	474	490	505	511	527	528	536	538	546	539	535	532	517
Mean	519	517	516	515	515	510	501	493	484	478	473	476	486	499	514	529	539	547	548	541	535	528	523	521	513

MAGNETIC DECLINATION (WEST)

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

128 ESKDALEMUIR (D) — 13° + — JULY 1939

	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	7·3	6·7	5·5	5·7	4·8	3·5	3·5	5·3	2·7	4·6	8·1	10·4	13·2	13·8	15·0	12·0	10·2	9·6	9·4	9·4	8·8	8·0	9·3	9·0	8·2
2	6·7	8·3	4·3	3·1	4·8	5·4	5·4	1·0	0·6	1·9	4·8	8·2	10·0	11·7	13·2	12·2	11·0	10·0	8·2	8·1	8·9	8·7	7·4	8·2	7·2
3 d	8·5	7·2	4·4	11·8	0·3	0·8	2·4	3·3	6·5	9·0	10·1	12·0	12·2	17·0	23·3	28·3	20·4	18·5	9·7	13·0	12·3	12·1	10·2	11·8	11·0
4 d	11·9	5·4	2·8	1·6	1·3	1·6	0·5	0·4	0·7	1·6	4·3	7·5	10·1	13·1	16·7	17·7	16·8	13·8	13·4	13·3	9·0	8·1	5·9	4·8	7·6
5 d	5·3	3·7	4·9	3·4	2·8	9·1	19·4	14·9	11·9	4·9	8·2	12·8	20·3	19·3	25·1	24·2	17·5	22·2	22·4	14·7	14·8	5·9	4·4	4·5	12·4
6	1·4	-0·9	7·2	7·2	2·5	3·0	3·9	1·1	-1·2	-2·4	-0·3	4·4	9·0	11·3	12·0	11·3	9·4	8·9	7·5	7·2	7·2	7·7	8·1	7·5	5·5
7 q	6·6	5·4	5·9	4·3	3·4	2·5	0·8	0·3	1·5	3·5	7·0	9·6	12·2	12·7	12·9	12·5	10·4	9·3	8·6	8·2	8·0	8·1	7·5	8·0	7·1
8	7·2	7·1	5·9	4·3	3·0	1·2	0·7	0·6	0·5	2·2	5·4	8·2	10·3	11·2	12·7	12·1	10·8	9·6	10·1	9·1	9·5	9·2	9·4	9·4	7·1
9 q	6·9	8·6	6·1	2·3	1·4	0·7	0·3	0·5	1·4	4·5	7·9	11·1	15·6	16·3	14·2	12·8	11·3	9·9	9·4	9·9	9·9	9·2	8·0	7·3	7·7
10 q	7·9	8·2	8·1	3·8	1·3	0·8	0·0	0·2	1·0	4·2	5·5	8·3	10·7	10·0	9·3	10·0	10·1	10·2	10·5	10·1	9·4	8·8	7·3	6·8	6·8
11	5·9	5·4	5·1	3·8	2·0	0·5	-1·2	-2·0	-1·4	0·2	4·4	8·9	13·5	17·9	13·9	12·8	11·0	11·4	11·9	8·8	9·1	8·7	7·2	6·3	6·8
12	6·2	5·5	5·3	3·7	2·1	0·5	0·7	2·2	2·9	4·5	8·2	10·2	13·7	15·7	14·1	13·9	14·4	12·9	7·8	9·7	9·8	9·4	8·0	5·7	7·8
13 q	5·5	6·1	5·3	5·3	3·5	1·6	0·5	1·0	2·9	5·4	8·7	12·2	14·1	14·8	14·6	11·9	10·2	9·1	7·6	7·1	8·6	9·7	9·4	7·4	7·6
14	7·8	8·2	7·2	5·2	5·1	7·2	7·6	13·8	11·0	5·7	7·7	13·3	13·9	16·1	13·7	13·7	11·0	9·1	8·8	8·5	8·9	3·3	-1·2	0·4	8·6
15	8·1	5·5	4·4	3·2	1·7	0·7	-1·8	-1·7	0·2	1·1	3·6	8·0	11·2	12·7	13·7	11·8	11·9	11·3	11·3	9·6	8·6	8·5	9·5	4·4	6·6
16	5·1	5·0	6·1	7·0	0·7	-2·1	-1·8	-0·3	0·7	3·4	7·1	11·6	14·1	14·9	14·9	14·6	14·3	15·5	12·7	6·8	-0·3	0·3	5·5	7·2	6·8
17	2·5	-1·9	-2·1	3·4	0·5	0·0	2·5	5·2	1·7	2·3	5·7	11·1	13·5	14·7	13·1	10·7	8·8	10·3	9·2	8·3	7·6	5·7	5·8	2·3	5·9
18	4·8	6·3	0·9	-0·5	1·8	1·1	0·5	-0·9	-0·6	1·5	5·9	10·9	14·8	14·7	15·1	15·6	14·5	12·0	8·3	7·9	7·3	6·8	5·8	5·7	6·7
19	5·8	7·5	5·8	4·6	4·2	3·3	3·4	2·4	1·2	3·2	6·4	10·4	14·4	16·6	17·2	16·5	14·6	12·1	10·9	8·8	8·8	7·8	2·6	1·6	7·9
20 d	2·3	-3·1	-3·9	-4·6	-3·5	5·6	6·4	2·5	0·7	5·3	9·8	12·4	14·9	16·1	17·4	16·6	18·4	16·6	12·0	8·8	4·5	6·4	7·4	7·3	7·3
21 d	6·3	5·3	6·4	6·6	4·4	2·1	0·6	0·5	1·8	3·6	5·8	8·5	13·3	16·8	19·3	20·0	13·8	7·9	7·3	9·3	10·0	10·4	9·9	7·7	8·2
22	7·1	8·5	8·0	5·9	6·2	5·1	5·6	4·5	3·3	4·8	8·7	12·8	13·6	11·8	11·0	10·5	10·6	9·7	8·8	9·1	8·1	8·0	6·4	8·0	8·2
23	8·2	1·8	1·4	2·3	-0·2	-1·0	-1·0	0·5	1·0	4·1	5·5	7·0	9·1	10·6	11·2	10·1	8·5	7·8	7·0	7·7	7·4	7·0	6·8	6·4	5·4
24	5·7	5·0	3·5	2·4	2·0	0·1	-0·2	1·0	3·1	5·2	7·1	11·4	15·0	15·2	13·3	11·5	9·6	8·5	7·9	8·4	8·8	8·0	7·8	6·7	7·0
25	5·6	5·9	2·4	3·4	3·2	5·9	8·3	8·4	7·4	5·5	6·3	8·4	11·0	11·4	10·8	9·3	7·5	6·9	7·3	7·5	7·9	7·5	7·6	7·0	7·2
26	6·3	5·6	5·0	3·8	4·2	11·0	12·0	9·4	10·3	17·8	13·9	13·6	13·1	17·0	17·5	13·8	11·4	8·8	8·3	8·3	7·4	6·8	7·6	5·8	9·9
27	5·6	7·8	6·4	6·5	5·7	2·0	1·2	2·0	4·0	4·7	7·5	9·2	10·6	11·3	10·4	8·8	7·6	6·1	7·3	7·5	6·9	6·1	-2·1	2·4	6·1
28	3·3	5·0	3·6	3·1	2·8	2·5	6·3	7·0	4·3	5·2	7·0	11·4	13·4	13·8	13·1	10·2	7·5	7·0	7·0	7·8	7·5	8·0	6·5	3·2	6·9
29	4·2	3·9	3·6	4·1	5·2	2·9	0·4	-0·7	-0·6	1·3	4·2	7·4	11·0	13·0	11·2	9·7	8·7	8·0	6·8	4·7	6·4	7·4	7·1	6·6	5·7
30 q	7·0	7·8	6·2	4·9	6·4	3·7	1·3	0·5	2·1	5·3	8·6	11·4	14·0	15·0	14·2	11·7	9·6	6·3	6·7	7·3	7·2	7·2	6·8	6·1	7·4
31	6·1	4·9	5·2	4·9	4·2	3·4	1·3	2·1	2·7	3·5	5·9	9·8	13·8	15·2	13·8	11·2	8·8	7·2	7·2	7·4	6·4	6·3	5·1	5·0	6·7
Mean	6·1	5·3	4·5	4·1	2·8	2·7	2·9	2·7	2·7	4·1	6·7	10·1	12·9	14·2	14·4	13·5	11·6	10·5	9·4	8·8	8·2	7·6	6·7	6·1	7·5

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

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT

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

129 ESKDALEMUIR (V) — 44,000γ (0·44 C.G.S. unit) + — JULY 1939

	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	974	980	985	988	988	990	988	985	979	976	979	971	973	984	991	996	1005	1003	998	999	1002	999	995	992	988
2	986	979	979	988	989	988	982	989	989	981	976	978	985	983	986	992	995	1000	1004	1003	998	993	989	985	988
3 d	985	982	981	965	953	966	973	975	972	973	971	976	1001	1049	1090	1083	1087	1054	1046	1010	1012	1007	1005	989	1004
4 d	975	985	991	993	995	998	1002	1003	1000	998	995	992	996	996	995	1002	1018	1039	1054	1056	1046	965	901	1000	1000
5 d	1005	993	969	919	908	851	838	857	882	938	986	1007	1036	1085	1099	1161	1134	1081	1076	1066	1034	1015	998	983	997
6	960	944	904	885	932	960	970	986	992	991	995	986	988	996	1003	1004	1008	1009	1009	1007	1005	1002	998	992	980
7 q	996	998	998	997	999	1000	1000	995	989	987	988	986	983	993	998	997	995	995	999	999	998	998	998	997	995
8	993	993	995	998	1002	1003	1004	1003	1003	996	990	981	978	983	995	1005	1009	1016	1021	1025	1016	1009	1001	998	1001
9 q	998	993	978	991	997	999	1001	998	994	984	979	974	973	977	983	988	992	999	1000	998	998	996	996	996	991
10 q	993	992	988	991	996	998	998	998	992	983	969	968	971	976	986	991	991	992	991	990	988	988	991	992	988
11	991	991	991	992	995	997	992	991	987	971	957	955	946	951	981	985	985	981	985	996	992	991	988	987	982
12	986	986	986	989	991	992	986	985	984	976	969	958	956	967	978	993	1001	1018	1029	1009	998	992	992	993	988
13 q	991	989	990	989	986	986	983	981	981	979	979	971	964	970	983	991	998	1003	1003	1003	999	995	992	991	987
14	988	983	982	989	987	986	986	973	964	968	976	983	993	1003	1003	1026	1065	1069	1045	1027	1013	1013	986	971	999
15	951	971	989	993	988	992	993	989	982	979	975	972	970	979	986	991	992	996	993	992	996	999	985	986	985
16	992	992	988	971	976	983	985	981	981	973	969	962	966	978	984	981	989	997	1016	1025	1001	982	979	964	984
17	942	939	954	955	966	980	982	978	969	968	968	966	970	979	988	1003	1008	1006	1008	1009	1009	997	979	976	979
18	970	957	963	971	980	987	990	993	990	987	983	978	980	985	992	998	1005	1010	1017	1016	1014	1007	1001	998	991
19	996	989	988	994	996	995	996	993	993	993	984	977	977	976	984	995	1004	1009	1007	1009	1007	997	975	965	992
20 d	903	935	956	975	984	959	926	958	975	978	982	983	980	1014	1049	1064	1081	1081	1066	1047	1034	1002	995	1003	997
21 d	1003	1006	1005	1003	1006	1015	1012	1013	1007	1002	991	995	1009	1001	1051	1035	1052	1069	1052	1035	1021	1014	1009	1006	1017
22	1006	999	966	967	961	972	973	975	984	985	985	984	987	997	1002	1007	1010	1010	1015	1015	1016	1015	1010	994	993
23	965	974	990	995	1002	1002	1001	996	993	994	999	1000	995	994	998	1002	1005	1006	1007	1006	1007	1006	1003	1002	998
24	999	996	997	1000	1000	1001	1002	1002	997	987	985	979	984	993	1001	1003	1006	1008	1005	1000	999	998	999	1001	998
25	998	992	993	996	999	1000	990	984	987	989	995	999	997	998	1008	1015	1018	1018	1010	1007	1006	1006	1004	1002	1000
26	1002	1000	1000	998	992	977	920	933	948	943	960	977	987	1003	1015	1016	1035	1041	1044	1044	1034	1015	1010	1003	996
27	1005	1001	991	986	984	992	999	995	989	986	987	984	984	994	1009	1022	1025	1022	1015	1011	1013	1012	998	990	1000
28	987	991	997	1002	1002	1002	1001	992	990	984	983	983	983	993	1001	1008	1018	1022	1022	1018	1013	1008	1003	993	1000
29	993	996	997	999	999	1000	1005	1006	1004	997	990	984	979	987	999	1006	1006	1002	1006	1008	1007	1001	1000	1000	999
30 q	996	994	991	991	992	989	989	989	986	983	977	977	980	985	998	1007	1009	1011	1007	1002	1001	1001	1000	1000	994
31	1000	1000	1000	1001	1001	999	1000	996	993	989	986	982	974	983	993	1000	1001	1002	1001	1001	1000	999	996	994	995
Mean	985	985	983	983	985	986	983	984	983	981	981	980	982	992	1004	1012	1018	1018	1018	1014	1009	1001	993	992	994

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

130 ESKDALEMUIR — JULY 1939

	TERRESTRIAL MAGNETIC ELEMENTS: Horizontal force Maximum 16,000γ +		Horizontal force Minimum 16,000γ +		Horizontal force Range	Declination Maximum 13° +		Declination Minimum 13° +		Declination Range	Vertical force Maximum 44,000γ +		Vertical force Minimum 44,000γ +		Vertical force Range	$\frac{HR_H + VR_V}{10{,}000\gamma^2}$ §	Magnetic character of day (0-2)	Temperature in magnet house 200 +
	h. m.	γ	γ	h. m.	γ	h. m.	′	′	h. m.	′	h. m.	γ	γ	h. m.	γ			°A
1	19 12	562	447	10 40	115	14 40	16·3	1·0	8 23	15·3	16 32	1008	969	11 32	39	365	1	86·6
2	18 12	565	476	10 45	89	14 44	14·2	−0·3	8 13	14·5	18 50	1005	974	10 51	31	286	0	86·6
3 d	18 36	696	427	12 42	269	15 37	33·6	−5·9	18 25	39·5	16 9	1103	939	4 1	164	1182	1	86·6
4 d	17 12	676	362	21 51	314	16 2	20·5	−0·8	7 33	21·3	19 40	1068	796	22 11	272	1742	2	86·7
5 d	16 0	779	321	8 43	458	15 40	36·3	−4·2	1 59	40·5	15 45	1203	810	5 47	393	2525	2	86·7
6	20 30	528	412	9 19	116	15 0	12·1	−3·9	1 6	16·0	18 0	1010	877	3 32	133	790	1	86·7
7 q	20 7	531	467	10 30	64	14 7	13·1	0·1	7 30	13·0	6 10	1002	981	12 0	21	201	0	86·7
8	18 22	575	476	11 20	99	{14 9 / 14 48}	12·9	0·4	8 20	12·5	19 12	1027	976	12 31	51	392	0	86·7
9 q	19 53	541	477	11 20	64	12 56	16·7	−0·3	6 59	17·0	6 12	1003	972	12 9	31	245	0	86·7
10 q	18 16	549	492	10 8	57	12 13	11·0	−0·7	6 30	11·7	5 25	999	968	11 0	31	233	0	86·7
11	14 2	621	481	9 32	140	13 58	20·0	−2·3	9 31	22·3	19 30	998	944	12 37	54	474	1	86·8
12	15 0	644	495	11 21	149	14 58	18·6	0·4	6 0	18·2	18 11	1033	952	11 51	81	611	1	86·7
13 q	18 33	563	467	11 43	96	13 30	15·0	0·2	6 20	14·8	19 30	1005	963	12 38	42	347	0	86·7
14	15 22	586	404	12 30	182	12 56	17·8	−2·4	22 27	20·2	17 9	1078	962	7 57	116	822	1	86·7
15	18 59	561	459	11 48	102	14 21	14·8	−2·9	{6 29 / 7 41}	17·7	21 15	1000	941	0 22	59	433	1	86·7
16	17 53	664	451	10 26	213	17 52	18·4	−5·5	6 30	23·9	19 14	1033	955	24 0	78	702	1	86·7
17	18 5	569	403	7 58	166	13 23	15·9	−7·0	2 5	22·9	19 22	1013	937	1 41	76	616	1	86·7
18	18 21	567	469	9 56	98	15 10	16·5	−2·7	8 30	19·2	18 34	1018	955	1 30	63	445	0	86·7
19	22 7	611	476	11 16	135	3 50	17·7	−4·6	22 48	22·3	19 42	1010	944	24 0	66	520	1	86·8
20 d	15 40	593	422	10 42	171	16 50	24·9	−6·5	4 25	31·4	16 58	1089	879	0 19	210	1227	1	86·8
21 d	13 35	685	354	13 58	331	13 32	28·1	−0·3	7 10	28·4	17 17	1075	988	11 3	87	937	1	86·9
22	23 45	554	431	12 20	123	12 9	14·8	2·3	8 11	12·5	20 26	1018	958	4 36	60	473	1	86·9
23	17 18	547	462	9 54	85	14 19	11·9	−2·8	7 3	14·7	18 8	1008	963	0 5	45	343	0	87·0
24	21 9	564	473	13 26	91	13 13	16·2	−1·6	6 11	17·8	17 23	1009	977	11 45	32	294	0	87·0
25	0 48	551	459	6 10	92	12 55	12·4	1·1	2 26	11·3	17 40	1019	983	7 30	36	314	1	87·1
26	15 48	605	399	8 30	206	9 7	19·8	−1·8	4 24	21·6	18 26	1048	916	6 52	132	934	1	87·1
27	17 49	569	472	3 40	97	13 35	12·0	−5·4	22 11	17·4	16 11	1025	981	4 18	44	358	1	87·1
28	17 53	562	454	11 3	108	14 24	14·3	0·3	5 23	14·0	18 11	1026	980	12 0	46	385	0	87·1
29	17 50	546	461	9 11	85	13 38	13·4	−1·8	7 21	15·2	15 43	1010	977	12 19	33	289	0	87·1
30 q	17 50	548	485	10 14	63	13 50	15·5	0·0	7 34	15·5	17 37	1012	976	10 57	36	266	0	87·1
31	20 20	558	469	12 13	89	13 29	15·4	0·4	6 41	15·0	17 28	1005	972	12 40	33	296	0	87·2
Mean	− −	589	445	− −	144	− −	17·4	−1·9	− −	19·3	− −	1031	947	− −	84	614	0·65	86·8

§ For explanation see p. 61.

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT

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

131 ESKDALEMUIR (H) — 16,000γ (0·16 C.G.S. unit) + — AUGUST 1939

	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	531	516	510	515	522	518	520	507	495	488	486	490	492	492	507	528	538	538	540	542	544	540	536	529	518
2 q	530	527	526	522	523	519	511	507	505	498	487	485	486	493	502	513	523	536	542	539	535	531	527	528	516
3 q	528	526	526	527	528	527	519	507	497	486	488	491	494	507	525	528	531	527	533	536	542	539	540	535	520
4	533	532	530	532	531	527	523	514	506	496	489	496	509	519	524	523	537	554	548	547	539	540	540	537	526
5 q	536	534	532	533	535	535	530	523	511	503	502	501	499	504	516	533	538	542	547	556	554	554	551	539	529
6 q	545	534	533	536	534	530	523	511	505	498	490	489	490	503	518	526	544	545	546	548	549	545	538	533	526
7 q	531	530	534	529	530	529	523	518	511	506	500	492	497	501	514	521	525	531	540	542	542	540	537	537	523
8	538	534	530	533	531	527	526	522	510	500	493	491	494	501	517	530	542	534	548	569	549	534	539	536	526
9	534	532	532	533	533	532	525	519	509	495	478	494	510	520	523	526	533	536	549	553	545	541	539	538	526
10	535	534	534	528	527	524	522	511	504	480	472	477	533	527	531	531	565	586	593	561	534	534	537	535	530
11	528	531	521	520	522	522	510	495	486	483	484	485	503	503	498	508	545	535	558	564	557	557	553	515	520
12 d	522	540	532	440	392	436	424	432	399	362	390	463	503	483	487	533	547	530	537	538	502	489	437	482	475
13 d	478	458	441	429	456	476	471	460	452	444	438	452	452	483	491	537	576	530	518	534	523	506	501	499	484
14	503	498	490	491	487	452	471	482	469	457	456	457	464	471	483	496	506	506	515	511	510	509	508	507	487
15	509	506	505	505	504	502	495	485	478	478	473	468	479	491	502	515	526	514	516	531	530	532	530	522	504
16 d	522	516	516	516	530	513	491	492	495	487	469	472	487	527	625	748	489	472	491	518	510	507	497	463	515
17	497	499	470	460	478	491	483	459	431	431	435	449	463	471	507	498	484	504	517	526	527	515	511	507	484
18	510	508	506	510	509	502	493	480	468	456	452	456	463	479	492	506	522	542	530	535	530	526	526	515	501
19	512	514	510	510	520	518	515	506	483	465	463	479	498	522	541	568	526	508	532	526	521	519	517	514	512
20	515	516	516	514	514	511	502	491	475	470	482	499	508	514	521	508	512	526	529	538	542	537	537	534	513
21	528	526	522	521	518	515	513	502	487	482	478	490	507	517	515	517	522	521	537	536	537	548	544	548	518
22 d	549	507	374	391	486	502	502	501	498	479	472	450	466	474	509	692	780	674	560	493	420	409	249	292	489
23 d	148	373	385	335	397	345	320	357	337	351	356	437	437	482	503	502	521	514	520	505	494	497	501	474	420
24	490	493	494	498	498	499	498	471	474	456	447	453	470	460	474	490	497	497	510	513	512	507	509	507	488
25	516	498	494	494	505	503	504	501	497	483	474	480	478	470	471	491	501	514	515	518	513	521	516	505	498
26	502	502	505	506	505	498	493	491	483	478	481	490	491	505	505	498	505	507	516	518	521	521	518	520	502
27	513	505	494	500	509	509	506	494	477	467	465	478	499	509	502	498	500	513	513	525	521	522	521	525	503
28	517	514	511	507	508	510	505	493	482	474	474	486	498	494	491	496	511	506	519	525	526	525	525	522	505
29	520	526	515	513	517	517	516	511	497	481	475	480	482	487	495	501	510	521	530	534	537	525	522	521	510
30	520	521	520	520	518	521	525	516	502	486	475	483	486	497	499	516	503	521	530	534	533	528	521	518	512
31	517	515	518	518	517	514	511	506	494	483	480	491	495	500	512	513	518	530	536	540	540	534	530	531	514
Mean	508	512	504	500	506	504	499	492	481	471	468	478	488	497	510	529	532	529	533	534	527	524	515	512	506

MAGNETIC DECLINATION (WEST)

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

132 ESKDALEMUIR (D) — 13° + — AUGUST 1939

	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	4·9	3·4	2·8	4·1	4·2	3·2	2·3	1·2	2·6	5·0	7·5	11·2	15·0	16·0	14·9	12·1	8·8	6·1	5·4	6·7	6·8	6·9	5·6	5·8	6·8
2 q	6·0	5·2	5·2	4·4	3·2	0·8	0·6	0·8	2·9	3·6	5·8	9·4	12·7	14·3	14·5	12·4	9·8	7·0	6·1	6·4	6·9	7·0	6·4	5·7	6·5
3 q	5·3	5·2	4·4	3·9	3·3	1·2	0·6	0·7	1·0	3·1	6·8	10·8	12·6	13·3	12·2	9·8	7·8	6·2	6·5	7·6	7·6	7·3	7·6	7·5	6·3
4	7·4	6·8	6·4	6·0	2·7	1·0	-0·2	0·3	1·0	3·1	6·0	10·1	13·2	14·7	14·0	11·6	8·3	7·3	6·6	7·8	8·8	8·0	5·9	5·6	6·8
5 q	6·1	5·1	3·8	3·0	2·5	1·0	0·5	-0·1	0·9	2·8	5·1	8·1	11·9	14·1	13·7	12·1	10·8	9·6	8·1	7·8	8·2	7·9	5·5	5·4	6·4
6 q	4·7	3·9	4·0	4·7	3·6	1·5	-0·1	-1·6	-1·2	1·6	5·7	10·8	13·8	15·4	15·5	13·7	12·2	10·0	8·6	8·3	8·3	7·5	5·9	5·7	6·8
7	5·5	4·2	3·5	2·6	3·0	1·6	0·2	1·0	2·7	3·1	5·0	7·8	11·9	14·8	16·3	15·5	13·7	11·2	8·3	7·4	7·0	6·5	6·0	5·4	6·8
8	5·3	5·1	6·0	5·0	2·9	1·4	0·6	0·0	0·2	2·3	5·7	10·0	13·2	14·6	13·9	12·2	11·3	8·6	7·9	8·4	7·8	8·3	6·5	6·0	6·8
9	5·6	5·2	4·7	4·4	3·2	2·2	0·6	0·3	1·4	4·0	7·9	9·9	12·8	12·9	12·2	11·2	9·3	8·2	7·8	8·5	7·8	7·9	7·4	7·0	6·8
10	5·8	5·2	4·7	3·7	1·8	0·9	0·1	-0·4	0·6	2·0	8·2	14·2	13·8	14·8	15·1	14·2	12·2	10·0	9·9	9·9	6·4	7·2	7·7	8·2	7·3
11	7·1	5·1	4·6	1·8	0·8	-0·3	-1·9	-2·5	-0·7	2·1	6·0	9·4	12·0	13·6	11·9	11·4	12·7	12·8	12·8	11·8	10·5	8·4	9·5	5·3	6·8
12 d	5·5	4·9	0·5	-14·0	-4·7	0·0	-1·5	6·4	-0·7	11·1	15·1	12·6	14·6	15·8	12·7	7·6	5·4	2·9	2·9	2·3	-0·7	-4·4	-2·3	6·8	4·1
13 d	8·2	8·0	-2·5	2·0	-1·6	-1·5	-3·5	-3·3	-1·6	0·2	6·0	8·2	11·4	13·8	12·5	11·9	6·5	7·6	7·0	5·4	3·8	4·0	6·7	9·3	4·9
14	7·3	8·9	10·2	5·4	2·9	5·4	1·2	-1·5	-0·7	0·5	5·0	8·2	11·1	12·4	11·9	9·8	8·1	6·5	5·5	5·5	5·6	5·7	5·6	5·6	6·1
15	5·5	5·0	4·3	3·7	2·8	1·1	0·1	0·2	1·8	5·5	9·0	12·2	15·9	16·8	14·4	11·3	9·3	6·8	5·9	6·3	5·4	6·5	5·9	4·1	6·7
16 d	3·5	3·3	3·2	2·8	2·0	2·1	0·3	1·9	0·6	2·5	7·4	11·9	14·7	20·0	19·2	14·2	11·1	8·8	8·2	8·6	9·8	9·6	9·4	17·0	8·0
17	-1·6	-2·9	-13·3	-6·0	2·4	-2·1	-2·8	-1·6	2·3	6·5	11·0	14·3	15·7	16·0	14·2	10·5	7·5	5·6	5·4	7·2	7·0	6·6	6·2	6·0	4·8
18	4·4	3·8	3·2	3·9	2·8	2·0	0·1	-0·5	0·6	3·8	9·1	14·6	18·2	18·9	16·3	12·8	8·2	4·1	5·8	6·6	5·9	6·7	7·2	6·4	6·9
19	5·8	5·9	5·0	2·9	1·1	-0·2	-1·4	-2·0	-1·2	1·9	6·4	12·3	16·6	19·0	19·6	18·1	12·9	9·2	8·3	7·5	7·3	6·0	5·8	5·2	7·2
20	4·2	3·4	3·4	2·9	2·1	0·5	-0·7	-0·5	1·1	3·8	7·8	11·4	12·4	12·4	11·5	10·1	8·8	7·3	6·7	6·6	7·0	6·9	6·5	5·8	5·9
21	5·2	4·5	4·0	3·3	2·4	0·5	-1·5	-1·4	-0·5	3·2	8·3	11·8	13·7	14·0	11·9	10·1	9·6	8·5	8·1	7·1	7·3	7·3	5·5	5·6	6·2
22 d	2·3	5·8	4·9	-21·8	-7·9	-6·1	-5·7	-5·2	-0·7	5·6	7·0	11·4	7·6	11·4	17·3	16·6	20·5	12·4	7·4	-1·4	1·1	-2·5	3·7	-7·3	3·2
23 d	1·6	-12·4	-7·8	-2·5	-8·5	18·1	12·6	15·6	7·4	5·1	8·4	11·3	12·8	11·6	9·5	7·8	7·8	4·9	0·2	-2·5	0·6	1·4	0·5	4·7	4·5
24	6·8	7·6	2·5	2·3	0·5	0·0	-0·4	1·1	1·9	4·7	6·8	7·6	11·4	12·6	10·9	9·2	7·3	4·1	4·6	5·7	5·7	6·0	6·0	4·5	5·4
25	6·4	2·8	3·1	7·7	2·9	1·1	1·3	2·2	3·9	5·5	9·2	11·0	13·7	12·8	11·5	9·5	7·0	4·9	3·8	3·8	5·7	6·8	4·8	3·2	6·0
26	3·3	2·9	2·8	2·8	2·0	1·1	-0·4	0·0	1·9	4·3	7·3	9·6	11·0	10·1	8·4	6·5	5·6	5·2	5·4	4·9	6·6	6·0	4·3	2·1	4·7
27	2·5	1·1	2·4	0·2	1·1	0·2	-1·5	-1·3	-0·4	3·8	8·8	11·4	13·8	14·2	11·9	9·5	7·2	5·6	5·4	5·7	3·7	4·7	5·7	4·9	5·0
28	3·5	3·8	3·8	2·8	2·6	0·6	-1·2	-1·3	1·2	5·6	9·1	11·6	14·4	13·8	12·2	10·3	8·3	6·0	5·2	5·9	6·7	6·0	5·9	6·0	5·9
29	7·4	5·5	0·8	1·4	1·6	0·5	-0·4	-0·3	1·9	4·2	7·0	9·9	11·5	11·0	9·2	7·7	6·0	4·8	4·3	4·6	5·1	6·0	6·4	6·4	5·1
30	5·9	5·6	5·2	5·4	4·7	3·8	2·1	1·3	2·4	3·4	6·2	10·1	14·0	15·0	14·6	11·4	7·8	5·1	4·4	5·0	4·6	5·5	5·6	5·6	6·4
31	5·2	4·4	4·3	3·8	3·0	1·8	0·3	-0·7	-0·1	2·1	6·6	10·6	12·8	13·9	13·3	10·6	7·7	6·6	6·0	6·2	7·2	5·6	5·9	5·0	5·9
Mean	5·1	4·1	2·9	1·7	1·5	1·4	0·0	0·3	1·0	3·7	7·5	10·8	13·2	14·3	13·5	11·4	9·3	7·2	6·4	6·2	6·2	5·9	5·8	5·6	6·0

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

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT

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

133 ESKDALEMUIR (V) — 44,000γ (0·44 C.G.S. unit) + — AUGUST 1939

	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	985	983	989	993	995	996	996	1000	998	991	986	979	978	982	990	996	998	1000	1000	997	996	995	998	998	992
2 q	997	998	999	999	1002	1004	1000	998	995	989	980	977	976	978	986	992	997	1000	1000	997	996	995	994	995	994
3 q	995	995	996	996	999	999	995	995	992	989	988	984	988	988	993	999	1003	1002	998	995	995	995	994	994	994
4	994	994	995	995	998	1000	999	995	989	988	988	987	986	989	993	995	1001	1004	1002	1002	1000	999	996	993	995
5 q	991	993	994	995	996	998	995	993	993	990	983	973	974	980	983	990	995	998	996	994	993	991	991	992	990
6 q	990	990	992	990	992	994	995	995	990	981	971	968	966	970	980	988	992	994	994	993	993	993	993	993	987
7 q	993	993	991	993	994	995	993	993	992	986	980	972	969	970	978	986	990	993	995	993	993	993	993	993	988
8	992	991	990	988	991	994	995	991	986	979	972	966	963	969	975	981	986	989	989	990	996	999	995	993	986
9	993	992	992	993	995	998	1000	1000	994	987	985	982	982	988	993	994	995	996	996	996	999	995	993	993	993
10	992	992	991	993	995	995	994	992	986	983	976	974	974	975	982	993	1002	1025	1046	1051	1046	1022	1010	1002	1000
11	998	993	988	993	998	1001	1004	1003	998	989	986	979	978	985	994	995	995	995	995	995	996	995	996	997	994
12 d	973	967	923	818	777	879	952	968	1002	1014	1004	1030	1063	1038	1049	1065	1060	1057	1044	1041	1027	996	964	924	985
13 d	928	886	903	897	963	995	1002	1008	1011	1003	1001	999	998	1009	1026	1037	1053	1041	1027	1021	1010	1002	1001	988	992
14	995	990	985	991	993	998	998	1000	997	995	996	998	999	1005	1011	1012	1011	1011	1011	1011	1007	1005	1006	1006	1001
15	1006	1007	1007	1007	1007	1007	1008	1009	1002	992	989	985	978	987	997	1002	1005	1009	1009	1006	1006	1003	1004	1005	1002
16 d	1002	1001	1000	998	991	989	993	990	987	983	981	985	994	1014	1108	1202	1184	1083	1050	1036	1025	1017	1007	908	1022
17	952	907	903	929	946	960	989	998	998	991	989	991	998	1005	1024	1043	1039	1028	1017	1008	1007	1009	1009	1008	990
18	1008	1010	1011	1011	1012	1012	1012	1013	1009	1005	998	996	994	1001	1013	1021	1030	1036	1022	1015	1013	1008	992	998	1010
19	1001	1002	1004	1005	1008	1014	1012	1009	1009	999	989	979	976	983	1000	1023	1043	1037	1024	1014	1010	1007	1006	1005	1007
20	1005	1005	1005	1005	1007	1007	1006	1006	1004	997	989	986	985	986	993	1000	1005	1006	1008	1006	1003	1001	1000	999	1001
21	999	999	1001	1002	1006	1007	1005	1003	996	985	972	967	966	975	989	994	998	1004	1006	1006	1005	1002	993	962	993
22 d	959	918	708	702	913	979	1002	1005	999	991	993	989	1021	1078	1142	1246	1244	1214	1185	1096	907	940	724	787	989
23 d	650	779	779	747	769	797	876	901	964	1009	1056	1063	1072	1069	1099	1095	1074	1075	1076	1065	1035	1023	1000	976	960
24	954	969	1005	1012	1015	1018	1018	1019	1020	1012	1005	998	998	1013	1026	1030	1036	1034	1022	1018	1017	1015	1014	1014	1012
25	994	999	1001	993	995	1002	1001	1000	999	999	999	994	998	1007	1017	1020	1022	1026	1027	1027	1019	1014	1012	1007	1007
26	1006	1007	1007	1007	1008	1012	1014	1012	1008	1003	1000	996	995	1002	1018	1024	1024	1024	1024	1022	1015	1012	1011	1006	1011
27	1001	998	989	995	1004	1011	1013	1011	1005	996	989	989	994	1010	1025	1030	1032	1024	1020	1017	1017	1015	1011	1007	1008
28	1005	1004	1005	1007	1009	1012	1014	1014	1009	1005	1001	998	997	1007	1016	1022	1025	1025	1021	1020	1015	1014	1011	1008	1011
29	1005	990	993	998	1001	1004	1006	1006	1004	1000	997	999	999	1000	1005	1010	1011	1011	1011	1010	1008	1008	1008	1007	1004
30	1006	1005	1006	1006	1007	1007	1007	1006	1006	1007	1001	994	995	1000	1007	1020	1031	1028	1021	1016	1013	1009	1005	1005	1009
31	1005	1005	1005	1005	1005	1006	1007	1007	1005	999	992	985	983	988	993	996	1000	1000	997	995	996	999	1000	1000	999
Mean	980	979	973	970	980	990	997	998	998	995	991	989	992	998	1013	1026	1028	1025	1020	1015	1005	1002	991	986	998

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

134 ESKDALEMUIR — AUGUST 1939

	TERRESTRIAL MAGNETIC ELEMENTS												$\frac{HR_H \quad VR_V}{10{,}000\gamma^2}$ §	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.		′	′	h. m.		′	h. m.		γ	γ	h. m.		γ			°A
1	18	31	551	484	10	39	67	13 4		16·6	0·3	7	44	16·3	18	8	1001	977	11	38	24	219	0	87·2
2 q	19	3	546	483	11	13	63	14 6		15·0	−0·5	6	40	15·5	5	18	1005	972	13	0	33	253	0	87·1
3 q	{20 / 20	3 / 22}	546	483	9	44	63	13 7		13·6	0·3	7	16	13·3	16	52	1005	983	11	18	22	203	0	87·2
4	17	29	558	488	10	23	70	13 37		15·2	−0·4	6	40	15·6	17	15	1005	986	12	23	19	200	0	87·2
5 q	19	38	562	495	11	1	67	13 49		14·8	−1·2	7	11	16·0	17	28	1000	971	11	39	29	242	0	87·2
6 q	0	22	553	483	10	52	70	13 58		15·8	−2·2	{7 / 7	35 / 46}	18·0	7	10	996	964	11	57	32	259	0	87·2
7 q	18	8	545	489	11	22	56	14 15		16·5	−0·2	{6 / 7	36 / 0}	16·7	18	22	996	968	12	19	28	218	0	87·2
8	19	29	576	489	{10 / 11	46 / 31}	87	13 34		14·9	−0·4	7	34	15·3	21	50	999	962	12	32	37	311	0	87·3
9	19	33	556	475	10	39	81	12 58		13·9	0·1	6	59	13·8	7	0	1001	981	12	39	20	224	0	87·3
10	18	36	607	454	9	51	153	15 1		16·5	−2·0	7	51	18·5	20	8	1053	970	10	59	83	625	1	87·3
11	22	8	617	480	11	27	137	13 27		14·2	−3·4	7	8	17·6	7	0	1006	976	12	22	30	361	1	87·3
12 d	1	41	625	273	4	30	352	9 50		20·1	−29·3	3	38	49·4	12	22	1076	741	4	43	335	2088	2	87·3
13 d	15	48	600	347	1	16	253	13 56		15·3	−7·2	6	57	22·5	16	35	1057	848	1	14	209	1358	1	87·4
14	18	38	521	442	5	19	79	13 57		13·4	−2·6	7	30	16·0	15	10	1013	983	2	34	30	265	0	87·4
15	20	15	541	467	{11 / 11	0 / 28}	74	13 22		17·4	−0·6	7	17	18·0	17	37	1012	976	12	33	36	284	0	87·4
16 d	15	34	923	375	23	4	548	23 2		31·8	−0·6	6	10	32·4	15	56	1261	849	23	16	412	2758	2	87·4
17	20	39	534	422	8	59	112	12 43		16·8	−17·9	2	37	34·7	15	37	1046	898	1	46	148	851	1	87·4
18	{17 / 22	50 / 4}	545	446	10	15	99	13 18		19·5	−0·6	7	23	20·1	17	13	1037	991	22	30	46	370	0	87·3
19	15	7	604	454	10	26	150	15 3		21·5	−3·2	7	27	24·7	16	51	1048	976	12	20	72	571	1	87·3
20	19	43	561	467	9	54	94	12 59		13·1	−3·1	7	7	16·2	18	22	1009	983	13	0	26	272	0	87·3
21	21	28	591	473	10	36	118	12 58		15·0	−2·3	6	56	17·3	5	28	1007	954	23	32	53	434	1	87·3
22 d	16	1	942	0	22	16	942	16 3		40·1	−41·2	3	33	81·3	17	20	1340	621	22	19	719	4789	2	87·3
23 d	14	53	564	−76	0	28	640	5 28		25·8	−26·6	1	21	52·4	14	42	1130	535	0	24	595	3733	2	87·4
24	24	0	529	442	10	51	87	1 3		15·3	−0·9	6	18	16·2	17	0	1038	947	0	26	91	553	1	87·4
25	0	13	533	463	13	25	70	12 52		14·5	0·2	5	20	14·3	19	20	1029	991	3	33	38	286	0	87·4
26	19	58	528	471	9	9	57	12 36		12·2	−1·6	6	44	13·8	15	53	1025	994	12	10	31	233	0	87·4
27	21	19	534	461	10	40	73	13 20		14·8	−2·5	3	4	17·3	16	37	1033	985	2	49	48	336	0	87·4
28	20	39	529	467	9	53	62	12 48		15·5	−2·0	6	49	17·5	16	57	1027	995	12	10	32	246	0	87·4
29	20	27	541	470	10	41	71	0 55		14·6	−1·2	6	52	15·8	17	30	1012	987	1	29	25	230	0	87·5
30	20	0	544	470	16	39	74	13 41		16·0	1·0	7	29	15·0	16	38	1035	993	11	58	42	311	0	87·5
31	18	40	547	479	10	43	68	13 14		14·4	−1·2	7	11	15·6	7	30	1007	982	12	29	25	225	0	87·5
Mean	−	−	582	423	−	−	159	− −		17·2	−4·9	−	−	22·2	−	−	1042	934	−	−	109	752	0·48	87·3

§ For explanation see p. 61.

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT

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

135 ESKDALEMUIR (H) — 16,000γ (0·16 C.G.S. unit) + — SEPTEMBER 1939

	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 q	526	526	526	525	524	518	511	501	483	481	475	481	496	509	524	526	505	514	529	532	528	527	523	524	513
2	523	521	525	525	524	526	516	506	497	486	483	486	500	517	528	546	540	534	530	533	537	546	542	530	521
3 d	525	534	545	498	529	507	483	463	453	463	443	446	470	486	497	509	499	513	521	537	531	503	515	514	499
4	516	517	508	511	509	499	491	482	469	454	442	448	468	490	504	504	508	508	509	513	521	520	520	517	497
5 q	516	517	517	518	518	516	515	511	501	488	469	467	483	499	506	513	518	521	528	531	527	522	524	536	511
6	514	515	524	521	524	524	515	503	498	493	482	480	484	497	503	506	512	521	534	536	541	528	526	539	513
7	523	524	520	514	517	518	516	505	494	481	469	469	485	485	486	512	513	525	529	532	531	531	532	531	510
8	525	524	522	524	524	522	520	516	506	489	471	469	485	498	508	518	520	520	528	533	541	540	539	544	516
9 d	545	538	528	534	541	521	501	520	498	488	462	458	475	477	491	508	502	514	516	527	519	517	520	521	509
10	525	518	504	515	522	505	509	496	490	475	474	481	497	513	504	497	502	514	524	516	519	513	516	513	506
11	515	514	515	511	511	508	501	492	480	465	459	466	479	493	501	508	504	506	513	521	518	518	518	521	502
12	516	520	505	516	511	513	508	494	475	477	474	473	486	493	497	509	510	512	521	520	530	529	513	520	505
13	520	516	514	516	515	508	501	490	477	468	476	483	494	513	520	520	512	516	524	524	526	534	540	532	510
14	512	521	516	525	506	508	502	485	475	470	470	488	497	511	524	516	506	509	517	520	527	518	525	519	507
15	524	528	520	520	518	512	508	497	481	469	471	470	481	492	508	512	520	526	528	528	531	535	531	529	510
16	513	524	524	524	524	516	511	503	492	478	471	481	488	497	501	513	524	536	534	543	537	539	535	532	514
17 d	532	535	524	524	527	481	510	508	496	484	477	481	481	474	481	524	612	631	514	481	441	463	464	469	505
18	482	481	478	480	485	489	489	487	476	457	444	446	452	457	463	469	485	493	504	508	507	508	510	509	482
19 d	510	510	512	515	513	510	524	492	469	448	411	430	458	457	492	534	516	496	508	512	513	499	466	462	490
20 d	449	507	463	468	499	515	465	476	462	424	440	439	458	454	480	484	501	511	535	511	503	510	517	523	483
21	508	502	494	501	502	505	499	490	480	482	460	466	480	479	496	501	509	504	519	522	531	519	520	512	499
22	512	512	508	509	511	503	507	496	476	475	463	461	479	479	496	511	489	515	512	515	518	552	522	515	501
23	509	510	510	511	511	512	511	503	493	484	476	472	475	481	489	495	507	511	521	524	521	526	512	513	503
24 q	518	519	515	519	518	517	535	524	500	480	470	474	481	488	496	501	508	515	520	524	515	519	520	523	508
25	523	519	519	523	522	519	520	510	502	488	484	476	492	503	516	531	530	528	515	517	519	528	523	512	513
26	520	519	498	503	500	491	491	484	474	464	475	473	482	493	488	488	505	519	519	534	511	516	523	526	500
27	511	512	512	512	509	508	508	503	489	474	464	468	474	487	495	504	521	523	515	519	536	520	515	519	504
28 q	523	524	515	513	512	513	511	500	496	487	484	486	491	493	500	504	511	520	524	520	523	523	522	523	509
29 q	520	520	519	519	519	517	513	508	499	493	485	484	489	500	509	516	522	524	527	531	531	532	527	524	514
30	519	518	523	525	524	523	523	514	499	487	479	474	488	505	514	506	510	518	519	515	507	499	499	496	508
Mean	516	518	513	514	516	511	507	499	486	475	467	469	482	491	501	509	514	520	521	523	521	521	519	518	505

MAGNETIC DECLINATION (WEST)

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

136 ESKDALEMUIR (D) — 13° + — SEPTEMBER 1939

	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	4·7	4·6	3·9	3·8	3·7	2·1	0·6	−0·5	−0·5	3·1	7·3	10·2	12·8	15·3	15·0	11·6	7·5	6·0	6·1	6·7	6·6	6·0	5·4	5·0	6·1
2	4·7	4·6	4·4	3·9	3·3	1·9	−1·3	−2·0	−0·6	3·0	6·9	11·0	14·7	16·8	15·8	12·9	9·8	7·4	7·7	7·9	8·1	7·3	3·0	2·1	6·4
3 d	0·6	1·4	−6·8	−16·2	−7·5	−1·6	−6·2	−3·9	−3·4	−1·6	2·8	8·5	11·9	13·7	13·1	10·9	7·3	7·0	7·4	8·2	9·1	1·0	4·6	4·2	2·7
4	2·4	−0·3	−4·9	0·2	2·4	2·0	0·8	0·0	0·5	1·9	5·7	10·8	12·7	13·2	12·8	9·7	7·0	6·0	6·8	7·4	7·0	6·5	5·3	4·7	5·0
5 q	4·4	4·5	4·1	3·8	3·4	2·4	2·0	1·4	1·9	2·3	4·7	8·5	11·8	12·6	11·2	9·4	8·4	7·7	7·9	6·0	6·8	7·0	6·1	−1·2	5·7
6	−3·0	1·1	2·4	2·9	3·0	2·2	0·9	1·8	3·1	3·4	6·5	10·7	14·1	14·0	12·8	10·1	7·5	6·4	6·5	5·9	4·2	4·7	5·5	1·1	5·3
7	0·2	2·8	3·6	4·6	3·3	1·1	−1·2	−2·2	−1·4	2·1	6·5	11·7	15·6	15·3	12·7	11·7	9·2	6·9	6·2	6·7	6·5	6·3	5·5	5·4	5·8
8	5·5	5·4	5·6	4·3	4·0	2·9	1·0	−0·8	−0·6	1·8	5·1	9·7	12·9	14·3	14·0	12·3	10·3	9·2	9·2	8·9	8·1	7·0	5·9	4·1	6·7
9 d	2·3	2·5	1·4	1·0	1·1	−2·6	−3·4	2·9	1·7	2·4	6·5	14·8	17·3	17·4	14·5	14·6	11·4	9·3	7·3	5·0	5·6	−0·4	2·9	5·6	5·9
10	5·5	4·1	8·2	4·7	−0·7	−0·1	−0·7	0·8	1·8	4·1	6·5	9·2	12·6	16·5	16·4	11·8	10·5	8·3	7·8	3·8	2·4	6·2	5·6	5·6	6·3
11	3·6	5·2	4·7	2·6	1·7	1·1	−0·3	0·6	1·1	2·6	6·4	10·4	14·4	15·0	11·3	8·8	5·8	5·0	5·5	5·4	5·2	5·6	5·6	4·8	5·5
12	3·8	3·5	2·7	4·3	0·8	0·2	−0·9	−0·6	−1·2	2·3	7·3	11·4	14·2	14·2	11·7	9·5	7·0	5·6	5·7	5·0	6·5	2·1	3·7	5·0	5·2
13	4·7	4·1	4·1	3·6	2·9	1·9	0·8	−0·1	0·1	2·8	7·4	11·4	12·6	11·5	9·1	6·5	5·0	5·5	6·2	6·0	5·9	6·3	5·5	−1·5	5·1
14	2·0	2·9	3·0	4·6	−0·3	0·4	−1·3	−2·7	−1·0	2·4	6·5	12·7	17·4	18·6	18·2	15·8	11·9	7·8	6·3	5·6	5·8	5·2	2·8	4·1	6·2
15	4·8	4·6	3·8	3·3	2·6	2·0	1·3	0·6	1·1	2·8	5·5	9·7	12·7	12·5	11·9	9·5	8·2	7·5	7·8	7·2	6·6	6·0	3·3	−3·1	5·5
16	0·2	2·2	2·4	2·8	2·8	2·0	1·1	0·9	0·5	2·2	4·7	10·0	13·3	14·9	12·8	10·5	8·5	7·8	4·7	4·8	6·6	4·9	5·2	4·7	5·4
17 d	5·0	7·3	3·7	4·6	8·3	4·9	7·0	−2·0	−2·2	−0·2	4·3	11·0	16·3	18·0	18·2	18·2	21·8	16·7	11·8	−8·4	−1·6	−0·3	−1·2	1·8	6·8
18	1·2	0·5	1·6	1·7	1·6	0·9	0·1	−0·5	−0·3	1·5	3·7	6·9	10·3	11·5	11·4	9·1	8·1	6·3	6·0	5·4	5·3	4·9	4·7	4·7	4·4
19 d	4·1	4·1	5·5	2·6	1·1	6·0	5·9	3·8	7·8	9·7	10·1	16·0	15·6	16·2	17·2	7·5	11·4	12·8	9·2	6·4	0·9	2·0	−0·9	−7·0	7·0
20 d	−3·8	−5·2	−10·7	5·5	3·8	4·0	5·6	5·6	5·6	4·7	9·0	9·7	11·3	11·0	10·9	9·9	8·2	4·7	−0·8	−0·3	3·1	4·3	4·0	4·6	4·4
21	3·7	2·4	3·8	5·5	3·1	4·0	2·1	2·0	1·9	5·2	5·5	8·6	13·2	12·1	10·6	8·9	7·4	6·7	5·0	6·8	−0·2	4·2	4·2	4·7	5·5
22	6·6	3·9	5·0	3·1	2·5	2·6	2·0	2·1	3·3	6·3	8·6	10·1	13·7	12·6	13·2	11·9	8·0	6·7	5·6	5·3	5·1	1·3	−0·5	−1·6	5·7
23	2·9	3·8	3·8	3·7	3·2	2·9	2·4	0·7	0·6	1·0	2·4	6·7	7·7	9·6	9·9	8·6	7·2	6·4	6·1	5·6	5·6	−0·1	1·7	1·5	4·3
24 q	2·4	2·7	0·2	−2·4	−2·2	0·5	3·4	2·1	2·8	4·0	8·2	10·9	13·8	13·4	11·4	8·0	6·1	4·8	4·4	4·6	5·0	5·2	4·8	4·0	4·9
25	2·9	2·9	2·9	2·8	2·8	2·4	1·4	−0·4	−1·7	−0·7	3·9	8·3	11·5	12·4	11·8	11·7	11·4	10·9	8·2	7·8	6·5	5·2	3·6	1·0	5·4
26	0·1	0·6	−6·6	−11·3	−6·2	−1·6	0·2	−0·8	0·4	3·3	6·0	9·5	12·4	14·2	12·9	9·5	7·3	6·6	4·9	2·0	3·8	3·4	6·8	3·8	3·4
27	3·0	2·7	2·6	1·2	1·1	1·4	0·6	−1·2	−1·6	0·3	3·8	7·7	10·6	11·4	11·0	9·9	8·2	5·8	5·2	6·7	2·0	0·2	3·8	4·8	4·2
28 q	4·7	5·0	2·0	2·6	2·1	1·6	0·2	0·7	1·1	2·3	4·7	7·3	10·1	10·6	10·9	9·6	8·1	6·7	6·6	6·6	6·3	5·3	5·1	4·9	5·2
29 q	4·1	3·8	3·3	3·1	2·8	2·1	1·1	−0·4	−0·8	0·5	3·6	8·0	11·8	13·8	13·7	11·9	9·6	7·6	7·4	6·7	5·6	5·5	5·4	5·0	5·6
30	3·7	3·0	2·3	2·2	1·9	2·0	0·2	−1·9	−3·0	−1·9	2·9	9·4	14·6	16·3	16·2	14·6	11·1	9·6	8·3	5·3	2·1	1·3	−0·8	−1·4	4·9
Mean	2·9	3·0	2·1	2·0	1·7	1·7	0·8	0·2	0·6	2·5	5·8	10·0	13·1	14·0	13·1	10·8	9·0	7·5	6·6	5·4	5·0	4·1	3·9	2·7	5·3

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

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT

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

137 ESKDALEMUIR (V) — 44,000γ (0·44 C.G.S. unit) + — SEPTEMBER 1939

	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 q	1000	1000	1000	1001	1002	1006	1006	1005	1002	998	989	986	976	976	986	1003	1012	1008	1002	1000	1000	1000	1000	1000	998
2	1000	1000	999	1000	1001	1003	1005	1000	993	989	980	976	978	983	989	996	1006	1012	1010	1003	1000	999	998	1000	997
3 d	999	992	953	911	923	969	995	1004	1007	992	984	990	990	994	995	1005	1014	1013	1009	1008	1014	1028	1014	1007	992
4	1002	995	992	996	1002	1007	1007	1007	1004	996	990	986	984	987	992	1001	1005	1003	1000	1000	1001	1001	1001	1002	998
5 q	1003	1002	1002	1002	1004	1005	1005	1005	998	995	993	990	991	993	999	1000	1000	1001	1003	1009	1009	1008	1006	998	1001
6	993	993	995	998	1000	1002	1005	1005	1002	995	991	983	979	989	999	1008	1012	1012	1009	1009	1007	1006	1003	995	1000
7	989	989	993	997	999	1004	1005	1001	996	991	985	983	982	989	998	1005	1012	1014	1016	1014	1012	1009	1007	1002	1000
8	1000	999	998	996	998	999	1000	1000	996	991	989	986	984	987	995	1002	1006	1008	1005	1006	1005	1004	1001	1000	998
9 d	995	994	992	993	992	991	992	983	984	993	989	983	988	1005	1025	1036	1032	1022	1017	1017	1030	1014	1006	1000	1003
10	996	992	978	957	968	982	992	992	991	990	987	986	989	1005	1023	1027	1021	1015	1018	1024	1020	1013	1011	1009	999
11	1006	1001	997	999	1000	1000	1001	1001	1003	999	994	994	992	995	1000	1003	1004	1001	998	1000	1002	1001	1000	1000	1000
12	1000	997	991	977	989	994	997	998	998	993	989	988	988	993	997	998	1003	1003	1000	1003	1001	1000	1002	1000	996
13	995	995	999	1000	1000	1000	1002	1004	1000	995	986	982	985	991	997	999	999	995	994	997	997	997	997	990	996
14	994	994	994	974	982	991	992	994	991	986	985	981	987	995	1003	1014	1019	1014	1007	1004	1001	1004	1000	1000	996
15	998	991	995	998	998	999	998	998	993	990	984	979	981	986	991	995	995	992	991	993	994	994	997	995	993
16	994	994	997	998	998	999	1000	998	993	990	979	971	977	987	998	1000	1000	1000	1003	1000	996	994	994	995	994
17 d	993	989	987	982	959	959	959	977	982	982	979	978	985	1001	1010	1040	1125	1226	1203	1084	1013	1042	1058	1045	1023
18	1019	1011	1020	1022	1022	1021	1021	1017	1012	1010	1008	1005	1004	1007	1010	1013	1013	1016	1013	1011	1011	1010	1008	1007	1013
19 d	1007	1006	1002	995	997	995	986	991	989	991	995	996	1008	1021	1030	1100	1121	1127	1114	1088	1056	1023	992	944	1024
20 d	947	926	926	912	916	960	971	985	983	998	1007	1009	1010	1019	1026	1037	1053	1062	1043	1017	1013	1011	1006	993	993
21	998	1002	1005	998	998	1003	1007	1008	1008	1000	1003	1000	998	1006	1011	1011	1013	1016	1015	1011	1010	1004	1002	997	1005
22	994	992	997	999	1001	1003	1004	1004	1004	995	988	988	985	992	1004	1017	1026	1021	1022	1016	1011	998	984	986	1001
23	991	996	999	1000	1002	1002	1003	1001	997	992	988	983	982	985	991	998	1003	1004	1003	1004	1005	1004	1000	998	997
24 q	998	998	995	990	988	990	988	988	986	985	983	981	984	988	998	1008	1009	1007	1006	1006	1008	1006	1005	1004	996
25	1002	1002	1003	1002	1002	1002	1002	1001	994	990	981	977	973	976	983	996	1011	1024	1032	1024	1018	1015	1014	1015	1002
26	1005	987	972	965	958	986	1001	1006	1001	998	993	990	990	993	1000	1006	1006	1007	1004	1015	1008	1008	996	986	995
27	997	1001	1003	1003	1005	1005	1006	1006	1005	1000	995	990	985	985	989	994	1002	1010	1011	1007	1002	1002	1002	1001	1000
28 q	1000	991	994	999	1001	1002	1004	1003	999	994	989	985	984	986	989	994	997	1000	1000	1001	1001	1002	1001	1001	997
29 q	1002	1002	1002	1002	1001	1001	1002	1001	997	994	991	984	978	977	978	984	990	994	994	995	996	997	1000	1001	994
30	1002	1002	1002	1000	999	999	1000	1000	999	993	987	980	981	987	997	1008	1015	1020	1032	1060	1057	1044	1034	1024	1009
Mean	997	994	993	989	990	996	999	999	997	993	989	986	987	993	1000	1010	1017	1022	1019	1014	1010	1008	1005	1000	1000

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

138 ESKDALEMUIR — SEPTEMBER 1939

	TERRESTRIAL MAGNETIC ELEMENTS																		Magnetic character of day (0-2)	Temperature in magnet house 200 +
	Horizontal force						Declination			Vertical force						$\frac{HR_H + VR_V}{10{,}000\gamma^2}$ §		
	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			°A
1 q	19 12	533		474	10 40	59	14 16	15·8	−1·2	8 27	17·0	16 40	1014		971	13 0	43		290	0	87·5
2	21 46	618		469	11 33	149	13 45	17·7	−2·5	7 20	20·2	18 2	1015		975	11 44	40		426	1	87·5
3 d	2 26	583		404	11 5	179	14 6	14·8	−21·1	3 19	35·9	21 25	1030		898	3 16	132		889	1	87·6
4	20 23	526		433	11 14	93	13 49	14·2	−6·3	2 33	20·5	7 50	1008		983	12 38	25		266	0	87·6
5 q	23 9	558		461	11 2	97	13 16	12·9	−2·2	24 0	15·1	19 40	1011		989	11 59	22		259	0	87·6
6	23 47	558		469	12 3	89	12 40 / 12 45	14·7	−3·3	0 26	18·0	17 12	1014		977	12 30	37		314	0	87·6
7	22 10	539		462	11 22	77	12 54	16·4	−4·1	7 41	20·5	18 3	1017		982	12 10	35		284	0	87·6
8	23 32	552		442	11 45	110	14 0	14·8	−1·5	7 12	16·3	17 32	1009		983	12 10	26		298	0	87·6
9 d	1 16	559		443	11 30	116	12 56	19·6	−7·0	6 15	26·6	15 43	1041		981	7 11	60		461	1	87·7
10	18 13	536		459	9 29	77	14 33	18·0	−5·2	19 54	23·2	15 0	1031		954	3 34	77		474	1	87·7
11	19 21	528		456	10 40	72	12 57 / 13 42	15·6	−1·6	6 19	17·2	0 1	1009		992	12 30	17		196	0	87·7
12	21 21	550		462	11 2	88	13 12	16·3	−2·3	8 27 / 21 50	18·6	17 1	1006		973	3 23	33		294	1	87·7
13	22 47	568		466	9 48	102	12 2	14·2	−2·0	23 43	16·2	7 40	1004		981	11 48	23		271	0	87·7
14	22 4	552		462	9 32 / 10 28	90	14 16	19·5	−3·0	7 36	22·5	16 36	1021		968	3 48	53		388	0	87·7
15	23 30	543		462	11 30	81	14 16	13·5	−5·8	23 38	19·3	22 50	1000		978	11 41	22		233	0	87·8
16	19 22	550		468	10 24	82	13 26	16·3	−2·5	0 1	18·8	18 31	1004		969	11 30	35		292	0	87·8
17 d	17 57	662		393	20 7	269	16 30	29·8	−23·1	19 52	52·9	17 14	1270		922	19 59	348		2010	2	87·9
18	22 38	512		441	10 8 / 10 43	71	14 25	12·0	−1·6	7 28	13·6	0 1	1037		998	0 51	39		292	1	87·9
19 d	15 46	570		395	10 32	175	17 0	18·1	−13·2	23 58	31·3	17 11	1141		932	23 47	209		1230	1	87·9
20 d	18 44	596		415	9 7	181	3 57	14·3	−17·4	1 37	31·7	17 15	1071		881	4 8	190		1154	1	87·9
21	20 20	546		454	10 11	92	12 45	15·1	−2·0	20 12	17·1	18 22	1017		994	3 50	23		255	0	88·0
22	21 22 / 21 43	558		449	11 19	109	14 19	14·6	−3·3	23 0	17·9	16 12	1028		982	22 48	46		387	1	88·0
23	21 7	542		465	11 55	77	14 20	10·1	−1·6	21 36	11·7	20 58	1006		982	12 40	24		235	0	88·0
24 q	6 42 / 6 47	539		464	11 2	75	12 35	15·4	−4·2	3 47	19·6	16 40	1010		981	11 52	29		255	0	88·0
25	16 53	546		460	11 46	86	12 53	13·0	−1·9	8 23	14·9	18 7	1038		971	12 30	67		443	1	88·0
26	19 35	588		451	9 40	137	13 39	15·5	−18·7	3 9	34·2	18 59	1027		946	3 58	81		591	1	88·0
27	20 17	565		461	10 58	104	13 22	11·8	−2·6	7 49	14·4	18 13	1013		984	12 40	29		303	0	88·0
28 q	18 50	531		482	10 15	49	14 35	11·6	−1·6	6 46	13·2	7 33	1006		983	12 14 / 12 24	23		184	0	88·0
29 q	21 19	535		476	11 3	59	13 55	14·5	−1·6	8 2	16·1	2 51	1003		976	13 55	27		218	0	88·0
30	18 18	533		468	10 49	65	13 11	16·6	−5·8	23 38	22·4	19 41	1064		978	12 7	86		494	1	88·0
Mean	− −	556		452	− −	104	− −	15·6	−5·7	− −	21·2	− −	1032		969	− −	63		456	0·47	87·8

§ For explanation see p. 61.

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT

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

139 ESKDALEMUIR (H) — 16,000γ (0·16 C.G.S. unit) + — OCTOBER 1939

	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	496	511	509	510	507	511	510	500	488	476	475	475	486	494	496	508	519	534	532	527	529	522	520	518	506
2	518	518	516	516	514	518	517	510	500	485	475	474	480	489	504	510	519	524	531	534	535	534	539	537	512
3 d	534	527	526	528	527	523	522	508	479	453	452	460	469	496	440	459	501	508	491	510	509	423	382	425	485
4 d	467	373	294	331	462	471	480	475	453	444	439	443	456	471	495	487	487	495	484	496	486	492	491	490	457
5	503	492	485	488	493	488	487	479	470	448	418	438	458	467	473	489	495	498	502	511	497	498	506	501	483
6	496	469	497	522	495	443	467	487	471	446	457	462	473	472	499	499	499	506	502	499	479	491	502	504	485
7	503	499	499	499	500	502	504	498	490	480	485	487	498	491	487	510	504	488	494	487	476	483	509	495	495
8	495	494	487	494	495	499	502	495	492	487	484	483	485	492	496	498	505	519	527	518	522	516	506	502	500
9	510	518	498	515	504	501	482	386	499	487	475	475	487	445	453	491	494	491	494	486	487	497	501	500	487
10	500	499	499	499	502	503	506	500	483	472	457	452	464	462	479	487	499	506	508	511	510	514	527	510	494
11	514	514	510	518	522	523	526	514	499	487	474	474	479	494	495	506	516	515	518	525	522	527	508	499	507
12 q	509	513	508	507	506	510	511	505	492	479	469	467	474	483	495	506	507	515	515	518	519	522	521	520	503
13 d	523	522	531	530	534	492	498	502	507	483	483	478	484	486	513	523	549	550	487	549	469	273	133	327	476
14 d	448	435	417	426	413	452	389	425	394	359	381	431	426	459	472	468	506	510	479	468	522	491	483	488	448
15 d	419	377	448	486	381	455	463	465	459	445	430	433	447	466	475	471	490	505	503	469	472	473	473	479	458
16	461	489	498	489	491	505	490	487	467	438	428	428	455	455	494	517	505	506	486	492	459	479	475	466	477
17	494	486	482	491	494	496	488	503	493	474	447	428	455	471	493	478	490	502	509	474	480	496	495	502	484
18	497	500	515	505	509	498	486	496	496	472	431	440	454	480	478	485	490	496	466	482	513	498	493	518	487
19	517	482	494	483	490	499	485	479	465	439	431	449	466	476	486	483	467	473	484	486	470	483	498	501	479
20 q	501	503	501	500	507	508	504	504	494	475	453	455	463	473	486	493	497	503	506	510	510	510	513	514	495
21	514	513	510	508	509	511	521	526	506	486	463	461	475	482	472	489	501	509	514	478	505	518	506	531	500
22	506	505	506	504	507	510	511	506	498	486	478	475	476	486	498	507	507	513	515	514	501	503	510	519	502
23	515	514	513	512	515	519	519	517	494	468	466	468	466	470	491	482	490	501	495	503	501	509	498	491	497
24	513	503	504	501	501	498	504	498	482	471	466	467	466	478	492	498	508	513	515	514	518	515	517	515	498
25 q	517	514	510	513	512	514	517	510	505	490	475	471	472	476	486	505	509	514	515	515	519	520	519	518	505
26	517	515	516	517	516	521	521	515	502	486	474	474	484	494	501	510	514	515	518	523	517	509	517	521	508
27 q	518	516	514	518	520	520	518	516	505	492	483	482	488	493	504	512	520	524	521	523	526	525	524	525	512
28	524	525	526	525	525	521	514	516	519	500	493	489	476	492	504	506	514	516	517	523	510	507	510	522	511
29	507	511	523	532	513	520	520	511	500	489	479	474	482	495	490	502	504	512	507	508	513	502	513	515	505
30	525	528	509	501	504	510	512	507	496	481	472	481	479	485	490	492	498	504	498	512	513	516	516	525	502
31 q	504	525	514	514	513	513	517	512	497	484	483	481	485	485	488	497	506	503	504	512	511	512	515	517	504
Mean	502	496	495	499	499	502	500	495	487	470	461	463	471	479	488	496	504	509	504	506	503	495	491	500	492

MAGNETIC DECLINATION (WEST)

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

140 ESKDALEMUIR (D) — 13° + — OCTOBER 1939

	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	-1·9	1·0	-3·4	-0·7	0·4	1·8	1·1	0·1	-0·1	1·0	3·1	6·2	9·6	10·9	10·9	10·2	9·1	7·7	7·0	8·3	8·2	6·4	2·0	3·7	4·3
2	3·4	3·7	3·7	3·1	3·2	2·7	1·9	0·1	-1·2	-0·7	2·5	5·4	8·8	10·5	11·5	10·9	9·4	8·8	7·9	7·3	6·0	5·6	4·9	4·5	5·2
3 d	3·8	3·7	3·9	4·4	4·8	3·8	2·7	2·2	0·2	5·0	7·5	10·9	14·0	19·1	18·2	17·3	14·6	9·6	11·6	-2·5	0·3	3·7	-0·4	-4·3	6·4
4 d	-6·6	-16·7	-3·8	-15·0	-14·2	-1·1	-0·6	-0·7	-0·8	0·6	3·7	6·5	11·7	11·8	12·9	11·9	9·5	7·7	1·2	1·4	3·8	2·9	3·7	3·6	1·4
5	4·7	1·0	1·1	1·0	2·9	3·0	3·3	0·9	1·0	3·1	8·3	11·0	13·1	13·2	12·8	10·4	8·2	6·7	5·6	-9·8	-0·7	4·7	3·9	1·8	4·6
6	-5·6	-10·5	-7·3	-10·6	1·4	9·2	1·1	1·4	1·1	5·0	8·1	9·5	11·9	11·2	10·3	8·8	5·6	3·9	6·3	5·9	0·0	5·0	5·2	4·8	3·4
7	3·7	2·9	2·7	2·6	2·6	2·4	1·4	0·5	0·4	1·4	3·7	8·4	11·4	9·9	9·4	10·1	8·8	9·6	2·7	-1·4	-4·4	0·2	1·9	0·9	3·8
8	3·3	5·0	8·4	4·6	2·4	1·6	1·1	0·2	-0·3	1·3	3·3	5·9	8·7	10·0	9·5	8·8	7·5	7·5	7·8	8·2	8·1	4·7	6·0	2·7	5·3
9	-0·3	-6·8	-6·2	1·1	2·5	2·6	2·0	4·6	7·4	4·7	5·4	7·7	15·0	16·7	16·2	15·8	13·7	9·6	6·3	0·2	2·1	3·2	4·7	4·2	5·5
10	4·2	3·7	3·6	3·2	3·2	2·9	2·7	1·4	0·3	1·1	4·8	6·5	9·3	9·5	8·8	8·2	7·2	6·5	5·6	5·0	4·7	4·8	1·1	2·8	4·6
11	6·0	2·5	3·3	3·2	3·0	2·9	2·2	0·5	-1·2	0·3	3·9	6·4	8·7	11·0	9·4	9·2	8·2	6·9	6·6	6·0	5·6	5·5	-1·0	-3·4	4·4
12 q	0·2	4·6	5·0	2·9	2·8	2·5	1·6	0·6	-0·6	0·5	4·8	8·2	10·7	10·9	9·7	8·2	6·3	6·1	6·0	5·6	5·4	4·6	4·3	4·3	4·8
13 d	4·1	4·1	5·8	1·0	1·3	-6·7	-6·0	-7·6	-4·3	3·7	3·1	5·6	9·7	10·1	12·7	12·4	19·0	14·8	-1·0	20·3	-9·2	-7·9	-26·6	-27·3	1·3
14 d	-3·2	1·1	2·5	2·5	-14·2	0·3	0·7	9·4	-0·8	8·9	8·1	8·7	11·9	10·3	13·6	9·2	4·9	-11·7	0·6	3·4	-6·9	3·2	0·2	3·8	2·8
15 d	-4·2	8·3	-1·8	-1·6	2·0	0·6	-0·7	0·1	-0·9	-0·7	1·4	4·6	7·9	11·0	10·9	4·7	0·2	-5·3	-5·3	0·5	-4·2	-3·1	-1·3	0·5	1·0
16	7·4	5·7	4·7	3·4	6·7	6·4	2·9	4·9	1·5	3·8	8·3	9·9	13·9	10·9	14·5	5·4	7·5	4·7	3·8	2·1	2·2	-4·0	1·2	-3·4	5·2
17	0·3	2·3	5·5	12·2	3·9	7·1	8·3	5·2	0·8	0·8	4·8	7·8	9·2	11·3	12·6	10·5	6·9	6·2	-1·8	1·5	-1·2	0·2	2·1	2·1	4·9
18	2·4	3·4	6·9	2·5	2·9	7·0	9·0	3·9	2·1	4·0	5·9	10·4	11·0	13·0	12·0	8·3	8·7	11·3	12·0	6·3	0·6	2·4	1·1	0·2	6·1
19	-0·3	-0·6	1·0	2·1	5·8	7·7	3·7	3·3	1·1	4·5	9·7	9·5	11·4	14·0	16·1	16·2	11·0	6·9	2·9	-2·0	-3·4	-0·7	2·9	3·5	5·3
20 q	4·7	6·6	4·9	3·6	2·7	2·3	2·0	2·3	2·6	2·8	4·9	7·3	8·7	9·1	8·3	6·4	5·0	5·4	5·6	5·1	4·8	4·5	4·0	3·8	4·9
21	3·2	3·6	3·5	2·6	3·3	2·3	2·0	1·4	-0·6	0·8	3·4	7·4	12·7	13·4	11·9	9·3	6·3	6·1	7·1	4·3	5·2	5·3	1·1	-3·9	4·7
22	1·1	3·0	3·3	2·5	2·8	2·5	1·9	1·6	0·5	0·1	2·4	5·6	7·7	8·3	8·5	6·8	5·5	5·7	5·8	6·0	-2·1	-1·1	3·0	4·7	3·6
23	4·8	4·1	3·7	3·3	3·6	3·0	2·7	0·9	1·1	4·8	7·3	9·5	11·9	9·9	11·0	10·3	2·0	5·4	6·4	5·3	5·1	3·8	-1·7	-2·4	4·8
24	1·4	-1·5	0·8	1·6	2·1	2·0	1·5	0·1	-1·2	-0·7	2·4	5·1	6·8	8·2	8·3	7·2	6·4	6·0	5·8	5·6	4·6	4·5	3·8	3·9	3·5
25 q	3·4	2·9	2·9	3·4	2·0	2·9	2·0	1·7	0·0	-0·4	2·5	7·2	9·6	10·9	8·8	7·4	6·5	5·6	5·2	5·0	4·2	3·9	3·5	3·1	4·3
26	3·0	3·0	3·4	2·7	2·7	2·4	1·6	0·4	-1·1	-0·7	2·9	6·8	10·2	10·8	10·7	9·9	9·2	7·8	6·7	6·4	-0·7	-0·6	2·4	4·1	4·3
27 q	4·6	4·1	3·6	3·7	3·3	2·8	2·1	1·6	0·5	0·6	2·7	6·5	8·4	9·0	8·4	7·8	7·1	6·0	5·3	4·7	4·4	4·0	3·8	3·8	4·5
28	4·3	4·2	4·2	3·7	3·2	2·3	1·5	1·8	0·2	-0·2	3·6	10·1	9·8	10·1	8·4	7·9	7·2	7·2	7·5	8·1	9·3	2·8	3·0	-0·3	5·0
29	1·4	0·9	-0·4	-3·5	-2·7	-0·7	1·2	1·3	0·2	1·8	5·0	8·5	10·2	11·0	8·7	7·4	6·0	5·5	5·2	3·4	-0·9	2·0	2·7	3·1	3·2
30	3·8	-0·6	-0·6	0·7	1·9	1·8	1·5	0·7	0·4	1·0	4·1	9·2	10·6	10·4	11·4	10·1	6·9	5·5	5·6	2·9	2·7	3·1	0·7	1·1	4·0
31 q	0·8	6·0	4·1	3·6	3·7	3·9	2·5	1·9	2·2	2·4	5·4	8·2	11·1	10·0	9·2	6·7	5·6	4·7	4·7	3·4	2·9	3·2	3·6	3·5	4·7
Mean	1·9	1·8	2·2	1·6	1·7	2·7	2·0	1·5	0·3	2·0	4·7	7·8	10·5	11·2	11·1	9·5	7·7	6·1	5·1	4·1	1·8	2·5	1·5	1·0	4·3

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

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT

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

141 ESKDALEMUIR (V) — 44,000γ (0·44 C.G.S. unit) + — OCTOBER 1939

	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	1017	1009	994	1000	1002	1002	1005	1007	1005	998	991	988	988	987	990	993	998	1003	1006	1006	1005	1008	1009	1006	1001
2	1005	1003	1004	1003	1003	1002	1005	1008	1005	1000	993	987	983	982	985	988	991	994	995	996	996	996	996	996	997
3 d	998	999	1000	999	1000	1001	1004	1007	1006	1000	997	996	997	1022	1046	1047	1057	1110	1158	1144	1135	1055	949	949	1028
4 d	921	867	732	695	837	959	1006	1020	1026	1028	1024	1022	1029	1051	1055	1042	1036	1033	1037	1030	1026	1020	1018	1018	981
5	1009	997	1000	1005	1009	1012	1015	1019	1016	1016	1018	1018	1018	1026	1026	1026	1025	1029	1029	1036	1009	1010	1009	1005	1016
6	976	936	925	889	867	880	925	955	978	991	993	1003	1008	1014	1018	1030	1039	1045	1030	1029	1037	1030	1018	1013	985
7	1013	1013	1013	1012	1012	1012	1014	1015	1014	1012	1007	1000	997	1002	1005	1014	1036	1057	1069	1021	1005	1021	995	994	1015
8	1005	1002	990	989	1006	1012	1015	1018	1016	1014	1012	1008	1006	1007	1008	1009	1010	1008	1009	1012	1012	1019	1023	1026	1010
9	1026	1001	999	1001	1006	1008	1012	1020	991	997	999	996	1003	1030	1047	1040	1047	1049	1052	1052	1037	1025	1018	1017	1020
10	1015	1014	1014	1013	1012	1013	1014	1018	1020	1017	1012	1008	1005	1006	1008	1011	1011	1011	1012	1012	1012	1012	1005	1002	1012
11	998	998	1001	1001	1001	1000	1002	1006	1007	1006	1005	1002	1000	1001	1004	1003	1006	1009	1005	1004	1005	1005	1017	1017	1004
12 q	1010	1008	1010	1010	1008	1006	1007	1009	1007	1006	1003	1004	1005	1006	1007	1007	1007	1004	1005	1005	1005	1005	1006	1006	1007
13 d	1003	999	984	979	969	969	974	974	983	994	996	1002	1010	1011	1013	1017	1024	1113	1153	1128	1128	984	968	880	1011
14 d	995	1014	984	907	888	902	923	916	953	967	1007	1018	1043	1059	1058	1061	1095	1080	1044	1046	1030	992	999	983	999
15 d	927	843	808	779	797	873	956	997	1011	1017	1027	1025	1021	1020	1028	1055	1059	1061	1037	1036	1034	1025	1016	1002	977
16	979	975	984	997	996	996	1006	1013	1018	1019	1017	1019	1021	1037	1052	1103	1108	1077	1083	1074	1017	1023	984	969	1024
17	994	1004	996	983	995	999	1004	1010	1017	1019	1023	1028	1023	1017	1026	1053	1080	1083	1073	1066	1067	1037	1010	1000	1025
18	1004	1004	976	975	984	987	991	999	1006	1007	1016	1020	1030	1040	1056	1097	1089	1078	1104	1074	1041	1011	1016	1002	1025
19	968	969	965	969	965	972	987	1001	1011	1015	1018	1032	1039	1040	1044	1059	1078	1075	1062	1053	1041	1032	1024	1017	1018
20 q	1012	1008	1004	1011	1014	1016	1018	1017	1017	1018	1019	1015	1011	1013	1016	1020	1019	1017	1015	1014	1014	1014	1013	1012	1014
21	1012	1012	1012	1012	1011	1010	1008	1009	1010	1009	1002	999	1000	1016	1019	1017	1015	1016	1019	1040	1028	1018	1017	1001	1013
22	1000	1007	1011	1012	1011	1011	1011	1011	1010	1007	1003	1001	1002	1002	1005	1010	1011	1011	1011	1014	1026	1022	1016	1013	1010
23	1012	1012	1011	1011	1009	1007	1008	1012	1013	1008	1002	1009	1015	1040	1048	1052	1064	1042	1034	1028	1027	1023	1022	1014	1022
24	991	995	1000	1002	1008	1012	1013	1017	1017	1015	1010	1007	1005	1005	1009	1014	1012	1011	1011	1013	1012	1012	1012	1012	1009
25 q	1011	1012	1011	1011	1010	1010	1010	1013	1016	1013	1012	1013	1016	1016	1017	1017	1014	1013	1012	1012	1011	1011	1011	1010	1013
26	1010	1010	1009	1007	1007	1007	1007	1010	1011	1010	1004	1000	1001	1003	1005	1007	1008	1007	1006	1008	1019	1016	1011	1008	1008
27 q	1007	1008	1007	1007	1006	1005	1005	1006	1007	1005	1001	997	995	996	1000	1005	1005	1005	1005	1005	1005	1005	1005	1005	1004
28	1005	1004	1004	1002	1001	1001	1004	1002	1001	999	993	993	1001	1000	1003	1005	1009	1010	1010	1010	1019	1028	1026	1021	1006
29	1015	1012	1004	990	992	993	994	998	1001	1001	999	999	1003	1010	1014	1013	1013	1012	1015	1017	1012	1008	1007	1007	1005
30	1001	987	986	992	995	999	1002	1006	1007	1006	1001	1002	1010	1016	1021	1023	1024	1024	1024	1019	1016	1013	1010	1001	1008
31 q	1001	995	986	992	995	995	995	998	998	995	1002	1002	1009	1010	1014	1019	1021	1020	1019	1017	1014	1011	1008	1006	1005
Mean	998	991	981	976	981	989	998	1004	1006	1007	1007	1007	1009	1016	1021	1028	1033	1036	1037	1033	1027	1016	1008	1000	1009

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

142 ESKDALEMUIR — OCTOBER 1939

	TERRESTRIAL MAGNETIC ELEMENTS																		Magnetic character of day (0-2)	Temperature in magnet house 200 +
	Horizontal force					Declination				Vertical force					$\frac{HR_H + VR_V}{10{,}000\gamma^2}$ §		
	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			°A
1	17 55	554	471	11 2	83	14 36	12·2	-4·9	2 17	17·1	0 1	1023	986	13 21	37	304	1	88·0
2	21 56	544	465	10 52	79	14 20	11·9	-2·3	{8 0 / 8 4}	14·2	7 58	1008	981	13 16	27	251	0	88·0
3 d	19 35	550	113	22 1	437	13 41	24·0	-11·0	23 42	35·0	18 41	1191	862	22 11	329	2202	2	88·0
4 d	14 39	514	195	3 21	319	14 23	14·3	-29·4	2 57	43·7	13 50	1058	641	3 4	417	2403	2	88·0
5	19 50	554	411	10 21	143	12 23	14·3	-20·0	19 33	34·3	19 21	1048	996	1 2	52	470	1	88·0
6	0 10	541	396	5 23	145	5 30	18·9	-12·4	1 13	31·3	17 18	1049	862	4 48	187	1080	1	88·0
7	19 2	564	438	19 50	126	12 39	15·4	-14·2	19 59	29·6	18 52	1076	976	22 50	100	658	1	88·0
8	18 36	555	476	2 23	79	2 40	12·3	-0·9	23 38	13·2	23 55	1030	982	3 1	48	346	0	88·0
9	1 29	536	316	7 39	220	{13 40 / 14 3}	20·5	-10·5	1 21	31·0	19 15	1057	986	8 13	71	682	1	88·0
10	22 52	542	446	11 0	96	12 50	12·9	-1·3	22 18	14·2	8 17	1021	998	22 55	23	261	0	88·0
11	19 48	572	464	10 43	108	13 24	15·3	-5·6	22 50	20·9	23 6	1022	995	0 52	27	299	0	87·9
12 q	23 35	526	466	11 0	60	{12 59 / 13 6}	11·1	-2·0	0 1	13·1	0 1	1013	1001	10 50	12	153	0	87·9
13 d	19 53	695	-334	22 54	1029	19 53	45·1	-49·3	22 15	94·4	20 11	1209	832	22 51	377	3395	2	87·9
14 d	20 39	599	288	6 40	311	{12 29 / 12 33}	17·6	-25·7	17 4	43·3	16 55	1141	872	3 53	269	1724	2	87·9
15 d	17 49	575	268	1 9	307	4 45	18·9	-23·9	17 43	42·8	17 40	1076	754	4 3	322	1956	2	87·9
16	17 5	618	415	11 3	203	15 2	18·5	-15·6	16 59	34·1	16 55	1137	957	23 10	180	1145	1	87·8
17	18 2	682	413	11 0	269	3 16	16·8	-13·0	18 40	29·8	18 3	1129	977	3 39	152	1128	1	87·8
18	20 30	593	423	10 19	170	18 38	15·8	-10·8	20 29	26·6	18 47	1120	968	2 41	152	965	1	87·7
19	0 1	552	408	10 15	144	15 23	17·5	-7·3	19 21	24·8	17 0	1084	959	2 8	125	801	1	87·6
20 q	7 27	515	447	10 50	68	12 56	9·5	0·9	7 17	8·6	15 48	1022	999	2 19	23	215	0	87·4
21	23 13	550	455	10 53	95	13 40	14·3	-9·7	23 5	24·0	19 39	1043	995	23 44	48	373	1	87·2
22	23 38	522	473	11 52	49	14 0	10·6	-4·9	20 29	15·5	20 43	1029	997	0 1	32	225	0	87·2
23	5 38	524	452	13 22	72	14 52	13·5	-4·4	16 29	17·9	16 26	1071	1001	10 16	70	434	1	87·0
24	0 28	540	461	12 39	79	{13 50 / 14 27}	8·5	-3·2	0 1	11·7	8 50	1018	986	0 50	32	274	0	86·9
25 q	0 5	525	461	11 52	64	13 35	13·3	-0·9	9 20	14·2	15 19	1018	1008	5 30	10	151	0	86·8
26	19 41	529	467	11 29	62	12 40	11·3	-2·6	20 19	13·9	20 16	1023	999	11 51	24	210	0	86·8
27 q	17 24	534	477	11 0	57	13 34	10·3	0·1	8 38	10·2	2 18	1009	993	12 40	16	166	0	86·7
28	23 30	555	466	12 17	89	12 0	13·6	-2·6	23 46	16·2	21 45	1029	990	11 10	39	322	0	86·5
29	3 4	547	467	{11 18 / 11 22}	80	13 18	11·6	-5·6	20 38	17·2	0 10	1019	987	3 45	32	276	0	86·7
30	0 58	558	469	11 2	89	14 30	12·0	-2·0	1 18	14·0	{16 30 / 18 25}	1025	986	2 22	39	322	0	86·4
31 q	1 40	543	474	11 50	69	12 35	12·4	-0·9	0 36	13·3	16 23	1022	981	2 10	41	299	0	86·4
Mean	- -	558	391	- -	168	- -	15·3	-9·5		24·8	- -	1059	952	- -	107	758	0·68	87·5

§ For explanation see p. 61.

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT

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

143 ESKDALEMUIR (H) — 16,000γ (0·16 C.G.S. unit) + — NOVEMBER 1939

	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	514	512	517	516	521	521	520	514	506	493	493	478	479	489	495	499	501	505	501	506	514	514	512	511	505
2	513	513	515	517	527	528	524	512	497	486	469	468	468	481	481	488	499	507	515	515	519	515	513	515	504
3	519	513	527	513	513	513	524	526	521	497	486	485	483	491	503	508	513	514	518	520	524	522	532	523	512
4	514	514	513	516	516	518	516	521	523	516	509	502	505	504	510	517	521	524	523	524	524	524	521	516	516
5	514	516	513	513	514	518	519	523	520	505	491	500	511	509	513	516	513	525	520	520	517	522	521	520	515
6	521	520	516	524	521	521	518	521	516	511	509	506	509	512	515	517	524	520	514	516	514	511	520	539	517
7	514	512	509	511	516	518	520	516	512	508	502	495	497	502	508	516	493	501	512	517	517	524	520	524	511
8 q	519	516	516	517	519	519	520	518	512	503	500	500	504	503	516	513	515	520	522	525	522	522	522	520	515
9	519	519	519	515	519	521	522	517	511	496	496	496	498	507	516	521	525	520	522	522	524	524	521	521	515
10 q	517	517	515	518	526	522	520	517	510	504	505	506	509	514	522	519	519	514	513	509	510	516	520	519	515
11	519	519	519	524	523	525	526	522	519	510	506	505	509	512	515	517	523	525	516	520	530	516	504	499	517
12 d	505	496	512	519	522	526	527	526	522	513	504	490	491	505	508	511	504	510	517	517	515	510	515	512	512
13 d	503	489	510	520	554	527	511	478	488	495	476	444	470	487	484	497	477	468	475	495	493	499	494	496	493
14 d	499	506	511	507	519	494	496	504	497	491	466	478	489	493	488	482	491	484	482	484	492	488	488	477	492
15	502	502	502	503	505	514	519	511	503	500	492	487	485	484	491	485	509	506	511	508	519	511	507	505	503
16	508	509	512	514	516	517	517	516	512	505	497	494	490	496	499	501	505	507	501	504	506	512	516	516	507
17	516	515	515	518	519	522	520	516	516	507	501	499	503	508	512	516	522	529	524	519	513	517	517	510	515
18 q	514	513	517	519	522	526	523	519	511	499	491	491	496	504	512	515	524	530	528	528	527	529	529	524	516
19	524	522	523	526	527	530	531	530	525	520	511	510	512	517	507	502	530	498	501	501	515	522	520	511	517
20	502	514	509	508	512	521	514	513	507	495	491	493	498	502	507	510	511	514	519	514	511	506	509	509	508
21	511	511	518	514	513	514	519	516	509	502	499	495	502	501	507	509	515	518	519	521	521	522	521	519	512
22 q	519	518	519	520	523	525	523	519	516	510	503	503	507	513	518	522	525	526	527	526	525	518	518	516	518
23 q	518	518	521	523	530	534	532	529	521	510	509	510	514	520	523	525	526	530	530	527	527	527	527	525	523
24	522	522	522	525	524	524	527	525	520	516	512	515	520	526	521	526	530	533	534	518	502	507	483	491	519
25 d	502	498	498	508	509	522	528	512	507	486	475	472	485	495	506	500	499	506	515	512	483	428	444	476	494
26 d	487	510	498	507	508	509	505	515	502	484	491	483	491	491	487	496	502	504	504	502	505	505	506	507	500
27	506	508	510	507	516	516	519	515	506	497	491	479	498	502	507	511	514	514	498	507	512	511	514	518	507
28	516	511	514	518	522	527	523	523	518	506	488	486	494	491	499	502	509	507	511	500	506	516	515	514	509
29	512	511	518	518	519	518	521	526	519	497	491	495	501	500	498	495	506	514	519	516	515	525	515	514	511
30	514	516	518	523	523	526	530	522	523	509	502	498	502	503	506	510	514	518	511	506	503	500	502	507	512
Mean	512	512	514	516	520	521	520	517	512	502	495	492	497	502	506	508	512	513	513	513	513	512	512	512	510

MAGNETIC DECLINATION (WEST)

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

144 ESKDALEMUIR (D) — 13° + — NOVEMBER 1939

	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	3·9	4·3	2·9	1·4	1·7	2·1	2·8	3·2	2·9	3·5	7·0	10·0	11·4	11·3	9·5	6·7	4·6	5·4	3·9	0·4	3·0	3·4	2·5	1·8	4·6
2	2·4	2·5	2·7	3·1	5·2	4·2	3·7	2·7	1·5	1·5	3·0	5·4	6·3	8·5	7·0	6·4	5·5	4·8	4·5	4·4	3·3	3·7	3·5	3·5	4·1
3	2·2	4·3	3·6	2·6	3·3	3·4	3·5	3·5	2·2	0·7	3·5	6·5	8·6	9·5	10·1	8·4	8·8	8·3	7·9	5·4	3·7	2·9	-1·7	-2·0	4·5
4	-0·7	0·9	0·6	2·4	2·7	2·4	2·2	3·0	2·4	2·0	4·1	4·5	7·2	7·6	6·6	6·4	5·2	5·2	5·0	4·5	3·8	3·8	2·7	1·6	3·6
5	1·0	1·9	2·0	2·4	2·5	2·4	2·2	2·2	2·1	2·7	4·7	4·9	7·4	7·6	7·6	6·9	5·7	5·6	6·9	4·6	4·2	3·4	3·1	3·2	4·1
6	3·2	2·4	2·5	2·1	2·4	1·4	1·4	2·3	2·4	2·6	3·4	4·9	5·6	6·8	6·4	6·4	6·6	6·6	7·7	6·7	4·8	1·4	2·5	0·6	3·9
7	-2·0	-1·2	-0·4	1·7	2·1	2·0	1·5	1·5	1·3	2·0	3·8	5·7	6·4	7·0	7·0	7·3	4·6	4·8	4·7	3·7	1·1	2·8	2·5	2·3	3·0
8 q	2·8	3·3	3·3	3·0	2·9	2·7	2·4	2·2	1·6	1·9	3·8	5·9	7·3	6·5	6·5	5·4	5·1	4·3	3·9	3·8	3·0	3·0	2·9	3·0	3·8
9	3·0	2·8	2·6	2·8	2·2	0·5	1·2	0·8	0·6	0·4	2·5	5·2	6·4	6·8	7·3	7·0	7·0	6·3	6·2	4·6	3·4	2·7	1·8	2·4	3·6
10 q	2·0	2·0	2·1	1·5	2·0	1·8	2·0	1·9	1·6	2·1	4·2	6·3	7·3	7·2	7·3	5·9	5·4	5·1	5·2	4·2	3·3	2·2	2·4	1·6	3·6
11	2·5	2·6	3·3	5·6	3·1	2·9	2·4	2·1	1·1	1·0	2·9	5·3	7·5	7·8	7·5	6·6	6·1	6·2	3·4	3·8	3·7	2·3	-1·0	-2·3	3·6
12 d	-7·9	-2·8	0·2	2·4	2·9	2·8	2·4	2·2	1·7	2·8	6·0	8·9	8·7	8·8	10·5	8·1	7·5	7·2	5·9	5·6	4·2	1·1	1·0	-0·2	3·7
13 d	-2·4	-4·0	-4·8	4·2	-0·7	4·0	5·0	6·1	8·0	5·6	5·2	8·7	9·3	7·8	7·7	5·7	7·3	0·2	0·9	-1·7	-8·9	-7·0	0·2	0·1	2·4
14 d	0·8	8·5	-0·1	-0·7	2·0	2·9	4·6	1·6	-0·3	0·6	2·0	4·5	6·5	7·3	6·4	2·1	-0·7	-1·5	2·4	2·4	-2·4	-2·5	-6·8	-5·4	1·4
15	-2·6	-2·2	-0·7	2·6	4·7	4·1	3·2	3·4	2·8	1·5	1·8	4·6	5·9	7·3	7·6	3·8	4·0	5·9	5·5	1·1	1·1	1·8	1·0	1·0	2·9
16	2·5	3·4	3·5	3·5	3·5	3·4	2·8	2·2	1·8	1·3	2·8	5·2	5·0	5·6	5·5	5·6	4·7	2·0	4·7	4·0	2·1	1·9	2·8	2·9	3·4
17	2·9	2·8	3·2	3·2	3·1	3·1	2·7	2·6	2·3	2·4	3·8	6·4	6·4	6·6	6·5	6·4	5·9	6·0	6·4	2·9	3·4	2·8	2·3	2·3	4·0
18 q	3·1	3·4	3·5	3·7	3·2	2·8	2·4	1·6	1·0	1·2	2·9	5·5	6·6	7·3	6·5	5·9	6·0	6·0	5·6	5·6	5·0	4·2	3·6	3·3	4·2
19	3·5	2·9	3·0	3·2	3·2	3·1	2·9	2·5	1·9	1·9	2·4	4·3	6·1	7·8	7·7	8·5	7·5	8·3	7·2	8·4	4·4	3·2	3·0	0·7	4·5
20	1·1	-1·1	0·2	1·8	2·0	1·9	2·1	2·2	2·0	1·6	2·9	5·0	5·7	5·8	5·7	5·8	5·7	5·1	4·8	5·7	3·5	3·2	1·6	1·5	3·2
21	2·3	2·1	1·6	1·2	2·1	2·4	2·2	3·5	2·8	1·4	2·5	5·7	6·6	6·4	6·1	5·7	4·8	4·1	3·8	3·3	3·0	2·9	2·5	2·5	3·4
22 q	2·8	2·9	2·9	3·0	3·0	3·0	2·9	2·4	2·2	2·1	3·4	5·5	6·4	6·1	5·7	5·1	4·6	3·9	3·8	3·9	3·9	3·5	2·2	2·1	3·6
23 q	2·6	3·2	3·7	3·3	3·2	3·0	2·6	2·1	1·8	2·0	4·3	6·7	7·5	6·7	5·5	5·0	4·4	4·0	4·0	3·9	3·6	3·1	2·9	2·8	3·8
24	3·0	3·5	3·5	2·9	2·2	2·1	2·6	2·2	2·1	2·9	4·8	7·2	7·9	8·7	6·0	6·6	7·1	5·8	7·4	7·1	5·8	-1·6	-8·5	-4·9	3·6
25 d	-3·1	-4·3	2·0	2·6	1·3	9·2	3·8	2·1	2·3	3·7	5·8	8·7	12·2	13·7	14·0	11·8	10·0	5·9	4·0	3·3	3·3	-4·9	-10·2	-2·3	4·0
26 d	1·2	2·9	2·5	2·6	3·5	5·6	5·8	5·2	3·7	3·0	5·1	4·9	6·9	7·8	7·7	4·9	4·9	4·0	3·4	2·3	-5·9	0·5	0·8	1·9	3·5
27	1·8	3·0	3·4	4·8	7·6	3·0	1·9	2·0	0·8	1·2	1·5	4·7	6·6	7·5	6·7	5·2	4·0	4·0	2·2	3·2	3·2	2·2	1·8	2·3	3·5
28	2·5	3·0	3·4	3·1	4·0	4·3	2·6	2·2	2·2	1·8	3·1	5·5	7·2	7·6	7·5	6·2	5·4	4·7	3·9	2·1	1·5	1·8	1·8	1·9	3·7
29	2·1	2·3	1·4	2·0	1·8	1·8	2·1	2·2	2·2	2·4	5·6	7·1	8·7	8·5	8·6	6·9	5·9	4·2	3·3	3·4	2·2	-1·5	0·3	2·9	3·6
30	2·9	3·4	3·6	4·9	3·1	2·2	2·2	3·4	3·3	2·9	3·3	5·2	6·4	7·1	7·2	6·5	5·1	4·3	4·2	4·0	2·6	0·3	-0·7	-0·4	3·6
Mean	1·3	2·0	2·0	2·8	2·9	3·0	2·7	2·6	2·1	2·1	3·7	6·0	7·3	7·7	7·4	6·3	5·6	4·9	4·8	3·9	2·4	1·6	0·8	1·0	3·6

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

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT

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

145 ESKDALEMUIR (V) — 44,000γ (0·44 C.G.S. unit) + — NOVEMBER 1939

	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	1004	1004	999	1001	1001	1001	1001	1001	1004	1005	1006	1004	1008	1011	1015	1020	1020	1019	1022	1023	1016	1011	1011	1008	1009
2	1006	1006	1005	1005	999	993	995	994	994	998	998	1002	1002	1002	1006	1011	1010	1006	1006	1006	1006	1002	1006	1006	1003
3	1006	999	989	995	995	998	995	995	995	995	995	998	998	998	1005	1011	1012	1013	1013	1013	1011	1011	1007	1001	1002
4	1001	1001	1004	1001	1001	1001	1001	999	999	1000	999	998	995	998	1001	1005	1005	1004	1004	1005	1004	1004	1004	1005	1002
5	1005	1004	1003	1002	1002	1001	1001	1001	1003	1003	1001	999	999	1001	1006	1007	1007	1005	1007	1010	1011	1008	1007	1005	1004
6	1004	1002	1001	1000	1001	1001	1001	1000	1001	1000	1000	999	999	1000	1001	1002	1004	1006	1010	1014	1015	1017	1010	999	1004
7	995	998	999	1001	1002	1002	1001	1001	1001	1001	1000	998	998	998	1001	1005	1016	1017	1013	1011	1010	1005	1002	999	1003
8 q	1000	1000	1001	1000	1000	1000	1001	1002	1003	1003	1001	1000	1002	1005	1002	1001	1002	1002	1001	1001	1002	1002	1001	1001	1001
9	1001	1001	1001	1000	997	998	999	1001	1002	1002	999	999	1000	1001	1002	1005	1004	1003	1002	1004	1004	1004	1005	1003	1002
10 q	1002	1001	1001	1000	999	999	999	1000	1001	999	997	998	1002	1001	1004	1004	1004	1005	1005	1007	1010	1008	1007	1005	1002
11	1003	1001	1000	996	996	999	999	999	1000	1000	997	996	999	1000	1002	1003	1000	1002	1007	1010	1004	1004	1006	1001	1001
12 d	1001	1007	1004	1001	1000	999	999	999	999	999	996	999	1003	1004	1005	1011	1013	1013	1011	1011	1011	1012	1008	999	1004
13 d	988	986	981	970	951	971	985	995	996	998	1002	1019	1037	1052	1079	1047	1044	1056	1061	1045	1019	998	1005	1006	1012
14 d	999	949	959	969	964	977	985	997	1005	1006	1009	1009	1010	1013	1020	1032	1032	1032	1029	1031	1028	1019	986	971	1001
15	978	981	986	991	997	1000	1001	1004	1005	1005	1002	1002	1005	1011	1016	1021	1022	1017	1015	1016	1011	1008	1010	1007	1005
16	1004	1001	1001	1004	1005	1005	1005	1004	1005	1004	1004	1005	1008	1010	1010	1011	1011	1013	1016	1017	1017	1013	1008	1007	1008
17	1005	1005	1005	1005	1005	1004	1004	1005	1005	1001	997	996	999	999	1002	1004	1005	1004	1005	1011	1012	1011	1009	1009	1004
18 q	1005	1004	1003	1001	1001	1001	1001	1003	1005	1004	1002	1001	1003	1005	1006	1005	1006	1005	1005	1005	1005	1005	1005	1004	1004
19	1002	1001	1001	1001	1001	1001	1001	1001	1002	1001	1000	998	1000	1004	1011	1011	1008	1020	1031	1030	1028	1020	1015	1013	1008
20	1008	996	995	999	1000	998	999	1001	1005	1005	1001	1001	1004	1006	1008	1010	1010	1007	1005	1008	1011	1012	1013	1011	1005
21	1008	1007	1004	1001	1001	1001	1001	1002	1005	1005	1004	1003	1005	1005	1004	1005	1007	1005	1005	1004	1004	1003	1004	1003	1004
22 q	1002	1001	1001	1001	1000	1000	1000	1001	1003	1005	1005	1005	1005	1005	1003	1001	1001	1001	999	1000	1001	1003	1005	1005	1002
23 q	1004	1001	1000	999	998	998	998	998	1001	1001	999	999	1003	1005	1004	1001	1001	999	999	999	999	999	999	999	1000
24	1000	999	998	998	998	997	996	997	999	999	1000	999	999	1001	1003	1000	1000	999	1000	1007	1020	1028	1021	1017	1003
25 d	1010	1007	1002	999	997	978	963	976	987	994	1001	1007	1010	1013	1016	1021	1023	1022	1015	1013	1019	1048	1032	1026	1007
26 d	1008	984	976	989	995	993	990	993	997	1001	1003	1010	1013	1017	1019	1020	1019	1017	1017	1018	1022	1007	1007	1006	1005
27	1007	1006	1004	1002	988	990	995	999	1004	1003	1001	1002	1005	1004	1005	1007	1007	1007	1015	1012	1007	1007	1007	1001	1004
28	1000	1001	1002	1002	1001	996	995	995	999	1000	1000	1001	1004	1011	1016	1015	1013	1013	1012	1016	1016	1010	1007	1006	1005
29	1006	1005	1003	1000	999	1000	1000	999	1000	1002	1001	999	1003	1010	1014	1019	1017	1014	1011	1009	1008	1007	1001	1001	1005
30	1002	1002	1001	996	998	999	999	997	996	997	995	997	999	1003	1008	1010	1010	1008	1009	1012	1013	1013	1009	1000	1003
Mean	1002	999	998	998	996	997	997	999	1001	1001	1001	1001	1004	1006	1010	1011	1011	1011	1012	1012	1011	1010	1007	1004	1004

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

146 ESKDALEMUIR — NOVEMBER 1939

	TERRESTRIAL MAGNETIC ELEMENTS																		Magnetic character of day (0-2)	Temperature in magnet house 200 +
	Horizontal force						Declination						Vertical force						$\frac{HR_H + VR_V}{10{,}000\gamma^2}$ §	
	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			°A
1	5 20	525		466	12 2	59	12 27	12·4		-1·5	19 22	13·9	19 8	1029		998	2 50	31	236	0	86·3
2	5 8	536		462	12 0	74	13 8	9·5		0·0	9 2	9·5	15 50	1016		993	5 23	23	225	0	86·2
3	22 5	540		473	12 20	67	13 10	12·2		-3·3	24 0	15·5	18 10	1014		983	2 30	31	250	0	86·1
4	8 4	528		498	11 11	30	13 6	8·3		-3·3	0 1	11·6	16 30	1006		994	12 10	12	103	0	86·1
5	17 36	529		488	10 39	41	12 50	9·2		0·4	0 37	8·8	20 20	1012		997	12 3	15	135	0	85·9
6	23 18	547		497	11 32	50	18 49	9·1		-2·0	21 43	11·1	20 56	1019		995	24 0	24	191	0	85·7
7	23 22	531		488	16 22	43	13 55	8·4		-2·9	0 59	11·3	16 40	1019		994	0 8	25	184	0	85·8
8 q	19 23	530		496	13 26	34	13 3	8·4		1·1	8 39	7·3	13 43	1005		999	0 1	6	83	0	85·7
9	21 42	527		488	9 26	39	14 10	7·8		-0·9	9 29	8·7	15 34	1006		995	5 4	11	113	0	85·6
10 q	4 48	531		503	9 55	28	13 28	7·7		1·1	3 26	6·6	20 27	1011		995	11 10	16	118	0	85·6
11	20 52	535		494	23 30	41	13 56	8·3		-3·8	23 50	12·1	18 59	1012		994	3 40	18	149	0	85·5
12 d	6 20 / 6 43	529		484	12 8 / 15 38	45	14 14	12·6		-10·5	0 35	23·1	16 30 / 21 10	1015		993	24 0	22	173	1	85·4
13 d	4 7	593		429	11 3	164	14 19	18·2		-23·1	20 47	41·3	14 23	1101		940	4 10	161	996	1	85·4
14 d	4 35	535		448	23 21	87	1 12	15·7		-11·2	22 32	26·9	16 4	1037		937	1 40	100	594	1	85·3
15	20 8	529		469	15 38	60	13 41	8·3		-4·3	0 48	12·6	16 0	1026		977	0 1	49	320	0	85·3
16	4 48	520		487	12 23	33	13 25	6·6		-0·2	17 40	6·8	20 27	1019		1000	1 10	19	139	0	85·2
17	17 44	532		495	11 12	37	11 48	8·5		0·4	19 43	8·1	19 42	1016		995	11 27	21	156	0	85·3
18 q	17 24	533		489	10 34	44	13 43	7·7		0·2	9 37	7·5	0 1	1008		1001	11 30	7	104	0	85·5
19	16 52	542		477	17 34	65	17 0	11·3		-0·8	23 59	12·1	18 40	1034		996	11 34	38	278	1	85·3
20	5 44	528		490	10 45	38	13 15 / 19 14	6·4		-1·9	1 27	8·3	21 44	1014		993	1 32	21	158	0	85·2
21	17 59	525		489	11 35	36	12 49	8·6		0·5	2 22	8·1	0 1	1011		1000	4 5	11	108	0	85·2
22 q	18 50	530		502	11 41	28	12 20	6·6		1·2	22 49	5·4	22 8	1006		999	18 50	7	77	0	85·1
23 q	5 30	534		506	9 48	28	11 52	7·8		1·4	9 19	6·4	13 13	1005		997	5 40	8	82	0	85·1
24	18 6	542		471	22 49	71	13 57	11·3		-11·4	22 23	22·7	21 44	1031		995	6 0	36	279	1	85·1
25 d	5 20	542		399	21 25	143	15 0	15·5		-12·2	22 26	27·7	21 37	1060		962	6 29	98	677	1	85·0
26 d	1 50	530		465	10 51	65	14 35	9·3		-11·8	20 20	21·1	20 20	1025		962	2 0	63	390	1	85·0
27	23 13	524		472	11 29	52	4 17	10·4		-1·1	8 55	11·5	18 55	1018		983	4 42	35	243	0	85·1
28	5 32	537		479	11 24	58	13 1	8·7		1·1	8 58	7·6	20 0	1018		994	5 30	24	204	0	84·9
29	21 42	543		483	15 10	60	12 39	9·8		-6·8	21 41	16·6	15 32	1020		998	7 41	22	198	0	84·9
30	6 30	530		493	11 15	37	13 28 / 13 50	7·9		-2·3	23 9	10·2	21 13	1015		994	3 39	21	156	0	84·8
Mean	- -	534		479	- -	55	- -	9·7		-3·6	- -	13·3	- -	1021		988	- -	32	237	0·23	85·4

§ For explanation see p. 61.

TERRESTRIAL MAGNETIC FORCE: HORIZONTAL COMPONENT

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

147 ESKDALEMUIR (H) — 16,000γ (0·16 C.G.S. unit) + — DECEMBER 1939

	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	518	514	518	516	515	515	535	530	526	514	498	488	498	508	514	522	522	524	523	515	506	511	519	516	515
2	511	514	515	518	517	521	522	519	522	522	518	514	511	514	519	523	522	526	525	523	510	507	512	518	518
3	514	516	513	514	518	519	530	527	522	518	516	516	518	518	526	530	532	532	532	530	523	515	496	504	520
4	503	498	507	507	509	514	518	520	519	515	510	510	512	518	521	521	523	524	522	523	525	524	523	519	516
5	521	515	518	519	523	525	525	524	525	519	515	513	510	508	510	515	503	510	498	483	475	499	500	484	510
6 d	500	506	506	507	506	509	516	522	514	508	500	502	509	514	520	522	525	530	524	521	514	444	438	467	505
7 d	491	463	472	495	498	515	513	496	487	480	483	482	480	485	445	487	494	487	475	460	469	471	508	499	485
8 d	494	496	499	513	513	503	488	507	477	487	476	470	474	498	506	471	490	481	494	480	487	497	500	507	492
9	510	507	512	504	518	514	516	504	492	499	494	487	484	467	498	503	495	500	510	507	510	510	508	513	503
10	510	514	512	512	515	515	518	516	512	506	498	498	494	497	497	507	513	518	519	517	507	514	510	512	510
11	509	509	511	515	521	518	528	520	503	500	497	491	495	500	505	509	514	512	515	518	516	519	518	518	511
12	517	510	506	515	519	521	525	517	513	509	506	505	505	508	515	507	518	502	509	517	517	509	517	501	512
13	504	509	509	513	516	526	531	520	515	507	499	500	500	499	489	506	516	517	517	517	517	518	519	517	512
14 q	514	521	522	520	525	526	526	523	520	513	508	501	506	513	522	522	527	529	528	529	527	526	525	521	521
15	513	510	511	513	512	522	528	522	518	513	508	505	505	511	514	502	494	517	513	517	516	514	513	512	513
16	517	513	512	513	518	525	529	526	525	521	520	521	521	522	523	528	533	522	528	529	525	506	509	493	520
17	498	505	505	506	509	517	517	521	513	513	514	510	507	509	508	509	513	519	518	517	517	515	509	513	512
18 q	510	508	514	513	516	517	518	517	516	514	512	509	508	510	512	512	518	523	524	524	522	520	517	516	515
19 q	513	514	516	516	521	521	521	520	518	517	516	515	516	517	519	521	524	527	528	528	526	524	523	521	520
20 q	520	520	520	521	524	525	525	524	523	521	521	522	528	529	530	533	536	535	534	529	528	517	519	520	525
21 d	519	517	516	516	520	520	521	528	532	516	498	514	512	510	514	493	488	507	505	493	488	498	507	496	509
22 d	489	499	507	515	516	514	531	519	505	507	500	501	505	480	483	486	501	495	500	501	491	501	497	507	502
23	509	508	510	514	524	523	524	521	512	493	488	493	505	505	508	510	517	512	516	517	512	507	528	497	511
24	504	507	505	512	510	524	516	517	519	496	497	498	495	493	498	500	510	506	509	499	495	497	506	507	505
25	509	512	524	515	515	518	517	517	516	507	500	496	504	503	502	513	516	515	507	511	507	499	500	506	510
26	512	519	523	523	525	526	540	535	530	524	518	504	507	508	507	514	515	518	520	521	520	520	517	522	519
27	523	526	527	531	540	530	527	526	516	510	524	526	522	521	524	512	520	518	525	498	519	515	517	518	521
28	517	515	515	514	520	520	518	518	519	519	511	513	516	518	515	520	524	516	507	507	516	514	506	505	515
29	502	508	512	516	516	520	513	516	515	513	509	512	515	508	517	515	511	522	516	502	504	514	516	516	513
30	521	506	510	511	514	517	518	517	515	515	511	514	515	518	521	523	517	515	522	521	519	519	517	517	516
31 q	517	520	518	517	518	517	518	515	514	515	512	513	516	519	521	521	523	523	525	525	523	519	519	518	519
Mean	510	510	512	514	517	519	522	519	515	510	506	505	506	507	510	512	515	516	516	512	511	508	510	509	512

519 at 0-1h. January 1, 1940.

MAGNETIC DECLINATION (WEST)

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

148 ESKDALEMUIR (D) — 13° + — DECEMBER 1939

	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	0·6	0·7	2·3	3·9	2·6	1·3	3·1	1·4	1·8	2·3	3·0	5·7	6·2	7·2	6·3	5·8	5·2	4·1	4·5	3·1	1·6	2·0	2·2	1·1	3·3
2	0·6	1·3	2·0	1·8	2·2	2·7	1·2	2·1	3·0	2·3	3·4	5·2	6·8	6·8	7·0	6·2	5·4	5·7	5·1	4·9	2·3	-1·2	2·3	1·2	3·3
3	1·7	2·1	1·7	2·7	2·1	2·2	1·8	2·2	2·4	3·1	4·0	5·2	5·8	6·8	6·2	5·9	5·8	5·6	5·7	5·0	4·6	3·3	-2·2	-1·9	3·4
4	-2·2	-4·9	-3·1	-0·5	0·2	1·3	2·1	2·8	2·2	2·3	3·7	5·1	5·5	5·8	4·9	4·5	4·1	3·6	3·4	3·3	3·1	2·8	1·5	1·7	2·2
5	2·3	1·3	2·8	2·8	3·1	3·1	2·8	3·0	2·6	2·3	2·5	4·6	5·3	7·2	8·7	9·3	10·4	11·4	15·7	8·5	2·4	-0·4	-3·0	-8·0	4·2
6 d	-2·7	-0·4	1·4	2·2	3·0	2·6	3·0	2·7	2·1	2·2	3·1	5·4	7·5	7·7	6·6	5·9	5·0	5·2	6·8	7·9	-1·4	-19·0	-16·6	-5·0	1·5
7 d	-1·3	-3·2	-4·0	8·6	-0·4	-1·3	2·8	2·2	5·0	6·4	5·3	5·4	6·8	8·2	2·5	2·3	7·4	9·0	-0·2	-4·9	-5·1	-5·1	-15·4	-3·2	1·2
8 d	0·6	2·9	5·8	2·3	5·8	8·6	14·0	10·5	5·5	7·2	8·6	9·1	9·3	9·4	6·7	0·3	-10·1	5·0	-0·3	-4·0	-4·7	-0·5	-1·3	0·7	3·8
9	2·3	-0·2	2·4	5·1	5·8	4·0	2·7	3·0	2·7	6·7	7·0	6·8	7·6	6·8	6·3	4·6	1·4	3·1	-7·6	1·9	2·3	-0·4	1·4	2·4	3·3
10	3·0	3·1	3·1	3·1	3·6	2·9	2·3	3·6	3·1	2·3	4·4	4·9	5·7	5·8	4·2	0·8	2·6	2·4	2·9	2·5	-2·3	-3·4	-0·2	1·7	2·6
11	2·6	2·4	5·6	3·6	2·6	2·3	2·2	2·5	3·1	3·3	4·7	4·4	6·7	6·2	5·7	4·8	4·2	3·5	1·8	2·6	1·8	-0·2	0·0	1·6	3·3
12	2·9	2·7	5·7	3·3	3·6	2·7	2·2	2·1	1·3	1·3	4·3	5·7	6·7	5·9	5·7	4·5	4·0	3·2	3·1	3·1	2·1	0·7	-9·1	-3·2	2·7
13	-0·9	1·8	3·5	2·9	4·9	2·6	3·1	2·5	2·4	2·3	2·7	3·5	5·2	6·5	6·3	4·4	3·9	3·6	3·5	2·6	2·4	1·8	1·8	1·2	3·1
14 q	1·3	4·0	3·1	2·6	2·6	3·1	2·7	2·8	2·9	2·3	3·5	4·4	5·4	5·9	5·6	5·0	4·6	4·1	3·5	3·3	2·9	2·4	2·2	1·6	3·4
15	-1·1	-1·4	0·8	0·6	1·1	2·4	2·4	1·5	1·9	1·8	2·6	4·2	5·3	7·0	8·2	8·1	7·4	5·8	6·2	3·9	2·7	2·2	0·8	0·9	3·1
16	1·8	2·2	1·8	2·5	2·8	2·3	2·5	2·6	2·2	2·1	3·5	3·5	4·5	5·1	6·3	6·3	5·3	6·0	3·8	3·7	2·9	1·5	-2·2	-10·2	2·6
17	-3·3	-1·6	2·5	3·0	2·9	2·5	2·3	2·5	2·2	2·2	1·8	3·0	5·3	5·9	5·8	4·9	5·5	4·3	3·9	3·9	3·5	2·1	1·8	2·7	2·9
18 q	2·0	1·6	-0·3	0·6	1·3	1·9	2·1	2·2	2·5	2·4	2·9	3·6	3·8	4·4	4·1	4·0	3·3	3·1	3·1	2·9	2·5	2·5	2·2	1·8	2·5
19 q	1·8	2·0	2·2	2·0	1·9	1·3	1·6	2·0	2·0	2·3	2·9	4·3	5·5	5·7	5·4	5·1	4·2	3·8	3·3	2·8	2·5	2·4	2·3	2·2	3·0
20 q	2·2	2·3	2·3	2·4	2·4	2·2	2·1	2·1	2·0	2·1	3·0	3·9	4·9	5·2	4·8	5·2	5·0	4·8	4·9	4·7	4·6	2·6	-0·3	-0·4	3·1
21 d	0·7	0·9	0·0	-0·9	-0·9	-1·0	0·2	2·6	2·3	4·4	6·2	8·8	7·7	7·4	10·3	13·4	11·6	5·6	6·0	3·6	1·5	1·5	0·4	-0·5	3·8
22 d	-6·0	0·4	0·8	0·7	1·4	3·2	4·7	4·7	4·7	4·0	6·3	7·3	8·3	9·5	11·1	7·6	-0·5	6·7	3·9	2·4	0·0	-6·4	0·8	2·5	3·3
23	3·2	3·1	2·7	3·1	4·3	1·5	3·4	2·2	2·5	3·1	2·9	5·4	7·8	6·9	5·8	4·4	4·0	3·9	3·0	2·7	2·3	2·4	-2·2	0·3	3·3
24	2·3	3·2	3·3	-0·3	0·9	-0·2	1·4	1·3	2·7	2·2	2·9	4·5	5·1	5·3	6·0	5·2	3·9	0·8	0·3	1·3	-2·2	0·6	0·5	1·8	2·2
25	2·4	2·5	0·7	0·0	2·4	2·0	2·6	3·7	4·4	4·5	5·0	4·4	5·7	6·4	5·9	5·0	3·8	3·4	3·1	3·4	2·6	-1·7	-0·9	0·2	3·0
26	1·8	4·0	4·0	3·7	4·1	7·0	4·5	2·7	3·1	3·3	3·7	3·7	5·2	5·4	5·3	4·4	3·5	3·0	2·6	2·4	2·1	2·2	1·5	-1·2	3·4
27	1·8	2·4	3·0	3·5	2·7	2·2	2·5	1·9	0·9	5·0	5·7	5·7	6·1	5·1	7·2	8·2	9·4	7·2	5·2	-1·1	-0·5	2·4	2·2	2·0	3·8
28	2·5	1·3	1·7	1·4	2·2	1·3	1·7	2·1	2·5	3·3	4·6	5·7	6·0	4·0	3·1	3·5	4·4	5·4	3·6	5·9	4·0	2·8	1·1	-1·1	3·0
29	1·9	-0·8	-0·4	-1·3	-1·0	-0·6	1·1	1·6	1·6	3·2	3·3	5·3	4·3	4·9	3·5	5·8	2·6	3·7	4·0	1·8	0·3	1·4	1·5	1·2	2·0
30	-2·3	-0·6	1·8	2·1	2·3	1·5	2·6	2·1	1·7	2·6	2·9	4·6	5·3	4·7	4·2	4·8	4·3	2·8	3·3	2·3	1·8	1·8	1·3	1·9	2·5
31 q	2·5	2·7	1·8	1·5	2·7	1·5	1·3	1·6	2·3	4·0	4·2	4·5	5·2	4·7	3·7	3·1	3·1	2·7	2·6	2·0	2·0	1·8	1·8	1·9	2·7
Mean	0·8	1·2	2·0	2·2	2·4	2·2	2·7	2·7	2·6	3·2	4·0	5·1	6·0	6·3	5·9	5·3	4·3	4·6	3·6	2·9	1·4	0·2	-0·8	-0·1	3·0

2·2 at 0-1h. January 1, 1940.

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

TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT

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

149 ESKDALEMUIR (V) — 44,000γ (0·44 C.G.S. unit) + — DECEMBER 1939

	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	990	990	990	993	998	999	990	992	993	993	995	995	995	998	1002	1005	1005	1005	1005	1010	1015	1012	1008	1006	999
2	1007	1007	1004	1002	1002	1001	1001	999	994	992	993	994	995	995	999	1005	1005	1005	1006	1008	1013	1015	1011	1007	1003
3	1006	1005	1004	1002	1003	1002	1000	999	999	996	995	996	999	999	1001	1001	1001	1001	1001	1004	1006	1008	1020	1015	1003
4	1009	1009	1006	1005	1003	1003	1001	999	1000	1000	1000	999	999	1000	1001	1003	1004	1002	1002	1002	1002	1001	1001	1001	1002
5	1001	1000	1000	1000	999	999	999	999	999	1001	1000	998	999	1005	1008	1011	1023	1037	1043	1053	1059	1044	1030	1023	1014
6 d	1012	1004	1001	1000	1002	1004	1004	1003	1005	1004	1004	1001	1001	1001	1002	1004	1004	1004	1007	1016	1049	1026	993	1025	1007
7 d	1020	1011	983	917	933	970	985	998	1002	1004	1002	1006	1012	1016	1038	1050	1043	1067	1107	1101	1066	1041	1013	983	1015
8 d	994	1000	993	966	974	970	967	978	999	1006	1013	1020	1026	1030	1036	1047	1060	1043	1044	1041	1032	1024	1019	1001	1012
9	968	983	990	993	993	995	999	1002	1005	999	1001	1010	1019	1029	1027	1027	1025	1023	1026	1014	1010	1009	1007	1007	1007
10	1007	1007	1006	1005	1004	1004	1003	1003	1004	1005	1007	1011	1012	1017	1021	1024	1017	1012	1009	1008	1013	1011	1004	1004	1009
11	1005	1005	1002	1000	999	1002	1001	1000	1002	1002	1005	1007	1008	1011	1012	1013	1012	1011	1011	1008	1007	1006	1002	1003	1006
12	1005	1005	1003	1001	1002	1002	1001	1001	1001	998	995	996	1001	1004	1007	1012	1011	1016	1016	1011	1008	1009	1011	1002	1005
13	999	999	999	999	998	993	994	995	999	999	1000	1001	1003	1007	1012	1013	1012	1011	1008	1007	1006	1005	1005	1005	1003
14 q	1005	1001	996	999	1000	1000	999	999	999	999	999	1002	1002	1001	1001	1004	1004	1002	1001	1001	1001	1001	1001	1002	1001
15	1005	1004	1001	1000	1000	996	995	996	998	999	1000	999	999	999	1002	1010	1017	1016	1017	1016	1014	1011	1011	1007	1005
16	1005	1004	1005	1004	1001	1001	1000	999	999	996	993	989	992	993	996	999	1000	1003	1005	1004	1005	1008	1001	992	1000
17	995	995	999	1002	1004	1004	1002	1001	1000	998	994	995	998	1000	1004	1010	1010	1007	1007	1007	1007	1007	1010	1007	1003
18 q	1009	1007	1005	1001	1001	1001	1000	1000	999	998	999	999	1001	1001	1001	1004	1005	1004	1003	1002	1001	1001	1001	1001	1002
19 q	1001	1001	1001	1001	999	999	1000	1000	999	999	998	995	995	999	1001	1001	1004	1001	1001	1001	1001	1000	999	999	1000
20 q	999	999	999	998	998	998	998	998	996	995	995	998	998	997	997	997	998	998	999	1000	1002	1010	1015	1013	1000
21 d	1008	1004	1001	1001	1000	998	997	995	993	991	996	991	995	1003	1011	1019	1032	1029	1026	1030	1034	1024	1016	1010	1009
22 d	981	991	996	994	985	991	992	993	997	995	997	1002	1005	1013	1022	1037	1047	1033	1031	1029	1032	1026	1016	1011	1009
23	1008	1007	1005	1001	997	997	997	998	998	1003	1006	1008	1005	1006	1007	1010	1010	1011	1011	1010	1010	1012	1002	1002	1005
24	999	991	993	993	997	995	998	1000	999	1000	1005	1005	1006	1007	1011	1014	1013	1016	1015	1016	1022	1020	1016	1013	1006
25	1010	1004	991	988	992	996	998	998	997	998	999	1001	1001	1006	1013	1012	1011	1008	1010	1010	1010	1013	1013	1009	1004
26	1003	996	994	993	993	989	986	987	990	993	999	1004	1003	1004	1007	1007	1005	1004	1001	1001	1000	1000	1003	1002	999
27	1000	998	997	995	993	994	994	993	993	992	991	992	994	998	1002	1007	1010	1010	1013	1025	1016	1008	1007	1006	1001
28	1005	1005	1004	1002	1000	998	996	997	997	997	999	998	999	1001	1005	1008	1007	1008	1014	1016	1017	1018	1019	1017	1005
29	1013	1013	1010	1005	1001	999	1000	999	999	998	999	998	1000	1002	1008	1011	1016	1011	1011	1014	1016	1011	1007	1007	1006
30	998	1002	1002	1004	1002	1001	1000	999	999	998	1003	999	1000	1002	1006	1006	1007	1010	1006	1005	1003	1001	1000	1000	1002
31 q	1000	999	1001	1001	1001	1001	1001	1000	998	995	999	1000	999	999	1003	1005	1004	1004	1004	1002	1001	1000	1000	1000	1001
Mean	1002	1001	999	996	996	997	997	997	998	998	999	1000	1002	1005	1008	1012	1014	1013	1015	1015	1015	1012	1008	1006	1005

999 at 0-1h. January 1, 1940.

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

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	TERRESTRIAL MAGNETIC ELEMENTS: Horizontal force Maximum 16,000γ +			Horizontal force Minimum 16,000γ +			Horizontal force Range	Declination Maximum 13° +			Declination Minimum 13° +			Declination Range	Vertical force Maximum 44,000γ +			Vertical force Minimum 44,000γ +			Vertical force Range	$\frac{HR_H + VR_V}{10{,}000\gamma^2}$ §	Magnetic character of day (0-2)	Temperature in magnet house 200 +
	h.	m.	γ	γ	h.	m.	γ	h.	m.	′	′	h.	m.	′	h.	m.	γ	γ	h.	m.	γ			°A
1	6	24	551	483	11	41	68	6	6	9·1	-1·0	1	7	10·1	20	10	1017	986	6	27	31	251	0	84·8
2	17	18	531	495	21	2	36	12	30	7·5	-2·3	21	40	9·8	{21	2}	1017	990	9	41	27	180	0	84·8
3	16	31	538	487	22	22	51	13	22	7·3	-7·4	22	27	14·7	{21	38}	1023	994	10	56	29	215	0	84·7
4	22	34	531	491	0	20	40	13	26	6·6	-6·0	1	8	12·6	22	30	1023	994	10	56	29	215	0	84·7
5	17	44	530	456	19	42	74	16	46	19·2	-9·5	23	40	28·7	0	1	1013	998	12	40	15	133	0	84·7
6 d	20	8	567	427	22	30	140	20	19	11·5	-25·0	20	55	36·5	20	23	1062	996	11	55	66	419	1	84·7
7 d	22	59	554	398	2	46	156	3	43	19·0	-18·0	{22	38}	37·0	20	49	1090	986	22	28	104	699	1	84·6
8 d	24	0	534	431	15	52	103	6	49	16·9	-17·1	{22	55}	34·0	18	52	1127	899	3	50	228	1283	2	84·6
9	18	49	536	443	13	22	93	11	48	9·1	-13·6	16	7	22·7	16	10	1071	960	3	30	111	669	1	84·6
10	21	48	540	484	12	46	56	12	12	8·4	-6·4	18	22	14·8	13	48	1035	964	0	34	71	472	1	84·6
11	6	24	534	483	11	40	51	12	43	7·8	-1·8	21	38	14·8	15	10	1025	1001	7	50	24	200	0	84·5
12	22	22	533	489	18	0	44	2	47	7·4	-13·8	21	13	9·6	15	19	1014	998	4	24	16	156	0	84·5
13	6	30	535	483	14	45	52	14	7	7·5	-2·7	22	15	21·2	18	1	1020	993	10	52	27	194	1	84·5
14 q	2	0	532	500	11	29	32	1	50	7·5	0·3	0	38	10·2	15	22	1014	992	5	26	22	185	0	84·4
15	6	49	533	490	16	38	43	14	31	6·3	-2·5	23	58	6·0	0	1	1006	994	2	10	12	107	0	84·4
16	16	38	552	482	22	10	70	17	6	9·1	-2·5	1	18	11·6	16	40	1019	995	6	55	24	179	0	84·4
17	{7	15}	524	494	0	10	30	13	38	7·2	-16·2	23	15	23·4	22	11	1012	981	22	59	31	254	1	84·3
18 q	{7	26}	527	505	2	0	22	13	24	6·7	-4·3	0	33	11·0	15	46	1011	993	1	19	18	130	0	84·2
19 q	18	3	529	512	1	9	17	12	56	4·9	-1·4	2	38	6·3	0	25	1010	996	9	51	14	99	0	84·1
20 q	19	0	540	510	23	23	30	15	43	6·2	0·5	5	12	5·7	16	30	1004	994	12	10	10	73	0	84·0
21 d	17	36	542	476	19	58	66	16	0	6·6	-1·5	23	49	8·1	22	58	1017	994	9	51	23	152	0	83·9
22 d	8	40	563	447	13	48	116	14	31	15·7	-2·6	6	22	18·3	20	6	1040	989	9	10	51	338	1	83·9
23	0	14	557	481	10	0	76	12	50	14·6	-10·8	0	38	25·4	16	10	1066	959	0	27	107	672	1	83·8
24	22	21	527	484	9	50	43	14	47	8·6	-4·2	22	15	12·8	21	57	1013	993	4	50	20	215	1	83·7
25	5	58	531	491	14	6	40	12	49	7·7	-3·3	20	38	11·0	20	51	1024	989	1	34	35	228	0	83·7
26	2	21	546	500	11	23	46	5	25	7·5	-4·9	21	52	12·4	22	0	1016	986	3	10	30	201	0	83·6
27	6	53	547	483	19	24	64	16	52	9·0	-2·8	23	44	11·8	15	30	1008	985	6	8	23	179	0	83·6
28	4	50	531	496	22	10	35	19	18	14·0	-6·9	19	57	20·9	19	53	1030	987	9	41	43	299	1	83·5
29	16	34	555	488	15	56	67	15	48	8·0	-1·5	23	40	9·5	21	42	1020	995	9	21	25	171	1	83·4
30	24	0	554	503	0	59	51	12	55	7·6	-3·1	3	18	10·7	20	37	1017	996	11	45	21	206	1	83·4
31 q	0	1	526	510	{10	30}	16	12	30	6·4	-6·0	0	32	12·4	17	37	1012	995	0	20	17	161	0	83·3
Mean	18	17	540	481	{11	8}	59	12	30	6·0	0·9	6	50	5·1	14	59	1005	995	9	18	10	71	0	83·2
	-	-	540	481	-	-	59	-	-	9·3	-6·3	-	-	15·6	-	-	1028	986	-	-	41	284	0·45	84·1

§ For explanation see p. 61.

DIURNAL INEQUALITIES OF THE GEOGRAPHICAL COMPONENTS OF MAGNETIC FORCE

ALL DAYS

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

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NORTH COMPONENT

	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
	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Jan.	−0·1	+0·9	+3·0	+4·7	+8·7	+8·6	+8·3	+7·3	+3·0	−3·7	−8·5	−12·6	−11·5	−7·7	−6·5	−4·5	−4·6	−1·1	+0·7	+2·8	+4·9	+3·6	+3·5	+0·9
Feb.	−3·7	−4·7	+3·1	+4·6	+5·4	+6·8	+6·3	+2·6	+5·0	+1·4	−5·3	−10·1	−12·0	−9·1	−4·7	−2·4	−1·3	+2·9	+7·5	+12·7	+4·0	−1·4	−5·0	−2·8
Mar.	+6·9	+5·4	+2·3	+3·4	+6·6	+10·4	+10·5	+6·2	−1·3	−15·0	−22·2	−26·1	−23·4	−18·7	−7·3	−0·4	+5·4	+7·4	+11·5	+12·2	+6·7	+8·0	+2·7	+8·9
Apr.	−0·7	+6·8	−0·6	−0·3	0·0	+3·2	−3·7	−9·8	−15·5	−25·0	−33·9	−36·7	−30·6	−19·8	+3·5	+24·2	+25·7	+37·5	+40·3	+28·0	+8·2	+3·3	+8·6	+0·6
May	+3·6	−1·2	+0·9	+2·0	+2·0	+0·1	−6·3	−12·6	−20·1	−28·8	−35·3	−35·2	−29·7	−20·2	−6·3	+14·1	+23·4	+32·2	+34·5	+31·4	+23·5	+18·1	+8·1	+1·7
June	+9·9	+8·0	+4·8	+3·7	+4·1	+3·7	−0·1	−11·3	−23·7	−32·4	−37·6	−39·1	−29·6	−25·1	−5·2	+5·6	+11·7	+23·7	+28·0	+28·7	+24·6	+18·7	+15·8	+13·0
July	+7·0	+6·2	+5·8	+5·8	+7·6	+2·2	−6·2	−14·2	−22·6	−29·9	−38·4	−38·5	−32·4	−20·9	−6·7	+9·4	+20·6	+30·3	+32·3	+26·5	+20·9	+14·8	+11·2	+9·2
Aug.	+3·0	+7·5	+1·3	−1·9	+4·6	+2·8	−0·5	−7·3	−19·0	−31·8	−38·9	−33·3	−25·5	−18·1	−4·8	+16·0	+20·9	+21·3	+25·3	+26·8	+20·1	+17·0	+8·5	+5·9
Sept.	+12·8	+15·0	+11·3	+12·1	+13·9	+9·2	+6·6	−1·0	−13·8	−26·3	−38·1	−40·4	−31·7	−23·7	−13·2	−2·0	+4·4	+11·8	+14·1	+16·7	+15·8	+16·6	+14·5	+15·4
Oct.	+12·1	+6·8	+5·3	+9·8	+9·7	+10·7	+9·7	+5·8	−1·0	−19·5	−31·5	−32·2	−27·3	−20·1	−11·7	−2·3	+7·1	+13·8	+10·9	+13·2	+13·3	+4·9	+1·7	+10·9
Nov.	+4·3	+3·4	+5·5	+6·4	+10·1	+10·6	+10·8	+8·0	+3·6	−6·1	−14·8	−20·4	−16·6	−12·5	−8·5	−5·1	−0·6	+1·3	+1·7	+2·5	+4·4	+3·9	+4·3	+4·2
Dec.	+0·4	−0·5	+0·9	+2·6	+5·5	+7·8	+9·7	+7·5	+2·9	−2·3	−7·3	−9·6	−9·0	−8·2	−5·4	−3·1	+1·0	+1·5	+2·9	+0·2	+0·4	−0·5	+2·2	+0·4
Year	+4·6	+3·4	+3·7	+4·5	+6·5	+6·3	+3·8	−1·5	−8·5	−18·3	−26·0	−27·8	−23·3	−17·0	−6·4	+4·1	+9·5	+15·2	+17·5	+16·9	+12·2	+8·9	+6·3	+5·6
Winter	+0·2	−0·2	+3·1	+4·6	+7·4	+8·4	+8·8	+6·3	+3·6	−2·6	−9·0	−13·1	−12·2	−9·4	−6·3	−3·7	−1·3	+1·1	+3·3	+4·5	+3·4	+1·4	+1·2	+0·6
Equinox	+7·8	+5·1	+4·6	+6·2	+7·5	+8·4	+5·8	+0·4	−7·8	−21·5	−31·4	−33·8	−28·3	−20·6	−7·2	+4·8	+10·6	+17·7	+19·2	+17·5	+11·0	+8·2	+6·9	+8·9
Summer	+5·9	+5·1	+3·3	+2·4	+4·6	+2·2	−3·3	−11·3	−21·4	−30·7	−37·5	−36·5	−29·3	−21·1	−5·7	+11·3	+19·1	+26·9	+30·0	+28·3	+22·2	+17·2	+10·8	+7·5

WEST COMPONENT

	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Jan.	−10·1	−9·6	−8·3	−4·1	−2·0	+0·1	+0·6	−1·4	−3·1	−2·9	−0·3	+4·5	+10·4	+11·7	+9·3	+8·2	+9·1	+7·9	+4·4	+2·3	−2·3	−6·9	−8·5	−8·9
Feb.	−16·8	−21·3	−17·3	−12·7	−8·5	−6·1	−0·5	+0·4	−0·9	−1·6	+2·2	+8·3	+15·3	+18·9	+18·7	+15·8	+12·8	+13·8	+11·3	+13·4	+3·4	−13·7	−19·0	−15·9
Mar.	−14·4	−12·7	−10·3	−13·0	−12·7	−10·0	−5·1	−8·4	−12·3	−9·7	−1·6	+9·7	+22·8	+31·4	+30·7	+27·7	+17·9	+11·5	+8·6	−2·5	−5·2	−11·7	−15·2	−15·5
Apr.	−14·9	−11·8	−9·1	−9·5	−13·5	−13·2	−16·7	−25·0	−27·2	−19·3	−9·7	+5·7	+24·9	+37·0	+41·0	+36·8	+27·9	+21·3	+9·5	+2·2	−3·8	−7·7	−8·7	−16·1
May	−9·5	−13·7	−19·9	−20·2	−20·4	−22·8	−27·3	−27·7	−22·4	−17·4	−7·4	+8·8	+25·9	+33·5	+33·9	+31·3	+25·8	+20·9	+16·6	+10·8	+6·1	+3·7	−0·8	−7·9
June	−3·1	−5·9	−9·5	−12·4	−15·3	−21·1	−30·1	−35·5	−33·6	−29·3	−15·7	+1·1	+17·8	+24·8	+33·0	+30·3	+23·7	+21·1	+16·3	+14·1	+12·7	+9·2	+4·1	+3·2
July	−5·1	−9·0	−13·0	−15·3	−21·1	−22·8	−24·0	−26·6	−28·6	−23·4	−12·5	+4·0	+19·2	+28·6	+33·0	+31·9	+25·4	+22·3	+17·1	+12·7	+8·7	+4·0	−1·2	−4·3
Aug.	−4·2	−8·0	−15·1	−21·9	−21·5	−22·2	−29·9	−30·1	−29·0	−18·7	−2·1	+15·6	+29·5	+36·6	+35·5	+29·9	+21·2	+10·8	+7·7	+6·9	+5·4	+3·3	+0·7	−0·7
Sept.	−9·2	−8·0	−13·6	−13·9	−14·5	−15·8	−20·7	−25·6	−26·8	−20·4	−6·8	+13·7	+31·0	+37·0	+35·1	+26·6	+18·9	+13·4	+9·3	+4·0	+2·0	−2·1	−3·9	−9·4
Oct.	−8·9	−10·7	−8·8	−10·7	−10·4	−5·1	−9·0	−12·1	−19·5	−15·9	−4·9	+9·8	+24·4	+29·4	+31·2	+25·1	+18·8	+12·2	+6·5	+2·2	−8·9	−7·6	−13·3	−13·7
Nov.	−10·3	−7·4	−6·5	−2·7	−1·4	−0·5	−1·8	−3·3	−6·5	−8·9	−2·9	+6·9	+14·1	+17·3	+16·7	+12·1	+9·8	+6·5	+6·0	+2·0	−4·9	−9·3	−13·1	−11·9
Dec.	−10·5	−8·7	−4·6	−2·9	−1·3	−1·8	+1·2	+0·4	−0·9	+0·7	+3·6	+8·3	+13·1	+14·4	+13·4	+10·7	+7·1	+8·5	+3·7	−0·5	−7·4	−13·9	−17·8	−14·8
Year	−9·8	−10·6	−11·3	−11·6	−11·9	−11·8	−13·6	−16·2	−17·6	−13·9	−4·8	+8·0	+20·7	+26·7	+27·6	+23·9	+18·2	+14·2	+9·8	+5·6	+0·5	−4·4	−8·1	−9·7
Winter	−11·9	−11·7	−9·2	−5·6	−3·3	−2·1	−0·1	−1·0	−2·9	−3·2	+0·7	+7·0	+13·2	+15·6	+14·5	+11·7	+9·7	+9·2	+6·3	+4·3	−2·8	−10·9	−14·6	−12·9
Equinox	−11·9	−10·8	−10·5	−11·8	−12·8	−11·0	−12·9	−17·8	−21·5	−16·3	−5·7	+9·7	+25·8	+33·7	+34·4	+29·1	+20·9	+14·6	+8·5	+1·5	−4·0	−7·3	−10·3	−13·7
Summer	−5·5	−9·1	−14·4	−17·5	−19·6	−22·2	−27·8	−30·0	−28·4	−22·2	−9·4	+7·4	+23·1	+30·9	+33·9	+30·9	+24·0	+18·8	+14·4	+11·1	+8·2	+5·1	+0·7	−2·4

VERTICAL COMPONENT

	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Jan.	+1·7	+0·1	−1·9	−3·2	−4·6	−5·2	−4·8	−4·2	−3·8	−2·4	+0·2	−0·5	−2·3	−0·8	+1·6	+2·2	+2·8	+3·5	+4·8	+5·1	+3·5	+3·1	+2·9	+2·2
Feb.	−3·5	−11·1	−8·5	−7·4	−8·0	−8·5	−9·7	−9·4	−8·0	−8·0	−6·5	−7·2	−6·0	−3·1	+2·2	+6·0	+11·7	+17·8	+22·1	+15·9	+20·0	+9·5	+1·0	−1·3
Mar.	−6·8	−10·9	−15·5	−20·2	−14·7	−11·4	−10·2	−6·3	−5·6	−6·8	−7·1	−8·8	−8·1	−3·2	+5·1	+16·0	+25·4	+25·3	+23·4	+19·0	+14·0	+8·7	+1·0	−2·3
Apr.	−23·7	−19·8	−20·2	−17·2	−17·5	−12·7	−12·6	−9·2	−7·9	−7·7	−7·2	−7·1	−6·1	+0·2	+16·0	+29·3	+33·8	+37·6	+33·1	+24·8	+10·3	+1·6	−1·2	−16·6
May	−16·7	−27·3	−28·5	−25·9	−20·5	−17·7	−12·5	−9·7	−8·9	−10·3	−10·2	−11·4	−7·9	+2·7	+17·0	+26·4	+34·7	+36·5	+33·9	+29·9	+22·1	+11·7	+0·4	−7·8
June	−6·5	−12·0	−14·2	−12·4	−11·9	−10·3	−6·2	−4·1	−6·0	−9·3	−11·2	−12·4	−8·2	−0·5	+6·0	+14·4	+20·8	+21·7	+21·2	+18·7	+14·6	+8·8	+2·6	−3·6
July	−9·0	−9·2	−10·5	−10·7	−8·4	−7·9	−11·0	−10·1	−10·7	−12·5	−12·9	−14·1	−11·7	−1·7	+10·4	+18·1	+23·8	+24·7	+24·0	+20·3	+15·1	+7·0	−1·0	−2·0
Aug.	−17·8	−18·2	−24·8	−27·8	−17·2	−7·6	−0·8	+0·5	+0·7	−2·9	−6·1	−8·4	−6·1	+0·8	+15·5	+28·2	+30·8	+27·2	+22·8	+17·0	+7·5	+4·7	−6·3	−11·7
Sept.	−3·0	−6·0	−7·6	−11·4	−10·1	−4·3	−1·9	−0·9	−3·4	−6·8	−10·9	−14·1	−13·7	−7·7	−0·2	+9·6	+17·1	+21·3	+19·2	+13·9	+9·6	+7·5	+4·3	−0·5
Oct.	−10·6	−17·7	−27·3	−32·7	−27·5	−19·2	−10·6	−5·1	−2·3	−1·9	−2·1	−1·8	+0·8	+7·0	+12·2	+18·9	+23·9	+27·1	+28·2	+24·2	+18·6	+7·2	−1·0	−8·3
Nov.	−2·0	−5·4	−6·5	−6·5	−7·7	−7·4	−7·1	−5·5	−3·4	−2·9	−3·6	−2·7	−0·2	+2·3	+5·7	+6·7	+7·0	+7·0	+7·6	+8·2	+7·4	+5·9	+3·1	0·0
Dec.	−2·3	−3·0	−5·1	−8·9	−8·6	−7·7	−7·8	−7·1	−6·0	−6·3	−5·1	−4·1	−2·5	+0·1	+4·0	+7·6	+9·1	+8·8	+10·3	+10·7	+10·9	+7·8	+3·9	+1·3
Year	−8·3	−11·7	−14·2	−15·4	−13·1	−10·0	−7·9	−5·9	−5·4	−6·5	−6·9	−7·7	−6·0	−0·3	+8·0	+15·3	+20·1	+21·5	+20·9	+17·3	+12·8	+7·0	+0·8	−4·2
Winter	−1·5	−4·9	−5·5	−6·5	−7·2	−7·2	−7·3	−6·5	−5·3	−4·9	−3·7	−3·6	−2·7	−0·4	+3·4	+5·6	+7·7	+9·3	+11·2	+10·0	+10·5	+6·6	+2·7	+0·5
Equinox	−11·0	−13·6	−17·7	−20·4	−17·5	−11·9	−8·8	−5·4	−4·8	−5·8	−6·8	−7·9	−6·8	−0·9	+8·3	+18·5	+25·1	+27·8	+26·0	+20·5	+13·1	+6·3	+0·8	−6·9
Summer	−12·5	−16·7	−19·5	−19·2	−14·5	−10·9	−7·6	−5·9	−6·2	−8·7	−10·1	−11·6	−8·5	+0·3	+12·2	+21·8	+27·5	+27·5	+25·5	+21·5	+14·8	+8·1	−1·1	−6·3

ALL DAYS

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

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DECLINATION (measured positive towards the west)

	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
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
Jan.	-2·05	-1·99	-1·82	-1·05	-0·82	-0·39	-0·28	-0·63	-0·78	-0·40	+0·34	+1·50	+2·66	+2·74	+2·19	+1·87	+2·06	+1·66	+0·86	+0·33	-0·70	-1·56	-1·90	-1·84
Feb.	-3·23	-4·09	-3·65	-2·79	-1·97	-1·56	-0·39	-0·04	-0·42	-0·40	+0·70	+2·15	+3·67	+4·26	+4·00	+3·32	+2·65	+2·66	+1·92	+2·12	+0·50	-2·71	-3·61	-3·09
Mar.	-3·25	-2·82	-2·19	-2·80	-2·89	-2·52	-1·54	-2·00	-2·43	-1·25	+0·73	+3·20	+5·72	+7·25	+6·56	+5·65	+3·37	+1·99	+1·20	-1·09	-1·37	-2·74	-3·21	-3·57
Apr.	-2·99	-2·08	-1·81	-1·92	-2·74	-2·83	-3·20	-4·61	-4·78	-2·74	-0·37	+2·88	+6·50	+8·43	+8·14	+6·31	+4·43	+2·55	+0·02	-0·87	-1·16	-1·71	-2·17	-3·28
May	-2·09	-2·72	-4·08	-4·19	-4·22	-4·62	-5·24	-5·01	-3·59	-2·16	+0·16	+3·44	+6·65	+7·75	+7·17	+5·68	+4·13	+2·71	+1·73	+0·71	+0·13	-0·11	-0·55	-1·68
June	-1·10	-1·57	-2·16	-2·68	-3·29	-4·45	-6·09	-6·66	-5·69	-4·41	-1·40	+2·08	+5·00	+6·21	+6·94	+5·87	+4·26	+3·15	+1·97	+1·51	+1·41	+0·99	+0·08	+0·03
July	-1·36	-2·11	-2·90	-3·38	-4·63	-4·72	-4·57	-4·72	-4·73	-3·34	-0·72	+2·63	+5·43	+6·79	+7·00	+6·02	+4·17	+3·08	+1·94	+1·32	+0·77	+0·12	-0·78	-1·31
Aug.	-0·99	-1·97	-3·12	-4·34	-4·58	-4·63	-6·03	-5·76	-4·98	-2·30	+1·42	+4·73	+7·19	+8·28	+7·43	+5·31	+3·30	+1·19	+0·36	+0·14	+0·15	-0·13	-0·26	-0·41
Sept.	-2·46	-2·33	-3·29	-3·38	-3·60	-3·64	-4·50	-5·15	-4·79	-2·90	+0·41	+4·68	+7·77	+8·61	+7·73	+5·48	+3·62	+2·16	+1·22	+0·02	-0·34	-1·21	-1·47	-2·64
Oct.	-2·39	-2·49	-2·03	-2·64	-2·57	-1·54	-2·29	-2·74	-3·92	-2·30	+0·48	+3·51	+6·24	+6·92	+6·89	+5·22	+3·49	+1·82	+0·80	-0·17	-2·44	-1·77	-2·78	-3·30
Nov.	-2·30	-1·66	-1·58	-0·85	-0·76	-0·60	-0·87	-1·05	-1·48	-1·52	+0·12	+2·35	+3·65	+4·09	+3·78	+2·69	+2·01	+1·27	+1·14	+0·28	-1·19	-2·07	-2·85	-2·60
Dec.	-2·14	-1·73	-0·98	-0·72	-0·52	-0·73	-0·21	-0·28	-0·32	+0·24	+1·07	+2·14	+3·07	+3·30	+2·97	+2·32	+1·40	+1·64	+0·62	-0·10	-1·51	-2·79	-3·72	-3·02
Year	-2·20	-2·30	-2·47	-2·56	-2·72	-2·69	-2·93	-3·22	-3·16	-1·96	+0·25	+2·94	+5·30	+6·22	+5·90	+4·65	+3·24	+2·16	+1·15	+0·35	-0·48	-1·31	-1·93	-2·23
Winter	-2·43	-2·37	-2·01	-1·35	-1·02	-0·82	-0·44	-0·50	-0·75	-0·52	+0·56	+2·03	+3·26	+3·60	+3·23	+2·55	+2·03	+1·81	+1·13	+0·66	-0·73	-2·28	-3·02	-2·64
Equinox	-2·77	-2·43	-2·33	-2·69	-2·95	-2·63	-2·88	-3·63	-3·98	-2·30	+0·31	+3·57	+6·56	+7·80	+7·33	+5·67	+3·73	+2·13	+0·81	-0·53	-1·33	-1·86	-2·41	-3·20
Summer	-1·39	-2·09	-3·07	-3·65	-4·18	-4·61	-5·48	-5·54	-4·75	-3·05	-0·13	+3·22	+6·07	+7·26	+7·13	+5·72	+3·97	+2·53	+1·50	+0·92	+0·61	+0·22	-0·38	-0·84

INCLINATION

	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
Jan.	+0·20	+0·10	-0·10	-0·32	-0·64	-0·70	-0·68	-0·57	-0·24	+0·23	+0·59	+0·72	+0·55	+0·30	+0·31	+0·23	+0·23	+0·04	0·00	-0·10	-0·20	-0·05	-0·02	+0·12
Feb.	+0·40	+0·36	-0·16	-0·29	-0·41	-0·57	-0·64	-0·40	-0·53	-0·28	+0·15	+0·35	+0·40	+0·22	+0·09	+0·07	+0·19	+0·04	-0·12	-0·64	+0·19	+0·54	+0·65	+0·39
Mar.	-0·40	-0·43	-0·37	-0·53	-0·60	-0·83	-0·88	-0·42	+0·12	+0·97	+1·30	+1·34	+0·99	+0·68	+0·14	0·00	0·00	-0·02	-0·31	-0·30	-0·01	-0·13	+0·09	-0·40
Apr.	-0·30	+0·14	-0·31	-0·28	-0·22	-0·31	+0·19	+0·80	+1·22	+1·74	+2·20	+2·14	+1·48	+0·74	-0·47	-1·41	-1·28	-1·85	-1·97	-1·26	-0·22	-0·09	-0·48	-0·20
May	-0·51	-0·38	-0·47	-0·49	-0·32	-0·10	+0·51	+1·00	+1·44	+1·91	+2·19	+1·90	+1·36	+0·90	+0·30	-0·76	-1·08	-1·52	-1·68	-1·49	-1·09	-0·91	-0·51	-0·20
June	-0·78	-0·74	-0·52	-0·37	-0·33	-0·19	+0·30	+1·20	+1·91	+2·34	+2·43	+2·24	+1·49	+1·29	0·00	-0·50	-0·61	-1·33	-1·57	-1·63	-1·45	-1·15	-1·03	-1·00
July	-0·61	-0·50	-0·44	-0·41	-0·38	+0·01	+0·50	+1·09	+1·66	+2·01	+2·39	+2·12	+1·54	+0·89	+0·19	-0·66	-1·15	-1·72	-1·78	-1·43	-1·13	-0·86	-0·74	-0·59
Aug.	-0·58	-0·82	-0·47	-0·23	-0·40	-0·03	+0·47	+0·95	+1·71	+2·30	+2·44	+1·74	+1·07	+0·65	+0·15	-0·81	-0·93	-0·89	-1·21	-1·45	-1·22	-1·05	-0·72	-0·67
Sept.	-0·77	-1·01	-0·72	-0·87	-0·94	-0·47	-0·16	+0·44	+1·23	+1·87	+2·33	+2·09	+1·26	+0·80	+0·33	-0·04	-0·16	-0·45	-0·59	-0·81	-0·83	-0·87	-0·78	-0·88
Oct.	-0·92	-0·72	-0·89	-1·29	-1·16	-1·10	-0·76	-0·32	+0·31	+1·48	+2·09	+1·92	+1·34	+1·05	+0·60	+0·24	-0·16	-0·42	-0·12	-0·30	-0·27	-0·03	+0·06	-0·71
Nov.	-0·17	-0·24	-0·42	-0·54	-0·83	-0·87	-0·86	-0·61	-0·22	+0·47	+0·93	+1·17	+0·87	+0·62	+0·44	+0·31	+0·07	-0·01	-0·01	+0·01	-0·03	+0·03	0·00	-0·09
Dec.	+0·08	+0·09	-0·11	-0·35	-0·56	-0·68	-0·85	-0·67	-0·32	-0·01	+0·30	+0·40	+0·33	+0·32	+0·25	+0·23	+0·05	-0·01	+0·01	+0·26	+0·36	+0·44	+0·23	+0·23
Year	-0·36	-0·35	-0·41	-0·50	-0·57	-0·49	-0·24	+0·21	+0·69	+1·25	+1·61	+1·51	+1·07	+0·71	+0·19	-0·26	-0·40	-0·68	-0·78	-0·76	-0·49	-0·34	-0·27	-0·33
Winter	+0·13	+0·08	-0·20	-0·37	-0·61	-0·71	-0·76	-0·56	-0·33	+0·10	+0·49	+0·66	+0·54	+0·37	+0·27	+0·21	+0·13	+0·01	-0·03	-0·12	+0·08	+0·24	+0·21	+0·16
Equinox	-0·60	-0·51	-0·57	-0·74	-0·73	-0·68	-0·40	+0·13	+0·72	+1·51	+1·98	+1·87	+1·29	+0·82	+0·15	-0·30	-0·40	-0·69	-0·75	-0·67	-0·33	-0·28	-0·28	-0·55
Summer	-0·62	-0·61	-0·47	-0·37	-0·36	-0·08	+0·45	+1·06	+1·68	+2·14	+2·36	+2·00	+1·37	+0·93	+0·16	-0·68	-0·94	-1·37	-1·56	-1·50	-1·22	-0·99	-0·75	-0·61

HORIZONTAL FORCE

	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Jan.	-2·4	-1·3	+1·0	+3·7	+8·0	+8·4	+8·2	+6·8	+2·2	-4·3	-8·4	-11·2	-8·8	-4·8	-4·2	-2·5	-2·4	+0·7	+1·7	+3·2	+4·2	+1·9	+1·5	-1·2
Feb.	-7·4	-9·4	-0·9	+1·6	+3·3	+5·2	+6·0	+2·6	+4·7	+1·0	-4·6	-7·9	-8·2	-4·5	-0·3	+1·3	+1·6	+6·0	+9·9	+15·4	+4·7	-4·5	-9·2	-6·4
Mar.	+3·4	+2·4	-0·1	+0·4	+3·5	+7·9	+9·1	+4·1	-4·1	-16·8	-22·0	-23·2	-17·6	-11·1	-0·2	+5·9	+9·3	+9·8	+13·2	+11·3	+5·4	+5·1	-0·8	+5·1
Apr.	-4·1	-9·3	-2·6	-2·4	-3·1	+0·1	-7·4	-15·2	-21·2	-28·7	-35·2	-34·4	-24·1	-10·9	+12·7	+31·9	+31·4	+41·4	+41·4	+27·8	+7·1	+1·5	+6·4	-3·1
May	+1·4	-4·3	-3·6	-2·6	-2·7	-5·1	-12·3	-18·5	-24·7	-32·0	-36·1	-32·3	-23·0	-12·1	+1·6	+20·8	+28·6	+36·1	+37·4	+33·0	+24·3	+18·5	+7·7	-0·1
June	+8·9	+6·5	+2·5	+0·8	+0·5	-1·2	-6·9	-19·0	-30·7	-38·2	-40·2	-37·8	-24·8	-18·8	+2·4	+12·3	+16·8	+27·9	+31·0	+31·2	+26·8	+20·3	+16·3	+13·4
July	+5·7	+4·0	+2·7	+2·2	+2·6	-3·0	-11·5	-19·9	-28·5	-34·4	-40·2	-36·6	-27·2	-13·9	+1·0	+16·4	+25·8	+34·6	+35·3	+28·7	+22·3	+15·3	+10·6	+8·0
Aug.	+2·0	+5·5	-2·2	-6·8	-0·4	-2·3	-7·3	-13·9	-25·1	-35·2	-38·4	-28·9	-18·1	-9·3	+3·4	+22·4	+25·2	+23·2	+26·4	+27·7	+20·8	+17·3	+8·4	+5·6
Sept.	+10·4	+12·8	+7·9	+8·6	+10·2	+5·4	+1·7	-6·8	-19·5	-30·3	-38·6	-36·2	-23·8	-14·7	-4·9	+4·1	+8·6	+14·5	+15·8	+17·2	+15·8	+15·7	+13·2	+12·9
Oct.	+9·8	+4·2	+3·2	+7·1	+7·1	+9·3	+7·4	+2·9	-5·4	-22·6	-31·8	-29·2	-21·1	-13·0	-4·4	+3·4	+11·2	+16·2	+12·1	+13·4	+10·9	+3·1	-1·3	+7·5
Nov.	+1·8	+1·6	+3·9	+5·6	+9·5	+10·2	+10·1	+7·0	+2·0	-8·0	-15·1	-18·3	-13·0	-8·3	-4·5	-2·2	+1·6	+2·7	+3·0	+2·9	+3·2	+1·7	+1·2	+1·4
Dec.	-2·0	-2·5	-0·2	+1·9	+5·1	+7·2	+9·7	+7·4	+2·6	-2·1	-6·3	-7·5	-5·8	-4·7	-2·2	-0·6	+2·6	+3·4	+3·7	+0·1	-1·3	-3·6	-1·9	-3·0
Year	+2·3	+0·9	+1·0	+1·7	+3·6	+3·5	+0·6	-5·2	-12·3	-21·0	-26·4	-25·3	-18·0	-10·5	0·0	+9·4	+13·4	+18·0	+19·2	+17·7	+12·0	+7·7	+4·3	+3·3
Winter	-2·5	-2·9	+0·9	+3·2	+6·5	+7·7	+8·5	+5·9	+2·9	-3·3	-8·6	-11·2	-8·9	-5·6	-2·8	-1·0	+0·9	+3·2	+4·6	+5·4	+2·7	-1·1	-2·1	-2·3
Equinox	+4·9	+2·5	+2·1	+3·4	+4·4	+5·7	+2·7	-3·7	-12·5	-24·6	-31·9	-30·7	-21·7	-12·4	+0·8	+11·3	+15·1	+20·5	+20·6	+17·4	+9·8	+6·3	+4·4	+5·6
Summer	+4·5	+2·9	-0·1	-1·6	0·0	-2·9	-9·5	-17·8	-27·3	-34·9	-38·7	-33·9	-23·3	-13·5	+2·1	+18·0	+24·1	+30·5	+32·5	+30·1	+23·5	+17·9	+10·7	+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)

153 ESKDALEMUIR 1939

NORTH COMPONENT

	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
	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Jan.	−0·7	+0·6	+2·9	+4·8	+7·1	+9·5	+9·2	+7·9	+3·7	−4·3	−10·2	−14·1	−13·1	−8·7	−5·2	−5·5	−4·5	−2·0	+1·4	+4·7	+4·5	+3·8	+4·0	+4·1
Feb.	+2·0	+1·2	+1·0	+1·6	+2·1	+4·7	+5·6	+6·2	+5·7	+0·8	−6·7	−12·7	−12·4	−10·9	−8·5	−5·6	−2·7	+0·2	+3·2	+6·4	+4·1	+3·3	+4·8	+6·5
Mar.	+7·2	+7·6	+1·8	+5·6	+4·9	+9·3	+9·5	+8·4	−0·4	−16·1	−22·8	−26·9	−21·0	−16·2	−13·1	−6·8	−0·9	+1·9	+7·7	+12·6	+10·9	+11·0	+11·7	+14·1
Apr.	+10·9	+6·2	+6·4	+6·8	+9·6	+11·5	+8·2	+3·6	−0·1	−12·6	−26·6	−36·2	−34·9	−32·0	−19·5	−5·6	+1·2	+6·1	+13·1	+13·0	+13·3	+18·1	+19·6	+20·1
May	+6·8	+5·5	+4·8	+1·7	+5·3	+5·6	+2·2	−3·0	−8·8	−16·3	−24·2	−32·8	−30·3	−25·1	−14·6	−2·6	+6·9	+14·8	+19·7	+21·9	+20·3	+15·2	+14·5	+12·3
June	+7·3	+6·2	+4·4	+6·9	+10·9	+10·1	+6·5	−2·1	−13·5	−24·1	−34·7	−36·9	−34·5	−28·1	−10·4	+2·7	+9·2	+15·7	+21·9	+20·1	+18·3	+17·3	+15·5	+11·3
July	+4·9	+2·7	+5·8	+5·9	+6·1	+8·0	+3·9	−3·2	−14·7	−26·3	−31·3	−31·5	−26·1	−21·3	−10·8	−5·5	+5·0	+13·7	+21·5	+20·0	+22·0	+19·3	+17·3	+14·5
Aug.	+11·9	+8·9	+9·6	+9·4	+10·6	+10·6	+5·0	−2·5	−10·9	−20·2	−27·9	−33·6	−35·6	−29·4	−16·4	−5·5	+4·3	+10·3	+17·1	+19·7	+19·7	+17·5	+15·5	+11·8
Sept.	+10·9	+11·5	+10·3	+11·2	+10·9	+9·2	+10·3	+3·2	−9·8	−21·2	−33·7	−35·5	−29·5	−21·2	−11·4	−4·0	−0·9	+6·5	+13·2	+15·5	+12·9	+12·9	+12·1	+16·8
Oct.	+7·9	+10·0	+6·1	+7·9	+9·6	+10·9	+12·3	+8·9	−1·0	−15·4	−29·7	−34·7	−32·2	−26·9	−16·3	−3·9	+2·4	+6·8	+7·5	+11·5	+13·2	+14·4	+15·1	+15·8
Nov.	+1·1	−0·3	+0·9	+2·7	+7·3	+8·6	+7·3	+4·7	−1·0	−10·0	−15·5	−17·6	−14·8	−9·9	−2·0	−0·6	+2·7	+5·3	+5·5	+4·7	+4·6	+5·3	+6·5	+4·5
Dec.	−3·9	−2·8	−0·7	−1·2	+1·6	+2·2	+2·7	+0·7	−1·1	−3·4	−6·4	−9·1	−7·2	−4·8	−1·1	+0·2	+4·3	+6·4	+7·1	+6·6	+5·1	+1·9	+2·0	+0·9
Year	+5·6	+4·8	+4·5	+5·3	+7·2	+8·4	+6·9	+2·7	−4·3	−14·1	−22·5	−26·8	−24·3	−19·5	−10·7	−3·6	+2·3	+7·1	+11·6	+13·1	+12·4	+11·6	+11·6	+11·1
Winter	−0·4	−0·3	+1·0	+1·9	+4·5	+6·3	+6·2	+4·8	+1·9	−4·2	−9·7	−13·3	−11·8	−8·5	−4·2	−2·9	0·0	+2·4	+4·3	+5·6	+4·6	+3·6	+4·3	+4·0
Equinox	+9·3	+8·9	+6·1	+7·9	+8·7	+10·2	+10·1	+6·0	−2·8	−16·4	−28·2	−33·3	−29·3	−24·0	−15·1	−5·1	+0·4	+5·3	+10·3	+13·1	+12·5	+14·1	+14·7	+16·7
Summer	+7·8	+5·8	+6·1	+6·0	+8·2	+8·6	+4·4	−2·7	−12·0	−21·7	−29·5	−33·7	−31·6	−26·0	−13·0	−2·7	+6·3	+13·6	+20·0	+20·4	+20·1	+17·4	+15·7	+12·5

WEST COMPONENT

	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Jan.	−7·1	−3·5	−2·0	−1·7	−1·4	−1·0	−2·0	−3·8	−6·3	−6·8	−3·9	+1·2	+8·1	+10·1	+7·3	+3·9	+4·4	+6·0	+4·9	+2·0	−0·1	−2·5	−3·1	−2·7
Feb.	−5·5	−4·4	−3·8	−4·5	−3·9	−5·3	−5·9	−5·7	−6·5	−8·7	−4·5	+1·8	+10·2	+14·0	+10·4	+9·6	+7·4	+6·9	+6·2	+4·5	+2·4	−3·6	−6·7	−4·4
Mar.	−8·4	−7·4	−8·4	−8·3	−6·2	−7·5	−7·7	−11·6	−15·9	−12·5	−2·1	+4·8	+16·3	+22·2	+18·3	+13·7	+9·3	+5·5	+5·1	+4·4	+4·3	+1·8	−3·0	−6·3
Apr.	+0·6	+1·0	−2·7	−6·5	−7·6	−7·6	−9·4	−17·4	−25·7	−28·9	−20·5	−8·0	+13·0	+25·5	+27·8	+22·4	+15·1	+8·7	+3·9	+2·1	+1·1	+3·9	+5·6	+3·4
May	+1·1	−3·1	−6·1	−9·7	−12·8	−21·6	−25·8	−25·6	−20·7	−17·6	−9·4	+2·9	+16·7	+21·8	+21·5	+19·7	+16·7	+13·0	+9·2	+10·4	+8·7	+4·8	+2·5	+3·1
June	+3·4	+3·4	−1·7	−6·3	−12·1	−18·7	−25·0	−31·7	−33·4	−30·6	−21·6	−5·9	+10·2	+20·9	+26·8	+26·5	+23·5	+17·5	+13·0	+9·6	+11·0	+6·8	+6·2	+8·3
July	−1·5	+0·2	−3·5	−14·4	−18·8	−25·0	−32·3	−34·3	−30·7	−19·6	−6·2	+8·5	+23·6	+26·9	+25·8	+20·8	+16·0	+11·3	+11·2	+10·6	+11·7	+10·9	+6·4	+2·5
Aug.	−2·5	−7·1	−9·6	−12·0	−14·6	−24·0	−29·6	−32·3	−28·8	−23·2	−10·9	+6·0	+21·3	+31·6	+35·0	+28·9	+22·1	+13·4	+8·6	+9·1	+9·6	+7·3	+2·1	−0·4
Sept.	−4·7	−4·2	−11·5	−13·9	−15·0	−16·6	−17·6	−23·2	−25·1	−20·1	−7·0	+8·8	+25·4	+32·7	+31·5	+21·7	+11·7	+6·6	+7·8	+6·6	+5·7	+4·4	+2·0	−5·9
Oct.	−7·6	+3·3	−1·3	−4·2	−6·5	−6·2	−10·1	−12·9	−18·6	−20·7	−9·9	+5·9	+17·4	+20·0	+17·0	+12·1	+7·7	+6·1	+5·2	+3·2	+1·5	+0·3	−0·5	−1·1
Nov.	−5·4	−4·2	−3·3	−3·8	−2·9	−3·6	−4·9	−7·6	−10·9	−11·9	−4·0	+6·7	+12·5	+12·3	+11·8	+8·0	+7·0	+5·5	+4·7	+3·5	+0·8	−1·7	−3·4	−5·1
Dec.	−5·8	−2·8	−5·7	−5·9	−3·4	−4·2	−4·3	−3·8	−3·3	−2·4	+0·2	+3·8	+8·3	+9·9	+8·5	+7·6	+6·4	+5·2	+4·3	+2·5	+0·9	−2·6	−6·0	−7·3
Year	−3·6	−2·4	−5·0	−7·6	−8·8	−11·8	−14·5	−17·5	−18·8	−16·9	−8·3	+3·0	+15·3	+20·7	+20·1	+16·2	+12·3	+8·8	+7·0	+5·7	+4·8	+2·5	+0·2	−1·3
Winter	−6·0	−3·7	−3·7	−4·0	−2·9	−3·5	−4·2	−5·3	−6·7	−7·5	−3·0	+3·4	+9·8	+11·6	+9·5	+7·3	+6·3	+5·9	+5·0	+3·1	+1·0	−2·6	−4·8	−4·8
Equinox	−5·0	−1·8	−6·0	−8·2	−8·8	−9·5	−11·2	−16·3	−21·3	−20·5	−9·9	+2·8	+18·0	+25·1	+23·7	+17·5	+11·0	+6·7	+5·5	+4·1	+3·1	+2·6	+1·0	−2·5
Summer	+0·1	−1·7	−5·2	−10·6	−14·6	−22·3	−28·2	−31·0	−28·4	−22·8	−12·0	+2·9	+17·9	+25·3	+27·3	+24·0	+19·6	+13·8	+10·5	+9·9	+10·3	+7·5	+4·3	+3·3

VERTICAL COMPONENT

	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Jan.	+1·9	+0·2	−1·3	−1·8	−2·0	−1·9	−1·4	−0·6	−0·5	+0·2	+1·7	+1·4	−1·3	−0·2	+0·9	+0·4	0·0	−0·1	+1·0	+1·2	+1·1	+0·6	+0·5	0·0
Feb.	+2·0	+2·3	+2·5	+2·6	+3·1	+2·7	+2·2	−0·3	−1·1	−3·0	−7·1	−9·3	−9·6	−6·7	−3·9	−0·8	+1·1	+2·9	+2·0	+2·1	+3·5	+4·8	+5·3	+2·7
Mar.	−1·4	−1·6	−1·1	−1·2	−0·8	−0·8	0·0	+1·0	−1·1	−3·8	−6·6	−9·0	−10·6	−7·4	−1·1	+3·8	+6·4	+6·8	+5·6	+5·0	+4·9	+5·4	+5·0	+2·6
Apr.	+0·7	0·0	+1·1	+1·8	+1·8	+0·3	+1·6	+3·2	+1·7	−2·4	−6·3	−10·4	−15·1	−13·0	−5·7	+1·4	+5·0	+6·7	+8·0	+8·0	+6·5	+3·2	+1·1	+0·8
May	+3·6	+3·9	+4·2	+5·1	+4·6	+4·1	+0·8	−2·3	−5·6	−9·5	−13·8	−17·7	−17·4	−10·5	−4·0	+0·9	+4·0	+7·3	+9·2	+8·3	+8·0	+7·1	+5·6	+4·1
June	+0·1	−1·6	−1·1	+1·2	+3·8	+4·5	+3·8	+2·0	+0·7	−5·0	−10·9	−13·2	−9·5	−6·2	−3·7	−0·2	+3·4	+4·1	+5·4	+6·4	+5·7	+5·0	+3·5	+1·8
July	+3·7	+2·1	−2·0	+0·7	+2·9	+3·3	+3·1	+1·1	−2·6	−7·9	−12·7	−15·9	−16·9	−10·9	−1·4	+3·7	+5·9	+8·9	+8·9	+7·3	+5·8	+4·5	+4·3	+4·1
Aug.	+2·3	+3·0	+3·6	+3·7	+5·8	+7·2	+4·7	+4·0	+1·6	−3·9	−10·4	−16·0	−16·3	−13·6	−6·8	+0·1	+4·6	+6·6	+5·7	+3·6	+3·2	+2·5	+2·2	+2·6
Sept.	+3·4	+1·5	+1·4	+1·7	+2·0	+3·7	+3·8	+3·3	−0·8	−3·9	−8·2	−11·9	−14·6	−13·1	−7·2	+0·7	+4·4	+4·9	+3·8	+5·1	+5·6	+5·5	+5·2	+3·7
Oct.	−0·4	−2·3	−4·9	−2·4	−1·9	−2·1	−1·6	+0·1	+0·5	−1·2	−1·1	−2·3	−1·4	−0·3	+2·3	+5·0	+4·7	+3·3	+2·6	+2·1	+1·3	+0·6	+0·1	−0·7
Nov.	+0·6	−0·5	−0·8	−1·8	−2·4	−2·3	−2·2	−1·2	+0·6	+0·5	−1·2	−1·4	+1·0	+2·3	+1·8	+0·4	+0·8	+0·5	−0·2	+0·4	+1·4	+1·5	+1·4	+0·8
Dec.	+2·2	+0·8	−0·1	−0·6	−0·8	−0·8	−1·0	−1·2	−2·3	−3·4	−2·6	−1·8	−1·6	−1·2	+0·1	+1·6	+2·4	+1·2	+1·0	+0·6	+0·7	+1·8	+2·6	+2·4
Year	+1·6	+0·7	+0·1	+0·7	+1·3	+1·5	+1·1	+0·8	−0·7	−3·6	−6·6	−9·0	−9·4	−6·7	−2·4	+1·4	+3·6	+4·4	+4·4	+4·2	+4·0	+3·5	+3·1	+2·1
Winter	+1·7	+0·7	+0·1	−0·4	−0·5	−0·6	−0·6	−0·8	−0·8	−1·4	−2·3	−2·8	−2·9	−1·5	−0·3	+0·4	+1·1	+1·1	+0·9	+1·1	+1·7	+2·2	+2·5	+1·5
Equinox	+0·6	−0·6	−0·9	0·0	+0·3	+0·3	+0·9	+1·9	+0·1	−2·8	−5·5	−8·4	−10·4	−8·5	−2·9	+2·7	+5·1	+5·4	+5·0	+5·1	+4·6	+3·7	+2·9	+1·6
Summer	+2·4	+1·9	+1·2	+2·7	+4·3	+4·8	+3·1	+1·2	−1·5	−6·6	−11·9	−15·7	−15·0	−10·3	−4·0	+1·1	+4·5	+6·7	+7·3	+6·4	+5·7	+4·8	+3·9	+3·1

INTERNATIONAL QUIET DAYS

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

154 ESKDALEMUIR 1939

DECLINATION (measured positive towards the west)

	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
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
Jan.	-1·40	-0·73	-0·54	-0·58	-0·62	-0·65	-0·84	-1·14	-1·46	-1·17	-0·30	+0·92	+2·26	+2·45	+1·72	+1·06	+1·10	+1·31	+0·92	+0·18	-0·24	-0·69	-0·82	-0·74
Feb.	-1·22	-0·95	-0·82	-0·99	-0·89	-1·30	-1·45	-1·45	-1·58	-1·81	-0·60	+0·97	+2·66	+3·35	+2·50	+2·21	+1·63	+1·38	+1·11	+0·61	+0·30	-0·89	-1·58	-1·19
Mar.	-2·05	-1·86	-1·81	-1·95	-1·49	-1·96	-2·01	-2·75	-3·21	-1·76	+0·65	+2·25	+4·29	+5·26	+4·33	+3·09	+1·93	+1·02	+0·67	+0·29	+0·35	-0·16	-1·17	-1·95
Apr.	-0·39	-0·09	-0·85	-1·63	-1·99	-2·08	-2·29	-3·69	-5·19	-5·25	-2·89	+0·09	+4·29	+6·67	+6·55	+4·81	+3·01	+1·48	+0·17	-0·19	-0·41	-0·07	+0·21	-0·27
May	-0·10	-0·88	-1·47	-2·04	-2·84	-4·64	-5·34	-5·04	-3·77	-2·80	-0·76	+2·14	+4·82	+5·60	+5·05	+4·12	+3·06	+1·94	+0·94	+1·08	+0·81	+0·26	-0·18	+0·04
June	+0·34	+0·40	-0·56	-1·60	-2·96	-4·26	-5·38	-6·32	-6·14	-5·06	-2·74	+0·54	+3·70	+5·56	+5·92	+5·26	+4·32	+2·80	+1·60	+1·00	+1·36	+0·56	+0·52	+1·14
July	-0·53	-0·09	-0·98	-3·19	-4·11	-5·45	-6·73	-6·81	-5·52	-2·73	+0·23	+3·21	+6·01	+6·45	+5·74	+4·47	+3·01	+1·65	+1·25	+1·21	+1·32	+1·29	+0·49	-0·19
Aug.	-1·07	-1·86	-2·40	-2·87	-3·46	-5·36	-6·23	-6·42	-5·32	-3·75	-0·90	+2·80	+5·99	+7·80	+7·86	+6·11	+4·28	+2·22	+0·93	+0·92	+1·02	+0·65	-0·30	-0·64
Sept.	-1·46	-1·40	-2·82	-3·34	-3·56	-3·79	-4·06	-4·86	-4·62	-3·08	+0·18	+3·46	+6·54	+7·62	+6·92	+4·58	+2·42	+1·03	+0·96	+0·60	+0·54	+0·28	-0·16	-1·98
Oct.	-1·92	+0·19	-0·56	-1·22	-1·76	-1·77	-2·62	-3·04	-3·72	-3·47	-0·60	+2·82	+5·04	+5·33	+4·22	+2·64	+1·44	+0·91	+0·70	+0·10	-0·32	-0·61	-0·82	-0·96
Nov.	-1·14	-0·84	-0·71	-0·90	-0·94	-1·14	-1·34	-1·76	-2·17	-1·94	-0·08	+2·18	+3·22	+2·96	+2·49	+1·66	+1·30	+0·86	+0·70	+0·48	-0·05	-0·60	-1·00	-1·24
Dec.	-0·99	-0·43	-1·13	-1·13	-0·77	-0·95	-0·99	-0·81	-0·61	-0·33	+0·35	+1·19	+2·01	+2·23	+1·77	+1·53	+1·09	+0·75	+0·53	+0·19	-0·05	-0·61	-1·31	-1·53
Year	-0·99	-0·71	-1·22	-1·79	-2·12	-2·78	-3·27	-3·67	-3·61	-2·76	-0·62	+1·88	+4·24	+5·11	+4·59	+3·46	+2·38	+1·45	+0·87	+0·54	+0·39	-0·05	-0·51	-0·79
Winter	-1·19	-0·74	-0·80	-0·90	-0·81	-1·01	-1·15	-1·29	-1·45	-1·31	-0·16	+1·31	+2·54	+2·75	+2·12	+1·61	+1·28	+1·07	+0·81	+0·37	-0·01	-0·70	-1·18	-1·17
Equinox	-1·45	-0·79	-1·51	-2·03	-2·20	-2·40	-2·75	-3·59	-4·19	-3·39	-0·67	+2·15	+5·04	+6·22	+5·51	+3·78	+2·20	+1·11	+0·63	+0·20	+0·04	-0·14	-0·49	-1·29
Summer	-0·34	-0·61	-1·35	-2·43	-3·34	-4·93	-5·92	-6·15	-5·19	-3·59	-1·04	+2·17	+5·13	+6·35	+6·14	+4·99	+3·67	+2·15	+1·18	+1·05	+1·13	+0·69	+0·13	+0·09

INCLINATION

	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
Jan.	+0·20	+0·01	-0·19	-0·33	-0·50	-0·66	-0·60	-0·49	-0·17	+0·40	+0·78	+0·94	+0·70	+0·42	+0·25	+0·31	+0·23	+0·05	-0·14	-0·30	-0·28	-0·20	-0·20	-0·23
Feb.	0·00	+0·05	+0·07	+0·03	0·00	-0·16	-0·23	-0·31	-0·30	+0·01	+0·33	+0·59	+0·41	+0·31	+0·30	+0·21	+0·09	-0·05	-0·26	-0·44	-0·21	-0·04	-0·10	-0·30
Mar.	-0·39	-0·41	0·00	-0·27	-0·25	-0·52	-0·51	-0·34	+0·24	+1·14	+1·38	+1·49	+0·87	+0·54	+0·58	+0·31	+0·07	-0·04	-0·44	-0·79	-0·66	-0·61	-0·60	-0·79
Apr.	-0·71	-0·42	-0·35	-0·30	-0·47	-0·63	-0·35	+0·11	+0·45	+1·22	+1·91	+2·24	+1·71	+1·38	+0·71	+0·06	-0·19	-0·37	-0·72	-0·68	-0·73	-1·17	-1·35	-1·35
May	-0·38	-0·22	-0·12	+0·16	-0·04	+0·06	+0·27	+0·53	+0·75	+1·11	+1·39	+1·67	+1·30	+1·05	+0·53	-0·11	-0·61	-0·99	-1·21	-1·39	-1·26	-0·89	-0·85	-0·75
June	-0·53	-0·50	-0·29	-0·33	-0·44	-0·27	+0·05	+0·68	+1·41	+1·93	+2·34	+2·19	+1·87	+1·37	+0·18	-0·59	-0·88	-1·19	-1·50	-1·30	-1·23	-1·12	-1·02	-0·83
July	-0·21	-0·13	-0·38	-0·15	-0·04	-0·06	+0·31	+0·76	+1·37	+1·83	+1·83	+1·54	+0·94	+0·72	+0·28	+0·14	-0·43	-0·85	-1·36	-1·29	-1·48	-1·32	-1·13	-0·89
Aug.	-0·68	-0·41	-0·40	-0·34	-0·33	-0·15	+0·24	+0·76	+1·20	+1·58	+1·74	+1·72	+1·61	+1·11	+0·37	-0·08	-0·51	-0·72	-1·11	-1·34	-1·36	-1·20	-1·00	-0·70
Sept.	-0·56	-0·65	-0·46	-0·48	-0·43	-0·26	-0·31	+0·23	+1·00	+1·60	+2·12	+1·90	+1·19	+0·57	+0·09	-0·05	-0·01	-0·40	-0·89	-0·99	-0·79	-0·78	-0·69	-0·92
Oct.	-0·41	-0·77	-0·50	-0·51	-0·58	-0·67	-0·69	-0·38	+0·36	+1·30	+2·08	+2·13	+1·81	+1·46	+0·87	+0·20	-0·16	-0·46	-0·51	-0·75	-0·86	-0·93	-0·98	-1·03
Nov.	+0·03	+0·07	-0·03	-0·17	-0·49	-0·57	-0·46	-0·22	+0·25	+0·85	+1·05	+1·02	+0·81	+0·51	0·00	-0·07	-0·26	-0·42	-0·44	-0·35	-0·28	-0·29	-0·34	-0·20
Dec.	+0·40	+0·25	+0·13	+0·15	-0·07	-0·10	-0·14	-0·02	+0·06	+0·18	+0·35	+0·49	+0·30	+0·31	-0·05	-0·09	-0·32	-0·47	-0·51	-0·46	-0·33	-0·04	+0·02	+0·11
Year	-0·27	-0·26	-0·21	-0·21	-0·31	-0·33	-0·20	+0·11	+0·56	+1·10	+1·44	+1·49	+1·13	+0·80	+0·34	+0·02	-0·25	-0·49	-0·76	-0·84	-0·79	-0·71	-0·69	-0·66
Winter	+0·16	+0·09	-0·01	-0·08	-0·26	-0·37	-0·36	-0·26	-0·04	+0·36	+0·62	+0·75	+0·55	+0·35	+0·12	+0·09	-0·07	-0·22	-0·33	-0·39	-0·27	-0·14	-0·15	-0·15
Equinox	-0·52	-0·54	-0·33	-0·39	-0·43	-0·52	-0·47	-0·09	+0·51	+1·32	+1·87	+1·93	+1·39	+0·98	+0·55	+0·13	-0·07	-0·32	-0·64	-0·80	-0·75	-0·87	-0·91	-1·02
Summer	-0·45	-0·31	-0·30	-0·17	-0·21	-0·11	+0·22	+0·68	+1·18	+1·61	+1·83	+1·78	+1·43	+1·06	+0·34	-0·16	-0·61	-0·94	-1·29	-1·33	-1·33	-1·13	-1·00	-0·79

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.	-2·3	-0·2	+2·4	+4·3	+6·6	+9·0	+8·5	+6·8	+2·2	-5·7	-10·8	-13·4	-10·9	-6·2	-3·4	-4·5	-3·4	-0·6	+2·5	+5·0	+4·4	+3·1	+3·2	+3·4
Feb.	+0·7	+0·2	+0·1	+0·5	+1·1	+3·4	+4·1	+4·7	+4·1	-1·?	-7·5	-11·9	-9·7	-7·4	-5·9	-3·3	-0·9	+1·8	+4·5	+7·3	+4·5	+2·4	+3·1	+5·3
Mar.	+5·1	+5·7	-0·2	+3·5	+3·3	+7·3	+7·5	+5·5	-4·0	-18·5	-22·7	-25·1	-16·7	-10·7	-8·6	-3·5	+1·3	+3·1	+8·7	+13·3	+11·6	+11·1	+10·7	+12·3
Apr.	+10·8	+6·3	+5·6	+5·1	+7·6	+9·5	+5·8	-0·5	-6·0	-18·9	-30·6	-37·1	-31·0	-25·3	-12·6	-0·3	+4·6	+7·9	+13·6	+13·1	+13·2	+18·5	+20·4	+20·3
May	+6·9	+4·7	+3·3	-0·5	+2·3	+0·6	-3·7	-8·7	-13·3	-19·9	-25·7	-31·3	-25·7	-19·5	-9·3	+1·9	+10·5	+17·4	+21·3	+23·7	+21·7	+15·9	+14·7	+12·7
June	+7·9	+6·8	+3·9	+5·3	+7·9	+5·6	+0·7	-9·3	-20·7	-30·4	-38·7	-37·3	-31·3	-22·6	-4·1	+8·7	+14·3	+19·2	+24·3	+21·7	+20·3	+18·4	+16·5	+12·9
July	+4·5	+2·7	+4·9	+2·5	+1·7	+2·1	-3·5	-10·9	-21·3	-30·1	-31·9	-28·7	-20·1	-14·7	-4·7	-0·7	+8·5	+15·9	+23·5	+21·9	+24·1	+21·3	+18·3	+14·7
Aug.	+11·0	+7·1	+7·2	+6·4	+7·0	+4·9	-1·8	-9·8	-17·2	-24·9	-29·6	-31·4	-29·8	-21·5	-8·0	+1·2	+9·2	+13·1	+18·6	+21·2	+21·4	+18·7	+15·6	+11·4
Sept.	+9·6	+10·2	+7·4	+7·8	+7·2	+5·2	+6·0	-2·2	-15·2	-25·2	-34·4	-32·6	-23·0	-13·2	-4·0	+1·0	+1·8	+7·8	+14·6	+16·6	+13·8	+13·6	+12·2	+15·0
Oct.	+6·0	+10·5	+5·6	+6·7	+7·9	+9·2	+9·7	+5·7	-5·2	-19·7	-31·2	-32·5	-27·4	-21·7	-12·0	-1·1	+4·1	+8·0	+8·5	+11·9	+13·2	+14·1	+14·6	+15·1
Nov.	-0·2	-1·2	+0·1	+1·8	+6·4	+7·6	+6·0	+2·8	-3·5	-12·4	-16·0	-15·6	-11·6	-6·8	+0·7	+1·2	+4·2	+6·4	+6·4	+5·4	+4·7	+4·8	+5·6	+3·2
Dec.	-5·1	-3·4	-2·0	-2·5	+0·8	+1·2	+1·7	-0·2	-1·8	-3·9	-6·2	-8·0	-5·1	-2·4	+0·8	+1·9	+5·6	+7·4	+7·9	+7·0	+5·2	+1·3	+0·6	-0·8
Year	+4·6	+4·1	+3·2	+3·4	+5·0	+5·5	+3·4	-1·3	-8·5	-17·6	-23·8	-25·4	-20·2	-14·3	-5·9	+0·2	+5·0	+8·9	+12·9	+14·0	+13·2	+11·9	+11·3	+10·5
Winter	-1·7	-1·1	+0·1	+1·0	+3·7	+5·3	+5·1	+3·5	+0·3	-5·8	-10·1	-12·2	-9·3	-5·7	-1·9	-1·2	+1·4	+3·7	+5·3	+6·2	+4·7	+2·9	+3·1	+2·8
Equinox	+7·9	+8·2	+4·6	+5·8	+6·5	+7·8	+7·3	+2·1	-7·6	-20·6	-29·7	-31·8	-24·5	-17·7	-9·3	-1·0	+2·9	+6·7	+11·3	+13·7	+12·9	+14·3	+14·5	+15·7
Summer	+7·6	+5·3	+4·8	+3·4	+4·7	+3·3	-2·1	-9·7	-18·1	-26·3	-31·5	-32·2	-26·7	-19·6	-6·5	+2·8	+10·6	+16·4	+21·9	+22·1	+21·9	+18·6	+16·3	+12·9

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)

155 ESKDALEMUIR 1939

NORTH COMPONENT

	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
	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Jan.	−0·7	+1·0	+4·8	+7·0	+11·9	+10·3	+7·3	+4·9	+2·0	−2·9	−6·6	−13·4	−10·8	−8·9	−7·4	−0·2	−4·9	−2·9	−8·5	−0·6	+1·4	+6·9	+9·8	+0·7
Feb.	−30·2	−38·0	+5·6	+11·2	+11·6	+6·7	−3·3	−10·3	+8·3	+5·0	+4·1	+6·0	−1·6	−2·3	+8·9	+14·0	+11·5	+21·7	+36·1	+59·9	+11·6	−32·8	−56·0	−47·6
Mar.	+3·7	0·0	+0·7	−6·9	+10·0	+7·0	+11·1	+0·5	−6·4	−22·0	−26·5	−31·6	−27·3	−27·5	+8·9	+21·3	+49·2	+35·2	+30·5	+15·9	−8·4	−9·9	−26·0	−1·5
Apr.	−12·8	−45·0	−16·4	−8·2	−15·2	−24·7	−61·7	−64·1	−30·3	−37·4	−35·9	−32·6	−16·9	+2·5	+74·9	+131·3	+76·1	+77·9	+102·6	+67·8	−27·9	−45·4	−5·0	−53·4
May	−5·0	−23·5	−16·8	−0·3	−5·6	−4·8	−18·6	−14·6	−12·9	−23·9	−43·9	−40·1	−13·2	+1·0	+9·7	+44·8	+57·1	+47·7	+42·3	+33·4	+18·5	+3·6	−13·3	−21·7
June	+28·5	+27·5	+17·7	+10·8	+0·8	+2·1	−9·5	−24·5	−52·7	−59·7	−45·4	−34·7	−15·5	−11·1	+3·0	+17·0	+18·3	+23·9	+23·9	+24·7	+19·9	+15·9	+13·2	+6·1
July	+19·9	+13·4	+18·4	+10·4	+9·5	−11·8	−18·9	−28·5	−43·4	−55·1	−66·3	−62·7	−43·2	−21·5	+4·4	+45·8	+68·1	+64·8	+59·4	+26·4	+9·9	−3·6	−2·7	+7·1
Aug.	−31·1	+5·5	−20·4	−40·3	−13·9	−18·9	−29·1	−25·3	−34·9	−50·5	−54·3	−27·8	−15·2	+2·6	+35·4	+115·4	+97·6	+63·2	+47·2	+42·7	+15·2	+8·6	−37·0	−34·8
Sept.	+18·6	+30·4	+24·0	+16·5	+28·3	+12·7	+3·3	−1·0	−17·3	−32·4	−50·6	−52·5	−37·9	−37·7	−18·9	+6·7	+20·8	+29·6	+19·3	+19·3	+6·2	+5·4	+3·0	+4·3
Oct.	+17·2	−14·7	−19·7	+0·3	+5·9	+17·0	+9·2	+12·1	−2·0	−28·2	−29·3	−20·4	−17·2	−0·1	+1·9	+7·3	+33·2	+47·1	+24·7	+30·6	+32·4	−30·4	−62·4	−14·4
Nov.	+6·7	+4·9	+10·7	+14·6	+24·9	+15·0	+13·4	+8·2	+4·8	−4·3	−17·3	−28·5	−18·8	−10·4	−10·3	−4·7	−6·5	−3·8	0·0	+4·5	+4·8	−5·8	−2·1	+0·1
Dec.	+4·7	+0·4	+3·3	+10·4	+12·6	+13·4	+12·3	+13·3	+2·9	−1·4	−10·6	−9·6	−8·3	−7·5	−10·1	−10·2	+0·9	−2·7	+0·3	−5·7	−3·7	−6·8	+1·4	+0·7
Year	+1·7	−3·2	+1·0	+2·2	+6·7	+2·1	−7·0	−10·8	−15·2	−26·1	−31·9	−29·0	−18·9	−10·1	+8·4	+32·3	+35·1	+33·4	+31·5	+26·6	+6·6	−7·8	−14·7	−12·9
Winter	−4·9	−7·9	+6·0	+10·8	+15·2	+11·3	+7·4	+4·0	+4·5	−0·9	−7·7	−11·4	−9·9	−7·3	−4·7	−0·3	+0·3	+3·1	+7·0	+14·5	+3·5	−9·6	−11·7	−11·5
Equinox	+6·7	−7·3	−2·8	+0·5	+7·2	+3·0	−9·5	−13·1	−14·0	−30·0	−35·6	−34·3	−24·9	−15·7	+16·6	+41·6	+44·8	+47·5	+44·2	+33·4	+0·6	−20·1	−22·6	−16·3
Summer	+3·1	+5·8	−0·3	−4·8	−2·3	−8·3	−19·1	−23·3	−35·9	−47·3	−52·4	−41·3	−21·8	−7·3	+13·1	+55·8	+60·3	+49·9	+43·2	+31·8	+15·9	+6·1	−10·0	−10·8

WEST COMPONENT

	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Jan.	−12·6	−13·1	−13·7	−4·3	−1·6	+0·6	+2·3	+2·1	+0·6	+1·7	+4·6	+3·5	+11·0	+11·0	+11·1	+12·2	+13·8	+10·7	−3·4	−0·9	+0·6	−10·8	−15·3	−10·1
Feb.	−47·6	−73·4	−42·3	−27·4	−16·1	−5·2	+17·5	+15·4	+6·9	+6·5	+15·1	+19·6	+27·9	+32·1	+31·2	+26·8	+27·5	+36·1	+37·1	+49·0	+13·9	−48·3	−54·1	−48·2
Mar.	−32·0	−23·6	−8·9	−15·3	−17·2	−17·3	−0·2	−5·6	−9·0	−7·7	+3·2	+13·2	+31·2	+42·9	+49·3	+52·9	+37·2	+22·3	+19·1	−9·1	−15·6	−38·7	−38·6	−32·4
Apr.	−32·6	−23·1	−6·8	−11·8	−28·5	−32·2	−40·7	−54·1	−41·3	−23·2	−11·0	+8·0	+31·6	+51·3	+74·5	+80·5	+52·1	+48·1	+33·3	+20·4	−13·8	−17·9	−17·8	−45·1
May	−3·9	−19·4	−34·5	−26·5	−18·6	−16·5	−31·7	−12·7	−10·7	−20·3	−11·0	+11·3	+35·5	+42·8	+35·8	+41·6	+40·9	+30·7	+28·7	+10·4	−8·7	−15·2	−22·2	−25·5
June	−12·7	−29·3	−27·6	−10·5	−15·2	−15·7	−26·0	−33·5	−33·1	−29·1	− 3·8	+12·9	+31·8	+34·2	+41·0	+39·5	+19·8	+16·8	+10·8	+12·7	+7·1	+8·9	+6·6	−5·4
July	−7·4	−24·6	−27·2	−25·0	−38·5	−29·7	−21·5	−31·4	−34·8	−34·8	−23·8	−8·2	+13·8	+30·2	+55·6	+70·1	+55·7	+47·2	+31·9	+18·5	+6·3	−4·5	−9·3	−8·7
Aug.	−10·8	−13·6	−30·8	−66·7	−47·9	−16·3	−28·9	−15·1	−27·5	−12·0	+6·3	+23·7	+32·3	+47·7	+53·9	+59·6	+48·8	+26·3	+11·9	−2·2	−6·5	−14·4	−15·2	−2·4
Sept.	−13·9	−9·3	−27·5	−24·9	−13·0	−12·8	−16·8	−20·2	−21·0	−19·0	−5·9	+20·6	+36·1	+40·1	+42·0	+35·4	+37·7	+30·3	+12·5	−11·1	−8·1	−18·5	−16·4	−16·2
Oct.	−14·7	−15·6	−10·7	−21·1	−31·3	−11·8	−14·3	−6·5	−19·6	−2·0	+4·0	+18·3	+37·7	+48·6	+55·0	+43·7	+42·5	+13·1	+0·1	+17·2	−21·1	−20·9	−51·1	−39·3
Nov.	−24·4	−13·4	−12·5	−0·5	−0·2	+12·8	+9·6	+4·0	+1·5	−0·3	+4·9	+13·7	+23·8	+27·5	+28·4	+16·2	+12·2	−0·1	+1·6	−2·1	−23·3	−28·7	−30·1	−20·6
Dec.	−20·7	−12·7	−8·6	+1·8	−1·6	+1·7	+13·9	+12·1	+6·7	+10·1	+13·3	+19·9	+23·8	+26·5	+21·0	+13·4	+0·1	+17·0	+2·7	−9·7	−23·7	−43·9	−44·6	−18·5
Year	−19·5	−22·5	−20·9	−19·3	−19·1	−11·9	−11·4	−12·1	−15·1	−10·9	−0·3	+13·0	+28·0	+36·2	+41·5	+41·0	+32·3	+24·8	+15·5	+7·8	−7·8	−21·1	−25·7	−22·7
Winter	−26·3	−28·1	−19·3	−7·6	−4·9	+2·4	+10·8	+8·4	+3·9	+4·5	+9·5	+14·2	+21·6	+24·3	+22·9	+17·2	+13·4	+15·9	+9·5	+9·1	−8·1	−32·9	−36·0	−24·3
Equinox	−23·3	−17·9	−13·5	−18·3	−22·5	−18·6	−18·0	−21·6	−22·7	−13·0	−2·4	+15·0	+34·1	+45·7	+55·2	+53·1	+42·4	+28·5	+16·3	+4·4	−14·6	−24·0	−31·0	−33·3
Summer	−8·7	−21·7	−30·1	−32·2	−30·0	−19·6	−27·1	−23·1	−26·5	−24·0	−8·1	+9·9	+28·3	+38·7	+46·5	+52·7	+41·3	+30·2	+20·8	+9·8	−0·4	−6·3	−10·1	−10·5

VERTICAL COMPONENT

	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Jan.	+3·2	+0·6	−7·6	−9·8	−11·6	−9·9	−7·8	−7·2	−5·8	−2·8	−0·4	+0·6	−0·8	+1·8	+3·6	+3·2	+4·8	+7·7	+13·6	+11·2	+7·0	+5·8	+1·6	−1·0
Feb.	−25·9	−57·5	−38·0	−18·1	−20·1	−22·9	−32·7	−29·9	−24·6	−20·9	−10·5	−9·5	−3·9	+6·3	+21·2	+24·1	+38·1	+61·9	+84·5	+52·5	+64·6	+6·7	−27·3	−18·1
Mar.	−18·2	−28·5	−39·7	−48·4	−38·1	−27·3	−24·4	−18·3	−13·5	−10·4	−7·9	−5·9	−1·8	+4·5	+17·9	+40·8	+69·3	+65·9	+61·6	+38·9	+21·3	+4·8	−23·9	−18·7
Apr.	−47·3	−42·8	−48·0	−35·3	−56·2	−31·2	−50·1	−45·6	−39·4	−24·1	−12·0	+2·6	+20·1	+29·0	+72·4	+106·7	+97·4	+98·0	+70·7	+37·0	−21·4	−34·7	−6·6	−39·2
May	−54·5	−83·7	−69·6	−46·7	−35·9	−36·7	−26·7	−25·7	−17·4	−8·3	−5·1	−6·7	−2·7	+20·9	+59·0	+67·5	+85·5	+80·9	+66·9	+62·3	+38·8	+5·9	−23·1	−44·9
June	−22·8	−31·7	−38·2	−35·1	−41·0	−36·7	−24·0	−14·9	−13·4	−12·1	−6·2	−1·3	+7·4	+22·9	+31·4	+47·1	+54·6	+46·1	+34·4	+23·1	+16·4	+7·7	−2·8	−10·9
July	−28·8	−22·9	−22·6	−32·0	−33·8	−45·3	−52·8	−41·8	−35·8	−25·3	−18·0	−12·4	+1·4	+25·9	+53·8	+66·0	+71·4	+61·7	+55·8	+39·8	+26·4	−2·5	−21·4	−6·8
Aug.	−87·3	−79·5	−127·1	−157·3	−107·1	−61·8	−24·7	−15·3	+2·9	+10·3	+17·3	+23·5	+39·9	+51·9	+95·1	+139·3	+133·3	+104·4	+86·7	+62·1	+11·1	+5·9	−50·5	−73·1
Sept.	−18·9	−25·6	−35·1	−48·4	−49·6	−32·3	−26·4	−19·0	−18·1	−15·8	−16·3	−15·8	−10·9	+1·0	+10·1	+36·6	+62·0	+82·9	+70·2	+35·8	+18·1	+16·6	+8·1	−9·2
Oct.	−30·2	−54·6	−97·4	−127·2	−100·8	−58·3	−26·4	−16·2	−3·2	+2·2	+11·2	+13·6	+21·0	+33·6	+41·0	+45·4	+55·2	+80·3	+86·8	+77·8	+71·6	+16·2	−9·0	−32·6
Nov.	−4·9	−19·4	−21·7	−20·4	−24·7	−22·4	−21·7	−14·0	−9·3	−6·4	−3·9	+2·8	+8·5	+13·8	+21·7	+20·2	+20·1	+22·0	+20·5	+17·6	+13·7	+10·8	+1·5	−4·4
Dec.	−7·4	−8·4	−15·6	−34·8	−31·6	−23·7	−21·4	−17·0	−11·2	−10·4	−8·0	−6·4	−2·6	+2·2	+11·4	+21·0	+26·8	+24·9	+32·6	+33·0	+32·2	+17·8	+1·0	−4·4
Year	−28·6	−37·8	−46·7	−51·1	−45·9	−34·0	−28·3	−22·1	−15·7	−10·3	−5·0	−1·2	+6·3	+17·8	+36·5	+51·5	+59·9	+61·4	+57·0	+40·9	+25·0	+5·1	−12·7	−21·9
Winter	−8·7	−21·2	−20·7	−20·8	−22·0	−19·7	−20·9	−17·0	−12·7	−10·1	−5·7	−3·1	+0·3	+6·0	+14·5	+17·1	+22·5	+29·1	+37·8	+28·6	+29·4	+10·3	−5·8	−7·0
Equinox	−28·7	−37·9	−55·1	−64·8	−61·2	−37·3	−31·8	−24·8	−18·5	−12·0	−6·3	−1·4	+7·1	+17·0	+35·3	+57·4	+71·0	+81·8	+72·3	+47·4	+22·4	+0·7	−7·9	−24·9
Summer	−48·3	−54·5	−64·4	−67·8	−54·5	−45·1	−32·1	−24·4	−15·9	−8·9	−3·0	+0·8	+11·5	+30·4	+59·8	+80·0	+86·2	+73·3	+60·9	+46·8	+23·2	+4·3	−24·5	−33·9

INTERNATIONAL DISTURBED DAYS

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

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DECLINATION (measured positive towards the west)

	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
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
Jan.	−2·52	−2·71	−3·00	−1·19	−0·88	−0·37	+0·12	+0·19	+0·02	+0·47	+1·24	+1·35	+2·74	+2·65	+2·60	+2·49	+3·02	+2·31	−0·28	−0·15	+0·06	−2·51	−3·56	−2·09
Feb.	−8·22	−13·10	−8·85	−6·10	−3·82	−1·38	+3·70	+3·62	+1·01	+1·08	+2·86	+3·70	+5·74	+6·62	+5·91	+4·78	+5·04	+6·30	+5·82	+7·10	+2·27	−8·24	−8·32	−7·52
Mar.	−6·68	−4·79	−1·84	−2·77	−3·97	−3·84	−0·57	−1·17	−1·52	−0·53	+1·90	+4·17	+7·62	+10·01	+9·60	+9·73	+5·23	+2·86	+2·43	−2·59	−2·78	−7·39	−6·60	−6·51
Apr.	−6·01	−2·56	−0·61	−2·00	−5·06	−5·37	−5·34	−7·96	−6·95	−2·94	−0·53	+3·16	+7·23	+10·30	+11·59	+10·14	+6·98	+6·07	+1·90	+0·94	−1·49	−1·48	−3·37	−6·64
May	−0·56	−2·83	−6·22	−5·38	−3·52	−3·13	−5·56	−1·90	−1·56	−2·99	−0·16	+4·20	+7·84	+8·65	+6·80	+6·32	+5·60	+3·97	+3·82	+0·54	−2·64	−3·25	−3·88	−4·16
June	−3·93	−7·23	−6·44	−2·63	−3·11	−3·29	−4·83	−5·63	−4·22	−3·07	+1·37	+4·25	+7·17	+7·45	+8·16	+7·21	+3·15	+2·27	+1·07	+1·41	+0·50	+1·05	+0·71	−1·39
July	−2·45	−5·62	−6·39	−5·56	−8·26	−5·47	−3·46	−5·00	−4·99	−4·44	−1·67	+1·32	+4·85	+7·14	+11·05	+12·04	+8·06	+6·49	+3·64	+2·50	+0·81	−0·74	−1·75	−2·10
Aug.	−0·73	−3·03	−5·29	−11·65	−9·09	−2·43	−4·51	−1·87	−3·95	−0·05	+3·83	+6·13	+7·27	+9·57	+9·29	+6·67	+5·31	+2·37	+0·19	−2·47	−2·03	−3·33	−1·35	+1·15
Sept.	−3·71	−3·32	−6·73	−5·84	−3·98	−3·21	−3·56	−4·06	−3·45	−2·34	+1·19	+6·66	+9·13	+9·92	+9·43	+6·88	+6·68	+4·75	+1·64	−3·16	−1·93	−4·02	−3·47	−3·50
Oct.	−3·79	−2·48	−1·25	−4·31	−6·63	−3·20	−3·35	−1·89	−3·89	+0·92	+2·19	+4·69	+8·47	+9·88	+11·09	+8·53	+7·07	+0·44	−1·15	+2·05	−5·81	−2·82	−7·45	−7·31
Nov.	−5·28	−2·95	−3·05	−0·78	−1·21	+1·89	+1·32	+0·43	+0·07	+0·14	+1·81	+4·13	+5·72	+6·07	+6·25	+3·52	+2·79	+0·15	+0·32	−0·63	−4·95	−5·56	−6·01	−4·19
Dec.	−4·44	−2·59	−1·90	−0·12	−0·92	−0·29	+2·24	+1·84	+1·22	+2·13	+3·20	+4·50	+5·22	+5·73	+4·74	+3·20	−0·02	+3·59	+0·54	−1·70	−4·64	−8·61	−9·12	−3·80
Year	−4·03	−4·43	−4·30	−4·03	−4·20	−2·51	−1·99	−1·95	−2·35	−0·97	+1·44	+4·02	+6·58	+7·83	+8·04	+6·79	+4·91	+3·46	+1·66	+0·32	−1·89	−3·91	−4·51	−4·01
Winter	−5·11	−5·34	−4·20	−2·05	−1·71	−0·04	+1·85	+1·52	+0·58	+0·95	+2·28	+3·42	+4·85	+5·27	+4·87	+3·50	+2·71	+3·09	+1·60	+1·15	−1·81	−6·23	−6·75	−4·40
Equinox	−5·05	−3·29	−2·61	−3·73	−4·91	−3·91	−3·21	−3·77	−3·95	−1·22	+1·19	+4·67	+8·11	+10·03	+10·43	+8·82	+6·49	+3·53	+1·21	−0·69	−3·00	−3·93	−5·22	−5·99
Summer	−1·92	−4·68	−6·09	−6·31	−5·99	−3·58	−4·59	−3·60	−3·68	−2·64	+0·84	+3·97	+6·78	+8·20	+8·83	+8·06	+5·53	+3·77	+2·18	+0·49	−0·84	−1·57	−1·57	−1·63

INCLINATION

	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
Jan.	+0·32	+0·15	−0·29	−0·63	−1·04	−0·92	−0·70	−0·52	−0·30	+0·10	+0·35	+0·84	+0·52	+0·39	+0·41	−0·10	+0·23	+0·21	+0·95	+0·33	+0·09	−0·14	−0·35	+0·10
Feb.	+2·08	+2·19	−0·65	−0·79	−1·01	−0·92	−0·88	−0·31	−1·27	−0·95	−0·78	−0·92	−0·42	−0·21	−0·54	−0·70	−0·21	−0·42	−0·83	−3·37	+0·64	+3·04	+3·82	+3·41
Mar.	−0·20	−0·34	−0·90	−0·51	−1·34	−0·89	−1·33	−0·40	+0·22	+1·30	+1·50	+1·75	+1·28	+1·27	−0·90	−1·20	−2·08	−1·03	−0·77	+0·07	+1·30	+1·36	+1·72	+0·12
Apr.	+0·17	+2·25	−0·01	−0·15	+0·04	+1·34	+3·43	+3·90	+1·64	+2·21	+2·23	+2·08	+1·12	−0·23	−4·26	−7·20	−3·37	−3·42	−5·49	−3·85	+1·51	+2·39	+0·44	+3·23
May	−0·96	−0·24	−0·09	−0·73	−0·24	−0·34	+1·04	+0·51	+0·58	+1·67	+2·92	+2·29	+0·27	−0·20	+0·28	−1·90	−2·25	−1·59	−1·56	−0·81	−0·12	+0·13	+0·64	+0·70
June	−2·24	−2·14	−1·69	−1·42	−0·83	−0·81	+0·42	+1·75	+3·63	+4·06	+2·88	+2·05	+0·72	+0·78	−0·04	−0·55	−0·15	−0·68	−0·88	−1·24	−1·01	−0·99	−1·03	−0·59
July	−1·91	−1·07	−1·35	−1·10	−0·87	+0·10	+0·26	+1·31	+2·49	+3·52	+4·27	+3·93	+2·66	+1·59	+0·19	−2·44	−3·55	−3·44	−3·00	−1·03	−0·09	+0·24	−0·21	−0·50
Aug.	+0·04	−2·13	−1·35	−0·24	−1·02	−0·04	+1·74	+1·51	+2·78	+3·75	+3·90	+2·05	+1·49	+0·39	−0·78	−5·03	−3·85	−1·96	−1·13	−1·23	−0·63	−0·20	+1·41	+0·51
Sept.	−1·48	−2·49	−2·03	−1·91	−2·89	−1·44	−0·61	−0·10	+1·01	+2·03	+3·01	+2·74	+1·67	+1·89	+0·86	−0·07	−0·40	−0·35	+0·29	−0·21	+0·17	+0·34	+0·25	−0·26
Oct.	−1·66	−0·15	−0·96	−2·85	−2·41	−2·38	−1·04	−1·10	+0·35	+1·93	+2·15	+1·39	+1·08	+0·10	+0·06	−0·01	−1·45	−1·31	+0·53	−0·34	−0·03	+2·71	+4·65	+0·73
Nov.	−0·19	−0·60	−1·05	−1·46	−2·23	−1·73	−1·56	−0·95	−0·57	+0·13	+0·97	+1·73	+1·09	+0·61	+0·78	+0·56	+0·74	+0·79	+0·48	+0·17	+0·38	+1·08	+0·63	+0·19
Dec.	−0·18	−0·04	−0·47	−1·57	−1·59	−1·49	−1·55	−1·48	−0·57	−0·32	+0·29	+0·17	+0·12	+0·14	+0·63	+0·99	+0·60	+0·54	+0·75	+1·34	+1·40	+1·55	+0·61	+0·13
Year	−0·52	−0·38	−0·90	−1·11	−1·29	−0·80	−0·07	+0·35	+0·84	+1·63	+1·97	+1·67	+0·97	+0·55	−0·28	−1·47	−1·31	−1·05	−0·89	−0·85	+0·30	+0·96	+1·05	+0·65
Winter	+0·51	+0·42	−0·61	−1·11	−1·47	−1·27	−1·17	−0·81	−0·67	−0·26	+0·22	+0·45	+0·32	+0·26	+0·32	+0·18	+0·34	+0·28	+0·33	−0·38	+0·62	+1·39	+1·18	+0·95
Equinox	−0·79	−0·19	−0·97	−1·36	−1·65	−0·84	+0·11	+0·58	+0·81	+1·87	+2·21	+1·99	+1·29	+0·75	−1·06	−2·12	−1·83	−1·52	−1·36	−1·08	+0·74	+1·70	+1·76	+0·96
Summer	−1·27	−1·39	−1·12	−0·87	−0·74	−0·27	+0·87	+1·27	+2·37	+3·25	+3·49	+2·58	+1·29	+0·64	−0·09	−2·48	−2·45	−1·92	−1·64	−1·08	−0·46	−0·21	+0·20	+0·03

HORIZONTAL FORCE

	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Jan.	−3·6	−2·0	+1·5	+5·8	+11·2	+10·2	+7·6	+5·2	+2·1	−2·4	−5·4	−12·2	−8·0	−6·2	−4·7	+2·6	−1·6	−0·4	−9·0	−0·8	+1·5	+4·2	+6·0	−1·6
Feb.	−40·2	−53·7	−4·2	+4·7	+7·6	+5·3	+0·8	−6·5	+9·6	+6·3	+7·4	+10·3	+4·8	+5·1	+15·8	+19·7	+17·4	+29·3	+43·6	+69·5	+14·4	−42·9	−66·8	−57·3
Mar.	−3·7	−5·4	−1·3	−10·2	+5·8	+2·9	+10·8	−0·8	−8·3	−23·2	−25·1	−27·8	−19·5	−17·0	+19·9	+32·8	+56·4	+39·3	+34·0	+13·4	−11·7	−18·4	−34·1	−8·8
Apr.	−19·9	−49·1	−17·5	−10·7	−21·3	−31·4	−69·3	−74·7	−38·9	−41·7	−37·5	−29·9	−9·3	+14·1	+89·9	+146·1	+85·9	+86·8	+107·5	+70·7	−30·3	−48·3	−8·9	−62·3
May	−5·8	−27·3	−24·2	−6·3	−9·7	−8·4	−25·3	−17·1	−15·0	−27·9	−45·2	−36·5	−4·8	+10·7	+17·6	+53·1	+64·9	+53·4	+47·7	+34·9	+16·0	+0·1	−18·0	−26·9
June	+24·9	+20·1	+11·0	+8·1	−2·7	−1·5	−15·1	−31·5	−58·8	−64·7	−45·1	−30·9	−7·9	−3·1	+12·2	+25·5	+22·3	+27·1	+25·7	+26·9	+21·0	+17·5	+14·3	+4·7
July	+17·7	+7·5	+11·7	+4·5	+0·5	−18·2	−23·3	−34·9	−50·1	−61·5	−69·9	−62·9	−38·9	−14·1	+16·9	+60·5	+78·9	+73·8	+65·1	+29·9	+11·1	−4·5	−4·7	+4·9
Aug.	−32·7	+2·3	−26·8	−54·3	−24·3	−22·1	−34·9	−28·1	−40·2	−51·9	−51·5	−21·7	−7·5	+13·3	+46·6	+125·9	+106·1	+67·5	+48·7	+41·1	+13·4	+5·1	−39·5	−34·5
Sept.	+15·0	+27·5	+17·2	+10·5	+24·6	+9·5	−0·6	−5·5	−21·6	−35·9	−50·6	−46·5	−28·8	−27·7	−9·0	+14·5	+28·8	+35·7	+21·6	+16·3	+4·2	+1·1	−0·8	+0·5
Oct.	+13·5	−17·9	−21·6	−4·5	−1·3	+13·9	+5·7	+10·3	−6·4	−27·9	−27·7	−15·7	−8·3	+10·9	+14·2	+16·9	+41·9	+48·9	+24·1	+33·7	+26·8	−34·3	−72·3	−22·9
Nov.	+1·0	+1·7	+7·6	+14·1	+24·2	+17·5	+15·2	+8·9	+5·0	−4·3	−15·8	−24·7	−13·0	−3·9	−3·6	−0·9	−3·6	−3·7	+0·4	+3·9	−0·6	−12·1	−8·8	−4·5
Dec.	−0·1	−2·5	+1·3	+10·5	+11·9	+13·4	+15·1	+15·7	+4·3	+0·9	−7·3	−4·9	−2·7	−1·3	−5·1	−6·9	+0·9	+1·2	+0·9	−7·7	−8·9	−16·5	−8·7	−3·5
Year	−2·8	−8·2	−3·8	−2·3	+2·2	−0·7	−9·4	−13·3	−18·2	−27·9	−31·1	−25·3	−12·0	−1·6	+17·6	+40·8	+41·5	+38·2	+34·2	+27·7	+4·7	−12·4	−20·2	−17·7
Winter	−10·7	−14·1	+1·5	+8·8	+13·7	+11·6	+9·7	+5·8	+5·3	+0·1	−5·3	−7·9	−4·7	−1·6	+0·6	+3·6	+3·3	+6·6	+9·0	+16·2	+1·6	−16·8	−19·6	−16·7
Equinox	+1·2	−11·2	−5·8	−3·7	+1·9	−1·3	−13·3	−17·7	−18·8	−32·2	−35·2	−30·0	−16·5	−4·9	+28·7	+52·6	+53·3	+52·7	+46·8	+33·5	−2·7	−25·0	−29·0	−23·4
Summer	+1·0	+0·7	−7·1	−12·0	−9·1	−12·5	−24·7	−27·9	−41·0	−51·5	−52·9	−38·0	−14·8	+1·7	+23·3	+66·3	+68·1	+55·5	+46·8	+33·2	+15·4	+4·5	−12·0	−12·9

RANGE OF MEAN DIURNAL INEQUALITIES FOR THE MONTHS, YEAR AND SEASONS OF 1939
The ranges are derived from the diurnal inequalities printed in Tables 151 to 156

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	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
	γ	γ	γ	γ	γ	γ	γ	γ	γ	′	′	γ	′	′	γ	′	′	γ
Jan.	21·3	21·8	10·3	23·6	17·2	3·9	25·3	29·1	25·2	4·79	1·42	19·6	3·91	1·60	22·4	6·58	1·99	23·4
Feb.	24·7	40·2	33·2	19·2	22·7	14·9	115·9	122·4	142·0	8·35	1·29	24·8	5·16	1·03	19·2	20·20	7·19	136·3
Mar.	38·3	46·9	45·6	41·0	38·1	17·4	80·8	91·6	117·7	10·82	2·22	36·4	8·47	2·28	38·4	17·40	3·83	90·5
Apr.	77·0	68·2	61·3	56·3	56·7	23·1	195·4	134·6	162·9	13·21	4·17	76·6	11·92	3·59	57·5	19·55	11·10	220·8
May	69·8	61·6	65·0	54·7	47·6	26·9	101·0	77·3	169·2	12·99	3·87	73·5	10·94	3·06	55·0	14·87	5·17	110·1
June	67·8	68·5	35·9	58·8	60·2	19·6	88·2	74·5	95·6	13·60	4·06	71·4	12·24	3·84	63·0	15·39	6·30	91·8
July	70·8	61·6	38·8	53·5	61·2	25·8	134·2	108·6	124·2	11·73	4·17	75·5	13·26	3·31	56·0	20·30	7·82	148·8
Aug.	65·7	66·7	58·6	55·3	67·3	23·5	169·7	126·3	296·6	14·31	3·89	66·1	14·28	3·10	52·8	21·22	8·93	180·2
Sept.	57·1	63·8	35·3	52·3	57·8	20·2	82·9	69·5	132·5	13·76	3·34	55·8	12·48	3·11	51·0	16·65	5·90	86·3
Oct.	45·5	50·7	60·9	50·5	40·7	9·9	109·5	106·1	214·0	10·84	3·38	48·0	9·05	3·16	47·6	18·54	7·50	121·2
Nov.	31·2	30·4	15·9	26·2	24·4	4·7	53·4	58·5	46·7	6·94	2·04	28·5	5·39	1·62	23·6	12·26	3·96	48·9
Dec.	19·3	32·2	19·8	16·7	17·2	6·0	24·0	71·1	67·8	7·02	1·29	17·2	3·76	1·00	15·9	14·85	3·14	32·2
Year	45·3	45·2	36·9	39·9	39·5	13·8	67·0	67·2	112·5	9·44	2·39	45·6	8·78	2·33	39·4	12·55	3·44	72·6
Winter	21·9	30·2	18·5	19·6	19·1	5·4	26·9	60·3	59·8	6·62	1·42	19·7	4·20	1·14	18·4	12·02	2·86	35·8
Equinox	53·0	55·8	48·2	50·0	46·4	15·8	83·1	88·5	146·6	11·78	2·73	52·5	10·41	2·95	47·5	16·42	4·33	88·5
Summer	67·5	63·9	47·0	54·1	58·3	23·0	112·7	84·9	154·0	12·80	3·92	71·2	12·50	3·16	54·3	15·14	5·97	121·0

NON-CYCLIC CHANGE

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	All days			Quiet days			Disturbed days		
	H	D	V	H	D	V	H	D	V
	γ	′	γ	γ	′	γ	γ	′	γ
Jan.	+0·2	+0·03	−0·1	+6·3	+0·75	−3·1	−1·1	−0·50	−3·8
Feb.	−1·0	−0·15	+0·8	+6·3	+0·15	−0·5	−24·7	−1·60	+12·9
Mar.	0·0	−0·23	−1·2	+4·3	−0·08	+0·9	−11·0	+0·23	−4·9
Apr.	+0·6	+0·31	+1·4	+9·4	+0·52	−2·0	−28·7	−1·07	−10·6
May	+0·7	−0·05	−0·1	+7·6	−0·20	−1·4	−13·9	−1·74	−5·6
June	−0·2	−0·04	−0·4	+0·6	−0·28	+0·5	−24·0	+0·11	+7·7
July	+0·2	−0·04	+0·4	+10·1	+0·01	−1·2	−18·9	+0·01	+11·7
Aug.	−0·1	0·00	+0·3	+1·1	+0·21	−0·6	−25·2	+1·72	−12·5
Sept.	−1·1	−0·22	+0·7	+2·3	−1·11	−0·2	−16·9	+0·14	+6·4
Oct.	+0·6	+0·17	−0·5	+7·6	+1·41	−2·3	−18·1	−0·05	+0·5
Nov.	−0·1	−0·12	−0·3	+2·9	+0·25	−0·8	−0·5	+1·39	−6·7
Dec.	+0·2	+0·06	+0·1	+2·2	−0·67	+0·1	+1·0	+1·91	−6·8
Year	0·0	−0·02	+0·1	+5·1	+0·08	−0·9	−15·2	+0·05	−1·0
Winter	−0·2	−0·05	+0·1	+4·4	+0·12	−1·1	−6·3	+0·30	−1·1
Equinox	0·0	+0·01	+0·1	+5·9	+0·19	−0·9	−18·7	−0·19	−2·1
Summer	+0·1	−0·03	+0·2	+4·9	−0·07	−0·7	−20·5	+0·03	+0·3

MEAN VALUES OF $HR_H + VR_V$
Unit $10{,}000\gamma^2$

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	HR_H	VR_V	Total	Mean character figure
Jan.	78	98	177	0·45
Feb.	208	368	576	0·82
Mar.	197	353	550	0·94
Apr.	363	585	949	0·93
May	257	522	779	0·71
June	202	274	476	0·57
July	238	377	614	0·65
Aug.	263	489	752	0·48
Sept.	171	285	456	0·47
Oct.	277	481	758	0·68
Nov.	91	146	237	0·23
Dec.	97	186	284	0·45
Year	203	347	551	0·61
Winter	119	199	319	0·49
Equinox	252	426	678	0·75
Summer	240	415	655	0·60

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 +						
	γ	γ	γ	′	′	′	γ	γ	γ	γ	γ	° ′	γ
Jan.	516	521	514	12·2	12·4	12·1	968	967	969	16080	3772	69 49·9	47905
Feb.	502	512	481	11·3	11·5	11·3	977	969	989	16067	3765	69 51·1	47909
Mar.	504	511	494	10·0	10·4	8·5	977	974	983	16071	3759	69 50·9	47909
Apr.	500	514	477	8·7	9·5	8·1	987	981	995	16068	3752	69 51·5	47918
May	508	517	497	8·1	8·4	8·9	986	989	993	16076	3751	69 50·5	47919
June	519	525	511	7·9	7·7	8·1	985	985	986	16087	3753	69 50·2	47922
July	513	514	510	7·5	7·3	9·3	994	991	1003	16081	3749	69 50·8	47928
Aug.	506	523	477	6·0	6·6	4·9	998	991	990	16077	3741	69 51·3	47930
Sept.	505	511	497	5·3	5·5	5·4	1000	997	1007	16077	3738	69 51·5	47931
Oct.	492	504	465	4·3	4·7	2·6	1009	1009	999	16065	3730	69 52·6	47935
Nov.	510	518	498	3·6	3·8	3·0	1004	1002	1006	16083	3731	69 51·2	47937
Dec.	512	520	499	3·0	2·9	2·7	1005	1001	1010	16086	3728	69 51·1	47938
Year	507	516	493	7·3	7·6	7·1	991	988	994	16076	3748	69 51·1	47923

HARMONIC COMPONENTS OF THE DIURNAL INEQUALITY OF MAGNETIC FORCE

Values of a_n, b_n in the series $\Sigma(a_n \cos 15nt + b_n \sin 15nt)$, t being reckoned in hours from midnight G.M.T.

Longitude of Eskdalemuir Observatory, 3°12′W.

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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
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
												ALL DAYS												
Jan.	+5·7	+3·3	−5·0	−1·3	+0·5	−1·9	−0·9	+0·6	−7·4	−4·1	−2·4	+2·9	−1·3	−1·3	+1·4	+0·5	+1·1	−4·1	+0·5	−0·6	+0·3	+0·8	0·0	−0·1
Feb.	+2·9	+0·9	−7·1	−1·9	−0·7	+1·3	−1·1	+0·9	−14·1	−9·1	−4·9	+1·9	−2·1	−1·0	+1·3	+3·3	+2·1	−12·7	−5·3	−2·4	−1·3	+1·2	−0·2	−0·1
Mar.	+12·2	−1·1	−10·2	−0·1	+4·1	−1·4	+0·7	+1·5	−15·1	−12·4	+0·3	+9·2	−0·5	−3·6	+0·9	+2·7	−1·0	−17·3	−7·2	−2·9	−3·4	+1·5	+0·4	−0·8
Apr.	+11·9	−17·2	−18·3	+5·2	+5·1	+1·6	+0·9	−1·0	−13·1	−19·4	+1·0	+15·4	−2·0	−4·5	−0·1	+0·9	−7·1	−21·6	−12·2	+0·5	+2·0	+2·5	−0·9	−1·7
May	+16·7	−17·4	−16·1	+2·6	+1·3	+1·0	−0·2	−0·2	−11·0	−24·8	+3·9	+8·0	−2·0	−3·7	+0·7	+0·8	−5·1	−26·0	−11·5	−3·5	+2·9	−0·6	−0·5	−0·9
June	+21·8	−13·9	−13·1	+2·1	+1·6	−1·5	+1·0	+1·1	−2·1	−26·1	+4·0	+10·8	−3·0	−4·2	+0·4	+0·1	+0·2	−15·3	−7·7	−1·9	+2·4	−0·3	−0·5	+0·3
July	+20·0	−15·2	−14·8	+4·5	+1·8	+0·9	+0·5	−0·5	−6·7	−24·8	+2·7	+9·7	−1·3	−3·3	+0·7	+1·8	+1·3	−16·7	−8·8	+1·2	+1·7	+0·6	−1·0	−0·4
Aug.	+16·6	−14·3	−13·9	+3·6	+2·6	−2·2	+0·2	+1·4	−10·3	−23·1	+9·5	+9·1	−2·7	−4·7	+1·3	+0·8	−8·5	−17·0	−10·9	−2·2	+6·0	−0·9	−0·3	−0·3
Sept.	+23·0	−4·3	−11·4	+2·4	+2·9	−2·5	−0·2	+1·2	−11·2	−19·9	+5·6	+10·9	−4·2	−5·3	+1·9	+1·7	+2·9	−10·7	−8·0	−2·1	+4·0	+1·1	+0·4	−0·1
Oct.	+15·9	−1·8	−12·2	+1·2	+4·3	−0·9	+0·7	+2·2	−12·3	−12·5	+1·0	+11·3	−1·8	−4·0	+2·4	+2·3	−7·7	−21·6	−5·7	−6·2	+3·2	+0·9	+1·0	+2·1
Nov.	+8·9	+3·5	−7·0	−0·5	+2·6	−1·7	−0·6	+0·7	−8·7	−5·5	−1·9	+6·3	−2·3	−2·0	+1·4	+2·0	−0·4	−7·9	−0·8	−1·0	+0·4	−0·5	−0·9	+0·1
Dec.	+3·5	+2·7	−5·1	−0·8	+1·8	−0·9	+0·7	+0·1	−10·9	−2·3	−2·2	+4·9	−1·5	+0·6	+0·9	+1·8	+1·3	−9·5	−1·5	−1·1	+0·4	−0·1	−0·6	+0·3
Year	+13·2	−6·2	−11·2	+1·4	+2·3	−0·7	+0·1	+0·7	−10·3	−15·3	+1·4	+8·4	−2·1	−3·1	+1·1	+1·5	−1·7	−15·1	−6·6	−1·9	+2·1	+0·5	−0·3	−0·1
Winter	+5·2	+2·7	−6·1	−1·1	+1·0	−0·8	−0·5	+0·6	−10·3	−5·4	−2·8	+3·9	−1·8	−0·9	+1·3	+1·9	+1·0	−8·6	−1·8	−1·3	−0·1	+0·3	−0·4	0·0
Equinox	+15·7	−6·1	−13·0	+2·1	+4·1	−0·7	+0·6	+1·0	−12·9	−16·0	+1·9	+11·7	−2·1	−4·3	+1·3	+1·9	−3·2	−17·9	−8·3	−2·7	+3·2	+1·5	+0·2	−0·1
Summer	+18·7	−15·2	−14·4	+3·2	+1·8	−0·5	+0·4	+0·4	−7·5	−24·7	+5·1	+9·4	−2·2	−4·0	+0·8	+0·9	−3·0	−18·7	−9·7	−1·5	+3·2	−0·3	−0·6	−0·3
												QUIET DAYS												
Year	+14·7	−0·6	−9·0	−0·8	+2·5	−1·1	−0·1	+0·7	−3·4	−13·0	+3·2	+7·3	−2·3	−3·1	+0·6	+1·6	+4·0	−1·9	−3·5	−0·6	+1·6	−0·2	−0·5	−0·4
Winter	+5·5	+1·9	−5·3	−0·8	+1·5	−0·9	−0·3	+0·7	−4·1	−5·1	−0·2	+3·7	−1·8	−1·1	+0·9	+1·5	+1·6	−1·4	−0·4	−0·3	+0·7	−0·4	−0·2	−0·2
Equinox	+18·6	+1·2	−9·8	−1·1	+4·2	−1·7	−0·1	+1·3	−4·1	−12·5	+3·4	+8·7	−2·5	−5·2	+1·1	+2·5	+3·6	−2·4	−4·0	−1·2	+1·9	+0·3	−0·7	−0·7
Summer	+19·9	−4·9	−11·9	−0·5	+1·8	−0·8	+0·1	+0·2	−2·0	−21·4	+6·3	+9·6	−2·6	−2·9	−0·3	+0·9	+6·9	−2·0	−6·1	−0·1	+2·1	−0·4	−0·5	−0·3
												DISTURBED DAYS												
Year	+5·6	−20·6	−17·8	+8·9	+3·1	+1·6	0·0	−0·1	−22·0	−20·1	−3·0	+11·4	0·0	−2·3	+2·1	+2·4	−18·6	−44·5	−13·0	−1·7	+4·4	+3·0	+1·2	+0·4
Winter	+1·6	+0·9	−10·1	+0·3	−2·9	+0·8	−1·4	+0·8	−22·6	−3·9	−8·4	+4·6	−2·6	−0·1	+3·3	+3·9	−3·8	−25·3	−6·4	−3·4	−2·2	+2·0	+0·1	+1·5
Equinox	+4·2	−25·6	−23·1	+11·8	+6·0	+4·4	+1·8	−0·2	−25·7	−24·8	−1·6	+18·2	−0·3	−1·4	−0·1	+2·7	−20·7	−52·8	−15·5	−2·9	+7·7	+6·0	+5·4	+0·5
Summer	+10·9	−37·3	−20·2	+14·6	+6·0	−0·3	−0·6	−0·8	−17·7	−31·8	+1·1	+11·3	+3·1	−5·7	+3·3	+0·7	−31·4	−55·5	−17·3	+1·1	+7·6	+0·8	−1·7	−0·8

HARMONIC COMPONENTS OF THE DIURNAL INEQUALITY OF MAGNETIC FORCE

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

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	North component								West component								Vertical component							
	c_1	α_1	c_2	α_2	c_3	α_3	c_4	α_4	c_1	α_1	c_2	α_2	c_3	α_3	c_4	α_4	c_1	α_1	c_2	α_2	c_3	α_3	c_4	α_4
	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°
												ALL DAYS												
Jan.	6·6	63	5·2	262	1·9	176	1·1	319	8·4	244	3·8	327	1·9	234	1·5	82	4·3	168	0·8	149	0·8	28	0·1	182
Feb.	3·0	76	7·3	262	1·5	339	1·4	322	16·8	241	5·3	298	2·3	254	3·5	35	12·9	174	5·9	253	1·8	322	0·2	249
Mar.	12·3	99	10·2	276	4·3	119	1·7	38	19·5	234	9·2	8	3·6	198	2·9	31	17·4	187	7·8	255	3·7	76	0·9	166
Apr.	20·9	149	19·0	292	5·4	83	1·4	151	23·3	217	15·4	10	4·9	213	0·9	10	22·8	201	12·2	279	3·2	49	1·9	222
May	24·1	139	16·3	285	1·6	62	0·3	239	27·2	207	8·9	33	4·2	217	1·1	55	26·5	194	12·0	259	3·0	112	1·1	224
June	25·8	126	13·2	285	2·2	144	1·5	56	26·2	188	11·5	27	5·1	225	0·4	84	15·3	182	7·9	263	2·4	108	0·5	311
July	25·1	130	15·5	293	2·0	73	0·7	150	25·7	198	10·1	22	3·6	211	1·9	34	16·8	179	8·9	284	1·8	79	1·1	262
Aug.	21·9	134	14·4	291	3·4	139	1·4	19	25·3	207	13·1	53	5·4	220	1·5	72	19·0	210	11·2	265	6·1	108	0·4	236
Sept.	23·4	104	11·7	288	3·8	139	1·3	4	22·9	213	12·3	34	6·8	228	2·6	61	11·1	168	8·3	262	4·2	84	0·5	119
Oct.	16·0	100	12·3	282	4·4	111	2·4	31	17·5	228	11·3	11	4·4	214	3·3	59	22·9	203	8·4	229	3·3	84	2·4	37
Nov.	9·5	71	7·0	272	3·1	133	0·9	330	10·3	241	6·5	350	3·1	238	2·5	49	7·9	186	1·3	223	0·6	150	0·9	290
Dec.	4·4	56	5·2	268	2·1	127	0·7	98	11·1	261	5·4	342	1·6	302	2·1	40	9·5	175	1·8	240	0·4	122	0·7	306
Year	14·6	118	11·3	284	2·4	115	0·7	23	18·5	217	8·5	16	3·7	223	1·9	48	15·2	190	6·9	261	2·2	86	0·3	254
Winter	5·8	66	6·2	266	1·3	137	0·7	333	11·6	245	4·8	331	2·0	252	2·3	47	8·7	176	2·2	240	0·3	354	0·4	285
Equinox	16·9	114	13·2	286	4·2	110	1·2	42	20·6	222	11·9	16	4·8	216	2·3	46	18·2	193	8·7	258	3·5	75	0·3	136
Summer	24·1	132	14·8	289	1·9	114	0·5	55	25·9	200	10·7	35	4·6	219	1·1	54	19·0	192	9·9	267	3·3	105	0·7	253
												QUIET DAYS												
Year	14·7	96	9·0	271	2·7	124	0·8	4	13·4	198	8·0	30	3·9	226	1·7	32	4·5	119	3·5	267	1·6	106	0·6	243
Winter	5·8	75	5·3	268	1·7	131	0·8	351	6·5	222	3·7	4	2·1	248	1·7	45	2·2	134	0·5	242	0·8	131	0·3	247
Equinox	18·6	89	9·9	270	4·5	123	1·3	7	13·2	201	9·3	28	5·8	215	2·7	35	4·3	127	4·1	259	1·9	91	1·0	236
Summer	20·5	107	11·9	274	2·0	122	0·2	38	21·5	188	11·5	39	3·9	231	0·9	353	7·2	109	6·1	275	2·1	111	0·6	253
												DISTURBED DAYS												
Year	21·4	168	19·9	303	3·5	71	0·1	215	29·8	231	11·8	352	2·3	189	3·2	54	48·3	206	13·1	269	5·3	65	1·3	85
Winter	1·9	63	10·1	278	3·0	296	1·6	314	22·9	263	9·6	305	2·6	278	5·1	53	25·5	192	7·2	249	3·0	322	1·5	15
Equinox	25·9	174	26·0	303	7·5	63	1·8	108	35·8	229	18·3	1	1·4	201	2·7	10	56·7	205	15·7	266	9·7	61	5·4	97
Summer	38·9	167	24·9	312	6·1	103	1·0	229	36·4	212	11·3	12	6·4	161	3·4	92	63·8	213	17·3	280	7·6	93	1·9	257

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THE OBSERVATORIES' YEAR BOOK 1939

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

VALENTIA OBSERVATORY

Decimal Index
551.506.1

Obs. Yearb., 1939
London, 1956

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 1939.—Notable features were the excessive rain in July and November, the relatively dry August and September, the warm November, and the sunny months of October and December.

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 normal (1014·2 mb.). Of the monthly mean pressures seven were higher and four were lower than normal. The departures ranged from an excess of 7 mb. in March to a deficiency of 13 mb. in January. The extreme values recorded were 1043 mb. and 965 mb. on March 13 and January 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 0·6°A. above normal. The greatest departures from normal were +2·1°A. in November and −1·2°A. in December. The highest temperature (297·0°A.) occurred on June 3 and 5 and the lowest (270·4°A.) on December 18.

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 1311 mm., this amount being 103 mm. below the average. May (45·3 mm.) was the driest and November (251·9 mm.) the wettest month. Amounts in excess of 25 mm. were measured on 6 days.

Sunshine.– Sunshine for the year totalled 1543 hr. which is 13 per cent. above the average. May with a total of 255 hr. (53 per cent. of possible) was the brightest and November with 36 hr. (14 per cent. of possible) the dullest month.

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

Values of c_η, α_η in the series $\sum c_\eta \sin(15nt + \alpha_\eta)$, t being local mean time reckoned in hours from midnight

	c_1		α_1		c_2		α_2		c_3		α_3		c_4		α_4	
	1939	1871-1926	1939	1871-1926	1939	1871-1926	1939	1871-1926	1939	1871-1926	1939	1871-1926	1939	1871-1926	1939	1871-1926
	mb.	mb.	°	°	mb.	mb.	°	°	mb.	mb.	°	°	mb.	mb.	°	°
January	0·27	0·10	48	162	0·32	0·32	192	153	0·23	0·16	45	250	0·09	0·07	322	208
February	0·63	0·12	140	194	0·25	0·34	179	148	0·06	0·11	354	346	0·04	0·04	143	92
March	0·30	0·12	359	157	0·28	0·36	175	150	0·07	0·04	31	262	0·06	0·04	113	50
April	0·16	0·10	282	191	0·33	0·31	184	149	0·04	0·03	255	171	0·03	0·04	71	11
May	0·12	0·17	140	180	0·25	0·27	185	147	0·08	0·07	207	165	0·01	0·02	82	347
June	0·20	0·20	166	199	0·29	0·25	184	146	0·09	0·08	194	161	0·02	0·00	9	340
July	0·38	0·24	165	183	0·22	0·25	188	143	0·07	0·08	209	161	0·01	0·01	36	11
August	0·20	0·25	179	188	0·29	0·28	179	144	0·06	0·05	200	163	0·03	0·03	19	345
September	0·08	0·19	124	203	0·37	0·34	186	153	0·00	0·00	129	50	0·04	0·04	73	6
October	0·16	0·20	121	198	0·33	0·34	198	160	0·09	0·07	22	359	0·01	0·01	155	56
November	0·27	0·08	146	184	0·43	0·34	204	161	0·06	0·13	65	6	0·04	0·03	201	167
December	0·35	0·13	144	191	0·33	0·32	180	160	0·15	0·16	37	358	0·07	0·07	282	198
Arithmetic mean	0·26	0·16			0·31	0·31			0·08	0·08			0·04	0·03		
Year	0·15	0·15	141	188	0·31	0·31	187	153	0·02	0·03	55	5	0·00	0·00	75	70
Winter*	0·31	0·11	130	184	0·33	0·33	190	155	0·12	0·14	39	356	0·03	0·04	278	182
Equinox*	0·06	0·15	4	191	0·32	0·34	186	153	0·04	0·02	33	351	0·03	0·03	96	25
Summer*	0·22	0·21	165	188	0·26	0·26	184	145	0·08	0·07	202	162	0·02	0·02	49	350

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

Values of c_η, α_η in the series $\sum c_\eta \sin(15nt + \alpha_\eta)$, t being local mean time reckoned in hours from midnight

	c_1		α_1		c_2		α_2		c_3		α_3		c_4		α_4	
	1939	1871-1926	1939	1871-1926	1939	1871-1926	1939	1871-1926	1939	1871-1926	1939	1871-1926	1939	1871-1926	1939	1871-1926
	°A.	°A.	°	°	°A.	°A.	°	°	°A.	°A.	°	°	°A.	°A.	°	°
January	0·67	0·48	226	238	0·15	0·26	58	53	0·10	0·11	338	226	0·04	0·02	86	46
February	0·63	0·81	253	234	0·23	0·37	72	53	0·02	0·09	172	237	0·02	0·03	229	189
March	1·27	1·34	246	235	0·30	0·42	100	60	0·03	0·04	69	328	0·05	0·08	306	216
April	1·88	1·80	254	239	0·33	0·36	128	72	0·12	0·15	96	41	0·49	0·06	34	236
May	2·51	2·08	258	242	0·20	0·19	195	98	0·29	0·24	111	57	0·13	0·04	31	309
June	2·52	2·05	256	243	0·29	0·11	170	97	0·29	0·21	118	63	0·06	0·03	71	13
July	1·38	1·86	258	243	0·14	0·15	109	75	0·09	0·20	106	59	0·05	0·01	87	339
August	1·94	1·74	258	243	0·29	0·30	131	69	0·19	0·16	103	47	0·09	0·03	2	240
September	1·71	1·55	254	242	0·51	0·45	109	70	0·12	0·06	66	216	0·09	0·09	303	234
October	1·72	1·11	244	241	0·55	0·41	101	68	0·11	0·08	290	274	0·11	0·07	264	225
November	0·56	0·72	261	239	0·15	0·35	105	62	0·10	0·12	318	252	0·03	0·01	163	115
December	0·73	0·44	228	234	0·44	0·26	76	55	0·17	0·11	254	241	0·04	0·03	80	59
Arithmetic mean	1·46	1·33			0·30	0·30			0·13	0·13			0·10	0·04		
Year	1·47	1·33	308	240	0·25	0·30	110	66	0·06	0·05	100	38	0·03	0·02	1	234
Winter*	0·63	0·61	240	236	0·24	0·31	77	56	0·07	0·10	291	232	0·02	0·13	115	92
Equinox*	1·64	1·45	250	239	0·42	0·41	108	67	0·04	0·05	57	6	0·07	0·08	301	228
Summer*	2·08	1·93	257	242	0·20	0·18	153	82	0·21	0·20	111	57	0·07	0·02	38	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 1939

Absolute observations of declination, horizontal force and inclination were made weekly at Valentia Observatory up to October 19 and irregularly thereafter to the end of the year. The instruments in use were Dover unifilar, No. 139, with collimator magnet 139A and mirror magnet 139C, and Dover dip circle, No. 118. These instruments are the same as in previous years except that Dover dip circle, No. 239 was used from May 1930 to October 1931. The mean times of observations were 10·23 for declination, 11·40 for horizontal force and 14·31 for inclination, all according to Greenwich Mean Time. In the individual observations the greatest departure from the mean time in any element was 5 min. The deflection of the mirror magnet was measured for two distances of the collimator magnet, namely, 30 cm. and 40 cm. The complete deflection observation consisted of eight readings of the mirror magnet. The distribution constant, P, used for 1939 was computed from the mean deflections for 30 cm. and 40 cm. for the seven years 1932–1938 inclusive. The mean P so obtained was 7·45. 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 8·3′ as compared with 1938. From 1937 to 1938 the decrease was 9·3′ and in the previous twelve months 9·9′. The average annual decrease for 5-year periods since 1910 is as follows:-

1910–15	1915–20	1920–25	1925–30	1930–35	1934–39
8·2′	9·2′	11·1′	11·0′	10·7′	9·9′

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

Northerly inclination was unchanged from 1938 to 1939. The results of the past ten years 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 1939 was 0·3′. It would however be premature to assume that inclination is increasing at a specified rate.

Up to 1920 the mean annual values of horizontal force had shown a steady decline from year to year. In the years 1921 to 1924, 1927, 1931, 1933, 1934, 1937, 1938 and in 1939 the change was in the opposite direction, each year having a mean value higher than that of the preceding year.

The amount of annual change is shown in the following table:-

Period	Annual change
1910–15	5γ decrease (mean value)
1915–20	6γ decrease (mean value)
1920–25	2γ increase (mean value)
1925–26	14γ decrease
1926–27	2γ increase
1927–28	11γ decrease
1928–29	5γ decrease
1929–30	8γ decrease
1930–31	2γ increase

Period	Annual change
1931–32	6γ decrease
1932–33	2γ increase
1933–34	1γ increase
1934–35	8γ decrease
1935–36	3γ decrease
1936–37	1γ increase
1937–38	6γ increase
1938–39	13γ 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-year periods since 1910 is as follows:-

1910-15	1915-20	1920-25	1925-30	1930-35
49γ	33γ	32γ	20γ	22γ

Total force, which until 1935 had continued to decrease but at an apparently diminishing rate, has this year shown an increase of 37γ on the value for 1938. This is the fourth successive year in which an increase is shown, the amount being 1γ in 1936, 15γ in 1937 and 25γ in 1938. 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 4γ 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 31γ 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 suggests that a minimum was reached in that year.

TABLE C - ABSOLUTE MAGNETIC OBSERVATIONS, 1939
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 5 min. from the mean time mentioned.

	Westerly declination		Horizontal force	Northerly inclination	
	°	′	γ	°	′
Jan. 6	15	58·7	17818	67	57·6
13	16	00·4	17844	67	56·3
20	15	59·4	17842	67	57·0
27	15	59·8	17826	67	56·4
Feb. 3	15	59·6	17821	67	58·6
10	15	59·3	17791*	67	58·4
17	15	59·2	17832	67	59·0
23	15	58·0	17823	67	56·5
Mar. 3	15	57·7	17833	67	57·2
10	15	56·7	17828	67	57·1
16	15	59·9*	17819	67	58·3
24	15	54·5	17820	67	58·1
31	15	54·3	17793	67	59·4
Apr. 6	15	53·6	17821	67	58·9
14	15	55·5	17826	67	58·5
21	15	53·1	17780	67	59·1
28	15	54·4	17790	67	59·7
May 6	15	56·1*	17798	67	59·1
12	15	54·6	17832	67	58·3
19	15	57·0	17815	67	58·8
26	15	55·9	17824	67	58·3
June 2	15	53·2	17842	67	58·3
9	15	51·1	17840	67	57·4
16	15	52·6*	17807	67	58·6
23	15	49·8	17827	67	58·0
July 1	15	55·9*	17817	67	58·0
15	15	54·7	17806	67	59·3
21	15	51·6	17763	68	01·3
29	15	51·0	17821	67	58·7
Aug. 4	15	54·3	17824	67	57·7
12	15	51·5*	17726*	67	59·7*
19	15	50·8	17836	67	57·6
25	15	55·3	17842	67	59·8
Sept. 1	15	54·1	17842	67	57·4
15	15	50·6	17811	67	58·6
21	15	52·0	17798	68	00·1
28	15	49·7	17832	67	57·9
Oct. 5	15	55·2	17783	67	59·7
12	15	50·7	17797	67	58·9
19	15	57·4	17794	67	59·6
Nov. 6	15	51·0	17833	67	57·5
20	15	50·0	17837	67	58·2
Dec. 14	15	49·7	17850	67	57·7
18	15	52·0*	17843	67	57·4
23	15	51·3	17828	67	57·8

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

TABLE D - MAGNETIC DATA FOR THE YEAR 1939
VALENTIA OBSERVATORY, LATITUDE 51°56'N. LONGITUDE 10°15'W.

	Declination (West)		Inclination (North)		Horizontal force	North	West	Vertical force	Total
1939	°	′	°	′	γ	γ	γ	γ	γ
January	15	59·6	67	56·8	17833	17143	4913	44020	47495
February	15	59·0	67	58·1	17825	17136	4908	44048	47518
March	15	55·8	67	58·0	17819	17134	4891	44029	47499
April	15	54·1	67	59·1	17804	17123	4878	44033	47496
May	15	55·8	67	58·6	17817	17132	4890	44046	47514
June	15	51·4	67	58·1	17829	17151	4871	44059	47529
July	15	52·4	67	59·3	17802	17123	4869	44035	47499
August	15	53·5	67	58·4	17834	17153	4883	44082	47552
September ..	15	51·6	67	58·5	17821	17142	4870	44052	47521
October	15	54·4	67	59·4	17791	17110	4876	44012	47472
November	15	50·5	67	57·9	17835	17157	4869	44066	47538
December	15	50·5	67	57·6	17840	17162	4870	44067	47540
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

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

163 VALENTIA OBSERVATORY: h_b (height of barometer cistern above M.S.L.) = 13·7 m. 1939

	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE		
	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean
	millibars																	
1	01·4	88·6	93·2	11·6	06·3	08·4	00·3	87·7	93·3	04·8	98·4	01·8	20·2	17·6	18·6	27·4	23·9	25·3
2	12·8	01·4	09·4	15·8	11·6	13·8	97·8	91·0	92·9	02·6	84·6	95·7	20·0	15·4	18·0	27·3	25·2	26·4
3	12·8	96·7	06·3	17·0	14·7	15·7	99·9	87·0	95·4	85·5	79·1	83·5	15·4	07·7	11·0	27·1	23·6	25·2
4	10·8	95·8	02·5	17·4	13·5	16·1	97·0	87·9	94·2	84·1	77·0	79·6	07·7	91·9	97·1	23·9	20·5	21·8
5	11·4	08·9	10·1	13·5	10·3	11·5	11·9	95·8	05·1	02·6	84·1	92·3	92·3	90·0	90·8	22·1	21·0	21·5
6	12·1	07·3	09·3	11·9	05·5	08·3	21·8	11·7	16·5	15·7	02·6	09·9	01·8	92·3	96·6	23·0	20·7	21·6
7	07·3	05·0	06·1	15·8	06·0	10·3	28·9	21·8	26·7	16·5	11·4	15·2	11·0	01·8	07·5	26·1	22·7	24·2
8	05·3	00·2	02·7	15·4	03·3	08·9	28·5	24·5	26·0	11·4	09·3	10·4	19·1	10·5	14·8	29·3	25·7	27·9
9	08·1	01·4	03·7	18·5	07·1	13·2	28·2	25·2	26·5	10·7	03·2	07·0	26·9	18·7	23·0	29·2	22·6	26·2
10	08·9	99·1	05·5	25·8	18·4	22·3	28·2	25·2	27·2	06·2	02·6	03·9	28·7	26·6	27·7	22·6	13·9	17·4
11	99·7	96·9	98·5	25·8	20·1	21·6	35·4	22·2	27·8	07·4	04·1	05·4	28·5	27·8	28·2	16·1	12·8	14·4
12	99·8	97·6	98·9	26·6	19·4	23·3	40·4	35·3	38·1	06·6	00·0	03·3	27·9	25·1	26·3	20·4	15·9	18·1
13	00·3	95·7	99·2	34·6	26·4	30·2	41·5	40·0	40·6	02·0	97·6	99·2	27·5	24·7	26·5	19·8	11·7	16·3
14	95·9	65·0	80·9	34·8	32·0	33·8	41·3	39·2	40·2	12·6	97·4	03·9	24·7	16·6	20·9	11·7	00·9	06·8
15	72·1	63·2	67·5	32·0	24·2	27·2	39·3	35·5	37·9	13·4	11·2	12·2	16·9	15·1	16·0	04·6	99·8	02·0
16	76·3	63·0	68·2	26·7	21·0	25·2	35·5	27·0	30·6	19·6	12·5	17·6	18·0	16·3	17·2	08·8	04·4	06·3
17	79·4	72·1	75·3	21·0	08·8	13·5	28·9	25·0	26·0	33·8	19·6	26·6	17·7	11·1	13·6	08·1	99·6	03·3
18	02·7	74·3	88·3	20·9	17·9	19·7	31·6	27·2	29·9	35·7	33·6	34·9	11·4	10·3	10·9	19·5	04·4	12·3
19	04·9	92·7	98·9	25·9	17·8	23·0	27·2	24·7	25·9	35·4	33·3	34·5	11·0	09·2	09·8	23·5	19·5	22·0
20	92·8	84·4	88·7	25·9	08·5	19·2	27·2	24·1	25·4	33·3	28·3	30·8	11·7	09·0	10·1	22·8	20·9	21·8
21	08·2	81·6	95·1	08·5	98·9	00·9	25·7	10·0	18·5	28·3	19·9	23·2	14·7	09·8	11·2	23·4	19·6	22·1
22	07·2	79·0	89·0	91·1	83·2	89·2	10·2	04·2	06·7	25·4	21·3	23·6	20·2	14·7	18·7	19·6	15·4	16·4
23	23·9	94·9	15·7	98·1	85·6	90·9	07·9	99·5	04·4	21·3	04·2	12·4	24·8	19·6	22·2	15·8	07·9	11·4
24	23·7	05·8	15·9	09·1	98·1	05·9	07·4	02·8	05·1	04·2	97·4	00·2	33·9	24·8	30·4	10·9	06·4	08·2
25	06·1	97·9	02·9	08·9	04·6	06·1	24·3	07·4	16·1	15·4	97·4	07·2	33·8	30·9	32·5	11·4	09·6	10·2
26	12·3	01·4	08·7	13·5	08·6	10·4	28·3	24·3	26·9	21·9	15·4	18·0	30·9	28·8	29·8	16·3	11·1	13·6
27	14·9	12·2	13·8	13·1	92·2	03·6	25·5	13·9	19·0	28·4	21·9	25·3	30·0	28·7	29·4	16·2	00·7	09·1
28	15·6	13·3	14·4	99·9	79·3	88·5	13·9	07·5	09·7	29·2	26·1	27·9	30·3	29·2	29·9	06·7	97·2	00·3
29	15·4	12·0	13·6				07·5	03·0	04·8	26·1	24·4	25·3	30·0	26·5	28·1	10·4	06·7	09·1
30	13·0	09·2	11·8				09·1	04·9	07·0	25·5	20·2	23·2	27·0	26·0	26·6	15·7	09·0	11·5
31	09·4	05·7	07·3				09·0	04·8	07·0				26·2	23·9	24·6			
Mean	05·31	94·27	00·04	17·11	08·69	12·89	21·28	14·20	17·79	15·52	07·64	11·79	20·65	16·15	18·32	18·66	13·11	15·76

	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	19·8	15·7	18·8	20·4	14·6	18·4	07·4	03·1	05·9	10·1	03·8	06·3	98·5	94·2	96·6	12·5	99·9	06·3
2	19·1	15·1	16·8	20·0	12·7	17·4	05·9	00·8	02·9	15·4	10·0	12·5	96·3	93·0	95·0	20·3	12·5	17·3
3	15·1	02·8	09·2	18·9	12·5	15·3	09·9	00·8	04·3	15·4	10·3	13·9	93·0	82·1	89·1	17·6	98·7	04·4
4	02·8	93·9	97·5	21·2	18·8	20·4	14·7	09·9	13·3	10·3	88·0	99·6	96·8	81·1	88·6	98·7	91·2	93·3
5	03·7	96·7	99·3	20·6	14·1	17·3	12·9	08·2	10·1	92·3	85·5	87·2	96·8	69·4	81·7	12·5	92·4	02·1
6	03·9	99·1	02·3	14·1	09·0	11·2	17·5	12·9	15·1	11·1	92·3	02·0	88·8	83·1	86·4	17·6	12·2	15·4
7	11·2	01·8	06·2	09·0	03·7	05·7	17·3	13·3	15·1	14·7	08·9	12·8	86·7	75·1	82·0	12·2	03·7	06·4
8	12·3	03·5	07·2	11·0	07·6	09·7	20·3	13·8	17·0	08·9	95·0	99·7	94·3	77·1	82·8	10·4	01·1	06·0
9	21·6	12·3	16·6	07·6	01·3	04·5	20·7	19·3	19·9	99·4	96·4	97·9	05·4	94·3	01·0	08·4	96·0	00·0
10	26·8	21·6	25·1	13·4	04·8	08·9	19·3	13·1	15·5	99·2	94·2	96·5	05·4	00·7	03·3	18·6	02·8	11·2
11	26·6	21·7	24·3	22·7	13·4	18·4	22·4	16·0	19·0	00·2	98·6	99·5	08·2	90·0	03·3	23·5	18·6	21·7
12	21·7	08·1	16·2	23·2	22·0	22·7	22·4	16·2	20·8	99·9	98·8	99·3	09·9	05·4	08·5	23·2	20·0	21·3
13	08·2	97·5	01·1	23·2	21·3	22·2	16·2	15·1	15·6	93·5	92·4	94·7	07·6	02·1	05·7	23·2	07·5	17·4
14	98·2	95·5	96·7	26·2	22·1	23·9	19·9	15·5	17·4	99·2	93·4	96·0	07·8	93·8	01·8	14·6	09·4	12·2
15	05·3	98·2	02·1	27·3	25·8	26·8	21·5	19·6	20·3	07·1	91·1	02·0	09·9	95·4	03·9	13·0	08·6	10·1
16	04·9	03·2	04·0	27·2	24·6	26·0	25·9	21·4	23·4	16·3	07·1	12·6	10·8	99·1	04·3	25·9	13·0	19·9
17	04·0	01·8	02·7	24·6	20·6	22·1	30·0	25·9	27·6	18·6	15·8	17·0	23·6	10·7	17·5	27·0	25·4	26·0
18	06·3	03·5	04·7	20·6	19·2	19·7	31·9	30·0	30·6	22·9	18·5	19·7	23·8	11·0	17·7	25·5	20·6	22·6
19	10·0	05·2	06·4	19·2	17·4	18·3	31·8	27·9	29·9	26·2	22·8	24·8	32·2	18·3	27·4	20·7	19·2	20·0
20	15·1	10·0	12·3	17·4	13·5	14·6	28·4	25·4	26·5	26·3	25·4	25·8	33·0	31·2	32·1	23·6	20·6	22·2
21	15·4	13·1	14·7	13·7	12·5	12·9	25·8	24·2	25·0	25·8	25·0	25·4	33·0	25·5	30·1	24·6	23·1	23·7
22	13·8	11·2	12·9	16·4	13·1	14·5	25·0	23·9	24·6	28·0	25·7	27·1	25·6	17·7	20·1	25·9	24·3	24·9
23	12·7	07·2	10·0	17·2	16·1	16·7	27·0	23·8	25·0	27·7	18·3	25·7	18·0	12·4	14·5	25·0	23·5	24·1
24	15·0	08·1	11·2	16·3	11·2	13·4	29·1	27·0	28·1	24·7	22·2	23·3	26·9	18·0	23·7	23·9	21·4	22·5
25	17·6	14·3	15·6	11·3	06·7	08·7	28·7	23·5	25·9	22·8	21·4	22·2	25·4	97·7	10·1	21·4	18·5	19·7
26	17·5	14·5	16·4	10·0	05·1	07·1	23·5	21·0	21·8	23·3	17·4	20·0	97·7	93·7	96·7	23·8	19·7	21·6
27	14·5	08·5	11·7	12·8	09·9	10·9	22·9	21·7	22·4	23·8	20·6	22·6	09·6	90·3	96·4	25·7	23·0	24·3
28	08·5	00·8	03·4	14·0	12·2	13·1	22·3	14·3	18·4	20·6	18·8	19·4	12·0	03·8	08·6	23·0	19·1	21·0
29	05·1	01·2	02·7	13·7	09·9	11·5	14·3	07·2	10·5	19·0	14·0	16·6	13·5	07·0	10·8	19·1	12·8	16·4
30	06·4	01·1	03·1	10·6	06·0	08·3	07·2	02·7	04·2	14·0	11·4	12·7	15·9	11·0	14·0	12·8	08·4	09·9
31	14·7	06·4	11·6	06·0	01·2	02·7				12·4	98·5	05·0				08·4	04·8	06·8
Mean	12·19	06·25	09·12	17·09	13·64	14·95	20·74	16·58	18·53	13·85	07·79	10·96	10·17	99·12	05·13	18·79	12·00	15·19
									Annual	15·93	09·12	12·53						

PRESSURE AT STATION LEVEL

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

164 VALENTIA OBSERVATORY: h_b = 13·7 m. 1939

	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.	99·98	00·01	00·04	00·18	00·08	99·85	99·67	99·77	00·16	00·46	00·61	00·48	00·27	99·80	99·48	99·44	99·49	99·67	99·82	00·05	00·28	00·33	00·36	00·40	00·43	00·04
Feb.	13·69	13·61	13·28	13·14	12·80	12·64	12·51	12·35	12·43	12·48	12·44	12·50	12·64	12·60	12·45	12·39	12·44	12·64	12·92	13·25	13·39	13·54	13·59	13·67	13·44	12·89
Mar.	17·81	17·82	17·84	17·75	17·60	17·67	17·78	17·90	18·11	18·19	18·26	18·30	18·25	18·04	17·73	17·47	17·33	17·28	17·37	17·54	17·67	17·75	17·73	17·79	17·97	17·79
Apr.	11·61	11·52	11·34	11·20	11·18	11·26	11·41	11·64	11·89	12·01	12·10	12·19	12·20	12·10	11·99	11·81	11·68	11·59	11·69	11·77	12·02	12·25	12·22	12·14	12·13	11·79
May	18·58	18·44	18·23	18·09	17·95	17·97	18·11	18·28	18·30	18·37	18·36	18·34	18·35	18·30	18·25	18·20	18·15	18·13	18·17	18·28	18·45	18·70	18·78	18·79	18·72	18·32
June	16·31	16·06	15·85	15·57	15·40	15·42	15·51	15·62	15·79	15·85	15·83	15·81	15·76	15·73	15·65	15·66	15·60	15·57	15·54	15·68	15·84	16·05	16·20	16·12	16·02	15·76
July	09·56	09·34	09·09	08·91	08·72	08·70	08·70	08·81	08·91	08·92	08·92	08·95	08·94	09·03	09·07	09·04	09·06	09·15	09·22	09·33	09·47	09·70	09·73	09·70	09·52	09·12
Aug.	15·47	15·29	15·05	14·80	14·62	14·55	14·65	14·81	14·93	15·00	15·01	15·05	15·01	14·99	14·94	14·88	14·76	14·74	14·75	14·86	15·03	15·21	15·26	15·21	15·09	14·95
Sept.	18·85	18·71	18·53	18·32	18·18	18·09	18·25	18·45	18·58	18·75	18·82	18·75	18·70	18·61	18·37	18·22	18·18	18·16	18·27	18·44	18·75	18·89	18·95	18·93	18·88	18·53
Oct.	11·37	11·26	11·09	10·87	10·77	10·71	10·75	10·82	11·03	11·15	11·25	11·21	11·05	10·79	10·57	10·45	10·43	10·60	10·83	11·04	11·20	11·29	11·28	11·23	11·18	10·96
Nov.	05·42	05·15	04·89	04·67	04·53	04·55	04·73	04·84	04·99	05·15	05·29	05·36	05·10	04·84	04·75	04·68	04·72	04·98	05·25	05·56	05·73	05·84	05·96	05·87	05·83	05·13
Dec.	15·79	15·59	15·39	15·33	15·11	14·83	14·67	14·73	14·83	15·05	15·36	15·43	15·23	14·99	14·77	14·71	14·87	14·98	15·19	15·31	15·52	15·68	15·69	15·63	15·59	15·19
Annual	12·86	12·73	12·54	12·40	12·24	12·18	12·22	12·33	12·49	12·61	12·69	12·70	12·62	12·48	12·33	12·24	12·22	12·28	12·41	12·58	12·77	12·93	12·97	12·95	12·89	12·53

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.

165 VALENTIA OBSERVATORY: h_b = 13·7 m. 1939

	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.	01·65	01·68	01·71	01·85	01·75	01·52	01·34	01·44	01·83	02·13	02·28	02·15	01·94	01·47	01·15	01·11	01·16	01·34	01·49	01·72	01·95	02·00	02·03	02·07	02·10	01·71
Feb.	15·37	15·29	14·96	14·83	14·48	14·32	14·19	14·03	14·11	14·16	14·12	14·17	14·32	14·28	14·12	14·06	14·11	14·32	14·60	14·93	15·07	15·23	15·28	15·36	15·13	14·57
Mar.	19·51	19·52	19·54	19·45	19·30	19·37	19·48	19·60	19·81	19·88	19·95	19·99	19·93	19·72	19·41	19·15	19·01	18·96	19·06	19·23	19·36	19·44	19·42	19·49	19·67	19·48
Apr.	13·29	13·20	13·02	12·88	12·86	12·94	13·09	13·32	13·56	13·68	13·77	13·85	13·86	13·76	13·65	13·47	13·34	13·25	13·36	13·44	13·69	13·92	13·89	13·81	13·81	13·46
May	20·26	20·12	19·91	19·77	19·63	19·65	19·79	19·95	19·97	20·03	20·02	19·99	20·00	19·95	19·90	19·85	19·80	19·78	19·82	19·94	20·12	20·37	20·45	20·46	20·40	19·99
June	17·97	17·72	17·51	17·24	17·07	17·09	17·17	17·27	17·44	17·50	17·47	17·45	17·40	17·37	17·29	17·30	17·24	17·21	17·18	17·32	17·49	17·70	17·85	17·77	17·68	17·41
July	11·21	10·99	10·74	10·56	10·37	10·35	10·35	10·45	10·55	10·56	10·56	10·59	10·57	10·66	10·70	10·67	10·69	10·78	10·86	10·97	11·11	11·34	11·37	11·34	11·16	10·76
Aug.	17·12	16·94	16·70	16·45	16·27	16·20	16·30	16·46	16·57	16·64	16·65	16·69	16·64	16·62	16·57	16·51	16·39	16·38	16·39	16·50	16·67	16·86	16·91	16·86	16·74	16·59
Sept.	20·50	20·36	20·18	19·97	19·84	19·75	19·91	20·11	20·23	20·40	20·47	20·39	20·34	20·25	20·01	19·86	19·82	19·80	19·92	20·09	20·40	20·54	20·60	20·58	20·53	20·18
Oct.	13·04	12·93	12·76	12·55	12·45	12·39	12·43	12·50	12·71	12·82	12·92	12·87	12·71	12·45	12·23	12·11	12·09	12·26	12·49	12·71	12·87	12·96	12·95	12·90	12·85	12·63
Nov.	07·08	06·81	06·55	06·33	06·19	06·20	06·39	06·49	06·64	06·80	06·94	07·01	06·75	06·49	06·40	06·33	06·37	06·63	06·90	07·21	07·38	07·49	07·61	07·52	07·49	06·78
Dec.	17·49	17·29	17·09	17·03	16·81	16·53	16·37	16·43	16·53	16·75	17·06	17·13	16·93	16·69	16·46	16·40	16·57	16·68	16·89	17·01	17·22	17·38	17·39	17·33	17·29	16·89
Annual	14·54	14·41	14·22	14·07	13·91	13·85	13·89	14·00	14·16	14·28	14·36	14·37	14·29	14·14	13·98	13·89	13·88	13·94	14·07	14·25	14·44	14·60	14·64	14·63	14·57	14·20

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.

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	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.	79·35	79·24	79·32	79·25	79·18	79·12	78·93	79·02	78·97	79·17	79·36	79·63	79·95	80·28	80·31	80·31	80·29	80·17	80·25	80·12	80·00	79·86	79·49	79·41	79·28	79·62
Feb.	81·40	81·41	81·28	81·13	81·30	81·29	81·16	81·27	81·35	81·49	81·80	82·07	82·24	82·36	82·56	82·57	82·52	82·25	82·00	81·84	81·61	81·41	81·34	81·33	81·39	81·71
Mar.	80·04	79·89	79·79	79·64	79·52	79·44	79·47	79·62	79·95	80·48	80·92	81·44	81·80	81·96	82·08	82·21	82·05	81·85	81·49	81·02	80·87	80·67	80·46	80·23	80·11	80·71
Apr.	81·43	81·23	81·06	80·82	80·77	80·70	80·71	81·21	82·12	82·88	83·34	83·82	84·20	84·39	84·56	84·50	84·24	83·89	83·55	83·08	82·50	82·30	81·96	81·66	81·39	82·54
May	83·18	82·95	82·86	82·71	82·60	82·47	82·96	84·26	85·27	86·05	86·44	86·83	87·07	87·23	87·45	87·45	87·52	87·17	86·74	86·18	85·42	84·77	84·34	83·79	83·33	85·16
June	86·31	85·94	85·59	85·34	85·18	84·98	85·59	86·88	87·81	88·43	89·10	89·62	89·89	90·01	90·14	90·26	90·09	89·87	89·42	88·77	88·11	87·47	86·92	86·73	86·30	87·85
July	86·45	86·32	86·20	86·20	86·12	85·97	86·29	86·90	87·21	87·55	87·95	88·35	88·64	88·73	88·85	88·91	88·66	88·54	88·17	87·88	87·47	87·09	86·82	86·59	86·55	87·41
Aug.	87·57	87·33	87·25	87·14	86·99	86·95	86·96	87·61	88·69	89·43	89·84	90·18	90·54	90·74	90·92	90·84	90·65	90·33	89·96	89·47	88·82	88·39	88·21	87·96	87·65	88·87
Sept.	86·89	86·70	86·70	86·47	86·20	86·14	86·07	86·27	86·93	87·72	88·47	89·07	89·48	89·52	89·71	89·58	89·32	88·99	88·47	87·87	87·47	87·21	87·06	86·84	86·68	87·71
Oct.	82·32	82·03	81·72	81·55	81·54	81·48	81·41	81·46	81·55	82·32	83·26	83·96	84·58	84·95	85·11	85·05	84·82	84·39	83·74	83·35	83·11	82·90	82·70	82·59	82·28	82·99
Nov.	83·37	83·36	83·33	83·26	83·42	83·47	83·36	83·49	83·56	83·74	83·91	84·30	84·64	84·57	84·54	84·50	84·31	84·09	83·97	83·98	83·95	83·73	83·57	83·61	83·48	83·84
Dec.	79·40	79·28	79·13	78·99	78·98	78·84	78·62	78·63	78·62	78·60	78·82	79·30	79·86	80·34	80·59	80·54	80·39	79·95	79·61	79·42	79·41	79·36	79·26	79·25	79·27	79·38
Annual	83·14	82·97	82·85	82·71	82·65	82·57	82·63	83·05	83·50	83·99	84·44	84·88	85·25	85·43	85·57	85·57	85·41	85·13	84·79	84·42	84·07	83·77	83·51	83·33	83·14	83·98

The initial 2 or 3 of the readings is omitted, i.e. 275·00 degrees Absolute is printed 75·00.

Add 0·16° to obtain temperature in degrees Kelvin where $T(°K.) = t(°C.) + 273·16$.

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 $T(^{\circ}K.) = t(^{\circ}C.) + 273{\cdot}16$.

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	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	82·1	78·1	79·9	82·8	79·9	81·5	83·2	77·0	80·7	83·0	77·0	81·3	87·6	78·9	82·5	96·0	82·9	89·2
2	80·0	77·7	79·1	82·1	81·0	81·5	81·0	78·4	79·7	84·0	76·6	80·9	86·1	76·2	81·9	96·2	82·2	89·7
3	80·8	75·6	78·4	82·9	81·1	82·0	83·0	78·8	81·1	84·5	78·9	82·1	85·4	79·9	83·0	97·0	81·2	89·5
4	78·9	73·0	76·9	83·7	82·8	83·3	83·9	80·3	81·8	83·8	80·3	81·7	85·4	81·4	83·4	96·1	80·9	88·9
5	79·0	72·8	76·9	85·0	83·4	84·1	84·1	80·0	81·7	83·3	78·9	81·1	86·0	79·0	83·0	97·0	83·0	90·0
6	84·2	76·4	80·8	84·8	83·8	84·2	82·6	78·8	81·0	82·7	76·2	79·5	86·9	78·1	83·0	96·4	84·4	90·7
7	85·2	83·6	84·5	85·6	83·7	84·6	82·3	77·0	80·6	83·9	73·5	79·6	87·2	82·4	84·7	94·3	86·5	89·9
8	85·0	81·9	83·9	84·2	82·0	83·5	83·6	81·4	82·6	85·5	81·5	83·4	87·3	84·4	85·5	91·0	85·4	87·8
9	83·7	80·3	82·5	85·8	81·4	83·6	84·6	79·7	82·5	84·8	82·9	83·7	88·0	84·9	86·0	91·6	84·0	87·9
10	81·1	76·1	78·8	85·7	83·8	84·9	83·3	78·9	81·5	86·4	83·5	85·0	90·1	84·4	87·1	90·3	84·2	87·7
11	78·3	75·5	77·0	85·5	83·3	84·3	83·0	78·9	81·8	89·0	82·9	85·4	92·0	84·4	88·1	87·8	84·0	86·2
12	79·0	72·6	75·9	84·0	80·0	82·0	82·5	75·0	78·5	85·4	82·5	84·3	89·3	83·9	86·8	87·9	84·1	86·0
13	79·0	74·5	76·8	82·5	77·6	81·2	83·0	74·9	80·1	87·2	82·5	84·7	88·1	80·7	85·2	90·0	84·4	87·1
14	85·2	79·0	82·4	83·6	76·0	80·6	82·4	80·4	81·4	85·4	82·3	83·7	86·0	84·3	84·9	90·1	86·7	87·6
15	84·1	80·0	82·5	84·1	81·1	82·3	84·1	81·5	82·6	86·2	82·7	84·7	85·9	83·1	84·4	89·0	84·8	87·7
16	83·1	81·4	82·6	81·5	77·8	80·0	83·1	81·1	82·1	86·0	81·9	84·1	86·8	82·4	84·1	88·8	83·2	86·1
17	83·0	80·5	82·1	84·0	79·1	81·9	83·8	78·4	82·0	85·0	81·0	83·1	86·0	82·4	83·9	90·3	84·9	87·3
18	82·6	81·0	81·7	84·0	82·4	83·2	83·0	73·9	79·5	86·6	77·2	82·1	85·7	81·0	83·6	89·0	85·4	87·1
19	84·6	79·9	82·4	83·6	78·1	81·6	83·3	79·4	81·7	86·6	81·0	83·8	86·0	78·3	82·7	90·6	84·0	87·8
20	83·1	80·0	82·3	83·8	77·8	81·8	84·1	79·1	81·6	87·3	80·5	83·9	86·9	80·0	83·7	90·1	86·0	87·5
21	84·1	76·7	81·5	84·0	77·7	81·1	84·6	80·1	82·6	86·4	80·3	83·2	87·6	81·0	84·9	92·8	86·0	89·0
22	83·7	76·9	82·0	79·5	77·0	78·4	82·4	77·1	79·8	84·0	80·6	82·4	88·6	81·5	85·8	91·4	87·2	89·3
23	81·8	76·2	80·2	80·3	75·6	78·2	79·9	77·0	78·6	84·9	81·8	83·4	88·2	85·9	86·9	92·0	85·2	88·7
24	79·4	74·1	76·9	81·4	74·3	78·9	83·0	79·0	81·0	84·0	79·0	81·5	87·9	82·2	85·2	89·4	84·2	86·6
25	77·9	73·9	76·3	82·1	78·4	80·7	82·4	78·6	80·5	84·1	79·0	81·6	89·2	80·9	85·5	87·0	82·8	85·0
26	79·7	74·8	78·0	80·9	77·4	79·5	80·4	75·9	77·9	83·3	77·0	80·5	89·1	78·2	85·0	91·4	78·4	85·9
27	78·7	75·9	77·0	82·3	77·9	80·1	80·0	74·7	77·7	84·9	75·8	80·9	89·6	86·0	87·1	89·0	85·5	87·6
28	78·1	74·5	76·1	80·3	76·1	78·5	80·5	74·2	77·7	84·0	77·4	81·4	90·4	83·3	87·6	90·9	85·7	88·6
29	77·2	74·4	76·1				81·9	77·9	79·4	84·6	78·9	82·3	93·7	81·7	88·2	89·9	84·8	87·4
30	78·8	76·2	77·3				83·6	78·3	80·9	83·6	75·2	80·9	92·7	79·7	87·4	88·3	83·9	85·8
31	80·1	78·8	79·6				82·3	79·2	81·2				95·4	82·4	88·8			
Mean	81·3	77·2	79·6	83·2	79·7	81·7	82·7	78·2	80·7	85·0	79·6	82·5	88·2	81·7	85·2	91·4	84·2	87·9

	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	88·8	84·0	86·3	90·0	86·0	88·2	93·2	89·5	91·2	87·8	80·8	84·2	84·5	82·2	83·4	86·8	82·3	85·4
2	89·1	85·2	87·1	88·8	86·2	87·4	92·2	88·7	90·8	87·4	80·9	83·7	85·7	82·4	83·9	83·6	80·4	82·2
3	88·8	85·8	87·3	89·0	85·2	87·1	92·0	87·9	89·7	86·6	80·9	83·6	85·7	83·0	84·4	83·9	77·4	81·5
4	91·8	87·4	88·4	90·7	85·0	88·1	91·0	84·7	88·4	86·9	82·4	83·9	84·4	81·4	83·2	82·4	79·0	81·0
5	89·5	84·1	86·4	90·4	81·8	86·6	91·9	88·3	90·1	89·0	84·1	85·9	85·8	79·0	83·1	82·9	79·9	81·5
6	89·1	84·4	86·9	90·3	85·8	87·5	92·4	84·9	88·5	86·0	82·6	84·4	85·0	82·6	84·0	82·1	75·0	79·5
7	89·4	85·9	87·6	90·2	86·5	88·0	91·9	85·3	88·0	86·0	77·2	83·2	85·3	83·0	84·1	85·1	81·0	82·8
8	89·6	85·0	87·2	90·1	86·2	88·0	91·8	85·0	88·9	87·8	84·6	86·0	85·5	83·3	84·5	84·1	79·7	82·4
9	89·8	85·4	87·9	90·4	86·9	88·5	90·7	84·2	87·7	85·8	82·9	84·2	85·0	82·7	82·8	85·9	82·9	84·3
10	90·4	84·8	87·5	90·0	85·5	88·0	90·8	87·7	89·4	87·2	84·5	85·9	85·5	79·9	84·4	83·8	81·0	82·9
11	91·3	82·9	87·4	90·1	86·9	88·5	90·3	86·8	88·5	87·9	84·3	85·6	85·4	80·8	83·8	82·4	79·4	81·7
12	91·6	84·4	88·4	91·1	84·9	88·4	89·9	85·3	88·3	87·3	83·9	85·7	85·1	78·5	82·8	81·5	75·3	78·5
13	89·6	86·3	88·3	91·0	88·1	89·6	89·5	86·1	87·8	87·9	81·9	85·1	86·2	84·7	85·4	82·9	80·0	81·5
14	89·9	86·4	87·5	91·7	85·9	89·3	89·4	86·0	87·6	86·2	80·0	83·0	86·1	83·0	84·5	81·1	76·5	79·9
15	88·4	86·0	86·7	91·1	85·9	88·8	88·1	83·7	86·0	84·3	78·1	81·6	85·0	82·1	83·7	80·3	73·8	77·0
16	86·8	85·3	86·1	91·0	85·0	88·3	90·4	83·0	86·6	84·0	76·2	80·0	86·9	82·7	86·0	80·4	75·9	78·6
17	89·8	85·0	87·0	91·3	83·7	87·9	91·0	82·1	87·0	83·9	75·6	79·3	86·9	85·5	86·5	77·8	73·6	75·5
18	89·5	85·4	87·4	90·3	84·9	88·1	91·1	82·7	87·2	85·0	74·6	80·0	86·0	83·4	85·4	77·0	73·4	75·5
19	89·0	85·1	86·8	90·8	82·9	87·0	89·0	82·0	85·7	84·8	75·0	79·5	84·9	80·9	83·7	77·1	75·0	76·1
20	88·3	85·8	86·8	90·0	81·8	86·7	90·0	85·4	87·5	(85·0)	76·0	81·6	83·9	79·1	82·2	80·4	71·9	76·1
21	89·1	85·5	87·0	89·4	83·6	86·0	89·0	84·9	87·0	86·7	83·5	85·3	84·9	80·9	83·3	81·9	78·2	80·3
22	89·2	86·0	87·3	91·3	82·7	87·3	89·5	85·8	87·7	85·9	83·3	84·8	86·0	80·8	83·7	79·0	72·8	75·9
23	88·9	84·8	86·9	92·0	80·5	87·2	89·5	83·5	87·3	86·8	83·2	85·3	81·7	80·0	80·7	77·4	71·4	73·4
24	88·1	83·9	86·2	92·9	88·0	90·1	88·5	82·1	85·8	85·8	83·9	85·0	82·5	79·8	80·9	77·6	70·4	73·0
25	89·1	85·3	87·2	92·9	89·3	91·0	89·0	84·9	86·9	85·5	83·3	84·7	86·1	77·7	83·4	79·6	71·5	74·9
26	91·1	82·5	87·8	93·6	89·7	91·3	88·8	84·9	86·7	85·4	79·0	83·0	86·0	82·1	83·8	81·2	72·0	75·9
27	91·9	88·4	89·4	94·0	89·1	91·5	88·1	85·8	86·9	82·1	76·1	79·5	83·4	80·4	82·3	81·9	75·9	79·2
28	90·5	87·2	89·1	94·5	91·2	92·4	87·2	84·1	86·0	82·6	75·5	79·0	86·0	80·9	83·7	82·1	78·9	80·8
29	91·0	85·4	88·3	95·9	91·6	93·4	88·2	84·3	86·0	81·5	73·9	78·8	87·0	85·4	86·2	81·0	76·3	79·1
30	90·0	86·2	88·0	95·4	91·3	93·3	89·1	83·9	86·4	82·1	78·9	80·2	86·6	83·3	85·3	83·0	81·0	82·1
31	89·3	86·5	87·7	92·5	90·0	91·5				83·1	78·4	80·7				83·0	81·2	82·4
Mean	89·6	85·4	87·4	91·4	86·2	88·9	90·1	85·1	87·7	85·6	80·2	83·0	85·3	81·7	83·8	81·6	76·9	79·4
									Annual	86·3	81·3	84·0						

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

168 VALENTIA OBSERVATORY: North-wall screen: h_t = 1·3 m. 1939

	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	78·8	7·9	79·7	8·8	87·8	9·2	80·1	8·8	65·5	7·8	74·1	13·7	76·2	11·6	82·0	14·2	88·0	18·4	69·1	9·2	73·5	9·3	88·7	12·8
2	64·4	6·1	75·5	8·4	91·6	9·0	75·4	8·0	80·4	9·2	65·2	12·4	79·7	12·8	89·3	14·7	88·0	17·9	67·2	8·6	80·0	10·4	72·9	8·5
3	84·8	7·6	80·5	9·2	78·4	8·5	75·3	8·7	90·3	11·1	65·4	12·3	85·1	13·9	81·0	13·0	88·6	16·9	62·0	7·9	85·8	11·6	76·8	8·5
4	83·4	6·7	92·9	11·6	85·3	9·7	82·6	9·3	87·6	11·1	65·5	11·8	85·6	15·0	79·1	13·6	83·1	14·5	80·7	10·5	73·7	9·2	70·7	7·6
5	80·4	6·5	91·0	12·0	78·5	8·8	71·4	7·7	78·3	9·6	72·5	14·1	84·1	12·9	87·4	13·6	89·3	17·4	87·7	13·0	78·5	9·7	74·4	8·3
6	90·5	9·6	93·6	12·4	80·7	8·7	65·6	6·3	76·7	9·4	70·7	14·3	83·7	13·3	82·8	13·7	88·3	15·6	68·6	9·2	78·4	10·3	85·6	8·3
7	94·7	12·9	84·3	11·5	72·6	7·6	81·7	8·0	84·5	11·6	71·0	13·7	86·6	14·4	87·9	15·0	89·5	15·3	73·8	9·2	86·1	11·4	92·6	11·2
8	93·6	12·2	93·8	11·9	74·8	8·9	94·7	12·0	92·3	13·4	67·3	11·3	86·7	14·0	78·9	13·5	88·4	16·0	82·5	12·4	87·0	11·8	91·2	10·8
9	85·8	10·2	89·8	11·5	87·0	10·3	77·7	10·0	94·8	14·2	70·4	11·9	78·6	13·3	91·0	16·0	87·5	14·6	78·2	10·4	86·5	10·5	86·1	11·5
10	88·4	8·2	95·6	13·3	81·0	9·0	76·6	10·7	90·6	14·6	78·9	13·2	78·3	12·9	81·1	13·8	89·9	16·8	88·3	13·1	87·6	11·8	69·4	8·5
11	80·7	6·6	91·5	12·3	73·6	8·3	75·2	10·8	84·1	14·4	64·7	9·8	80·8	13·3	79·7	14·0	79·4	14·0	89·5	13·1	88·8	11·5	75·3	8·5
12	84·7	6·4	75·9	8·7	76·0	6·9	90·7	12·1	67·6	10·7	63·1	9·5	88·6	15·5	82·4	14·4	85·1	14·8	87·0	12·8	89·5	10·8	85·3	7·7
13	83·8	6·7	74·8	8·1	78·3	7·9	85·1	11·7	73·6	10·5	79·6	12·8	89·4	15·5	87·8	16·6	79·4	13·4	87·4	12·3	92·1	13·3	85·1	9·4
14	87·2	10·3	92·2	9·6	72·0	7·9	79·6	10·2	88·8	12·4	88·7	14·7	89·7	14·8	81·5	15·1	76·2	12·7	79·7	9·8	87·1	11·8	65·1	6·5
15	79·1	9·4	89·2	10·5	64·9	7·8	90·2	12·4	70·1	9·4	81·6	13·7	90·0	14·1	85·8	15·4	70·7	10·6	73·5	8·2	79·7	10·3	76·7	6·2
16	84·8	10·1	76·5	7·7	82·0	9·5	78·5	10·4	72·9	9·6	79·6	12·0	93·2	14·1	84·2	14·6	73·9	11·5	81·5	8·2	94·4	14·1	70·3	6·4
17	87·4	10·1	85·9	9·8	75·7	8·7	74·6	9·2	68·6	8·9	86·9	14·2	86·2	13·8	85·7	14·5	84·2	13·5	83·7	8·0	94·2	14·6	75·3	5·5
18	89·7	10·1	85·0	10·6	81·8	7·9	82·3	9·5	68·9	8·8	78·7	12·7	77·2	12·7	81·6	14·0	83·1	13·5	82·8	8·3	92·6	13·3	72·9	5·3
19	89·4	10·5	76·8	8·6	72·0	8·1	78·4	10·2	79·1	9·5	81·9	13·8	88·1	13·9	81·8	13·1	79·6	11·7	84·4	8·2	71·5	9·2	74·1	5·7
20	87·9	10·3	85·4	9·7	73·2	8·2	77·6	10·1	81·4	10·5	76·6	12·7	86·4	13·6	73·7	11·6	76·7	12·7	88·3	9·9	88·2	10·3	81·9	6·2
21	81·5	9·0	88·3	9·5	78·9	9·4	81·2	10·1	89·2	12·4	70·8	12·9	88·8	14·2	78·3	11·7	74·0	11·8	92·7	13·3	84·3	10·6	83·3	8·5
22	85·6	9·8	74·8	6·7	74·7	7·4	70·2	8·3	83·0	12·3	76·0	14·1	83·2	13·6	77·9	12·7	74·8	12·5	77·7	10·8	91·1	11·7	90·2	6·8
23	68·0	6·9	69·8	6·2	82·0	7·5	81·7	10·3	93·9	14·9	66·7	11·9	76·9	12·2	84·0	13·6	76·8	12·5	88·0	12·6	82·4	8·7	90·6	5·7
24	76·8	6·2	80·8	7·5	78·3	8·4	72·3	8·0	80·6	11·5	68·4	10·7	81·8	12·4	80·2	15·6	68·2	10·1	79·0	11·1	70·6	7·5	86·0	5·3
25	77·5	6·0	79·1	8·3	70·6	7·3	66·7	7·5	71·9	10·4	66·3	9·3	83·1	13·5	72·0	14·9	65·1	10·3	81·1	11·1	90·5	11·4	81·3	5·7
26	66·6	5·8	71·9	7·0	63·8	5·5	65·8	6·8	79·0	11·1	76·0	11·3	87·5	14·7	84·3	17·7	64·3	10·1	70·2	8·6	77·4	10·0	87·2	6·6
27	74·6	6·1	77·5	7·8	67·8	5·8	70·9	7·6	90·5	14·6	85·5	14·2	95·2	17·8	85·4	18·2	64·0	10·2	65·1	6·3	74·4	8·7	88·5	8·4
28	76·6	5·8	70·7	6·4	73·3	6·3	73·5	8·1	80·8	13·4	91·3	16·2	95·3	17·4	86·4	19·5	58·8	8·8	65·0	6·1	84·2	10·8	76·4	8·1
29	75·0	5·7			72·4	7·0	65·5	7·7	65·4	11·3	79·6	13·1	89·1	15·5	76·2	18·3	63·1	9·5	65·9	6·1	94·4	14·3	73·5	6·9
30	73·4	6·1			65·1	6·9	65·7	7·0	66·7	10·9	74·4	11·0	88·6	15·1	72·3	17·2	68·3	10·5	71·9	7·3	93·6	13·4	78·5	9·1
31	78·6	7·7			70·8	7·7			74·7	13·4			84·6	14·2	85·1	18·1			76·8	8·1			66·5	7·8
Mean*	81·7	8·2	83·3	9·5	76·3	8·1	76·9	9·3	79·7	11·4	74·6	12·6	85·4	14·1	82·1	14·9	78·2	13·3	78·4	9·8	84·6	11·1	79·7	7·8

* Mean of the column.

RELATIVE HUMIDITY

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

169 VALENTIA OBSERVATORY: h_t = 1·3 m. 1939

	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.	81·8	82·9	82·5	83·8	83·7	83·9	85·0	82·1	82·8	82·3	81·9	81·9	80·7	79·6	79·2	80·4	80·4	80·5	80·3	80·2	80·5	81·0	82·3	82·0	81·8	81·7
Feb.	84·5	83·2	84·2	85·6	83·9	83·9	84·1	83·7	83·5	83·7	82·8	83·5	83·7	83·6	82·3	82·1	81·4	81·3	81·6	81·6	83·0	83·6	84·1	84·7	84·0	83·3
Mar.	78·5	78·4	78·8	78·5	79·8	79·8	79·8	79·3	78·2	76·7	75·4	73·3	73·3	71·7	72·1	71·9	71·1	71·9	73·2	76·7	76·9	78·1	77·8	79·5	79·0	76·3
Apr.	81·0	82·2	81·7	82·3	82·3	82·6	83·0	81·8	79·1	76·5	73·9	72·6	71·2	70·5	69·3	70·1	70·5	72·2	73·6	74·4	77·1	77·9	79·9	80·1	80·8	76·9
May	85·5	85·1	86·5	86·1	87·2	87·2	86·1	82·8	79·8	76·3	75·5	74·4	73·6	73·7	73·9	73·3	72·9	73·5	74·3	76·2	79·8	81·6	83·1	85·0	86·0	79·7
June	80·8	80·8	82·5	82·8	82·5	83·0	81·4	78·5	75·5	73·7	71·6	69·5	68·3	67·5	66·4	65·9	66·5	67·2	68·0	71·7	73·7	75·9	78·1	78·2	80·4	74·6
July	88·9	89·0	89·2	89·0	89·1	88·5	88·2	86·2	85·1	84·1	82·8	82·6	82·1	81·5	81·4	81·2	81·7	81·8	83·6	84·1	85·8	87·1	88·0	88·9	89·5	85·4
Aug.	86·1	85·8	86·0	85·8	86·2	85·6	85·9	86·1	83·0	80·1	79·5	79·2	76·9	76·7	76·7	76·4	77·9	78·2	79·3	81·5	83·9	84·7	85·1	85·3	86·0	82·1
Sept.	81·8	81·4	81·9	82·3	82·7	82·1	81·6	81·9	81·0	78·7	76·7	74·0	72·1	72·9	71·3	71·8	72·7	74·4	76·3	78·2	79·9	80·9	80·3	80·6	81·1	78·2
Oct.	79·9	80·0	82·1	82·7	82·8	82·9	82·9	82·5	83·1	81·9	79·5	77·5	73·6	72·0	71·2	72·1	73·3	74·2	75·8	77·6	77·7	77·8	78·4	79·0	79·8	78·4
Nov.	84·5	85·5	85·7	86·0	85·6	86·0	86·4	86·0	86·0	85·7	85·1	85·5	83·0	83·7	83·1	83·5	83·2	82·9	82·4	82·4	83·0	84·1	85·4	85·4	85·5	84·6
Dec.	80·4	80·7	80·7	81·2	81·4	82·5	81·9	82·5	81·7	81·3	79·9	79·3	78·4	77·7	76·2	76·5	77·2	77·5	78·7	79·4	79·3	79·9	80·1	80·1	79·3	79·7
Annual	82·8	82·9	83·5	83·8	83·9	84·0	83·9	82·8	81·6	80·1	78·7	77·4	76·4	75·9	75·2	75·4	75·7	76·3	77·3	78·7	80·1	81·1	81·9	82·4	82·8	80·1

VAPOUR PRESSURE

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

170 VALENTIA OBSERVATORY: h_t = 1·3 m. 1939

	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.	7·8	7·9	7·9	8·0	7·9	7·9	7·9	7·7	7·7	7·8	7·9	8·0	8·1	8·1	8·1	8·2	8·2	8·2	8·2	8·1	8·1	8·1	8·0	7·9	7·8	8·0
Feb.	9·3	9·2	9·2	9·2	9·2	9·2	9·1	9·2	9·2	9·3	9·4	9·6	9·7	9·9	9·8	9·8	9·7	9·5	9·4	9·3	9·3	9·2	9·2	9·3	9·3	9·4
Mar.	7·9	7·8	7·8	7·7	7·7	7·7	7·7	7·7	7·8	7·9	8·0	8·1	8·3	8·2	8·3	8·4	8·2	8·1	8·1	8·2	8·2	8·2	8·1	8·1	8·0	8·0
Apr.	8·9	8·9	8·8	8·7	8·7	8·7	8·7	8·9	9·1	9·3	9·3	9·4	9·5	9·5	9·5	9·5	9·4	9·4	9·3	9·2	9·2	9·1	9·2	9·0	8·9	9·1
May	10·6	10·4	10·5	10·4	10·4	10·4	10·6	11·1	11·4	11·5	11·6	11·7	11·8	11·9	12·2	12·1	12·0	11·9	11·6	11·6	11·5	11·3	11·1	11·0	10·8	11·3
June	12·3	12·0	12·0	11·9	11·7	11·6	11·9	12·5	12·7	12·9	13·1	13·1	13·1	13·1	13·0	13·0	13·0	12·9	12·7	12·9	12·7	12·5	12·4	12·2	12·3	12·5
July	13·8	13·6	13·5	13·5	13·4	13·3	13·5	13·7	13·8	13·9	14·0	14·3	14·6	14·5	14·6	14·7	14·6	14·4	14·4	14·3	14·2	14·0	13·9	13·9	13·9	14·0
Aug.	14·3	14·0	13·9	13·8	13·8	13·6	13·7	14·3	14·8	14·9	15·2	15·5	15·4	15·5	15·7	15·6	15·7	15·4	15·4	15·3	15·1	14·8	14·7	14·5	14·4	14·8
Sept.	13·0	12·8	12·8	12·7	12·6	12·4	12·3	12·5	12·9	13·2	13·5	13·5	13·5	13·7	13·6	13·6	13·5	13·5	13·4	13·3	13·2	13·1	12·9	12·7	12·7	13·1
Oct.	9·4	9·2	9·2	9·2	9·2	9·2	9·1	9·2	9·2	9·6	10·0	10·2	10·0	10·0	10·1	10·2	10·1	10·0	9·8	9·7	9·6	9·5	9·4	9·4	9·3	9·6
Nov.	10·7	10·8	10·7	10·8	10·8	10·9	10·9	10·9	11·0	11·0	11·1	11·4	11·3	11·4	11·3	11·3	11·1	10·9	10·8	10·8	10·8	10·8	10·9	10·9	10·9	11·0
Dec.	7·7	7·7	7·6	7·6	7·6	7·6	7·5	7·5	7·4	7·4	7·4	7·6	7·8	7·9	8·0	7·9	7·9	7·7	7·7	7·6	7·6	7·7	7·7	7·7	7·6	7·7
Annual	10·2	10·2	10·2	10·1	10·0	10·0	10·0	10·2	10·4	10·5	10·6	10·8	10·9	10·9	11·0	11·0	10·9	10·8	10·7	10·6	10·6	10·5	10·4	10·3	10·2	10·5

* Mean of values, 1,2,.....23, ½(0 + 24).

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

171 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. 1939

	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	4·3	2·2	20	0·8	1·0	3	29·1	14·3	23	8·9	4·7	15	···	···	···	···	···	···
2	3·3	1·3	34	···	···	···	12·6	13·9	23	5·8	5·0	8	···	···	···	···	···	···
3	8·3	3·4	36	3·0	2·1	8	9·5	4·9	16	4·4	2·8	10	4·2	5·0	8	···	···	···
4	4·9	1·4	29	0·4	0·2	3	8·1	6·4	39	3·2	3·2	7	18·9	7·7	24	···	···	···
5	2·2	2·7	5	1·1	1·8	4	1·9	0·5	25	0·9	0·9	4	1·0	0·7	19	···	···	···
6	8·6	8·3	12	13·0	9·6	10	1·3	0·6	14	···	···	···	···	···	···	···	···	···
7	5·5	5·9	9	2·1	6·6	2	5·2	2·5	32	···	···	···	2·3	2·0	26	···	···	···
8	18·8	19·5	9	4·7	6·9	8	···	···	···	4·0	7·6	4	4·3	6·0	7	···	···	···
9	1·1	1·4	7	14·5	4·2	16	···	···	···	0·8	2·4	5	1·5	2·2	12	···	···	···
10	1·6	1·4	4	1·6	6·7	···	···	···	···	4·9	3·7	10	···	···	···	···	···	···
11	0·4	0·3	···	5·4	7·1	21	3·4	3·8	5	0·4	0·1	3	···	···	···	···	···	···
12	4·5	3·2	44	4·4	1·4	42	···	···	···	9·6	8·7	17	···	···	···	···	···	···
13	3·6	2·4	8	0·8	0·3	33	···	···	···	0·5	0·4	28	···	···	···	0·3	0·7	6
14	24·9	15·0	(55)	···	···	···	···	···	···	0·2	0·2	7	0·1	0·1	···	11·1	7·4	21
15	5·3	1·4	(80)	2·5	3·1	6	···	···	···	1·0	1·6	4	0·2	0·2	···	2·3	2·6	17
16	16·5	5·1	35	2·4	1·2	12	0·4	0·2	8	1·7	1·0	32	2·1	0·7	89	5·3	1·8	66
17	7·8	3·5	24	3·0	3·7	16	···	···	···	0·9	0·6	15	···	···	···	9·3	4·0	71
18	0·5	0·8	2	···	···	···	···	···	···	···	···	···	···	···	···	1·5	1·3	19
19	9·1	4·7	22	1·5	1·1	11	0·6	0·3	5	···	···	···	···	···	···	···	···	···
20	7·0	4·5	59	4·9	4·5	9	0·1	0·2	···	···	···	···	···	···	···	0·7	1·8	4
21	7·0	3·5	23	32·2	10·6	34	1·4	0·6	7	1·0	0·6	20	3·8	2·9	20	···	···	···
22	21·0	9·8	32	1·6	2·1	7	4·8	3·5	21	0·8	0·5	7	···	···	···	1·9	0·9	15
23	4·2	3·5	19	3·6	1·5	11	7·7	7·6	14	1·4	2·1	12	1·9	3·6	4	···	···	···
24	6·5	7·2	4	1·2	1·8	4	2·8	1·5	31	5·1	2·3	32	5·0	4·6	29	···	···	···
25	7·4	5·8	10	3·7	2·7	27	3·7	1·4	27	1·3	1·1	14	···	···	···	···	···	···
26	0·6	1·1	2	3·5	2·0	18	···	···	···	···	···	···	···	···	···	0·7	0·3	17
27	···	···	···	5·2	2·0	22	···	···	···	···	···	···	···	···	···	25·1	8·1	74
28	···	···	···	9·4	5·0	48	···	···	···	···	···	···	···	···	···	19·0	3·7	105
29	···	···	···				···	···	···	0·7	0·8	3	···	···	···	1·4	0·6	19
30	···	···	···				···	···	···	···	···	···	···	···	···	0·9	0·5	14
31	···	···	···				···	···	···				···	···	···			
Total	184·9	119·3	-	126·5	89·2	-	92·6	62·2	-	57·5	50·3	-	45·3	35·7	-	79·5	33·7	-

	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	1·3	0·8	27	0·1	0·1	3	2·4	0·9	46	···	···	···	1·9	2·6	6	13·1	7·5	18
2	0·6	0·5	2	9·9	7·0	23	9·8	3·1	70	···	···	···	1·5	1·2	5	4·1	1·5	47
3	4·5	6·7	4	···	···	···	3·9	0·7	34	···	···	···	6·6	3·9	23	11·0	3·6	38
4	6·9	2·6	40	···	···	···	0·1	0·1	···	22·2	9·2	22	23·5	9·1	60	10·8	3·6	42
5	10·5	3·4	82	1·7	2·5	2	10·9	7·8	17	25·6	7·6	62	28·7	8·9	89	4·4	2·3	25
6	6·2	3·4	9	3·5	4·3	17	···	···	···	7·4	5·7	52	6·5	1·1	136	···	···	···
7	1·6	0·9	27	2·5	4·7	2	10·2	8·5	7	···	···	···	16·1	8·2	40	18·6	9·8	14
8	16·0	7·7	11	0·4	0·8	2	0·1	0·1	···	7·9	6·0	68	11·8	3·5	42	9·1	5·9	19
9	···	···	···	14·8	6·1	21	1·4	0·9	9	4·2	1·2	56	0·5	0·4	10	22·9	10·5	20
10	···	···	···	2·6	1·0	24	1·8	4·3	1	10·8	4·6	66	11·5	6·2	28	4·8	2·1	63
11	···	···	···	···	···	···	0·3	0·4	···	10·3	2·7	57	···	···	···	0·4	0·3	5
12	0·9	0·7	13	···	···	···	2·9	4·9	2	1·7	0·6	27	1·3	3·3	···	···	···	···
13	4·5	4·4	24	1·0	1·6	5	1·3	0·9	25	1·6	0·8	18	10·8	8·1	18	14·8	7·3	50
14	8·2	5·4	27	···	···	···	0·8	0·4	10	···	···	···	17·3	4·2	97	0·7	0·5	···
15	6·5	5·8	22	···	···	···	···	···	···	0·3	0·3	···	8·1	4·0	57	0·2	0·1	···
16	1·8	7·0	3	···	···	···	···	···	···	3·3	2·4	11	15·8	12·1	9	···	···	···
17	0·9	2·0	2	···	···	···	···	···	···	···	···	···	3·4	4·4	21	···	···	···
18	···	···	···	···	···	···	···	···	···	···	···	···	22·7	10·6	14	···	···	···
19	1·1	1·2	3	···	···	···	···	···	···	···	···	···	0·1	0·1	11	···	···	···
20	···	···	···	···	···	···	···	···	···	0·1	0·1	···	···	···	···	···	···	···
21	4·7	2·7	23	···	···	···	···	···	···	0·1	0·8	···	1·1	3·0	···	0·6	0·7	3
22	4·4	3·0	26	···	···	···	1·9	1·4	5	1·0	0·6	7	8·2	11·0	6	···	···	···
23	0·1	0·1	5	···	···	···	···	···	···	1·8	1·0	17	7·1	8·8	8	···	···	···
24	2·2	0·9	41	···	···	···	···	···	···	2·0	0·9	31	0·8	1·1	6	0·1	···	···
25	0·5	0·4	14	···	···	···	···	···	···	2·3	0·9	···	18·2	11·2	15	···	···	···
26	1·5	0·5	7	3·1	0·4	27	···	···	···	2·4	2·9	···	2·4	2·5	9	0·2	0·6	···
27	38·4	10·8	44	···	···	···	···	···	···	···	···	···	6·6	4·8	11	1·0	1·2	1
28	24·8	9·6	57	0·5	0·6	4	···	···	···	···	···	···	8·7	7·5	12	0·1	0·1	···
29	1·8	0·5	21	···	···	···	···	···	···	···	···	···	3·9	5·9	7	···	···	···
30	5·5	1·3	43	···	···	···	···	···	···	0·3	0·2	···	6·8	9·8	27	···	···	···
31	0·8	0·8	2	6·4	5·3	7				0·2	0·2	···				···	···	···
Total	156·2	83·1	-	46·5	34·4	-	47·8	34·4	-	105·5	48·7	-	251·9	157·5	-	116·9	57·6	-

RAINFALL

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

172 VALENTIA OBSERVATORY: h_r = 9·1 m. + 0·5 m. 1939

	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
	millimetres																								
Jan.	5·8	7·9	4·5	6·8	5·7	7·7	6·9	12·7	6·7	6·2	10·4	5·9	7·2	10·7	11·8	6·9	9·9	6·0	9·4	8·9	5·6	10·8	5·5	5·0	184·9
Feb.	5·4	3·2	4·8	4·0	7·7	10·0	4·1	7·0	7·9	10·3	9·4	10·4	4·5	1·8	3·3	3·1	2·2	2·4	3·7	2·4	4·0	6·7	4·9	3·3	126·5
Mar.	3·2	2·8	1·5	0·9	2·2	2·8	3·0	2·6	2·8	5·4	7·8	6·8	7·9	5·9	5·6	2·8	2·8	2·2	2·5	3·7	3·5	3·5	8·9	1·5	92·6
Apr.	7·7	3·7	1·7	0·6	1·7	1·8	2·6	2·2	0·7	4·1	2·6	2·3	1·2	1·1	2·7	0·1	3·7	2·5	1·4	2·0	0·3	3·8	2·6	4·4	57·5
May	4·5	2·6	0·9	1·3	1·8	1·4	2·2	3·5	4·0	1·0	4·2	3·4	2·4	5·6	1·9	0·1	1·9	0·2	···	···	···	···	0·4	2·0	45·3
June	3·4	13·3	5·6	2·7	1·2	3·4	1·3	1·4	0·3	1·3	1·2	0·5	1·0	3·9	9·8	7·6	8·4	1·8	2·9	0·8	1·9	0·7	2·3	2·8	79·5
July	13·5	16·0	4·7	10·2	1·9	3·7	3·6	9·7	11·7	6·6	5·1	3·3	6·6	2·1	3·5	5·4	1·0	2·7	4·7	4·7	2·0	2·5	18·6	12·4	156·2
Aug.	0·2	0·4	0·8	4·1	3·3	1·1	1·0	1·3	1·4	1·2	4·8	6·4	4·1	0·4	0·1	1·3	0·3	0·6	1·2	3·9	2·9	2·8	2·4	0·5	46·5
Sept.	0·6	0·3	1·5	0·1	0·8	0·5	0·8	0·9	0·4	6·9	0·5	0·7	0·6	4·3	7·0	3·5	2·1	5·0	2·1	2·6	2·5	1·2	2·4	0·5	47·8
Oct.	13·6	10·7	4·5	3·8	0·7	2·0	0·5	3·2	6·2	2·7	2·1	1·9	2·3	2·4	4·9	7·9	2·0	3·2	4·5	3·5	6·5	2·7	6·4	7·3	105·5
Nov.	12·5	9·6	17·0	10·9	5·8	10·5	11·5	10·8	6·6	8·1	9·5	11·6	16·0	32·2	13·4	7·1	9·3	11·2	11·7	3·8	3·4	6·7	4·2	8·5	251·9
Dec.	2·6	4·4	4·9	10·3	10·7	6·8	9·2	12·9	7·1	3·0	2·7	5·3	2·4	2·9	1·4	2·0	2·7	3·5	4·1	6·0	4·8	0·7	4·9	1·6	116·9
Annual	73·0	74·9	52·4	55·7	43·5	51·7	46·7	68·2	55·8	56·8	60·3	58·5	56·2	73·3	65·4	47·8	46·3	41·3	48·2	42·3	37·4	42·1	63·5	49·8	1311·1

RAINFALL

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

173 VALENTIA OBSERVATORY: h_r = 9·1 m. + 0·5 m. 1939

	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.	6·3	3·2	2·6	3·2	3·5	5·1	3·7	4·4	6·5	6·1	5·6	5·3	6·2	6·5	6·1	5·1	5·4	4·4	3·7	5·1	5·0	6·6	4·2	5·5	119·3
Feb.	4·4	3·2	4·3	3·6	4·3	2·8	3·7	3·8	4·5	5·0	4·6	6·0	3·4	2·2	4·3	3·6	1·8	1·6	2·6	2·7	3·9	4·4	4·0	4·5	89·2
Mar.	1·7	3·5	0·7	1·0	1·8	2·5	2·2	2·1	2·2	2·8	3·1	3·2	3·8	3·6	3·4	3·2	2·5	1·3	2·3	3·1	3·2	3·1	4·4	1·5	62·2
Apr.	6·0	5·2	2·0	1·3	2·3	0·7	2·3	3·2	1·1	1·9	1·7	1·4	1·2	0·8	2·1	0·2	1·6	2·4	1·8	1·4	1·0	2·0	2·6	4·1	50·3
May	3·2	2·6	2·4	1·6	3·1	1·9	2·1	3·2	2·3	1·5	1·8	1·8	1·2	2·1	1·3	0·2	0·3	0·4	···	···	···	···	0·6	2·1	35·7
June	2·6	2·3	3·1	1·5	1·8	1·6	1·5	1·2	0·3	0·4	0·9	0·4	1·1	1·5	1·8	1·9	2·1	1·1	1·2	1·4	0·6	0·7	1·2	1·5	33·7
July	4·8	6·4	4·5	3·9	2·6	4·7	4·1	3·5	4·3	5·1	4·3	3·5	2·7	2·5	2·8	2·4	0·9	2·8	3·3	2·5	2·2	2·3	3·3	3·7	83·1
Aug.	0·3	1·1	1·6	1·9	2·4	2·3	1·3	1·2	1·1	1·3	2·6	2·4	1·5	0·5	0·1	1·6	1·0	1·4	1·7	2·5	1·7	1·7	1·0	0·2	34·4
Sept.	0·5	0·2	0·4	0·1	0·4	0·4	0·8	0·5	0·4	1·2	1·1	1·1	1·3	2·6	2·8	2·3	2·7	2·9	3·5	2·9	2·6	1·6	1·1	1·0	34·4
Oct.	4·0	3·5	2·8	2·1	1·2	1·0	1·0	2·0	3·6	1·6	1·2	1·5	0·8	1·5	2·5	2·8	2·0	1·2	1·9	1·7	2·1	1·1	2·5	3·1	48·7
Nov.	9·2	6·2	8·0	6·9	6·0	6·6	6·0	9·7	6·9	7·9	5·7	6·5	6·7	8·2	7·6	6·5	5·9	7·2	6·5	4·3	2·3	5·1	4·3	7·3	157·5
Dec.	1·5	2·4	3·3	4·3	5·0	3·9	3·5	4·8	3·4	2·1	2·3	2·9	1·2	0·7	0·9	1·4	1·8	2·2	1·9	2·6	1·2	0·8	2·2	1·3	57·6
Annual	44·5	39·8	35·7	31·4	34·4	33·5	32·2	39·6	36·6	36·9	34·9	36·0	31·1	32·7	35·7	31·2	28·0	28·9	30·4	30·2	25·8	29·4	31·4	35·8	806·1

NOTES ON RAINFALL

174 VALENTIA OBSERVATORY: 1939

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. or rain or more

"Absolute drought": May 25–June 12
"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": January 1–26
"Wet spells": February 19–March 7

Notable Falls of the Year

There were no "Noteworthy falls in short periods."
The greatest continuous fall between one exact hour and the next was 12·9 mm. between 13h. and 14h. on November 5

Rate of Rainfall (Jardi recorder)

The highest instantaneous rate of rainfall was 136 mm./hr. at 21h. 24m. on November 6. The maximum rate exceeded 50 mm./hr. on 23 days.

175 VALENTIA OBSERVATORY: h_s (height of recorder above ground) = 12·8 m. 1939

	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
	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%	hr.	%
1	1·0	13	···	···	···	···	···	···	12·7	86	14·7	90	6·3	38	2·8	18	6·3	46	6·5	56	2·0	21	0·1	1
2	1·7	22	1·3	14	···	···	7·3	57	13·3	90	14·9	91	0·7	4	···	···	0·2	1	5·8	50	0·5	5	4·5	56
3	0·1	1	···	···	2·2	20	7·1	55	1·7	11	15·0	92	···	···	7·1	46	8·4	62	9·4	82	1·2	13	2·2	27
4	1·0	13	···	···	3·5	32	0·1	1	2·9	19	14·1	86	6·4	39	12 4	81	4·2	31	···	···	1·4	15	···	···
5	···	···	0·3	3	4·6	42	3·0	23	7·7	51	14·3	87	5·4	33	8·6	56	···	···	3·9	34	0·6	6	3·3	42
6	···	···	···	···	0·1	1	11·9	90	13·0	86	14·6	89	3·5	21	8·1	53	10·9	82	·6·0	53	3·3	35	1·9	24
7	···	···	2·7	29	5·8	52	1·2	9	4·2	28	15·0	91	1·7	10	···	···	1·6	12	4·8	43	···	···	···	···
8	···	···	···	···	1·1	10	···	···	0·2	1	13·8	84	8·1	49	3·0	20	9·0	68	···	···	0·6	7	1·8	23
9	3·3	41	···	···	4·8	42	1·4	10	···	···	15·3	93	13·9	85	1·1	7	2·3	18	5·1	46	4·8	52	···	···
10	1·8	23	···	···	···	···	4·2	31	11·1	73	2·4	15	7·8	48	11·1	74	···	···	1·1	10	···	···	1·3	17
11	3·7	46	1·1	11	6·9	60	10·1	75	14·5	94	5·4	33	6·5	40	11·3	76	7·5	58	(2·3)*	21	3·5	39	0·6	8
12	0·7	9	2·1	22	9·7	84	···	···	14·4	93	11·1	67	3·4	21	(1·9)*	13	0·2	2	4·5	41	···	···	2·8	36
13	4·6	57	2·3	24	0·1	1	4·5	33	10·4	67	2·1	13	0·5	3	0·9	6	3·6	28	3·8	35	3·5	39	0·1	1
14	···	···	0·2	2	0·2	2	4·8	35	0·5	3	0·2	1	1·3	8	12·4	84	4·6	36	7·5	70	···	···	3·8	49
15	···	···	0·4	41	1·5	13	···	···	8·5	55	3·3	20	0·8	5	···	···	0·9	7	9·0	84	3·1	34	1·4	18
16	···	···	5·1	51	···	···	3·0	22	6·4	41	7·1	43	···	···	8·0	55	7·3	58	8·1	76	···	···	3·2	42
17	1·0	12	4·3	43	2·0	17	8·5	61	7·3	47	2·6	16	0·3	2	7·9	54	6·8	54	7·9	75	···	···	1·0	13
18	···	···	0·9	8	1·2	10	12·3	88	1·3	8	9·0	54	7·2	45	10·5	73	7·1	57	8·9	85	···	···	4·9	64
19	···	···	1·3	13	5·9	49	11·6	83	1·3	8	6·8	41	4·3	27	10·4	72	9·4	76	8·6	82	2·1	24	0·4	5
20	1·8	21	···	···	6·1	51	12·8	91	7·3	46	8·5	51	0·1	1	11·3	79	6·9	56	5·7	55	0·9	11	5·4	70
21	2·6	31	1·5	15	0·4	3	3·0	21	1·5	9	8·1	49	···	···	9·9	69	0·7	6	···	···	0·5	6	···	···
22	···	···	0·1	1	3·2	26	6·7	47	10·7	67	2·2	13	2·2	14	13·0	91	1·4	11	3·7	36	···	···	5·5	72
23	4·2	49	6·3	61	···	···	···	···	···	···	12·3	74	6·4	40	(12·2)*	(86)	1·6	13	0·3	3	···	···	6·2	81
24	···	···	4·7	45	6·6	54	7·4	52	13·9	87	7·8	47	3·3	21	4·6	33	4·2	35	0·2	2	3·8	45	6·1	80
25	2·2	25	1·1	10	7·7	62	10·8	75	14·2	89	0·7	4	6·6	42	8·5	60	4·2	35	2·6	26	···	···	6·3	82
26	5·4	62	3·6	34	6·0	48	12·6	87	14·2	88	12·7	76	0·5	3	2·7	19	4·3	36	2·7	27	1·3	16	···	···
27	2·7	31	2·7	25	6·1	49	10·6	73	3·6	22	···	···	0·2	1	2·5	18	4·9	41	7·8	79	3·3	40	0·5	7
28	4·6	52	2·0	19	2·9	23	4·4	30	13·6	84	0·5	3	0·2	1	0·5	4	4·1	35	5·1	52	···	···	1·1	14
29	···	···			6·5	51	11·9	81	14·9	92	7·3	44	1·3	8	6·0	43	6·9	59	1·9	19	···	···	···	···
30	···	···			3·9	31	6·0	41	15·0	93	7·4	45	1·3	8	8·3	60	3·1	27	6·7	69	···	···	0·5	6
31	···	···			1·0	8			14·5	89			0·3	2	2·7	20			0·1	1			0·9	12
Mean	1·37	–	1·57	–	3·23	–	5·91	–	8·22	–	8·31	–	3·24	–	6·44	–	4·42	–	4·52	–	1·21	–	2·12	–
											Annual Mean		4·23	–										

* Estimated value: sphere out of position.

DURATION OF BRIGHT SUNSHINE

Monthly and annual totals between exact hours, local apparent time

176 VALENTIA OBSERVATORY: h_s = 12·8 m. 1939

	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
	hours																			%
Jan.	–	–	–	–	···	0·4	3·3	5·4	6·7	8·9	8·8	6·8	2·1	···	–	–	–	–	42·4	17
Feb.	–	–	–	···	0·5	2·3	4·4	5·3	4·8	7·3	7·8	7·1	3·3	1·2	···	–	–	–	44·0	16
Mar.	–	–	···	1·2	6·7	8·4	10·3	12·7	13·8	12·5	10·3	10·8	7·9	4·9	0·5	···	–	–	100·0	27
Apr.	–	···	2·7	12·8	15·5	14·8	15·3	17·9	14·8	15·2	15·0	12·8	12·7	13·2	9·9	4·6	···	–	177·2	43
May	···	3·8	13·9	15·3	16·2	17·0	16·6	17·9	18·2	18·9	18·8	20·1	19·9	21·0	18·1	16·6	2·5	···	254·8	53
June	···	7·0	14·9	14·5	14·2	15·4	16·4	15·7	17·0	18·1	19·8	18·3	19·4	19·6	18·1	16·0	4·8	···	249·2	50
July	–	1·8	6·8	7·7	6·4	7·3	6·3	6·9	6·7	7·4	6·9	8·0	5·9	5·8	8·6	5·9	2·1	–	100·5	20
Aug.	–	···	5·1	10·8	13·0	14·0	15·6	19·1	18·6	18·5	16·9	16·4	16·0	15·3	12·9	7·4	0·1	–	199·7	44
Sept.	–	–	···	2·0	6·4	13·6	14·0	16·5	16·4	14·5	14·8	11·9	10·1	7·7	4·5	0·2	–	–	132·6	35
Oct.	–	–	–	···	2·4	13·8	17·4	15·9	17·9	17·6	18·3	14·6	12·8	8·4	0·9	–	–	–	140·0	43
Nov.	–	–	–	–	···	0·6	4·6	3·9	7·2	8·0	5·5	4·9	1·7	···	–	–	–	–	36·4	14
Dec.	–	–	–	–	–	···	6·2	12·9	12·4	12·3	10·6	9·0	2·4	–	–	–	–	–	65·8	27
Annual	–	12·6	43·4	64·3	81·3	107·6	130·4	150·1	154·5	159·2	153·5	140·7	114·2	97·1	73·5	50·7	9·5	–	1542·6	35

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

177 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. 1939

	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	8·3	19	9·3	21	7·5	22	5·8	18	4·7	14	2·5	12	4·9	13	4·3	10	7·3	14	4·0	11	6·6	20	11·9	25
2	8·5	20	8·1	17	3·8	16	8·5	27	2·2	8	2·6	12	5·3	13	5·1	12	7·5	19	5·6	14	5·9	19	7·0	20
3	3·7	15	10·0	20	10·0	25	2·9	24	5·3	14	2·2	11	7·6	19	6·4	15	4·3	10	5·9	17	7·7	23	11·0	30
4	2·5	13	10·0	18	7·9	19	5·4	13	7·1	19	1·7	11	7·7	20	4·3	10	3·7	12	6·1	16	8·3	23	13·2	29
5	3·6	15	10·3	21	6·7	22	8·3	18	5·1	15	1·6	6	7·0	18	1·5	7	8·7	21	5·3	24	11·8	31	10·5	25
6	5·8	18	12·0	25	4·1	16	5·5	16	3·6	9	2·1	10	6·5	16	4·0	12	1·9	7	8·6	24	11·1	24	3·6	15
7	11·9	24	8·5	20	6·4	21	5·2	15	5·2	11	5·2	15	6·6	16	4·3	13	1·6	6	3·1	16	8·2	24	6·2	19
8	8·9	26	8·3	18	8·6	18	7·0	16	4·2	11	7·1	20	3·5	10	4·1	12	3·0	9	9·0	28	7·7	19	3·3	14
9	7·4	17	9·6	26	3·1	11	9·5	23	3·1	10	2·7	9	4·0	9	4·6	13	2·6	9	7·8	19	3·9	11	11·4	24
10	1·0	(7)	9·0	19	3·9	11	8·9	22	1·8	5	4·6	11	2·7	7	5·3	15	6·4	16	10·0	21	5·6	14	12·0	25
11	3·3	10	9·6	22	7·5	17	5·3	16	2·8	12	8·5	17	2·0	9	5·1	12	4·6	13	6·6	17	3·2	11	6·6	18
12	2·4	13	9·4	24	1·7	7	9·7	22	3·9	13	5·8	12	6·1	16	3·3	10	2·6	9	5·7	15	5·1	16	1·8	9
13	3·5	13	6·9	19	2·4	8	9·5	20	3·8	11	2·8	10	4·5	15	5·1	12	7·1	16	3·3	9	7·0	17	7·4	21
14	10·7	24	3·3	9	4·3	10	5·9	16	6·6	13	5·4	13	5·6	18	5·1	12	5·4	14	4·1	12	10·2	–	9·4	23
15	12·9	30	6·4	15	5·6	14	8·2	19	8·9	17	4·7	15	9·6	19	1·6	5	2·5	9	2·7	11	7·6	23	2·6	9
16	14·4	29	5·3	18	4·3	11	6·4	16	6·1	15	5·3	15	7·5	17	1·8	8	2·3	8	2·1	6	9·1	24	4·8	12
17	5·5	18	8·3	19	4·8	12	6·9	23	8·3	18	8·4	21	1·8	8	1·3	5	1·6	8	2·1	7	7·5	17	1·3	8
18	5·4	14	5·6	15	3·4	15	3·0	10	4·9	12	4·6	14	6·7	16	3·2	11	2·1	8	2·1	8	4·6	18	2·9	10
19	7·5	21	4·1	17	6·6	18	6·1	14	2·2	7	2·1	7	6·2	13	4·3	14	3·9	13	1·3	5	6·8	24	4·6	14
20	6·5	17	8·7	22	6·5	18	5·1	12	2·8	9	6·8	17	5·8	11	4·6	12	4·1	11	2·9	9	1·8	6	2·6	9
21	7·9	22	6·5	25	6·8	20	6·2	19	4·6	13	6·8	17	2·1	6	3·4	11	4·0	9	3·1	6	7·1	17	2·6	11
22	13·2	37	7·0	19	11·0	30	8·1	17	6·8	16	8·2	21	5·4	13	3·0	13	4·6	13	2·1	7	6·2	20	0·9	4
23	10·1	32	6·0	20	4·6	24	7·6	17	8·2	15	6·1	18	6·7	16	2·6	9	3·6	9	4·8	14	3·1	14	1·3	5
24	6·0	17	3·7	15	4·8	15	7·4	20	5·6	11	7·8	18	6·7	16	5·8	16	4·5	12	6·7	16	5·2	16	1·2	5
25	7·8	21	7·6	21	7·6	19	7·5	17	2·2	7	4·3	11	3·4	10	5·9	14	6·2	16	7·2	16	10·3	24	2·2	6
26	10·8	21	7·7	21	4·8	14	3·6	11	2·5	8	3·2	10	3·5	11	3·6	11	6·0	16	10·0	23	11·5	24	1·8	9
27	6·0	14	7·3	20	3·6	11	3·2	12	3·2	11	8·2	22	5·3	11	4·7	12	6·3	16	3·1	12	9·1	26	2·3	9
28	4·9	12	9·3	35	3·9	11	4·1	13	3·7	15	7·3	18	7·6	19	4·7	13	7·2	17	3·9	12	7·5	18	3·1	9
29	7·4	17			3·9	10	3·9	11	3·2	11	5·7	12	4·1	9	5·8	16	6·1	15	5·2	15	9·7	25	4·2	13
30	6·8	25			4·0	10	3·0	15	1·6	7	4·8	14	5·6	14	5·5	14	6·6	19	6·8	17	7·7	22	6·6	16
31	12·3	25			4·5	12			2·2	13			4·8	12	7·7	20			6·0	15			8·6	24

WIND

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

178 VALENTIA OBSERVATORY: h_a = 17 m. + 13 m. 1939

	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.	6·7	6·8	7·0	6·8	7·2	7·0	7·2	7·1	7·3	7·3	7·8	7·9	8·3	8·7	8·2	7·5	7·7	7·4	7·5	7·2	6·9	6·4	6·5	7·0	7·3
Feb.	7·3	7·5	7·3	7·5	7·8	7·6	7·6	7·6	7·9	7·9	8·3	8·1	8·6	8·9	8·8	8·7	8·1	7·8	7·8	7·4	7·2	7·0	6·8	6·9	7·8
Mar.	4·8	4·7	5·1	4·9	4·5	4·4	4·8	4·9	5·3	5·5	5·6	6·2	6·3	6·4	6·7	6·8	6·3	6·4	5·7	5·4	5·1	5·2	4·8	4·7	5·4
Apr.	5·8	5·7	5·3	5·3	5·1	5·4	5·4	5·3	5·8	6·3	6·9	7·2	7·5	7·5	7·6	7·4	7·4	7·4	6·9	6·1	5·8	5·6	5·6	5·5	6·3
May	2·9	3·2	3·3	3·6	3·5	3·5	3·6	4·0	4·3	4·6	5·3	5·8	6·1	6·2	6·2	6·0	6·0	5·3	4·9	4·4	3·6	3·2	3·0	2·9	4·4
June	3·7	3·9	3·8	4·0	4·0	3·9	4·1	4·7	5·0	5·2	5·8	6·1	6·5	6·6	6·6	6·5	6·2	6·3	5·7	5·0	4·1	3·7	3·9	3·7	5·0
July	4·7	4·6	4·7	4·7	4·6	4·6	4·9	5·4	5·7	5·8	5·8	6·1	6·5	6·5	6·3	6·5	6·2	5·9	5·6	5·4	4·9	4·7	4·5	4·6	5·4
Aug.	3·3	3·5	3·7	3·5	3·6	3·2	3·4	3·6	4·2	4·1	4·7	5·3	5·3	5·3	5·5	5·6	5·6	5·5	4·7	4·1	3·5	3·6	3·7	3·7	4·3
Sept.	3·8	3·9	4·0	4·1	4·2	4·2	4·1	4·5	4·7	5·1	5·5	5·5	5·7	5·6	5·8	5·3	5·2	5·1	4·6	4·1	3·8	3·8	3·7	3·7	4·6
Oct.	4·4	4·6	4·6	4·7	4·4	4·4	4·5	4·6	4·7	4·8	5·2	6·0	6·0	6·2	6·1	5·9	5·4	5·0	4·9	4·9	5·3	5·1	5·0	4·8	5·1
Nov.	6·8	6·8	6·9	6·8	6·5	6·6	6·8	6·4	6·8	7·0	7·5	7·6	8·1	7·7	7·6	7·9	7·8	7·8	7·9	7·9	7·4	7·1	7·1	6·9	7·2
Dec.	5·3	5·4	5·6	5·5	5·2	5·4	5·4	5·4	5·4	5·5	5·4	5·5	5·5	5·8	5·9	5·7	5·4	5·3	5·5	5·2	5·4	5·0	5·1	5·4	5·4
Annual	5·0	5·0	5·1	5·1	5·0	5·0	5·1	5·3	5·6	5·7	6·1	6·4	6·7	6·8	6·8	6·6	6·4	6·3	6·0	5·6	5·2	5·0	5·0	5·0	5·7

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

179 VALENTIA OBSERVATORY: h_a = 17 m. + 13 m. 1939

	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.	22nd	2	16	164	316	186	76	0	300	19	22 24	37	22 22 05
Feb.	–	0	15	77	453	118	24	0	300	17	28 13	35	28 12 23
Mar.	–	0	6	45	281	351	67	0	165	14	3 21	30	22 14 23
Apr.	–	0	10	39	434	182	65	0	145	15	2 22	27	2 21 00
May	–	0	3	5	263	312	164	0	20	12	17 15	19	4 11 24
June	–	0	5	15	317	254	134	0	200	12	17 13	22	27 17 30
July	–	0	4	14	353	319	58	0	350	12	15 1	20	4 14 12
Aug.	–	0	0	0	242	367	135	0	135	11	31 10	20	31 9 51
Sept.	–	0	1	7	259	356	98	0	170	13	5 13	21	5 12 22
Oct.	–	0	5	33	272	344	95	0	145	15	8 8	28	8 7 02
Nov.	–	0	16	126	362	170	62	0	245	17	5 19	31	5 18 10
Dec.	–	0	11	131	189	251	173	0	210	15	1 14	30	3 7 54
Year	1 day	2	92	656	3741	3210	1151	0	300	19	Jan. 22 24	37	Jan. 22 22 05

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

180 VALENTIA OBSERVATORY 1939

	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	79·9	80·3	78·0	80·0	78·4	81·0	80·5	81·2	83·0	83·1	89·8	86·1	88·1	87·3	89·1	88·0	90·9	88·8	86·1	87·3	81·8	84·7	84·1	83·9
2	79·0	80·5	79·0	80·0	79·6	81·0	80·1	81·3	83·6	83·2	90·0	86·2	88·6	87·2	89·6	87·9	91·0	88·8	85·8	87·2	82·1	84·5	83·8	83·9
3	78·1	80·8	79·1	80·0	79·3	80·9	81·0	81·3	83·8	83·2	90·0	86·3	89·2	87·2	88·9	87·9	90·7	88·8	85·3	87·2	82·7	84·2	82·9	84·0
4	78·1	80·8	80·0	80·0	80·0	80·9	81·3	81·3	84·0	83·2	90·0	86·5	88·6	87·3	88·9	87·9	90·3	88·9	85·0	87·0	83·0	84·2	81·9	84·0
5	77·1	80·8	81·0	80·1	80·3	81·0	81·4	81·5	83·9	83·2	90·3	86·8	88·9	87·3	89·3	88·0	90·0	88·9	85·1	86·9	82·8	84·2	81·2	83·9
6	77·2	80·5	81·7	80·3	80·3	81·0	80·8	81·6	83·9	83·3	90·9	86·9	88·2	87·2	89·7	87·9	89·9	88·8	85·6	86·9	82·7	84·2	81·1	83·8
7	79·9	80·3	82·1	80·6	79·9	81·0	80·3	81·6	84·8	83·3	91·0	87·0	88·1	87·1	89·9	87·8	90·0	88·9	85·0	86·8	82·9	84·2	81·1	83·5
8	81·2	80·3	82·3	80·9	80·0	81·0	81·2	81·6	85·1	83·4	90·4	87·1	88·2	87·2	89·7	87·9	90·0	88·9	85·1	86·8	83·1	84·1	81·9	83·2
9	81·3	80·7	81·9	81·0	80·7	81·0	82·2	81·5	85·5	83·5	89·9	87·4	89·0	87·2	89·8	88·0	89·9	88·8	85·5	86·7	83·2	84·2	82·0	83·1
10	80·2	80·9	82·3	81·1	81·0	81·0	82·6	81·6	85·9	83·7	90·4	87·4	89·2	87·2	89·4	87·9	90·0	88·9	85·1	86·5	83·0	84·2	82·1	83·0
11	79·8	81·0	82·9	81·2	81·1	81·0	83·3	81·8	87·3	83·8	89·7	87·4	89·3	87·3	89·6	88·0	89·7	88·9	85·4	86·4	83·2	84·2	81·7	83·0
12	78·0	81·0	82·5	81·3	80·2	81·2	83·9	81·9	87·9	84·0	89·0	87·6	89·7	87·5	89·6	88·0	89·5	88·8	85·7	86·3	83·0	84·2	81·4	83·0
13	77·9	81·0	81·0	81·6	80·0	81·1	83·6	82·1	87·6	84·4	89·2	87·6	89·8	87·5	89·7	88·0	89·7	88·8	85·8	86·3	83·5	84·2	80·7	82·9
14	77·2	80·9	80·3	81·6	80·6	81·1	83·9	82·2	87·8	84·6	89·7	87·5	89·1	87·6	89·9	88·0	89·0	88·8	85·7	86·3	83·8	84·2	80·9	82·9
15	79·9	80·8	81·1	81·6	80·7	81·2	83·6	82·4	87·0	84·9	89·1	87·5	89·0	87·7	90·2	88·1	88·9	88·7	84·9	86·2	83·5	84·2	79·9	82·8
16	80·0	80·8	81·0	81·6	81·0	81·2	83·8	82·5	86·4	84·9	88·9	87·4	88·7	87·7	90·0	88·1	88·5	88·7	84·1	86·0	83·3	84·1	79·4	82·6
17	80·5	80·9	80·3	81·6	81·3	81·2	83·2	82·0	86·1	84·9	88·7	87·3	87·9	87·6	90·2	88·2	88·5	88·5	83·7	86·0	84·2	84·2	78·7	82·4
18	80·3	80·9	81·0	81·5	80·6	81·3	83·2	82·9	86·0	85·0	88·4	87·3	88·7	87·6	90·2	88·2	88·5	88·3	83·1	85·9	84·6	84·2	78·1	82·2
19	80·3	80·9	81·7	81·5	81·1	81·3	84·0	82·9	85·9	85·0	89·1	87·3	88·5	87·5	89·9	88·4	88·2	88·2	83·0	85·8	84·4	84·3	77·9	82·0
20	80·9	81·0	80·9	81·7	81·2	81·4	84·5	83·0	85·9	85·0	89·9	87·2	88·9	87·4	89·7	88·5	88·0	88·1	82·9	85·6	83·6	84·4	77·3	81·9
21	81·0	81·0	81·9	81·8	81·1	81·5	84·8	83·0	86·2	84·9	89·4	87·2	88·6	87·5	89·0	88·3	88·0	88·1	83·3	85·4	83·5	84·4	77·8	82·7
22	80·0	81·0	80·4	81·8	81·2	81·5	83·9	83·0	86·0	84·9	89·5	87·3	89·0	87·5	89·0	88·3	88·0	88·0	84·2	85·4	83·6	84·3	78·4	81·4
23	80·7	81·1	79·1	81·9	80·0	81·6	83·9	83·0	87·0	85·0	88·9	87·4	88·8	87·6	89·0	88·3	87·9	88·0	84·4	85·3	83·4	84·3	77·5	81·3
24	79·0	81·1	78·9	81·7	80·0	81·7	83·1	83·1	86·9	85·0	89·2	87·4	88·4	87·6	89·7	88·2	87·6	88·0	84·5	85·4	82·6	84·3	76·6	81·1
25	78·1	81·1	79·9	81·4	81·0	81·6	82·7	83·1	87·1	85·1	88·2	87·4	88·4	87·6	89·9	88·2	87·4	87·9	84·5	85·3	82·0	84·2	76·0	81·0
26	77·4	81·0	79·2	81·2	80·4	81·5	82·8	83·1	87·5	85·2	87·8	87·4	89·0	87·6	90·1	88·2	87·0	87·9	84·5	85·4	83·0	84·0	75·8	80·9
27	77·7	80·9	79·0	81·2	79·3	81·5	82·9	83·0	87·3	85·2	88·9	87·4	89·4	87·5	90·4	88·2	87·0	87·8	83·6	85·4	82·5	84·0	76·1	80·6
28	77·0	80·6	79·0	81·1	79·1	81·4	83·2	83·0	88·4	85·4	88·8	87·4	89·6	87·6	90·8	88·3	86·8	87·7	82·6	85·3	82·0	83·9	77·0	80·3
29	76·3	80·5			79·7	81·3	83·6	83·0	88·6	85·6	88·9	87·4	89·4	87·8	91·0	88·5	86·4	87·7	81·8	85·1	83·0	83·8	77·6	80·2
30	76·6	80·3			79·9	81·2	83·4	83·0	89·0	85·9	88·3	87·3	89·7	87·9	91·2	88·6	86·3	87·6	81·7	85·0	83·8	83·8	77·9	80·1
31	77·2	80·0			80·4	81·2			89·2	86·0			89·2	87·9	91·3	88·6			81·3	84·8			78·9	80·3
Mean	79·0	80·8	80·6	81·1	77·7	81·2	82·8	82·3	86·3	84·4	89·4	87·5	88·9	87·5	89·8	88·1	88·8	88·4	81·6	86·1	83·1	84·2	79·9	82·3
												Year	84·0	84·5										

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

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	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
	degrees Absolute											
1	78·5	77·7	73·1	78·4	72·5	78·5	78·7	84·5	87·5	77·3	78·9	85·2
2	75·8	79·0	78·7	71·9	72·5	77·7	83·7	84·1	87·5	79·2	79·1	77·6
3	72·5	78·9	74·6	78·6	75·3	74·9	81·9	81·3	84·9	76·9	80·5	77·5
4	72·5	81·3	77·3	73·1	78·5	77·5	85·3	82·3	81·3	78·3	81·0	76·0
5	69·5	82·5	76·9	77·9	77·7	79·1	80·4	77·5	85·2	81·3	75·1	77·1
6	73·0	81·9	76·1	70·3	73·6	80·2	81·3	85·1	82·5	80·2	79·0	71·2
7	83·1	83·1	72·9	69·9	78·5	80·7	83·0	83·7	83·0	73·6	81·1	79·1
8	83·7	81·3	78·0	80·1	81·9	82·5	82·9	83·5	85·9	80·3	81·3	77·9
9	79·5	78·5	79·5	80·5	82·9	75·9	83·7	85·9	82·3	79·7	78·1	76·3
10	71·9	83·3	75·1	81·2	84·7	79·5	78·6	82·9	85·5	80·5	73·7	79·5
11	75·2	82·5	80·2	78·1	80·6	83·4	77·9	84·6	85·3	81·9	79·7	77·9
12	69·2	79·1	69·0	78·9	78·5	80·2	80·2	81·2	80·3	80·9	74·1	72·5
13	71·9	77·1	71·9	81·9	76·9	82·4	86·8	86·3	85·2	81·1	83·0	73·1
14	70·1	72·3	77·2	79·7	83·6	84·7	83·5	83·5	83·6	74·7	81·3	76·3
15	79·9	79·1	78·5	78·5	81·3	85·5	85·2	82·5	78·1	72·1	79·6	69·8
16	79·1	76·3	79·3	79·9	79·7	79·1	84·7	80·9	79·1	72·7	79·6	74·6
17	79·3	73·1	77·4	78·6	76·9	83·1	83·5	79·8	78·5	71·8	85·4	66·9
18	78·6	79·7	70·1	74·6	79·9	82·7	84·4	82·2	78·1	72·3	83·3	66·3
19	76·3	78·1	78·5	75·1	73·6	80·9	83·5	78·5	78·1	72·6	80·9	71·5
20	79·9	72·7	74·1	75·3	75·3	85·2	84·2	78·5	81·9	72·9	76·2	68·1
21	79·6	80·9	74·4	76·3	77·1	84·6	84·1	77·1	81·3	79·6	79·5	77·0
22	72·9	73·1	76·9	78·1	77·5	85·7	84·5	79·1	82·9	79·5	82·1	72·3
23	77·9	73·1	74·2	79·1	85·1	82·7	82·5	77·5	84·1	81·3	79·0	67·5
24	70·4	71·3	72·7	76·9	80·9	79·9	80·9	84·1	79·1	79·8	76·4	67·5
25	73·0	78·5	76·1	76·9	74·8	78·3	84·1	84·4	83·8	80·5	73·5	65·8
26	72·3	74·3	71·4	72·1	74·4	75·1	78·9	87·5	80·4	81·1	81·3	67·9
27	72·9	74·2	67·9	71·1	84·7	82·3	87·6	84·7	82·8	71·4	80·1	72·1
28	69·3	73·1	67·9	72·9	83·3	86·4	87·5	89·0	81·3	68·5	76·9	75·0
29	71·7		75·2	77·5	76·4	82·5	82·5	90·1	80·0	68·9	85·2	71·9
30	74·4		74·5	70·3	75·1	77·5	83·5	88·6	80·9	76·1	82·1	76·1
31	76·2		75·7		78·5		85·1	89·1		75·5		78·1
Mean	75·2	77·7	75·0	76·5	78·5	81·0	83·1	83·2	82·4	76·9	79·6	73·7
						Year	78·6					

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 $T(°K.) = t(°C.) + 273·16$.

M.O. 599

THE OBSERVATORIES' YEAR BOOK 1939

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

KEW OBSERVATORY

Decimal Index
55.034(058)
55.038(058)
551.506.1
551.506.7
551.510.42(058)
551.594(058)

Obs. Yearb., 1939
London, 1956

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 recorder	..	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 was removed from the basement of the Observatory to the galvanometer room of the underground Seismograph House on May 15, 1939.

Solar radiation.– The tabulations of the radiation received on a surface perpendicular to the solar beam (Tables 194 and 196) 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 1939 should be multiplied by the factor 1·15*.

IDENTIFICATION NUMBERS OF INSTRUMENTS IN USE IN 1939

During 1939 the dry-bulb thermometers No. 666 and M.O.29272 were not used, instead thermometer No. 788 was used as the control dry-bulb thermometer and No. 738 as the control wet-bulb thermometer; also 1791 was used as the measuring glass for the control rain-gauge in addition to 1768.

Thermometer corrections 1939

	No.738 N.P.L.1933		No.788 N.P.L.1933		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	+0·2	2	+0·1	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	−0·1	72	0·0	300	0·0	300	0·0	72	0·0
	92	−0·2	92	0·0	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, 283·4°A. (50·7°F.) was slightly higher than the average for the period 1906 35 (283·2°A., 50·4°F.) although the mean temperature for December was 2·5°F. below the average for the same period. The maximum temperature in the north-wall screen, 302·6°A. (85·3°F.) was registered at about 15h. on June 7 while the maximum also exceeded 300·0°A. (80·6°F.) on June 6. The absolute minimum temperature in the same screen was 266·0°A. (19·4°F.) and occurred at about 5h. on December 30. There were no "ice-days", i.e. days with a maximum temperature in the screen of 273·0°A. (32·0°F.) or less. The lowest reading of the grass minimum thermometer was 258·8°A. (6·4°F.) on December 30.

The rainfall for the year, 690 mm., was 14 per cent. above the average (606 mm.) for the standard period 1881-1915. January 110 mm., October 125 mm. and November 112 mm. were the wettest months, and February 20 mm., March 25 mm. and September 23 mm. the driest.

The sunshine for the year, 1516 hr., was 47 hr. above the average for the period 1906-35, the sunniest months being February 105 hr., April 174 hr., May 194 hr., June 220 hr., August 174 hr., and September 163 hr.

The highest wind speed recorded in a gust was 27 m./sec. (60 m.p.h.) on April 22. 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°19'W.

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

	c_1		α_1		c_2		α_2		c_3		α_3		c_4		α_4	
	1939	1871-1926	1939	1871-1926	1939	1871-1926	1939	1871-1926	1939	1871-1926	1939	1871-1926	1939	1871-1926	1939	1871-1926
	mb.	mb.	°	°	mb.	mb.	°	°	mb.	mb.	°	°	mb.	mb.	°	°
January	0·16	0·02	230	315	0·29	0·31	139	151	0·20	0·17	347	346	0·05	0·07	250	202
February	0·16	0·05	301	73	0·35	0·36	149	146	0·16	0·12	19	340	0·03	0·03	93	108
March	0·28	0·11	242	38	0·44	0·40	142	149	0·08	0·07	338	332	0·05	0·04	1	25
April	0·25	0·28	34	31	0·41	0·40	153	151	0·04	0·03	177	185	0·05	0·04	339	353
May	0·28	0·32	19	27	0·38	0·35	149	148	0·08	0·09	141	161	0·02	0·02	351	319
June	0·38	0·30	34	17	0·34	0·32	139	143	0·09	0·09	155	160	0·02	0·01	343	260
July	0·13	0·26	83	16	0·27	0·31	127	140	0·09	0·10	164	153	0·02	0·01	281	281
August	0·34	0·21	11	20	0·37	0·34	146	144	0·05	0·06	156	155	0·04	0·04	332	309
September	0·16	0·12	11	6	0·44	0·40	154	152	0·02	0·01	341	350	0·02	0·04	316	332
October	0·17	0·06	111	76	0·36	0·38	151	160	0·08	0·09	351	359	0·01	0·01	321	22
November	0·17	0·03	302	124	0·29	0·34	171	160	0·13	0·13	347	358	0·03	0·03	177	183
December	0·29	0·08	317	137	0·39	0·31	154	152	0·14	0·15	360	353	0·09	0·07	206	205
Arithmetic mean	0·23	0·15			0·36	0·35			0·10	0·09			0·04	0·03		
Year	0·12	0·14	360	29	0·36	0·35	148	150	0·04	0·03	8	359	0·01	0·01	298	280
Winter	0·16	0·03	296	111	0·33	0·33	153	152	0·16	0·14	358	350	0·03	0·05	203	208
Equinox	0·05	0·14	25	32	0·41	0·39	150	153	0·04	0·04	340	345	0·03	0·03	341	359
Summer	0·27	0·27	28	20	0·34	0·33	141	144	0·08	0·08	154	157	0·02	0·02	327	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_η, α_η in the series $\sum c_\eta \sin(15nt + \alpha_\eta)$, t being local mean time reckoned in hours from midnight

	c_1		α_1		c_2		α_2		c_3		α_3		c_4		α_4	
	1939	1871-1926	1939	1871-1926	1939	1871-1926	1939	1871-1926	1939	1871-1926	1939	1871-1926	1939	1871-1926	1939	1871-1926
	°A.	°A.	°	°	°A.	°A.	°	°	°A.	°A.	°	°	°A.	°A.	°	°
January	0·77	0·99	225	221	0·25	0·43	28	35	0·15	0·17	186	208	0·02	0·01	144	3
February	1·91	1·53	216	221	0·86	0·57	45	34	0·15	0·12	208	211	0·15	0·06	200	169
March	1·89	2·45	227	222	0·54	0·63	42	40	0·11	0·07	308	334	0·06	0·11	174	197
April	3·04	3·21	222	226	0·39	0·48	61	51	0·24	0·22	25	24	0·11	0·07	222	218
May	3·61	3·72	225	227	0·12	0·15	102	74	0·30	0·31	1	35	0·07	0·04	31	20
June	3·14	3·72	228	226	0·08	0·02	60	84	0·24	0·26	16	35	0·08	0·10	24	33
July	2·52	3·68	227	225	0·03	0·06	359	50	0·19	0·29	25	31	0·11	0·07	30	28
August	3·13	3·54	221	226	0·45	0·34	28	52	0·18	0·30	358	28	0·02	0·03	277	218
September	2·82	3·22	227	228	0·57	0·71	58	49	0·11	0·14	11	24	0·02	0·16	119	213
October	1·88	2·32	229	229	0·64	0·76	53	50	0·11	0·10	233	248	0·04	0·12	184	200
November	1·07	1·39	217	226	0·32	0·57	47	44	0·11	0·18	239	232	0·05	0·02	254	141
December	0·83	0·90	210	226	0·23	0·40	26	41	0·20	0·16	203	215	0·04	0·04	337	38
Arithmetic mean	2·22	2·56			0·37	0·43			0·17	0·19			0·06	0·07		
Year	2·21	2·56	224	226	0·36	0·42	47	45	0·06	0·08	346	17	0·01	0·02	211	195
Winter	1·14	1·20	217	223	0·41	0·49	40	39	0·15	0·15	206	217	0·04	0·01	218	121
Equinox	2·39	2·80	226	226	0·53	0·64	53	47	0·09	0·09	351	4	0·05	0·11	195	207
Summer	3·10	3·67	225	226	0·15	0·14	42	59	0·22	0·29	10	32	0·06	0·04	24	27

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

ATMOSPHERIC ELECTRICITY

There were no changes in method and procedure for observing potential gradient, air-earth current and conductivity with the single exception that the polonium-coated collector of the Kelvin electrograph was renewed every three months instead of every six months.

In 1939 the mean value of the current for the year, allowing equal weight for each month, was 113×10^{-18} amp. cm.$^{-2}$. The mean value of the conductivity for the year was 41×10^{-18} ohm^{-1} cm.$^{-1}$.

The mean factor for the year for the Kelvin electrograph was 2·68, giving an equivalent height for the collector of 37·3 cm. In 1939 there were 140, 156, 69 days of electrical character 0, 1 and 2 respectively. The extreme hourly values of potential gradient in Table 205 are 1,880 v./m. at 21h. on December 24 and -890 v./m. at 15h. on October 28.

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

1939	Calendar days	Other spells	Total
January	9	0	9
March	7	1	8
April	6	3	9
October	2	3	5
November	3	4	7
December	0	6	6

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

ATMOSPHERIC POLLUTION

During 1939 the highest estimate of pollution was 1·3 mg./m.^{3}, this value occurring on January 6 from 19h. to 21h. and on December 22 from 20h. to 21h. There were 13 days on which the pollution reached 1·0 mg./m.^{3}, the number of hours credited with 1·0 mg./m.^{3} or more being 54.

SEISMOLOGY

During 1939 a short-period seismograph of special design for measuring the vertical component was constructed in the Observatory workshop. This instrument records optically through a viscous coupling.

Corrosion inside the Wood-Anderson instrument recording the east-west component became serious during 1939, and in November it was dismantled and cleaned. A new suspension was fitted, the same wire and tension being used, and the seismograph was re-adjusted to have approximately the same constants as before.

The Galitzin instruments were standardized during 1939, the dates and constants being given in the following table. During standardization of the vertical instrument on July 24 the flat steel spring through which the elinvar spring is connected to the frame was broken. The elinvar spring was stored under tension whilst a replacement was made, and the instrument was again in commission on July 29 with its constants roughly adjusted. The final standardization was carried out on November 21. It will be seen that there is now a considerable difference between the free periods of the pendulum and galvanometer, but the magnification curve is almost exactly the same as it was previously, whilst the period of the pendulum does not now vary so rapidly when subjected to small deviations from its normal position*.

Component	l	T_1	1939	T_0	μ^2	$\frac{kA}{\pi l} = \left(\frac{V}{T}\right) T \to 0$
	mm.	sec.		sec.		sec.$^{-1}$
N	118	24·2	Jan. 1–June 30	8·1	0·00	77·3
		24·5	June 30–Dec. 31	8·2	0·00	77·7
E	118	24·8	Jan. 1–July 21	8·3	0·00	76·3
		24·3	July 21–Dec. 31	8·1	0·00	72·8
Z	360	13·3	Jan. 1–July 24	13·0	−0·01	75·4
		–	July 29–Nov. 21†	–	–	–
		14·25	Nov. 21–Dec. 31	12·3	−0·01	73·4

† Constants of Z unknown, July 29–Nov. 21.

The total number of shocks recorded during the year was 241. The phases of 74 of these were sufficiently well defined to allow an estimate of the epicentral distance, whilst in 5 cases the azimuth could be computed from a well recorded initial movement. There were 10 earthquakes which produced surface waves giving a maximum amplitude of ground movement at the Observatory exceeding 0·1 mm. in one or more components. The catastrophic Anatolian earthquake on December 27 produced movements which exceeded the limits of registration on all components. No British earthquakes were recorded during the year.

Microseisms.– In previous years it had been the practice, on the occasions of failure of the Z record, to fill in the gaps in Table 208 by interpolation or by measurement on

* SCRASE, F.J.; Two notes on the operation of Galitzin seismographs. *Geophys. Mem., London*, 5, No. 49, 1930.

the N component seismogram. By use of the data of 1932* it had been found that there was a linear relation between the ratio of horizontal to vertical amplitude and the period of the oscillations, the ratio varying from 1·2 for microseisms of period 4½ sec. to 0·85 for those of period 9 sec. In 1939 the vertical instrument was operating with unknown constants between July and November, and in these circumstances it was decided to measure the microseisms of the N component and to apply this correction factor on all days from July 1 to the end of the year. Readings during these months should therefore be used with caution. The practice of interpolating readings when, on account of earthquakes or other causes, values could not be obtained from any component was discontinued in 1939.

During 1939 the greatest amplitude was 11·7 on November 14 at 6h. Amplitudes of 5 or more were recorded on the following dates:- January 21, 23; February 16, 26, 27; March 22, 23; October 5, 6, 8, 9, 10, 14; November 5, 6, 14, 15, 16, 17, 26, 27; December 4.

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* LEE, A.W.; The three components of microseismic disturbance at Kew Observatory. Discussion on the records for 1932. *Geophys, Mem., London*, 7, No. 66, 1935.

C.B.H.27697-Wt.3562-Dd.B.M/4224-250-10/56

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

182 KEW OBSERVATORY: h_b(height of barometer cistern above M.S.L.) = 10·4 m. 1939

	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE		
	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean
	millibars																	
1	02·2	86·8	91·3	18·8	16·2	17·3	09·0	92·1	03·7	11·2	03·6	08·7	16·2	12·1	14·3	25·9	23·2	24·7
2	02·2	86·7	92·6	22·2	18·6	20·2	13·3	08·9	11·5	03·6	01·0	01·6	16·0	12·3	14·0	25·4	22·8	24·1
3	09·8	02·2	07·1	26·7	22·2	24·3	13·3	10·8	12·2	01·0	86·2	94·4	15·2	13·2	14·4	25·3	22·4	24·2
4	08·1	93·3	97·3	28·4	25·8	26·9	11·2	09·1	10·0	90·4	83·8	86·0	14·9	03·5	10·0	24·3	21·9	23·3
5	15·9	99·1	09·9	26·8	25·0	25·8	13·0	01·4	08·9	99·1	90·4	94·6	03·5	96·4	98·7	23·8	21·9	23·2
6	22·4	15·9	20·0	26·4	24·8	25·4	17·8	12·5	15·7	13·7	99·1	06·7	03·0	97·4	99·2	23·7	18·8	20·5
7	20·9	13·6	15·9	24·8	21·9	23·4	23·1	15·8	20·0	19·2	13·7	16·9	14·0	03·0	08·5	21·8	18·9	19·9
8	15·7	12·8	14·7	24·8	17·1	22·9	22·4	12·3	17·8	18·9	15·6	17·2	19·7	14·0	17·1	26·7	20·9	22·6
9	12·8	06·0	08·1	23·7	14·0	19·2	24·1	16·4	20·1	17·2	14·2	15·8	24·3	19·7	22·4	26·9	21·9	24·9
10	11·8	01·9	08·7	32·3	23·7	28·9	28·0	24·1	26·8	15·5	11·6	13·2	24·9	22·6	23·9	21·9	09·0	14·8
11	01·9	94·3	95·8	32·5	24·0	29·3	28·0	19·2	23·7	12·9	10·5	11·5	24·7	22·1	23·7	09·0	04·8	06·1
12	99·2	93·7	96·2	24·1	17·6	19·6	36·9	19·9	29·6	16·5	12·9	14·8	23·7	17·8	19·6	14·8	07·4	11·0
13	03·8	99·2	01·4	29·0	15·8	20·5	37·0	31·6	35·3	16·5	09·8	12·7	19·9	18·1	19·1	15·9	14·1	14·9
14	03·8	90·6	99·7	34·3	29·0	32·1	31·6	25·5	28·3	09·8	03·7	06·6	19·4	08·2	14·3	14·2	10·6	12·3
15	93·1	80·5	89·0	31·3	24·2	27·2	29·1	25·3	27·7	14·9	08·1	13·0	08·2	03·0	04·7	10·6	08·6	09·3
16	89·3	82·1	86·1	24·6	21·4	22·9	28·0	15·6	21·4	18·8	13·7	15·8	06·9	02·1	05·1	11·6	06·5	07·8
17	92·0	85·8	88·7	21·4	07·9	14·3	24·8	13·2	17·3	25·9	15·4	18·1	05·2	01·8	03·1	15·6	11·6	14·4
18	92·5	84·9	87·1	17·8	08·4	15·1	26·9	19·9	24·4	36·3	25·9	32·7	09·2	04·7	06·4	15·6	11·6	13·4
19	08·6	92·5	03·7	23·6	15·6	18·8	19·9	16·7	18·4	37·1	32·6	34·9	11·2	08·3	09·6	18·1	14·6	16·6
20	04·5	95·3	98·7	27·3	23·6	25·6	19·2	12·8	16·0	33·1	26·9	29·8	13·3	11·1	11·8	18·7	16·1	17·2
21	00·0	87·7	93·4	25·4	09·4	17·9	14·7	09·6	13·4	27·4	14·4	22·5	17·2	13·1	14·6	18·7	14·6	16·5
22	05·8	83·5	98·2	09·4	82·7	97·7	09·6	96·5	00·5	14·4	10·3	12·5	25·0	17·2	20·9	15·2	12·7	14·0
23	12·2	82·3	95·6	97·1	81·8	88·2	99·7	96·2	98·2	13·6	02·6	08·7	28·9	25·0	27·3	13·3	05·3	09·6
24	19·2	10·8	16·2	09·4	97·1	04·2	01·9	98·7	00·3	02·6	94·1	96·6	29·2	26·3	27·9	05·4	03·2	04·0
25	10·8	78·3	92·1	09·8	05·3	07·5	14·5	01·4	07·5	09·1	96·3	01·9	29·4	26·6	27·8	10·1	04·6	06·3
26	00·2	78·9	89·3	12·4	05·3	09·1	18·9	14·5	17·7	18·3	09·1	12·6	29·4	26·2	27·9	20·7	10·0	14·8
27	11·3	00·2	06·9	15·1	05·7	12·3	16·5	06·0	10·6	25·3	18·3	22·2	26·3	23·5	25·0	23·3	17·9	21·6
28	14·2	11·1	12·7	05·7	87·7	93·6	06·0	03·2	04·3	25·1	21·4	23·6	30·9	26·1	29·2	17·9	09·6	12·5
29	15·2	13·4	14·1				10·1	04·3	06·9	22·8	17·1	20·6	31·3	28·2	29·9	14·2	09·6	11·9
30	18·4	14·8	16·3				10·6	08·8	09·8	17·1	12·4	14·0	29·1	25·4	27·4	14·1	08·6	10·8
31	18·8	16·7	17·8				11·7	09·6	10·7				26·1	22·3	24·5			
Mean	07·63	96·61	02·10	21·61	13·28	17·51	18·41	11·35	15·12	16·24	09·16	12·68	19·23	14·56	16·84	18·09	13·46	15·58

	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	17·4	08·6	11·9	18·5	15·5	17·4	16·9	13·7	15·3	04·1	00·5	01·9	07·9	04·6	05·6	19·5	07·5	15·4
2	19·7	17·3	17·9	19·3	13·4	17·2	16·4	07·9	13·3	13·3	04·1	08·9	06·2	04·7	05·4	17·0	06·8	12·6
3	20·6	16·0	19·2	13·4	06·6	08·1	12·2	05·8	08·9	15·6	13·3	14·7	06·2	98·3	04·2	17·6	96·9	09·0
4	16·0	06·9	11·8	11·9	08·0	10·5	17·5	12·2	14·6	15·3	01·8	09·0	98·3	89·1	91·4	98·0	82·1	90·4
5	11·3	04·3	07·3	11·2	08·9	09·5	21·2	17·4	18·9	01·8	98·0	99·2	98·7	86·9	93·2	95·7	80·6	87·6
6	15·8	11·3	14·4	11·5	09·2	10·5	24·0	21·2	22·4	09·3	98·6	03·8	06·4	91·2	00·9	19·5	95·7	09·8
7	14·1	11·1	12·2	11·0	05·8	08·1	24·2	21·3	22·9	16·0	09·3	12·5	06·5	97·2	02·0	21·8	14·6	19·1
8	13·9	08·0	10·8	10·7	05·7	07·6	21·3	18·2	19·7	16·3	09·5	14·5	01·8	96·0	99·7	14·6	02·1	07·7
9	16·4	08·7	12·6	12·5	10·3	11·4	19·2	16·9	18·1	09·5	99·4	03·7	10·3	01·4	04·5	15·1	05·4	11·4
10	23·6	16·4	20·6	14·9	09·8	11·3	17·5	11·3	15·5	10·1	07·4	09·0	13·5	10·3	12·2	09·2	03·8	06·6
11	23·8	19·8	22·0	21·0	14·9	17·1	14·9	09·0	11·5	08·9	02·3	06·5	12·3	06·7	08·9	23·1	09·2	16·4
12	20·1	15·7	18·2	23·0	20·9	21·9	15·2	13·1	14·4	03·8	01·8	02·9	17·5	08·8	14·1	24·3	22·9	23·6
13	15·7	05·7	11·0	25·6	22·8	24·1	13·1	07·2	09·6	03·3	89·5	99·1	17·4	15·6	16·6	23·8	15·9	20·9
14	05·7	00·9	02·1	27·0	24·9	25·9	12·0	06·9	09·1	93·5	82·9	89·1	15·1	04·7	12·2	15·9	11·6	13·0
15	02·5	00·1	01·4	28·3	25·6	26·8	16·7	11·3	12·6	02·6	92·0	94·3	10·0	01·0	04·0	16·6	12·9	14·2
16	00·8	98·1	99·4	26·2	22·6	24·6	23·0	16·7	20·2	17·4	02·6	13·0	11·5	97·6	05·9	22·8	16·6	19·8
17	08·4	98·5	02·9	23·5	20·7	22·1	26·6	22·9	24·5	17·4	14·5	15·9	22·5	12·2	16·7	24·4	22·8	23·5
18	08·6	04·3	06·8	20·9	17·0	18·8	27·7	25·4	26·3	14·9	12·6	14·0	24·1	03·5	19·1	23·8	17·8	20·8
19	04·9	01·9	03·5	17·3	12·3	14·8	27·6	24·4	26·0	20·1	14·5	16·3	25·6	00·8	14·1	19·7	16·3	17·4
20	11·8	06·1	08·9	12·8	07·0	09·5	25·4	21·9	23·6	26·5	20·1	23·7	33·1	25·6	29·7	28·0	19·7	24·2
21	12·8	11·3	12·0	08·8	05·7	07·3	22·0	20·1	21·2	26·4	24·4	25·7	35·3	33·1	34·3	28·3	24·6	26·6
22	12·0	07·9	09·7	16·9	08·7	12·5	21·8	20·6	21·2	27·3	25·0	26·0	34·3	23·9	29·5	25·7	23·5	24·5
23	08·3	04·0	07·0	19·8	16·9	18·8	23·8	20·1	21·4	25·0	18·1	22·1	23·9	09·8	15·6	24·8	23·3	23·9
24	09·1	99·8	02·6	19·1	15·0	17·3	29·0	23·8	26·5	18·1	12·2	15·0	22·3	10·6	15·8	23·6	19·8	22·2
25	14·9	09·1	13·1	15·2	12·4	13·6	29·0	25·0	27·6	15·0	12·2	13·2	22·6	01·8	16·4	19·8	14·4	16·9
26	18·3	13·4	15·4	15·7	13·2	14·0	25·0	22·1	23·2	14·0	02·9	06·5	01·8	92·9	95·4	17·6	12·5	14·5
27	19·3	18·0	18·6	18·4	15·3	16·8	28·0	22·8	26·0	13·6	08·2	11·7	01·7	88·2	93·8	20·7	17·6	19·7
28	18·0	11·7	15·2	18·9	16·8	18·0	27·3	19·0	23·4	13·3	09·4	11·0	16·4	03·5	12·6	20·3	15·0	17·5
29	11·7	06·1	08·7	17·6	13·1	15·5	19·0	11·7	15·0	11·9	05·6	07·4	17·4	09·5	13·6	19·6	15·4	17·6
30	07·8	03·4	05·3	14·5	11·9	13·2	11·7	03·3	07·8	16·6	11·9	15·1	20·3	15·4	18·4	18·2	12·8	15·0
31	15·7	07·7	10·8	13·8	11·9	12·8				14·0	07·9	11·1				17·9	12·9	14·7
Mean	13·52	08·13	10·75	17·39	13·64	15·39	20·97	16·44	18·69	13·38	06·85	10·22	14·70	04·83	10·20	18·93	11·39	15·36
									Annual	16·63	09·94	13·33						

PRESSURE AT STATION LEVEL

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

183 KEW OBSERVATORY: h_b = 10·4 m. 1939

	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.	01·84	01·81	01·87	01·82	01·59	01·39	01·41	01·73	02·07	02·36	02·57	02·68	02·47	02·11	01·97	02·01	02·03	02·12	02·24	02·40	02·45	02·36	02·37	02·37	02·31	02·10
Feb.	17·98	17·87	17·78	17·62	17·44	17·46	17·51	17·61	17·96	18·09	18·20	18·20	17·91	17·47	17·19	16·98	16·95	17·02	17·21	17·32	17·26	17·20	17·19	17·13	17·10	17·51
Mar.	14·77	14·74	14·57	14·31	14·19	14·30	14·50	14·81	15·20	15·46	15·69	15·74	15·67	15·47	15·27	15·06	14·95	15·02	15·19	15·40	15·57	15·56	15·57	15·46	15·39	15·12
Apr.	13·00	12·84	12·66	12·52	12·44	12·55	12·74	12·88	13·02	13·09	13·04	12·86	12·68	12·53	12·34	12·10	12·01	12·00	12·25	12·49	12·89	13·11	13·07	13·10	13·05	12·68
May	16·98	16·84	16·70	16·54	16·51	16·66	16·90	17·10	17·21	17·20	17·20	17·07	16·88	16·73	16·57	16·39	16·29	16·30	16·40	16·59	16·95	17·24	17·37	17·43	17·37	16·84
June	16·35	16·16	16·01	15·82	15·71	15·79	15·89	15·98	16·01	15·93	15·81	15·74	15·55	15·38	15·16	14·96	14·81	14·74	14·80	15·01	15·28	15·67	15·78	15·78	15·81	15·58
July	10·98	10·87	10·67	10·55	10·49	10·48	10·59	10·66	10·73	10·76	10·82	10·83	10·79	10·72	10·74	10·65	10·51	10·38	10·47	10·63	10·91	11·14	11·30	11·30	11·21	10·75
Aug.	15·69	15·58	15·50	15·33	15·30	15·39	15·58	15·74	15·87	15·86	15·84	15·69	15·49	15·29	15·09	14·85	14·76	14·68	14·71	14·94	15·31	15·50	15·62	15·68	15·63	15·39
Sept.	19·04	18·92	18·76	18·59	18·49	18·54	18·72	18·91	19·09	19·27	19·25	19·07	18·84	18·60	18·33	18·07	18·05	18·10	18·22	18·50	18·76	18·87	18·90	18·87	18·69	18·69
Oct.	10·43	10·35	10·20	09·99	09·82	09·82	09·84	10·06	10·25	10·40	10·42	10·48	10·26	09·99	09·90	09·81	09·84	10·00	10·22	10·38	10·65	10·70	10·75	10·69	10·58	10·22
Nov.	09·91	09·80	09·86	09·85	09·85	09·90	10·01	10·21	10·48	10·56	10·79	10·70	10·42	10·08	09·93	09·91	10·00	10·13	10·25	10·40	10·41	10·41	10·30	10·35	10·29	10·20
Dec.	15·31	15·25	15·23	15·18	15·13	15·14	15·29	15·50	15·78	16·09	16·33	16·13	15·71	15·23	14·99	15·00	14·97	14·99	15·01	15·14	15·27	15·33	15·36	15·40	15·25	15·36
Annual	13·48	13·37	13·27	13·13	13·03	13·07	13·20	13·39	13·59	13·71	13·79	13·72	13·51	13·26	13·08	12·94	12·89	12·91	13·04	13·22	13·43	13·55	13·59	13·59	13·52	13·33

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.

184 KEW OBSERVATORY: h_b = 10·4 m. 1939

	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.	03·12	03·09	03·15	03·10	02·87	02·67	02·69	03·01	03·35	03·64	03·85	03·96	03·74	03·38	03·25	03·29	03·30	03·40	03·52	03·68	03·73	03·65	03·65	03·65	03·59	03·37
Feb.	19·28	19·17	19·08	18·93	18·75	18·77	18·81	18·92	19·27	19·39	19·50	19·50	19·20	18·75	18·48	18·27	18·23	18·31	18·51	18·61	18·56	18·50	18·49	18·42	18·40	18·80
Mar.	16·06	16·03	15·87	15·61	15·49	15·60	15·80	16·11	16·50	16·75	16·99	17·02	16·96	16·75	16·55	16·34	16·23	16·30	16·48	16·69	16·86	16·86	16·87	16·76	16·68	16·41
Apr.	14·29	14·13	13·95	13·81	13·73	13·84	14·03	14·17	14·30	14·36	14·31	14·13	13·94	13·79	13·60	13·36	13·27	13·26	13·52	13·76	14·16	14·38	14·35	14·38	14·34	13·95
May	18·26	18·12	17·98	17·82	17·79	17·95	18·18	18·38	18·48	18·47	18·47	18·33	18·13	17·98	17·83	17·65	17·54	17·55	17·66	17·85	18·21	18·51	18·64	18·70	18·65	18·11
June	17·62	17·43	17·28	17·08	16·97	17·05	17·15	17·24	17·27	17·19	17·06	16·99	16·80	16·62	16·40	16·20	16·05	15·98	16·05	16·25	16·53	16·93	17·04	17·04	17·07	16·83
July	12·24	12·13	11·92	11·81	11·74	11·74	11·84	11·91	11·97	12·01	12·06	12·07	12·02	11·96	11·97	11·88	11·74	11·61	11·71	11·86	12·15	12·38	12·55	12·55	12·46	11·99
Aug.	16·94	16·83	16·75	16·58	16·56	16·64	16·84	16·99	17·12	17·11	17·08	16·93	16·72	16·52	16·32	16·08	15·99	15·91	15·94	16·18	16·55	16·74	16·86	16·93	16·88	16·63
Sept.	20·30	20·18	20·03	19·86	19·76	19·81	19·99	20·18	20·35	20·53	20·50	20·32	20·09	19·84	19·58	19·31	19·29	19·35	19·47	19·75	20·01	20·13	20·16	20·13	19·96	19·95
Oct.	11·71	11·63	11·48	11·27	11·10	11·10	11·12	11·34	11·53	11·67	11·69	11·75	11·52	11·25	11·16	11·07	11·10	11·27	11·49	11·65	11·92	11·98	12·02	11·97	11·86	11·49
Nov.	11·19	11·08	11·14	11·13	11·13	11·17	11·29	11·49	11·75	11·83	12·06	11·97	11·69	11·35	11·19	11·17	11·27	11·41	11·52	11·67	11·68	11·68	11·57	11·62	11·57	11·47
Dec.	16·62	16·56	16·54	16·49	16·43	16·45	16·60	16·81	17·09	17·39	17·64	17·43	17·02	16·53	16·29	16·30	16·28	16·29	16·32	16·44	16·57	16·63	16·67	16·70	16·65	16·67
Annual	14·75	14·65	14·55	14·41	14·31	14·35	14·48	14·66	14·87	14·98	15·05	15·00	14·77	14·52	14·34	14·20	14·15	14·18	14·31	14·49	14·71	14·83	14·87	14·87	14·80	14·60

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.

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	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.	78·11	78·08	78·10	78·12	78·07	78·15	78·19	78·19	78·16	78·31	78·50	78·99	79·25	79·62	79·66	79·69	79·41	79·12	78·85	78·58	78·43	78·40	78·31	78·16	78·08	78·60
Feb.	78·28	78·05	77·76	77·53	77·33	77·27	77·19	77·07	77·14	77·81	78·93	79·87	80·57	81·19	81·44	81·55	81·17	80·48	79·92	79·40	79·04	78·88	78·75	78·48	78·34	78·96
Mar.	78·16	78·05	77·99	77·89	77·79	77·63	77·63	77·71	78·16	78·99	79·82	80·57	81·15	81·47	81·57	81·51	81·25	80·83	80·42	79·80	79·20	78·93	78·68	78·39	78·27	79·32
Apr.	80·64	80·16	79·88	79·60	79·35	79·12	79·17	80·09	81·07	82·12	83·12	83·88	84·46	84·80	85·23	85·43	85·25	85·13	84·38	83·45	82·66	82·10	81·55	81·00	80·60	82·23
May	82·30	81·76	81·59	81·35	81·08	81·11	81·68	82·72	83·75	84·97	85·85	86·73	87·46	87·91	87·95	88·01	88·13	87·95	87·67	86·81	85·61	84·57	83·70	82·95	82·45	84·74
June	86·01	85·48	85·10	84·92	84·72	85·05	85·58	86·41	87·35	88·35	89·17	89·93	90·44	90·76	91·22	91·24	91·06	90·90	90·51	89·93	88·73	87·73	87·06	86·63	86·00	88·10
July	87·43	87·21	86·95	86·76	86·60	86·77	87·30	87·93	88·78	89·37	89·84	90·48	91·01	91·45	91·49	91·64	91·60	91·60	91·11	90·73	89·68	88·88	88·29	87·84	87·53	89·20
Aug.	88·35	87·99	87·77	87·57	87·25	87·11	87·28	87·95	88·75	89·81	90·77	91·54	92·34	93·18	93·50	93·82	93·64	93·16	92·85	91·73	90·74	89·86	89·29	88·88	88·41	90·22
Sept.	86·81	86·47	86·21	85·99	85·80	85·76	85·70	86·25	87·02	88·08	89·18	89·93	90·73	91·10	91·24	91·46	91·07	90·47	89·90	88·91	88·18	87·71	87·26	86·87	86·61	88·25
Oct.	81·30	81·11	80·91	80·75	80·66	80·65	80·64	80·70	81·10	81·93	82·74	83·55	84·25	84·54	84·71	84·55	83·95	83·47	82·85	82·37	82·03	81·82	81·57	81·32	81·23	82·22
Nov.	81·82	81·69	81·60	81·57	81·49	81·41	81·35	81·32	81·51	81·98	82·54	82·86	83·26	83·69	83·80	83·78	83·47	83·21	83·04	82·77	82·71	82·59	82·33	82·14	81·98	82·42
Dec.	76·22	76·01	76·02	76·01	75·95	75·83	75·89	75·88	75·75	75·95	76·24	76·70	77·16	77·45	77·53	77·44	77·18	76·99	76·81	76·61	76·55	76·46	76·29	76·12	75·77	76·45
Annual	82·13	81·85	81·67	81·52	81·36	81·34	81·49	81·87	82·40	83·16	83·91	84·60	85·19	85·61	85·79	85·86	85·61	85·29	84·88	84·27	83·64	83·18	82·77	82·41	82·12	83·40

The initial 2 or 3 of the readings is omitted, i.e. 275·00 degrees Absolute is printed 75·00.

Add 0·16° to obtain temperature in degrees Kelvin where $T(°K.) = t(°C.) + 273·16$.

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 $T(^\circ K.) = t(^\circ C.) + 273{\cdot}16$

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	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	82·6	76·9	80·1	76·7	75·0	75·6	82·1	77·3	79·9	86·4	76·1	82·0	81·2	79·3	80·0	90·7	82·3	85·6
2	78·6	75·0	77·1	76·6	73·1	74·9	86·2	80·6	82·9	83·9	77·9	81·8	82·9	78·9	80·6	96·2	83·6	89·6
3	76·8	72·9	74·8	74·0	71·9	72·9	87·1	78·1	83·1	82·0	75·1	79·0	85·1	78·1	81·8	95·1	83·1	89·5
4	80·0	73·1	76·2	80·7	72·4	77·5	84·7	80·6	82·8	85·1	80·9	82·5	86·0	75·7	81·1	96·2	83·8	90·5
5	75·9	71·1	73·9	82·4	71·7	76·8	85·6	80·6	83·1	85·0	80·6	82·7	85·6	77·6	82·2	97·5	85·6	92·1
6	75·2	69·5	72·3	82·9	72·9	76·9	85·1	80·1	82·5	82·2	77·9	79·7	88·1	78·3	82·9	01·7	88·3	94·9
7	83·8	75·1	79·8	83·8	73·6	79·1	82·4	78·2	80·1	82·2	76·8	79·5	91·1	76·7	84·2	02·6	88·1	95·6
8	84·7	82·3	83·4	82·9	80·8	81·9	83·7	76·2	80·2	85·2	72·8	79·8	92·2	79·7	86·1	95·0	85·5	90·5
9	83·6	81·1	82·5	84·6	82·1	83·2	82·5	77·1	79·5	89·6	75·7	82·8	92·9	80·9	87·3	92·0	82·7	87·5
10	81·3	78·4	79·8	86·1	83·9	84·8	82·3	73·9	78·1	90·6	79·1	84·5	92·9	82·3	88·1	97·2	81·4	89·4
11	81·7	76·8	80·2	86·0	82·8	84·0	79·8	71·5	77·0	95·3	80·8	87·3	88·2	80·1	84·8	90·4	81·6	87·2
12	78·2	74·6	76·0	85·2	78·6	82·3	79·9	75·1	78·5	92·6	79·8	86·7	84·5	79·6	82·1	88·3	80·6	83·6
13	79·3	71·0	75·7	80·7	77·2	79·1	82·0	73·3	78·1	88·6	82·4	85·0	90·0	81·2	85·6	87·0	79·5	83·9
14	84·1	70·0	76·3	81·7	75·8	79·1	84·3	80·6	82·3	87·1	82·1	84·1	88·1	78·0	83·1	90·2	84·0	86·9
15	85·2	82·8	84·3	85·2	77·2	80·6	81·5	78·3	80·0	86·6	80·5	83·9	83·2	80·6	82·1	89·4	86·1	88·0
16	83·9	80·2	82·6	83·1	77·0	80·3	83·3	77·0	80·1	88·9	81·9	85·7	87·0	80·8	83·2	90·1	84·8	87·5
17	84·5	81·2	82·8	80·8	73·8	77·6	80·5	74·0	77·5	86·9	80·2	83·2	84·8	79·4	82·4	90·0	82·6	86·8
18	83·3	82·0	82·8	81·3	76·1	79·2	77·2	73·8	75·4	85·4	78·3	81·5	86·0	78·9	82·8	91·0	85·2	87·8
19	82·5	80·8	81·9	84·0	77·0	80·5	79·4	75·7	77·5	90·1	76·8	83·2	86·7	80·2	82·7	92·4	83·7	87·9
20	83·9	80·0	81·8	82·2	73·3	77·1	82·3	76·1	78·6	92·8	78·4	85·6	88·1	78·0	83·2	89·0	82·6	85·7
21	83·7	78·3	81·4	82·6	71·0	77·7	82·1	77·2	79·8	92·1	79·0	85·2	89·2	79·9	84·9	93·0	84·6	88·2
22	82·5	79·8	81·2	80·1	76·9	78·6	83·0	76·0	79·4	85·1	80·1	82·6	92·6	79·6	86·4	88·9	85·2	87·0
23	81·3	78·9	80·9	82·0	74·6	78·8	82·2	75·3	78·3	83·8	79·3	81·6	96·0	81·5	88·5	88·0	84·9	86·1
24	79·3	74·3	77·3	81·1	72·2	77·3	81·9	73·0	77·2	85·2	78·4	82·1	96·2	82·2	89·7	86·7	83·7	85·3
25	75·7	73·4	74·3	81·3	76·8	79·2	79·1	74·8	76·3	83·6	76·4	79·8	90·5	84·2	87·6	88·3	82·3	85·4
26	76·6	75·1	75·5	81·8	75·1	78·4	79·2	76·0	77·2	82·1	75·0	78·6	93·0	82·1	87·1	91·0	82·0	86·4
27	77·9	75·1	76·0	81·9	74·1	78·3	77·7	75·0	76·2	82·2	74·9	78·3	93·4	84·1	89·0	92·7	81·9	87·6
28	77·5	74·9	76·1	82·9	76·9	79·3	78·5	75·9	77·2	83·3	75·1	78·9	90·3	81·9	86·5	90·0	87·3	88·9
29	77·6	76·4	77·0				82·9	74·4	78·3	82·8	76·0	79·1	92·1	80·7	85·9	93·5	86·1	89·7
30	77·1	76·0	76·5				83·8	77·6	80·2	80·0	78·1	79·4	91·3	82·6	87·1	92·2	84·0	87·7
31	76·7	75·2	75·9				86·2	77·7	81·4				94·3	82·1	87·1			
Mean	80·5	76·5	78·6	81·9	75·9	79·0	82·2	76·5	79·3	86·2	78·2	82·2	89·1	80·2	84·7	92·2	83·9	88·1

	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	91·5	83·1	86·9	93·0	86·3	89·0	95·3	86·1	91·2	87·9	82·7	85·1	82·8	80·1	81·2	85·8	84·1	85·2
2	90·6	82·0	87·1	91·9	85·5	88·5	98·2	90·6	93·6	87·8	82·2	84·5	84·2	80·1	82·1	85·5	78·1	82·4
3	93·1	85·7	89·2	89·0	85·8	87·1	94·1	88·1	91·8	87·1	82·1	84·3	85·9	80·7	82·8	81·8	76·5	79·2
4	99·2	87·4	93·0	91·6	85·9	88·4	95·0	87·5	90·7	84·8	82·0	83·6	86·5	81·9	83·5	79·7	76·6	78·4
5	93·6	87·1	90·9	90·5	84·8	88·3	95·5	85·2	89·8	90·7	83·3	85·9	85·1	81·1	83·0	79·3	75·7	77·4
6	90·2	86·3	87·9	94·5	85·4	89·2	95·5	82·7	89·1	89·0	82·7	85·3	83·8	80·7	82·6	80·2	72·9	78·4
7	94·1	87·6	90·0	91·9	85·6	88·0	97·2	83·6	90·4	89·3	80·2	84·6	87·5	83·1	85·2	80·0	72·2	75·7
8	91·8	88·3	89·8	92·9	85·7	88·7	98·3	85·7	91·8	87·3	82·6	84·3	86·3	84·8	85·6	84·7	80·0	82·4
9	92·8	86·8	89·8	90·7	85·4	88·5	97·1	86·5	91·4	86·8	82·2	84·3	85·3	80·0	83·7	84·4	76·6	81·1
10	92·4	85·1	88·8	91·8	87·3	89·6	93·9	88·5	90·8	87·8	78·2	83·7	85·0	78·1	81·7	84·6	78·0	81·6
11	92·1	82·9	88·1	93·1	84·0	88·8	91·8	85·6	89·2	87·4	82·1	84·7	84·5	78·0	82·6	82·3	77·0	79·7
12	93·7	85·1	89·0	93·6	83·4	88·7	90·0	85·3	87·5	86·8	81·6	83·8	83·9	81·7	82·9	77·7	76·3	76·9
13	93·0	84·8	89·1	93·2	83·2	88·7	89·6	84·1	86·7	87·3	79·2	83·5	83·7	81·3	82·6	77·2	76·1	76·8
14	92·3	85·0	88·7	95·1	83·0	89·2	90·3	83·4	86·6	85·7	82·1	83·4	85·9	82·4	84·6	77·3	75·9	76·4
15	94·8	86·5	90·4	96·1	83·0	89·9	88·0	84·0	85·9	83·3	81·4	82·4	84·8	81·2	82·8	76·2	75·1	75·7
16	93·8	87·3	89·9	97·0	84·8	90·7	92·4	85·0	88·7	85·9	79·0	81·8	87·1	80·1	82·4	76·3	74·1	75·3
17	92·0	87·0	89·1	96·2	85·9	91·2	93·1	87·1	89·5	87·3	81·2	84·1	85·5	80·6	82·5	75·7	73·9	74·6
18	92·8	86·5	89·8	96·9	88·0	92·0	92·3	85·9	88·8	86·5	81·6	83·7	85·4	82·4	84·2	76·1	74·8	75·6
19	92·9	86·5	89·7	98·9	88·3	92·9	92·6	86·6	89·0	82·6	79·3	81·5	85·8	81·4	83·3	76·7	75·6	76·0
20	90·3	85·2	88·1	99·5	90·5	93·7	91·3	86·3	88·5	83·5	77·3	79·9	82·3	76·8	79·7	78·5	75·5	77·2
21	91·2	87·6	88·6	99·0	88·9	92·3	92·0	85·1	88·1	85·0	77·5	80·8	80·2	76·1	79·0	77·2	71·1	75·4
22	91·3	87·2	89·0	94·9	87·0	91·0	89·2	86·2	87·6	84·2	76·3	79·5	81·7	72·6	78·4	74·8	67·9	71·1
23	90·9	84·6	88·0	96·1	84·0	90·6	88·6	85·1	86·6	85·7	75·0	81·3	82·5	79·8	81·7	73·9	69·2	71·6
24	89·2	83·9	86·1	93·2	89·2	91·1	88·9	83·2	85·7	85·5	80·1	83·0	80·3	76·3	78·7	74·3	71·6	73·3
25	94·0	82·6	88·3	93·7	89·6	91·2	87·9	82·5	85·5	81·5	76·0	79·2	82·9	73·9	78·1	77·1	72·6	74·4
26	93·4	85·3	88·7	94·7	86·7	90·7	88·7	81·0	84·9	79·3	73·8	77·0	87·1	81·1	84·1	80·1	73·6	77·1
27	93·7	83·3	89·2	96·0	88·5	91·6	86·5	81·2	83·7	81·3	75·7	77·2	85·6	79·3	81·9	76·0	71·7	73·6
28	93·1	88·7	90·7	97·2	87·1	92·1	87·2	79·9	83·9	80·5	75·2	78·5	82·1	78·0	80·2	73·3	70·4	72·1
29	92·2	88·6	90·5	98·1	87·6	93·1	89·0	83·2	85·5	80·1	75·8	78·4	87·3	81·0	85·1	74·4	68·1	71·2
30	94·8	88·5	91·4	95·0	89·1	91·2	89·8	80·5	85·0	82·2	74·7	78·7	86·3	85·4	85·9	74·1	66·0	71·2
31	92·2	87·0	89·2	94·1	88·1	90·5				81·4	80·6	81·0				75·1	69·8	73·2
Mean	92·7	85·9	89·2	94·5	86·4	90·2	92·0	84·9	88·2	85·2	79·5	82·2	84·6	80·0	82·4	78·4	74·1	76·5
									Annual	86·6	80·2	83·4						

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

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	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	86·9	8·8	81·7	6·0	69·6	6·9	84·0	9·6	92·8	9·3	69·3	10·1	69·1	11·0	78·8	14·3	88·5	18·5	67·5	9·5	88·1	9·6	86·9	12·3
2	81·0	6·6	84·5	5·9	75·8	9·2	87·0	9·9	82·2	8·6	60·2	11·3	70·0	11·3	79·9	14·1	80·9	19·6	68·5	9·3	90·7	10·5	73·7	8·7
3	80·4	5·6	97·2	5·9	74·0	9·1	90·1	8·4	71·8	8·1	41·8	7·9	64·9	11·9	88·5	14·2	80·4	17·5	65·7	8·8	93·0	11·3	84·3	8·0
4	93·1	7·2	92·3	7·8	82·4	10·0	89·0	10·6	79·3	11·9	40·7	8·1	59·9	12·7	84·9	14·9	76·3	15·5	69·8	8·9	91·7	11·6	81·6	7·3
5	79·9	5·2	93·1	7·5	74·2	9·2	87·5	10·5	83·0	9·7	41·5	9·2	69·0	14·1	82·0	14·3	76·4	14·6	89·6	13·3	78·0	9·6	80·1	6·7
6	88·5	5·1	92·4	7·5	77·0	9·1	79·0	7·8	84·7	10·3	60·2	15·8	80·7	13·7	79·0	14·5	79·4	14·5	82·7	11·8	83·1	9·9	84·0	7·5
7	92·8	9·2	84·2	7·9	64·4	6·5	73·0	7·1	75·2	10·0	63·0	17·3	78·4	15·2	86·5	14·7	76·4	15·2	84·1	11·5	90·7	12·9	95·3	7·1
8	86·6	10·9	91·3	10·4	71·4	7·3	76·0	7·5	69·6	10·5	62·5	12·5	84·8	16·2	84·7	15·1	84·4	18·3	82·1	11·0	85·6	12·5	92·0	10·9
9	83·5	9·9	81·1	10·1	72·1	7·0	71·3	8·6	72·5	11·8	56·4	9·3	65·8	12·8	86·1	15·2	84·3	17·8	92·7	12·4	91·4	11·7	96·9	10·5
10	82·3	8·1	82·6	11·4	74·1	6·5	69·0	9·4	71·3	12·2	58·9	11·0	65·7	11·8	91·7	17·3	78·7	16·0	87·7	11·3	97·1	10·9	93·3	10·4
11	82·6	8·4	85·8	11·3	93·0	7·6	71·5	11·7	70·7	9·8	70·8	11·5	61·8	10·6	73·0	13·1	70·9	13·1	91·4	12·6	93·5	11·2	93·9	9·2
12	84·6	6·4	72·9	8·5	78·9	7·1	73·9	11·6	71·0	8·2	68·0	8·7	61·2	10·8	72·3	12·9	75·5	12·5	91·0	11·8	94·6	11·5	73·7	5·9
13	87·2	6·5	72·3	6·8	81·7	7·2	82·9	11·6	58·3	8·5	63·2	8·2	69·0	12·6	68·3	12·2	82·2	12·9	90·5	11·5	91·5	10·9	80·3	6·4
14	96·2	7·5	74·1	7·0	78·5	9·2	83·3	11·0	81·0	10·0	76·5	12·1	78·7	14·1	72·3	13·3	78·1	12·2	87·8	11·1	94·9	13·0	85·9	6·7
15	84·9	11·4	86·3	9·0	68·0	6·8	75·5	9·8	86·4	10·0	80·1	13·6	71·9	14·3	71·2	13·7	82·6	12·3	93·6	11·0	85·7	10·4	88·9	6·6
16	80·3	9·6	74·3	7·6	79·5	8·0	75·5	11·1	77·0	11·0	86·2	14·2	77·3	14·9	77·0	15·6	82·3	14·7	89·2	10·1	86·0	10·1	78·2	5·6
17	90·3	10·9	89·4	7·6	71·4	6·0	63·4	7·9	88·7	10·5	74·9	11·8	80·9	16·8	73·6	15·4	75·1	14·1	87·9	11·6	93·7	11·1	73·5	5·0
18	90·6	11·0	78·9	7·5	63·2	4·6	63·5	7·0	81·5	9·9	82·3	13·9	82·4	15·8	75·0	16·5	73·6	13·2	81·8	10·5	95·2	12·7	82·3	6·1
19	92·7	10·6	77·6	8·0	78·2	6·6	69·8	8·7	62·6	7·5	60·2	10·2	84·0	16·0	77·0	17·9	76·1	13·8	82·2	9·1	71·2	8·9	87·1	6·6
20	95·1	10·8	83·8	6·9	68·3	6·2	63·3	9·2	76·8	9·6	74·1	10·9	89·9	15·4	76·3	18·6	75·8	13·4	74·5	7·4	83·1	8·2	87·1	7·2
21	97·8	10·8	84·0	7·2	64·5	6·4	59·4	8·4	71·5	10·0	79·6	13·7	93·4	16·6	84·5	19·1	78·7	13·5	85·3	9·0	94·1	8·8	78·1	5·7
22	85·3	9·3	83·9	7·6	74·3	7·1	57·5	6·9	78·0	12·0	88·5	14·1	86·3	15·7	85·3	17·6	78·0	13·0	89·7	8·7	85·8	7·7	94·2	4·9
23	79·0	8·4	69·5	6·4	68·0	6·1	76·2	8·5	73·4	12·9	89·6	13·5	70·3	12·0	74·6	15·0	75·3	12·4	90·0	9·9	94·0	10·6	96·9	5·3
24	74·4	6·2	76·0	6·3	72·6	6·0	75·1	8·7	62·3	11·9	82·1	11·7	71·1	10·7	80·7	16·7	74·4	10·9	85·1	10·5	86·4	7·9	99·6	6·2
25	92·7	6·2	85·2	8·1	77·7	6·0	71·3	7·0	73·3	12·2	66·8	9·6	65·7	11·4	87·7	18·3	70·2	10·2	73·2	6·9	90·7	8·0	98·3	6·6
26	91·3	6·7	78·8	7·1	73·3	6·0	70·7	6·4	62·9	10·1	71·5	11·0	75·0	13·4	86·7	17·6	71·0	9·9	82·1	6·7	83·3	11·0	94·7	7·8
27	81·2	6·2	80·6	7·2	83·5	6·4	70·9	6·3	71·3	13·0	69·2	11·5	78·8	14·5	82·2	17·6	71·1	9·2	85·5	7·1	84·5	9·6	78·7	5·0
28	80·4	6·1	82·9	7·9	86·5	7·1	70·8	6·6	68·1	10·5	80·8	14·6	81·2	16·5	79·0	17·5	65·8	8·6	80·3	7·2	81·2	8·2	92·9	5·3
29	71·3	5·8			80·2	7·1	80·9	7·6	67·3	10·0	70·7	13·4	88·3	17·7	71·7	16·9	68·0	9·9	81·8	7·3	91·3	12·9	85·0	4·5
30	72·1	5·7			70·5	7·2	90·5	8·7	65·5	10·5	76·9	12·9	77·8	16·5	75·7	15·8	69·4	9·7	85·1	7·8	96·4	14·3	92·5	4·9
31	74·4	5·6			73·8	8·1			66·2	10·6			75·8	14·0	87·6	17·5			80·4	8·6			97·5	6·0
Mean*	85·1	8·0	82·7	7·8	74·9	7·2	75·1	8·8	74·1	10·3	68·9	11·8	75·1	13·9	79·8	15·7	76·7	13·6	83·2	9·8	88·9	10·6	87·3	7·0

* Mean of the column.

RELATIVE HUMIDITY

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

188 KEW OBSERVATORY: h_t = 3·0 m. 1939

	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.	88·5	87·5	87·5	87·6	87·9	87·7	87·5	87·8	87·4	85·6	84·6	82·3	81·3	79·3	79·2	79·0	81·2	83·2	84·7	86·2	86·9	86·1	86·8	87·8	88·0	85·1
Feb.	87·2	87·7	87·8	88·5	89·2	89·5	89·3	89·6	89·9	87·4	84·3	78·7	74·1	71·2	70·7	69·6	72·4	76·1	79·0	81·9	84·3	84·4	86·2	86·5	87·1	82·7
Mar.	80·7	82·4	82·9	83·3	83·2	84·3	83·9	83·1	81·0	75·8	71·3	67·1	64·1	61·6	60·6	61·5	63·9	67·9	70·3	74·2	76·8	78·1	78·5	80·3	80·9	74·9
Apr.	81·9	84·7	86·4	87·7	88·4	88·8	87·9	84·8	80·6	75·3	69·0	65·2	64·5	63·4	61·7	60·2	61·2	61·4	65·3	70·0	75·0	77·3	79·3	81·0	82·1	75·1
May	84·0	85·9	87·1	87·8	88·4	89·0	87·0	82·8	78·6	71·9	67·4	63·3	61·4	59·8	60·2	59·9	60·9	62·1	63·7	66·6	72·2	75·7	79·4	82·8	83·5	74·1
June	76·6	79·0	80·7	82·4	83·8	82·3	79·8	76·2	71·6	67·7	65·1	61·8	60·9	59·0	56·8	57·7	58·0	58·3	58·3	59·7	63·4	68·8	71·8	73·5	76·9	68·9
July	84·7	85·3	85·3	86·0	87·3	86·9	85·3	82·4	78·3	74·3	71·9	68·8	65·0	62·8	63·1	62·5	62·9	62·6	66·6	67·6	72·5	77·2	80·4	83·2	84·5	75·1
Aug.	89·3	91·2	91·4	91·6	92·5	93·1	92·4	90·4	87·2	81·2	75·8	72·1	69·2	65·5	64·6	62·9	64·6	66·6	68·4	73·0	77·4	82·8	84·5	87·3	89·7	79·8
Sept.	86·5	87·5	87·8	88·7	89·4	89·3	89·2	86·6	83·3	78·0	70·8	67·4	63·6	61·3	60·4	59·3	61·0	64·4	67·3	73·8	77·5	80·8	82·1	84·4	85·8	76·7
Oct.	87·3	87·0	88·1	88·3	88·4	88·1	89·0	89·1	88·1	85·3	82·4	78·5	74·5	72·5	70·2	71·1	75·9	79·0	81·8	84·6	86·0	86·4	87·0	87·4	87·8	83·2
Nov.	91·0	90·6	90·5	90·2	90·6	90·6	92·0	92·0	91·6	90·6	88·7	87·8	86·0	84·8	84·4	83·7	85·1	87·3	88·2	88·9	88·2	89·4	90·2	91·1	91·0	88·9
Dec.	89·7	89·9	89·7	89·5	88·9	88·0	88·4	88·3	88·9	88·4	87·4	85·7	85·3	84·2	83·4	84·2	84·4	85·3	85·6	87·3	87·7	87·5	89·0	89·4	90·0	87·3
Annual	85·6	86·5	87·1	87·6	88·2	88·1	87·6	86·1	83·8	80·1	76·5	73·2	70·8	68·8	67·9	67·7	69·3	71·2	73·3	76·1	79·0	81·2	82·9	84·6	85·6	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

189 KEW OBSERVATORY: h_t = 3·0 m. 1939

	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.	7·8	7·7	7·7	7·7	7·7	7·7	7·7	7·8	7·7	7·6	7·6	7·7	7·7	7·7	7·8	7·7	7·8	7·8	7·8	7·8	7·8	7·7	7·7	7·8	7·7	7·7
Feb.	7·8	7·7	7·5	7·5	7·4	7·4	7·4	7·3	7·4	7·5	7·8	7·8	7·7	7·7	7·8	7·8	7·9	7·9	7·9	7·9	7·9	7·8	7·9	7·8	7·8	7·7
Mar.	7·1	7·2	7·2	7·2	7·2	7·2	7·1	7·1	7·2	7·1	7·0	7·0	6·9	6·8	6·8	6·8	7·0	7·2	7·2	7·3	7·3	7·3	7·2	7·2	7·2	7·1
Apr.	8·6	8·6	8·6	8·6	8·5	8·4	8·3	8·5	8·7	8·7	8·5	8·5	8·7	8·8	8·8	8·7	8·7	8·7	8·8	8·9	9·0	8·9	8·8	8·7	8·6	8·7
May	9·8	9·7	9·7	9·6	9·5	9·6	9·7	10·0	10·1	10·1	10·0	9·9	10·1	10·1	10·2	10·2	10·5	10·6	10·6	10·5	10·5	10·3	10·2	10·1	9·9	10·1
June	11·5	11·4	11·4	11·5	11·5	11·6	11·6	11·7	11·7	11·8	12·0	11·9	12·1	12·0	11·9	12·1	12·0	12·0	11·7	11·5	11·3	11·5	11·5	11·5	11·5	11·7
July	13·9	13·9	13·6	13·5	13·6	13·7	13·9	13·8	14·0	13·8	13·8	13·7	13·4	13·3	13·4	13·5	13·5	13·4	13·8	13·7	13·8	13·9	14·0	14·1	14·0	13·7
Aug.	15·6	15·5	15·4	15·2	15·0	15·0	15·1	15·4	15·6	15·5	15·2	15·4	15·5	15·5	15·6	15·5	15·7	15·7	15·8	15·8	15·7	15·9	15·7	15·7	15·7	15·5
Sept.	13·7	13·5	13·3	13·3	13·2	13·2	13·1	13·2	13·3	13·4	13·0	13·0	12·9	12·7	12·7	12·6	12·6	12·9	12·9	13·3	13·4	13·5	13·4	13·4	13·4	13·1
Oct.	9·6	9·4	9·4	9·3	9·2	9·2	9·3	9·3	9·5	9·7	9·9	10·0	9·9	9·8	9·6	9·7	9·9	10·0	9·9	10·0	9·9	9·8	9·7	9·6	9·5	9·6
Nov.	10·3	10·2	10·1	10·1	10·0	10·0	10·1	10·1	10·2	10·4	10·6	10·7	10·7	10·9	10·9	10·8	10·8	10·9	10·9	10·8	10·6	10·7	10·6	10·6	10·4	10·5
Dec.	6·9	6·8	6·8	6·8	6·7	6·6	6·6	6·6	6·6	6·7	6·7	6·8	7·0	7·1	7·0	7·1	7·0	6·9	6·9	6·9	6·9	6·9	6·9	6·8	6·7	6·8
Annual	10·2	10·1	10·1	10·0	10·0	10·0	10·0	10·1	10·2	10·2	10·2	10·2	10·2	10·2	10·2	10·2	10·3	10·3	10·3	10·4	10·3	10·3	10·3	10·3	10·2	10·2

* Mean of values, 1,2,.....23,½(0 + 24).

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

190 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. 1939

	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	4·0	4·3	2	...	...	...	...	...	...	1·5	2·6	2	11·3	11·5	7	...	...	...
2	0·4	0·7	1	...	...	...	...	...	...	10·8	5·4	65	0·4	1·0	...	...	...	...
3	...	...	...	...	...	...	...	...	...	1·9	3·2	3	...	...	...	...	...	...
4	9·3	8·3	6	...	...	...	1·6	1·2	7	6·6	3·9	15	...	...	...	...	...	...
5	...	...	...	...	...	...	1·6	1·7	2	5·1	2·0	14	0·1	0·2	...	...	...	...
6	0·1	0·2	...	...	...	...	...	...	...	3·7	4·8	2	0·5	0·5	4	...	...	...
7	9·1	4·7	13	1·1	1·4	...	...	...	...	...	...	...	0·1	...	...	...	...	...
8	...	...	...	1·2	1·7	4	3·6	2·0	50	...	...	...	...	...	...	...	...	...
9	0·5	0·5	6	2·0	3·7	...	...	...	...	...	...	...	...	...	...	...	...	...
10	2·5	3·8	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
11	2·1	1·5	2	...	...	...	4·4	6·3	2	...	...	...	...	...	...	6·5	6·8	17
12	...	...	...	...	0·1	...	0·4	1·1	...	...	...	...	0·6	0·6	7	0·1	0·2	...
13	...	...	...	...	...	...	...	...	...	0·6	0·9	3	...	...	...	...	...	...
14	7·3	5·0	16	...	...	...	...	...	...	0·3	0·4	6	0·1	0·2	...	...	...	...
15	9·1	5·2	67	...	...	...	0·1	0·4	...	...	...	...	4·1	2·7	30	0·2	0·6	...
16	11·1	2·9	65	...	...	...	1·8	2·1	6	...	...	...	11·7	6·1	6	5·7	7·8	3
17	3·0	2·1	12	0·5	1·0	...	1·2	1·3	4	0·5	1·2	1	6·4	5·0	6	...	...	...
18	4·1	3·8	4	...	...	...	...	...	...	0·2	0·7	1	...	...	...	2·5	1·1	18
19	4·0	3·8	3	...	...	...	1·0	3·3	...	...	...	...	...	...	...	...	...	...
20	6·5	4·8	18	...	...	...	...	...	...	...	...	...	...	...	...	8·8	2·8	30
21	3·7	3·4	...	...	...	...	0·1	0·2	...	...	...	...	...	...	...	1·2	1·1	4
22	1·2	1·2	4	5·1	4·3	22	5·2	3·6	6	...	...	...	...	...	...	...	...	...
23	0·9	0·8	...	...	...	...	1·5	1·6	6	0·9	2·9	...	...	...	...	2·3	0·5	35
24	...	...	...	...	...	...	...	...	...	3·5	3·0	28	...	...	...	0·4	1·6	...
25	29·2	17·0	...	4·3	3·9	7	0·5	1·1	...	...	...	...	...	...	...	...	...	...
26	0·3	1·2	...	0·1	0·1	...	...	...	...	...	0·1	...	...	...	...	...	...	...
27	1·0	3·3	...	...	...	...	1·5	5·6	...	2·2	0·8	19	...	...	...	...	...	...
28	0·1	0·1	...	6·1	4·6	35	0·9	2·9	...	4·0	1·5	16	...	...	...	0·1	0·3	...
29	0·1	0·1	...				...	...	...	1·9	4·4	1	...	...	...	...	...	...
30	...	...	...				...	...	...	12·5	14·4	11	...	...	...	1·3	0·8	33
31	...	...	...				...	...	...				...	...	...			
Total	109·6	78·7	-	20·4	20·8	-	25·4	34·4	-	56·2	52·2	-	35·3	27·8	-	29·1	23·6	-

	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	...	...	...	12·9	1·5	104	0·9	1·9	2	...	...	...	0·4	0·7	1	...	...	...
2	...	...	...	0·6	1·9	4	14·8	3·8	73	...	...	...	1·0	1·9	1	...	...	...
3	...	...	...	20·5	14·4	30	0·4	0·7	1	...	...	...	3·0	3·6	20	3·4	1·4	15
4	0·5	0·9	7	3·6	1·3	20	...	...	...	6·5	2·1	21	3·0	4·6	7	...	...	...
5	1·3	0·7	22	19·6	4·0	115	...	...	...	6·6	2·8	30	4·8	4·2	8	0·5	1·1	...
6	4·0	2·8	42	...	...	...	...	...	...	1·7	1·1	5	18·8	2·8	115	0·4	0·5	...
7	1·2	1·7	4	1·5	1·5	17	...	...	...	1·1	0·6	8	0·8	1·0	16	0·1	0·3	...
8	0·4	0·3	3	3·4	0·7	96	...	...	...	...	...	...	2·3	1·7	16	8·6	7·3	7
9	...	...	...	...	...	...	...	...	...	17·0	11·9	17	3·9	2·5	16	...	...	...
10	...	..	...	2·7	4·2	16	0·3	0·3	3	...	...	...	0·2	0·1	...	3·2	3·0	9
11	...	...	...	...	...	...	0·7	0·9	2	11·0	4·0	41	0·1	...	...	...	...	...
12	...	...	...	...	...	...	0·1	0·3	1	0·1	0·1	...	...	...	...	...	...	...
13	...	...	...	...	...	...	0·3	0·9	4	9·8	5·6	8	...	...	...	...	...	...
14	1·8	1·1	8	...	...	...	0·1	0·3	1	28·7	11·8	12	(3·2)	1·7	9	0·2	0·7	...
15	...	...	...	...	...	...	2·7	1·2	38	20·9	14·5	12	(6·1)	3·5	31	0·3	1·1	...
16	2·8	1·1	14	...	...	...	0·2	0·1	3	...	...	...	11·9	7·0	9	0·2	0·6	...
17	1·7	0·8	31	...	...	...	...	...	...	...	...	...	0·8	1·6	...	...	...	...
18	4·4	2·4	32	...	...	...	...	...	...	0·3	0·2	3	4·6	6·3	1	...	...	...
19	2·2	1·7	22	...	...	...	...	...	...	6·0	6·0	4	0·9	1·3	...	0·1	0·2	...
20	14·0	4·6	43	2·5	0·4	42	...	...	...	...	...	...	...	...	...	0·8	2·1	...
21	6·6	4·6	10	19·1	1·2	112	...	...	...	...	...	...	...	...	...	...	...	...
22	(0·5)	(1·4)	3	...	...	...	2·4	2·9	16	0·1	...	...	0·1	0·4	...	...	...	...
23	(0·3)	(0·3)	3	...	...	...	...	...	...	...	...	...	11·0	16·1	3	0·1	...	...
24	1·2	0·6	3	0·2	0·9	...	...	...	...	3·3	2·6	14	5·0	7·3	1	0·2	...	...
25	....	...	...	0·4	0·3	2	...	...	...	...	...	...	7·9	7·5	3	...	...	...
26	0·2	0·2	1	...	...	...	...	...	...	2·2	2·0	11	2·7	3·8	2	0·6	0·9	...
27	...	...	...	...	...	...	0·1	0·1	...	6·3	2·6	20	9·7	6·5	55	...	...	...
28	...	...	...	...	...	...	...	...	...	1·2	3·2	...	2·2	3·6	...	2·0	6·0	...
29	0·2	0·5	...	...	...	...	...	...	...	1·9	2·9	4	0·3	0·8	...	...	...	...
30	0·2	0·2	...	...	...	...	...	...	...	0·1	...	...	7·7	9·3	4	0·6	2·0	...
31	2·0	1·1	13	...	...	...				...	...	...				...	...	...
Total	45·5	27·0	-	87·0	32·3	-	23·0	13·4	-	124·8	74·0	-	112·4	99·8	-	21·3	27·2	-

RAINFALL

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

191 KEW OBSERVATORY: h_r = 5·5 m. + 0·53 m. 1939

	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
	millimetres																								
Jan.	3·4	2·5	1·3	3·6	6·1	4·0	11·8	4·7	5·1	3·5	3·0	5·1	3·1	3·6	3·4	2·6	4·8	4·0	5·9	9·2	7·1	3·8	5·4	2·6	109·6
Feb.	0·1	0·4	0·3	0·7	0·4	···	···	0·2	0·3	0·1	0·3	···	0·1	4·0	0·6	2·6	1·9	0·6	0·5	1·0	2·3	0·5	2·8	0·7	20·4
Mar.	0·2	0·3	1·3	1·3	1·6	1·1	2·3	1·0	···	0·2	0·1	0·1	0·8	1·3	1·3	0·5	1·1	2·0	0·2	3·5	1·9	1·4	1·4	0·5	25·4
Apr.	1·0	0·9	3·6	3·2	5·9	4·2	2·1	1·6	1·3	0·6	5·3	4·4	4·2	0·4	0·2	1·6	0·5	2·3	4·9	3·3	1·2	1·8	1·0	0·7	56·2
May	2·3	3·8	4·8	3·7	0·6	0·1	1·2	1·2	1·6	3·5	0·4	0·3	0·3	0·3	0·4	1·7	2·0	0·6	3·9	1·2	0·7	0·1	0·6	···	35·3
June	0·6	0·8	1·6	1·9	3·1	2·0	0·9	0·1	0·2	2·1	1·4	6·3	1·7	2·0	1·5	···	···	1·7	0·2	0·1	···	···	···	0·9	29·1
July	1·0	1·1	···	1·6	0·5	1·8	1·3	3·3	1·2	3·7	1·8	0·9	1·8	3·8	7·6	3·4	1·6	1·4	0·5	0·5	5·3	0·6	0·3	0·5	45·5
Aug.	1·1	0·7	2·1	15·6	8·1	1·5	4·0	1·6	0·2	0·3	1·0	1·7	1·1	2·6	0·1	4·0	16·2	4·9	2·0	0·9	11·2	···	2·2	3·9	87·0
Sept.	0·7	0·8	1·8	0·5	0·6	0·1	0·1	···	···	···	0·2	···	0·1	0·1	1·3	1·2	0·2	0·2	0·2	0·1	0·7	0·5	4·4	9·2	23·0
Oct.	5·1	2·8	3·9	4·0	4·6	9·2	10·9	12·5	4·1	4·8	2·2	2·3	4·6	2·0	2·0	7·4	3·5	2·4	7·5	9·0	9·3	3·9	2·0	4·8	124·8
Nov.	7·1	4·6	2·2	2·8	1·2	3·4	4·9	2·8	4·6	5·7	6·2	11·6	9·3	6·2	2·0	2·9	2·5	2·5	3·2	2·8	4·7	4·6	5·4	9·2	112·4
Dec.	0·3	0·3	1·7	0·7	1·1	0·1	···	0·5	1·3	2·0	1·5	2·0	0·8	0·7	1·1	1·2	1·1	···	2·6	1·5	0·1	···	0·2	0·5	21·3
Annual	22·9	19·0	24·6	39·6	33·8	27·5	39·5	29·5	19·9	26·5	23·4	34·7	27·9	27·0	21·5	29·1	35·4	22·6	31·6	33·1	44·5	17·2	25·7	33·5	690·0

RAINFALL

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

192 KEW OBSERVATORY: h_r = 5·5 m. + 0·53 m. 1939

	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.	3·6	3·7	1·7	3·7	4·4	4·2	4·1	5·0	4·0	2·4	1·7	2·4	1·8	2·7	2·0	1·5	2·7	3·8	4·8	4·9	3·7	3·3	3·4	3·2	78·7
Feb.	0·1	0·5	0·7	0·9	0·7	···	···	0·5	1·1	0·3	1·0	···	0·2	1·4	1·0	2·2	1·6	0·8	1·1	1·7	1·6	1·0	1·2	1·2	20·8
Mar.	0·7	1·2	2·3	2·3	1·8	0·8	2·0	1·2	···	0·5	0·8	0·2	0·7	2·5	1·2	1·1	1·8	2·1	0·3	2·4	3·5	2·5	1·5	1·0	34·4
Apr.	1·0	1·5	3·1	2·3	2·1	3·8	2·4	2·4	1·5	1·7	3·5	2·8	2·4	0·8	0·6	1·2	0·9	2·3	3·8	3·5	2·5	2·9	1·8	1·4	52·2
May	2·0	2·3	2·6	1·8	1·3	0·3	1·5	1·1	1·4	1·7	0·8	0·3	0·3	0·6	0·5	1·6	1·2	1·1	1·5	1·9	1·1	0·5	0·4	···	27·8
June	1·7	0·5	2·0	2·0	1·3	2·6	1·0	0·2	0·6	1·6	1·6	1·8	1·1	1·0	1·2	···	0·1	1·0	0·7	0·6	···	···	···	1·0	23·6
July	1·2	0·3	···	0·6	0·5	1·0	0·9	1·5	1·5	1·9	1·9	0·6	1·0	1·7	3·4	2·4	1·8	0·7	0·5	0·3	0·8	1·3	0·5	0·7	27·0
Aug.	0·8	1·0	1·1	2·5	1·9	1·3	2·7	1·9	0·9	1·0	1·5	2·3	1·4	1·3	0·1	1·3	1·0	2·1	1·4	1·0	0·4	···	1·5	1·9	32·3
Sept.	0·9	0·9	1·8	1·4	0·7	0·1	0·1	···	···	···	0·2	···	0·1	0·1	0·5	0·5	0·2	0·7	0·5	0·4	1·2	1·1	0·8	1·2	13·4
Oct.	3·3	2·2	3·3	2·1	2·0	2·5	4·9	4·6	4·6	4·2	2·6	3·7	2·0	2·3	2·3	4·0	3·2	2·0	2·7	4·0	4·3	2·8	1·6	2·8	74·0
Nov.	6·5	4·7	3·4	3·9	2·8	3·2	3·8	4·4	3·9	2·8	3·4	4·7	4·4	3·3	2·7	3·7	3·3	3·6	4·1	3·2	5·0	4·9	6·5	7·6	99·8
Dec.	0·8	···	1·2	1·0	1·0	0·4	···	0·7	1·0	1·5	1·0	2·0	1·4	1·5	2·4	3·4	2·1	···	1·2	1·9	0·3	···	0·9	1·5	27·2
Annual	22·6	18·8	23·2	24·5	20·5	20·2	23·4	23·5	20·5	19·6	20·0	20·8	16·8	19·2	17·9	22·9	19·9	20·2	22·6	25·8	24·4	20·3	20·1	23·5	511·2

NOTES ON RAINFALL

193 KEW OBSERVATORY 1939

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": May 18–June 10
"Partial drought": No occasions
"Dry spell": May 18–June 10

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	61	42	60	15	5

Continuous or Heavy Falls

The fall of the longest duration occurred on November 23–24 when 14 mm. fell in 20 hr. 6 min. On October 13–14 duration was 14 hr. (36 mm.) and on January 25 duration of snow was 13 hr. 18 min. (26 mm.)

Heavy Falls in short periods

None occurred in 1939

Rate of Rainfall (Jardi recorder)

The highest instantaneous rate of rainfall registered by the Jardi recorder was 115 mm./hr. at 3h. 20m. on August 5 and also at 10h. on November 6. The maximum rate exceeded 50 mm./hr. on January 15 and 16, April 2, August 1, 5, 8 and 21, September 2, November 6 and 27

DURATION OF BRIGHT SUNSHINE AND TOTAL SOLAR RADIATION FOR EACH DAY

Solar radiation received on a surface perpendicular to the solar beam

194 KEW OBSERVATORY: h_s(height of recorder above ground) = 13·3 m. 1939

	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE		
	Total for day	Per cent. of possible	Solar radiation	Total for day	Per cent. of possible	Solar radiation	Total for day	Per cent. of possible	Solar radiation	Total for day	Per cent. of possible	Solar radiation	Total for day	Per cent. of possible	Solar radiation	Total for day	Per cent. of possible	Solar radiation
	hr.	%	J./cm.^{2}	hr.	%	J./cm.^{2}	hr.	%	J./cm.^{2}	hr.	%	J./cm.^{2}	hr.	%	J./cm.^{2}	hr.	%	J./cm.^{2}
1	1·4	18	150	0·6	7	80	3·4	32	630	···	···	0	···	···	···	8·1	50	1620
2	···	···	0	2·3	25	40	0·3	3	70	···	···	0	0·1	1	0	12·3	76	2210
3	2·2	28	170	···	···	···	6·6	60	1110	···	···	10	7·1	48	1120	14·7	90	3010
4	···	···	···	···	···	···	0·7	6	80	2·1	16	160	5·2	35	530	15·3	94	3080
5	5·1	64	440	3·5	38	260	5·3	48	810	2·1	16	130	1·5	10	160	15·2	93	3210
6	3·3	42	150	7·6	81	1130	3·2	29	270	···	···	···	2·6	17	200	13·5	83	2070
7	···	···	···	6·9	73	1180	6·7	60	810	3·8	29	230	9·9	66	1580	13·0	79	1460
8	0·2	2	0	···	···	···	0·8	7	100	9·7	73	1170	12·4	82	1760	11·1	68	1320
9	···	···	···	3·1	33	320	5·1	45	580	11·1	83	1940	8·8	58	1040	13·7	83	1620
10	···	···	···	···	···	0	7·8	69	780	7·7	57	820	3·7	24	270	14·3	87	2520
11	0·5	6	10	4·4	46	740	···	···	0	10·3	76	1240	4·7	31	670	4·5	27	330
12	5·5	67	720	3·1	32	340	0·4	3	30	10·1	74	2110	1·4	9	100	8·9	54	1260
13	6·8	83	1030	3·3	34	150	4·1	35	420	3·4	25	160	14·2	92	2490	6·6	40	620
14	···	···	0	6·0	61	500	···	···	···	2·7	20	270	2·7	17	340	2·2	13	210
15	2·2	27	150	5·1	52	890	0·7	6	40	4·4	32	670	···	···	···	0·3	2	10
16	2·3	28	290	6·7	67	990	0·3	3	10	3·0	22	270	1·0	6	50	1·4	8	50
17	···	···	0	0·8	8	50	1·4	12	10	8·0	58	1100	···	···	···	7·6	46	900
18	···	···	···	6·4	64	600	1·3	11	80	12·0	86	1930	···	···	0	4·4	27	360
19	0·1	1	0	4·1	40	600	0·1	1	0	11·8	84	1230	8·7	55	1080	8·3	50	1040
20	0·6	7	20	7·6	74	890	0·3	2	10	12·0	85	2100	5·5	35	470	3·7	22	490
21	···	···	···	7·6	74	1040	4·1	34	340	10·4	74	1880	6·4	41	740	3·5	21	330
22	0·4	5	50	1·2	12	60	8·2	67	880	8·4	59	830	7·2	45	1190	0·8	5	30
23	···	···	···	7·5	72	1230	6·1	50	560	0·8	6	90	11·0	69	1640	···	···	···
24	7·0	81	850	3·6	34	320	7·6	62	1040	5·7	40	650	11·9	75	1320	···	···	···
25	···	···	···	···	···	···	4·2	34	390	8·3	58	1050	0·9	6	50	2·7	16	170
26	···	···	···	6·8	64	1030	···	···	0	6·6	46	810	13·9	87	2640	6·0	36	470
27	1·5	17	140	6·3	59	850	···	···	0	9·6	66	1340	6·2	39	690	12·1	73	1890
28	3·3	37	250	0·4	4	10	···	···	···	7·3	50	730	10·7	67	1720	1·2	7	90
29	···	···	···				4·5	36	360	2·9	20	290	12·0	75	2540	7·2	44	930
30	···	···	0				4·5	35	370	···	···	···	12·1	75	2390	7·8	47	1040
31	3·0	33	230				5·7	45	570				12·3	76	2330			
Mean	1·46		150	3·75		470	3·01		330	5·82		770	6·26		940	7·35		1080

	JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER		
	Total for day	Per cent. of possible	Solar radiation	Total for day	Per cent. of possible	Solar radiation	Total for day	Per cent. of possible	Solar radiation	Total for day	Per cent. of possible	Solar radiation	Total for day	Per cent. of possible	Solar radiation	Total for day	Per cent. of possible	Solar radiation
	hr.	%	J./cm.^{2}	hr.	%	J./cm.^{2}	hr.	%	J./cm.^{2}	hr.	%	J./cm.^{2}	hr.	%	J./cm.^{2}	hr.	%	J./cm.^{2}
1	8·7	53	910	4·6	30	530	1·0	7	80	0·2	2	40	···	···	···	0·7	9	60
2	7·0	43	690	2·0	13	200	1·6	12	190	7·2	62	1040	···	···	10	6·0	74	610
3	7·2	44	960	1·4	9	80	8·3	62	870	4·4	38	440	0·6	6	30	4·1	51	400
4	6·1	37	480	1·7	11	150	8·7	65	1420	3·6	31	280	1·3	14	80	3·9	48	420
5	5·5	33	670	5·2	34	330	9·3	70	1590	1·3	11	100	2·7	29	460	0·5	6	50
6	4·1	25	300	5·0	33	450	8·0	60	1540	1·6	14	190	2·7	29	190	1·6	20	0
7	9·1	56	1160	1·6	11	140	11·7	89	2290	4·8	43	490	···	···	···	···	···	···
8	0·5	3	30	3·6	24	360	10·5	80	1350	2·9	26	140	1·6	17	80	···	···	···
9	10·7	66	1140	2·1	14	330	7·9	60	1050	···	···	···	1·3	14	120	1·8	23	180
10	8·1	50	820	0·1	1	0	6·7	52	680	5·3	48	690	2·2	24	160	4·9	62	600
11	9·2	57	850	9·8	66	1290	7·4	57	1190	4·1	37	590	0·1	1	10	···	···	0
12	9·6	59	850	8·9	60	1380	1·3	10	100	3·7	34	330	0·1	1	10	···	···	···
13	9·9	61	1160	7·6	52	1150	0·3	2	30	2·5	23	210	···	···	···	···	···	···
14	5·3	33	400	9·7	66	1050	3·3	26	410	···	···	···	···	···	0	···	···	···
15	10·1	63	1290	11·8	81	1670	0·5	4	···	···	···	···	3·6	41	340	···	···	···
16	9·4	58	1030	8·5	58	820	6·3	50	740	6·1	57	720	···	···	···	···	···	···
17	3·5	22	300	11·1	77	1250	9·1	73	1410	0·9	8	70	···	···	···	···	···	···
18	4·2	26	460	8·9	62	670	9·8	79	1180	4·7	45	360	0·3	3	10	···	···	···
19	5·6	35	380	8·2	57	710	6·0	48	850	···	···	···	5·7	66	470	···	···	···
20	0·6	4	50	8·9	62	820	2·7	22	300	3·6	35	390	5·5	64	650	···	···	···
21	0·5	3	50	4·2	29	310	4·1	33	400	1·9	18	120	···	···	···	3·0	39	260
22	0·3	2	20	6·4	45	800	1·4	11	160	6·9	67	770	2·3	27	180	2·2	28	200
23	4·1	26	470	8·3	59	980	0·7	6	70	1·4	14	110	···	···	···	···	···	···
24	4·2	27	640	0·5	4	30	3·7	31	340	3·6	35	320	0·3	4	20	···	···	···
25	11·1	71	1800	···	···	0	3·0	25	430	8·3	82	1110	···	···	20	···	···	···
26	4·5	29	410	8·0	57	780	5·2	44	770	1·5	15	150	···	···	···	···	···	···
27	7·3	47	970	4·4	32	340	3·5	29	320	5·2	52	640	0·7	8	20	2·5	32	180
28	3·3	21	310	5·1	37	650	7·3	62	650	···	···	···	5·0	61	530	···	···	···
29	0·2	1	20	10·6	77	1660	6·4	54	960	···	···	···	0·3	4	10	3·6	46	370
30	7·6	49	880	5·3	39	460	7·3	62	1010	4·2	43	260	···	···	···	···	···	···
31	8·1	52	900	0·5	4	30				···	···	···				···	···	···
Mean	5·99		660	5·61		630	5·43		750	2·90		310	1·21		110	1·12		110
							Annual Mean			4·15		520						

See Introduction for corrections to tabulated values of radiation.

DURATION OF BRIGHT SUNSHINE

Monthly and annual totals between exact hours, local apparent time

195 KEW OBSERVATORY: h_s(height of recorder above ground) = 13·3 m. 1939

	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
	hours																			%
Jan.	–	–	–	–	···	2·2	6·3	6·2	7·4	8·0	8·0	6·0	1·3	···	–	–	–	–	45·4	18
Feb.	–	–	–	···	3·2	10·7	13·1	14·0	16·1	15·1	12·9	11·6	7·5	0·7	···	–	–	–	104·9	38
Mar.	–	–	···	0·2	6·7	11·3	13·7	15·2	12·0	10·0	8·7	5·8	7·0	2·3	0·5	···	–	–	93·4	26
Apr.	–	···	3·7	11·9	15·6	15·5	17·2	15·9	15·8	14·3	14·7	14·7	12·8	12·0	8·6	1·5	···	–	174·2	42
May	···	0·6	4·2	11·8	15·4	17·3	18·3	17·8	16·3	15·4	14·7	13·3	13·8	11·7	11·6	9·6	2·3	···	194·1	40
June	···	3·0	13·0	15·1	15·7	15·9	15·7	15·5	16·8	17·2	15·8	15·0	13·2	14·1	14·1	14·8	5·5	···	220·4	45
July	···	2·7	9·3	11·5	15·3	13·7	13·5	13·2	14·0	14·5	13·6	14·8	13·8	11·6	10·2	10·8	3·1	···	185·6	37
Aug.	–	···	0·7	5·3	7·6	12·2	16·0	18·0	16·8	16·9	18·5	15·8	12·5	14·3	13·5	5·9	···	–	174·0	39
Sept.	–	–	···	4·3	9·4	14·2	19·8	19·6	17·6	16·0	16·3	15·6	13·3	10·5	5·9	0·5	–	–	163·0	43
Oct.	–	–	–	···	3·0	8·9	12·5	12·9	13·6	11·7	9·9	9·6	6·2	1·6	···	–	–	–	89·9	27
Nov.	–	–	–	–	···	2·4	5·8	5·3	5·2	7·3	4·8	4·3	1·2	···	–	–	–	–	36·3	14
Dec.	–	–	–	–	···	1·4	5·3	6·5	6·5	5·8	6·0	2·8	0·5	–	–	–	–	–	34·8	14
Annual	···	6·3	30·9	60·1	91·9	125·7	157·2	160·1	158·1	152·2	143·9	129·3	103·1	78·8	64·4	43·1	10·9	···	1516·0	34

SOLAR RADIATION RECEIVED ON A SURFACE PERPENDICULAR TO THE SOLAR BEAM

Monthly and annual totals between exact hours, local apparent time

196 KEW OBSERVATORY: h_s = 13·3 m. 1939

	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
	joules per square centimetre																		
Jan.	–	–	–	–	···	120	530	770	830	910	840	460	200	···	–	–	–	–	4660
Feb.	–	–	–	···	270	1100	1500	1860	2130	2300	1750	1330	840	190	···	–	–	–	13270
Mar.	–	–	···	30	510	1180	1820	1900	1200	1200	800	640	680	330	50	···	–	–	10340
Apr.	–	···	260	1200	1850	1940	2170	2420	2250	2140	2410	2230	1850	1460	870	160	···	–	23210
May	···	40	330	850	1550	2490	3080	3000	2800	2900	2520	2400	2290	1860	1600	1070	290	20	29090
June	···	100	850	1500	1820	2210	2560	2890	2960	2850	2940	2870	2400	2220	1930	1570	690	···	32360
July	···	130	660	1260	1680	1710	1690	1570	1690	1740	1380	1540	1740	1310	1100	950	230	···	20380
Aug.	–	10	190	570	800	1090	1980	2270	2370	1920	2120	1930	1410	1350	970	480	···	–	19460
Sept.	–	–	20	500	1100	1510	2420	2870	2820	2290	2700	2240	1850	1380	670	40	–	–	22410
Oct.	–	–	–	10	240	1050	1270	1510	1440	1160	1020	1020	610	190	20	–	–	–	9540
Nov.	–	–	–	–	···	170	480	510	680	710	410	320	110	20	–	–	–	–	3410
Dec.	–	–	–	–	···	120	450	630	600	640	570	250	70	···	–	–	–	–	3330
Annual	···	280	2310	5920	9820	14690	19950	22200	21770	20760	19460	17230	14050	10310	7210	4270	1210	20	191460

See Introduction for corrections to tabulated values.

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

197 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. 1939

	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	5·8	15	5·2	12	6·8	23	3·0	11	5·0	15	7·1	17	3·0	14	4·3	13	2·5	10	5·9	17	4·5	13	7·9	19
2	5·7	16	4·5	11	6·0	18	3·4	12	6·4	17	6·9	17	4·1	15	3·5	12	2·8	12	5·7	16	3·7	11	5·7	21
3	3·2	10	0·6	3	4·6	13	3·7	13	3·7	10	6·5	16	4·1	14	2·6	12	4·7	15	6·7	17	2·9	11	5·1	23
4	3·3	12	3·8	11	5·4	15	5·1	16	2·7	9	6·3	15	4·3	15	4·5	17	1·7	7	8·4	21	3·5	14	6·0	19
5	3·3	14	2·1	11	5·7	20	4·1	17	3·8	14	5·8	13	6·3	20	4·3	17	1·4	6	4·1	16	7·3	21	5·1	16
6	1·0	7	2·3	7	4·3	14	6·3	15	1·9	9	3·6	11	7·2	20	2·1	9	1·3	7	3·3	13	6·1	20	4·9	18
7	5·4	15	4·5	14	5·0	17	3·9	11	1·8	8	2·5	14	8·0	18	2·9	11	1·1	8	2·0	11	5·3	19	1·9	11
8	8·0	18	4·7	17	7·4	25	1·4	8	1·6	8	4·8	15	7·5	19	2·6	10	1·5	8	4·1	12	8·0	20	6·0	17
9	7·6	21	7·2	17	3·2	9	1·7	8	1·0	7	3·5	11	4·8	15	4·3	14	0·9	8	4·1	12	5·6	21	3·4	12
10	3·1	11	5·3	17	2·1	9	4·9	13	1·9	10	3·3	14	3·4	13	5·1	15	3·0	13	2·4	10	1·4	7	3·5	13
11	6·2	21	5·6	18	1·3	9	3·0	8	5·3	16	3·0	15	2·8	10	3·0	13	3·9	15	2·6	13	1·5	7	2·3	12
12	3·0	10	6·7	23	4·6	12	3·8	15	6·1	17	4·3	16	2·5	8	2·1	8	4·9	16	2·0	8	1·6	5	5·3	13
13	2·9	11	4·7	17	2·6	11	6·2	21	7·3	19	2·7	11	3·6	14	1·1	6	2·0	8	2·2	15	3·0	11	3·5	11
14	2·6	17	2·5	9	5·1	13	5·0	13	2·3	11	4·2	13	4·8	16	0·8	6	2·7	12	4·9	17	6·2	18	2·7	9
15	9·5	24	3·6	10	6·1	18	6·1	17	2·6	10	6·0	16	4·8	15	1·3	6	3·5	14	5·2	17	4·6	16	1·6	7
16	9·2	26	3·4	12	3·6	13	6·1	17	7·0	19	3·7	13	4·2	16	1·0	5	4·5	14	1·2	6	4·0	17	6·1	17
17	6·0	20	4·1	14	7·6	20	6·7	21	2·2	11	3·8	14	4·0	15	2·8	11	5·4	15	3·5	12	1·7	7	7·3	17
18	5·7	17	3·4	13	4·8	16	4·6	15	3·1	9	5·3	17	3·8	15	3·6	10	6·0	17	5·4	16	3·8	16	5·1	13
19	3·6	14	3·6	14	5·4	18	1·0	6	2·5	9	4·3	14	4·1	15	4·4	13	5·1	16	5·8	18	7·3	24	6·2	14
20	3·6	14	1·3	6	5·3	23	1·8	7	2·1	9	2·1	10	3·2	16	4·6	12	4·7	14	3·1	13	1·8	8	4·0	11
21	3·0	14	4·0	14	6·0	21	2·7	11	2·3	9	7·4	21	2·7	11	2·0	14	4·5	14	1·8	10	0·5	3	2·3	7
22	6·4	18	7·0	21	6·3	22	7·7	27	1·8	8	6·3	17	3·4	12	2·6	12	4·2	13	1·4	7	2·8	12	0·7	3
23	7·5	21	6·2	19	4·7	18	4·9	14	1·4	8	3·7	15	3·5	13	1·0	5	5·2	17	2·0	9	6·3	16	1·0	4
24	3·5	14	2·9	12	2·5	12	4·8	17	1·3	9	4·0	13	2·8	12	3·4	8	4·8	14	3·2	13	2·5	10	1·2	4
25	4·9	16	4·7	18	5·4	18	3·8	15	4·5	15	3·0	9	2·9	12	1·8	5	2·2	9	3·2	14	4·7	20	1·4	5
26	6·7	15	4·6	15	9·1	21	3·9	16	3·2	11	1·9	11	2·0	10	2·8	12	2·3	11	4·2	17	8·7	24	2·5	10
27	4·5	13	5·3	17	6·0	17	4·8	19	3·1	13	3·4	14	3·4	12	2·4	8	4·4	16	5·0	23	6·0	21	2·8	10
28	4·4	13	6·3	18	2·5	8	2·7	11	5·3	14	6·4	18	4·7	15	1·0	4	4·5	15	6·4	19	4·5	14	1·6	9
29	10·2	22			2·0	7	5·3	16	4·6	13	5·6	15	4·5	14	2·8	4	3·7	13	4·8	16	5·9	17	1·6	9
30	9·5	20			7·1	17	4·9	12	5·6	14	4·1	17	4·7	15	3·9	10	4·3	14	5·3	15	4·8	15	1·5	5
31	8·5	18			5·2	12			5·8	14			5·3	19	2·5	7			6·6	18			1·0	3

WIND

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

198 KEW OBSERVATORY: h_a = 5 m. + 23 m. 1939

	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.	5·2	5·2	5·4	5·2	5·4	5·4	5·4	5·3	5·4	5·6	5·8	6·0	6·0	5·8	5·9	5·6	5·5	5·2	5·2	4·9	5·2	5·1	5·2	4·9	5·4
Feb.	3·9	3·7	3·8	3·7	3·8	3·8	3·6	3·6	4·1	4·5	5·2	5·8	5·6	5·4	5·0	4·7	4·3	4·1	4·2	4·4	4·3	4·1	3·9	3·8	4·3
Mar.	4·1	4·0	4·2	4·3	4·3	4·4	4·6	4·4	5·0	5·6	6·1	6·5	6·5	6·4	6·1	6·1	5·8	5·2	4·8	4·5	4·4	4·2	4·1	3·9	5·0
Apr.	3·2	2·9	3·0	3·0	3·0	3·0	3·3	4·0	4·3	5·0	5·4	5·5	5·7	5·7	5·9	5·8	5·5	5·2	4·3	3·8	3·9	3·8	3·4	3·3	4·2
May	2·5	2·6	2·6	2·6	2·6	2·6	3·0	3·2	3·7	4·2	4·4	4·4	4·6	4·6	4·8	4·4	4·4	4·2	4·0	3·4	3·1	3·0	3·0	2·6	3·5
June	3·3	3·8	3·2	3·2	3·3	3·5	3·7	4·1	4·4	4·7	5·1	5·4	5·7	5·8	5·9	5·9	5·9	5·8	5·5	4·9	4·2	3·8	3·7	3·6	4·5
July	2·7	2·7	2·6	2·6	2·6	2·9	3·8	4·3	4·8	5·1	5·2	5·6	5·5	5·7	5·7	5·6	5·5	5·5	5·0	4·6	3·9	3·4	3·2	2·9	4·2
Aug.	2·3	2·1	2·3	2·2	2·0	2·1	2·3	2·5	2·8	3·2	3·4	3·4	3·6	3·7	3·7	3·6	3·6	3·5	3·3	2·7	2·3	2·4	2·2	2·2	2·8
Sept.	2·4	2·3	2·2	2·3	2·4	2·3	2·6	2·8	3·5	4·0	4·6	4·7	4·8	5·0	5·0	5·0	4·7	4·3	3·5	3·2	3·1	3·0	2·6	2·5	3·5
Oct.	3·5	3·5	3·4	3·6	3·6	3·6	3·7	3·7	4·2	4·4	4·8	5·1	5·2	5·3	5·0	4·8	4·3	4·1	3·8	3·8	3·7	3·6	3·7	3·7	4·1
Nov.	4·5	4·2	4·4	4·1	4·0	3·7	3·7	4·0	4·1	4·5	4·5	4·5	4·6	4·9	4·8	4·4	4·3	4·3	4·4	4·6	4·6	4·5	4·2	4·5	4·3
Dec.	3·3	3·4	3·5	3·5	3·3	3·4	3·4	3·4	3·4	3·5	3·8	3·8	3·9	4·1	3·9	3·9	3·9	3·9	3·9	3·6	3·3	3·5	3·6	3·4	3·6
Annual	3·5	3·3	3·4	3·4	3·4	3·4	3·5	3·7	4·1	4·5	4·8	5·1	5·1	5·2	5·2	5·0	4·8	4·6	4·3	4·0	3·8	3·7	3·6	3·4	4·1

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

199 KEW OBSERVATORY: h_a = 5 m. + 23 m. 1939

	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	7	29	308	340	67	0	60	13	29 17	26	16 8 45
Feb.	–	0	1	1	206	377	88	0	245	11	12 13	23	12 12 15
Mar.	–	0	3	5	326	355	58	0	265	12	8 14	25	8 13 25
Apr.	–	0	1	2	212	400	106	0	215	12	13 15	27	22 8 30
May	–	0	1	2	135	435	172	0	30	11	13 12	19	16 8 55
June	–	0	1	1	250	404	65	0	45	11	21 14	21	21 12 50
July	–	0	0	0	200	488	56	0	225	10	8 12	20	6 12 10
Aug.	–	0	0	0	48	504	192	0	30	7	5 9	17	4 13 15
Sept.	–	0	0	0	127	441	152	0	25	8	18 16	17	23 15 45
Oct.	–	0	0	0	230	389	125	0	195	12	4 12	23	27 12 50
Nov.	–	0	4	9	226	382	103	0	320	12	19 5	24	{19 4 50 / 26 13 15}
Dec.	–	0	0	0	198	342	204	0	195	11	3 19	23	3 18 50
Year	–	0	18	49	2466	4857	1388	0	60	13	Jan. 29 17	27	Apr. 22 8 30

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

200 KEW OBSERVATORY 1939

	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	76·4	79·7	76·1	80·0	78·0	80·1	79·2	80·1	81·3	82·6	88·2	85·2	88·9	86·7	90·0	88·1	91·1	89·4	85·9	87·9	80·6	83·9	83·1	82·8
2	77·0	79·8	76·0	79·9	79·0	80·0	80·3	80·3	81·1	82·4	88·0	85·4	88·6	86·8	89·7	88·1	91·8	89·3	85·6	87·7	81·6	83·9	83·2	83·0
3	76·3	79·8	75·5	79·8	79·2	80·0	79·9	80·2	81·6	82·3	88·4	85·5	88·7	86·8	89·6	88·1	92·2	89·5	85·6	87·6	81·7	83·7	81·0	83·1
4	75·9	79·8	75·3	79·5	80·0	80·1	80·4	80·3	82·0	82·2	88·6	85·8	89·3	86·7	89·3	88·1	91·5	89·4	85·2	87·4	82·1	83·8	80·5	83·3
5	76·0	79·7	76·0	79·6	80·3	80·2	81·0	80·4	82·2	82·2	88·9	85·7	90·0	86·8	89·4	88·1	91·3	89·5	85·5	87·3	82·3	83·8	79·9	83·1
6	75·2	79·5	75·8	79·4	80·8	80·1	81·6	80·5	82·1	82·3	89·7	85·8	89·7	87·0	89·4	88·1	91·1	89·5	85·6	87·1	82·3	83·7	79·5	83·1
7	75·0	79·5	75·7	79·3	80·9	80·2	80·5	80·8	82·7	82·5	90·7	86·0	89·1	87·1	89·5	88·2	91·0	89·4	85·3	87·1	82·3	83·6	78·2	82·9
8	77·0	79·5	77·1	79·2	79·7	80·5	79·9	81·0	84·1	82·3	91·2	86·1	89·8	87·1	89·5	88·1	91·1	89·5	85·6	87·0	83·2	83·7	79·0	82·8
9	78·4	79·4	78·9	79·2	79·6	80·5	80·8	81·0	85·2	82·6	90·3	86·2	89·7	87·1	89·6	88·2	91·3	89·5	85·4	86·9	83·4	83·6	79·8	82·8
10	78·8	79·4	79·7	79·3	79·0	80·6	81·7	81·1	86·1	82·8	90·0	86·3	89·5	87·1	90·1	88·2	91·8	89·6	84·6	86·9	82·5	83·9	80·7	82·5
11	78·8	79·3	80·7	79·5	78·4	80·6	82·1	81·1	86·3	83·0	90·6	86·5	89·3	87·2	89·6	88·2	91·6	89·6	84·9	86·8	82·1	83·9	80·0	82·3
12	79·0	79·5	81·0	79·8	78·8	80·5	83·1	81·1	85·1	83·2	89·3	86·6	89·8	87·2	89·9	88·2	90·6	89·6	85·0	86·7	82·6	83·9	79·8	82·2
13	77·0	79·7	79·7	80·0	78·0	80·6	84·0	81·2	84·7	83·2	88·7	86·7	90·2	87·3	90·0	88·3	89·8	89·7	84·4	86·5	82·6	83·9	79·0	82·2
14	76·0	79·7	79·0	80·1	79·4	80·5	83·8	81·4	85·0	83·6	88·2	86·8	90·0	87·4	89·9	88·3	89·3	89·7	84·7	86·5	82·6	83·9	78·8	82·2
15	78·0	79·7	79·0	80·1	79·9	80·3	83·6	81·8	85·1	83·5	88·9	86·8	90·1	87·5	90·0	88·3	89·1	89·5	84·7	86·5	83·2	83·9	78·3	82·1
16	79·5	79·7	79·3	80·1	79·6	80·4	84·0	82·0	84·2	83·7	88·5	86·6	90·6	87·7	90·6	88·4	88·6	89·6	83·7	86·3	82·2	83·9	78·0	82·1
17	79·5	79·8	78·6	80·2	79·8	80·4	83·7	82·1	84·3	83·4	88·0	86·7	90·6	87·7	91·0	88·3	89·2	89·2	83·8	86·3	82·2	83·9	77·2	82·0
18	79·7	80·1	78·6	80·1	78·4	80·6	83·1	82·1	84·0	83·7	88·3	86·8	90·4	87·8	91·1	88·4	89·2	89·1	84·0	86·1	82·6	83·9	76·9	81·8
19	80·6	80·0	78·7	80·2	78·6	80·6	82·8	82·2	84·0	83·5	88·0	86·6	90·2	87·9	91·1	88·6	89·2	89·1	83·8	86·0	83·0	83·8	77·1	81·6
20	80·4	80·1	78·0	80·1	78·5	80·6	83·0	82·3	84·3	83·6	88·3	86·9	89·9	87·9	91·8	88·8	89·2	89·1	82·7	85·9	81·8	83·8	77·1	81·3
21	80·2	80·1	77·6	80·1	78·6	80·5	83·9	82·3	84·3	83·8	87·8	86·7	89·6	87·9	92·0	88·6	88·8	88·9	82·1	85·8	80·7	83·6	77·8	81·3
22	80·5	80·3	78·0	80·1	79·0	80·5	84·1	82·4	85·7	83·8	88·2	86·5	89·6	87·9	92·0	88·7	88·8	88·9	81·9	85·8	80·2	83·8	76·2	81·1
23	80·2	80·2	78·0	80·1	79·0	80·4	83·3	82·5	86·8	83·9	87·7	86·7	89·9	88·0	91·2	88·9	88·5	88·9	81·6	85·5	80·7	83·3	75·5	81·1
24	79·3	80·4	77·3	80·1	78·3	80·5	83·1	82·7	87·9	84·1	87·4	86·5	89·4	88·0	91·9	89·0	87·8	88·9	82·6	85·3	81·0	83·2	75·2	81·1
25	78·0	80·6	77·6	80·0	78·3	80·3	83·0	82·8	88·0	84·1	87·0	86·7	89·0	88·0	91·6	88·9	87·6	88·7	82·4	85·2	79·2	83·2	75·2	80·9
26	77·2	80·6	77·9	80·1	78·3	80·4	82·6	82·8	87·6	84·3	87·3	86·5	89·9	88·0	91·3	89·0	87·0	88·5	80·6	85·0	80·7	83·1	75·6	80·6
27	76·9	80·3	77·6	80·0	78·0	80·3	82·0	82·9	88·5	84·8	87·5	86·5	89·8	88·0	91·8	89·1	86·4	88·4	80·6	85·0	81·1	83·0	76·0	80·5
28	76·6	80·1	78·0	80·0	78·0	80·2	81·8	82·8	88·4	84·8	88·6	86·4	90·7	88·0	91·6	89·2	85·9	88·4	79·7	84·7	80·5	82·9	75·2	80·3
29	76·8	80·1			78·0	80·2	81·7	82·7	88·0	85·0	88·7	86·3	90·6	88·0	92·0	89·2	85·9	88·2	80·0	84·5	80·8	82·8	74·9	80·2
30	76·7	80·1			78·6	80·2	81·6	82·7	88·4	85·1	89·0	86·4	91·0	88·1	92·0	89·2	85·7	88·1	79·4	84·3	82·4	82·8	74·6	80·1
31	76·5	80·0			78·8	80·2			88·3	85·2			90·9	88·1	91·6	89·3			80·0	84·1			74·6	79·9
Mean	77·9	79·9	77·9	79·9	79·0	80·4	82·2	81·7	85·1	83·5	88·7	86·3	89·8	87·5	90·6	88·5	89·4	89·2	83·4	86·2	81·8	83·6	78·0	81·8
												Year	83·7	84·0										

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

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	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
	degrees Absolute											
1	75·0	73·4	73·5	69·7	78·7	79·7	77·4	83·4	82·8	79·8	79·0	84·3
2	75·3	72·7	79·1	80·3	78·1	80·5	74·4	82·1	88·9	79·1	79·6	80·8
3	70·6	64·8	71·8	69·7	75·6	78·7	81·9	85·8	89·3	80·2	76·3	70·9
4	68·7	67·1	79·4	80·2	70·7	77·4	81·4	83·6	81·8	79·6	81·2	73·6
5	70·2	67·6	78·1	78·5	71·5	79·6	86·9	85·8	79·0	81·9	80·1	75·0
6	62·5	65·0	77·4	76·8	72·8	83·1	83·7	80·6	76·3	80·1	79·1	73·5
7	69·2	64·7	72·4	74·5	73·5	81·9	86·3	80·9	77·8	76·2	79·6	66·8
8	81·3	79·4	74·7	67·6	73·5	83·5	86·3	82·1	80·6	77·8	83·7	75·0
9	80·2	80·5	71·9	70·2	75·3	78·6	84·3	82·1	81·1	81·8	81·5	71·2
10	76·3	80·7	65·8	73·0	78·4	75·3	81·3	88·5	84·4	72·9	73·6	80·2
11	77·4	82·1	66·6	74·1	79·8	84·4	74·9	80·7	85·8	76·8	74·2	70·7
12	71·3	80·0	76·9	76·0	75·3	78·4	81·3	77·9	81·5	78·0	75·8	75·7
13	69·6	73·7	65·8	78·6	78·7	74·7	78·7	76·8	80·2	74·2	75·3	75·3
14	66·3	66·9	78·5	79·8	70·5	81·8	79·9	76·8	77·6	81·3	78·7	74·7
15	78·6	73·9	77·6	77·7	80·6	84·9	83·2	77·4	81·6	80·8	79·6	74·2
16	80·9	76·8	75·9	83·7	78·4	86·2	85·1	79·7	82·4	73·9	77·8	74·2
17	78·0	67·7	74·9	77·9	79·9	77·1	85·3	81·9	86·1	75·9	75·8	73·0
18	80·9	71·9	71·6	74·1	73·6	83·0	84·1	82·3	83·8	75·5	79·0	73·8
19	81·1	75·7	74·7	69·4	78·6	80·2	82·7	84·3	86·3	77·9	79·6	75·3
20	79·1	65·8	74·7	70·7	73·4	75·8	80·2	88·6	84·0	73·3	72·6	74·7
21	72·0	65·2	74·2	70·2	74·1	81·2	86·8	86·5	80·3	71·6	70·1	74·7
22	78·0	75·7	73·4	77·8	73·4	86·4	84·4	86·9	84·9	70·7	69·7	63·1
23	79·3	74·7	71·9	76·2	76·5	84·3	82·9	78·4	84·6	70·8	78·7	63·6
24	72·6	64·3	66·1	80·2	75·8	84·3	78·6	86·9	80·2	78·6	77·5	71·8
25	67·5	71·2	66·4	68·7	80·2	80·4	78·7	88·6	75·8	74·6	68·1	70·6
26	72·9	71·4	74·0	67·1	78·6	75·2	83·6	84·8	73·7	68·6	78·9	72·8
27	74·6	69·7	74·1	70·2	78·6	74·1	77·4	84·5	73·6	73·1	79·0	69·1
28	69·1	77·5	74·6	70·4	77·1	85·4	88·1	82·4	71·8	72·0	74·2	65·8
29	74·2		69·5	70·7	77·9	86·7	86·3	83·2	79·7	76·9	79·6	61·9
30	75·3		66·9	77·4	77·6	79·2	88·2	87·8	71·9	69·1	85·2	58·8
31	74·3		74·9		79·3		84·3	84·1		76·9		61·9
Mean	74·3	72·1	73·1	74·4	76·3	80·7	82·5	83·1	80·9	76·1	77·4	71·8
						Year	76·9					

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 $T(°K.) = t(°C.) + 273·16$.

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^{-15} ohms/cm.
i = Air-earth current, unit 10^{-15} amp./cm.^{2}

	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	...	...	...	6·16	5	32	2·85	27	78	...	...	...	...	...	...	...	...	...
2	...	...	...	7·12	6	41	2·79	37	102	...	...	...	...	...	...	3·07	57	175
3	4·90	11	53	...	...	...	3·71	29	107	...	...	...	2·87	43	123	...	...	...
4	...	...	...	...	...	...	...	...	...	...	...	...	1·93	39	76	...	...	...
5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4·18	40	168
6	...	...	...	...	...	...	2·53	15	38	...	...	...	...	...	...	2·83	45	128
7	...	...	...	5·88	21	119	...	...	...	...	...	...	...	...	...	1·98	90	178
8	...	...	...	5·14	14	74	2·57	68	174	...	...	...	1·81	44	80	1·36	92	127
9	...	...	...	3·48	19	65	...	...	...	...	...	...	...	...	...	...	...	...
10	11·52	...	...	4·35	14	60	2·85	28	80	...	...	...	2·12	69	147	...	...	...
11	5·38	13	69	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12	6·21	8	49	...	...	...	...	...	...	2·80	51	141	...	...	...	...	...	...
13	7·24	6	46	...	...	...	3·11	30	92	...	...	...	...	...	...	...	...	...
14	...	...	...	3·36	25	83	...	...	...	3·40	41	136	...	...	...	...	...	...
15	...	...	...	...	...	...	3·10	28	88	...	...	...	...	...	...	1·41	104	147
16	4·04	28	114	3·38	12	40	...	...	...	...	...	...	...	...	...	...	...	...
17	...	...	...	3·33	17	58	...	...	...	2·85	37	107	...	...	...	...	...	...
18	...	...	...	...	...	...	...	...	...	1·77	46	82	...	...	...	...	...	...
19	3·58	9	34	...	...	...	...	...	...	...	...	...	2·14	37	78	...	...	...
20	...	...	...	...	...	...	1·79	25	44	1·50	75	114	...	...	...	...	...	...
21	...	...	...	...	...	...	2·48	29	71	...	...	...	...	...	...	...	...	...
22	...	...	...	...	...	...	...	...	...	...	...	...	1·91	64	123	...	...	...
23	...	...	...	...	...	...	...	...	...	...	...	...	1·46	56	81	...	...	...
24	4·39	20	90	...	...	...	...	...	...	...	...	...	2·17	72	156	...	...	...
25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
27	9·28	4	33	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
28	...	...	...	...	...	...	...	...	...	2·62	76	200	...	...	...	...	...	...
29	...	...	...				...	...	...	...	...	...	...	...	...	...	...	...
30	4·83	10	47				5·51	29	158	...	...	...	...	...	...	2·62	56	147
31	5·52	15	85				5·71	11	62				...	...	...			
Mean	6·08	12	62	4·69	15	64	3·25	30	91	2·49	54	130	2·05	53	108	2·49	69	153
No. of days used	11	10	10	9	9	9	12	12	12	6	6	6	8	8	8	7	7	7

	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	...	...	...	...	...	...	...	...	...	...	...	...	5·09	24	124	...	...	...
2	...	...	...	...	...	...	...	...	...	2·36	37	87	3·40	27	92	...	...	...
3	1·98	101	198	...	...	...	...	...	...	4·55	28	128	3·52	32	114	...	...	...
4	...	...	...	...	...	...	...	...	...	3·22	57	182	...	...	...	3·88	31	122
5	1·82	107	194	...	...	...	1·57	50	79	...	...	...	...	...	...	...	...	...
6	2·36	77	181	...	...	...	1·78	87	156	2·28	43	99	4·88	28	139	2·71	27	73
7	...	...	...	...	...	...	1·81	75	137	...	...	...	...	...	...	6·20	9	54
8	...	...	...	...	...	...	...	...	...	...	...	...	2·41	25	60	...	...	...
9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10	2·02	52	104	...	...	...	...	...	...	2·31	53	124	4 12	...	...	...	...	...
11	1·29	98	127	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12	...	...	...	...	...	...	1·89	74	140	...	...	...	...	...	...	5·60	...	...
13	1·20	105	127	...	...	...	2·21	50	107	2·85	47	135	4·26	31	133	4·72	16	76
14	...	...	...	...	...	...	...	...	...	...	...	...	2·88	21	58	...	...	...
15	...	...	...	1·93	65	126	...	...	...	...	...	...	...	...	...	6·19	16	100
16	...	...	...	1·87	60	113	...	...	...	...	...	...	...	...	...	...	...	...
17	...	...	...	3·70	42	154	...	...	...	4·30	37	159	...	...	...	...	...	...
18	...	...	...	3·14	73	231	...	...	...	...	...	...	...	...	...	...	...	...
19	...	...	...	...	...	...	1·91	...	...	...	...	...	...	...	...	4·60	21	100
20	...	...	...	...	...	...	2·15	61	130	3·41	28	95	3·09	29	90	3·30	19	62
21	...	...	...	2·22	...	...	2·34	80	187	...	...	...	...	...	...	3·90	31	122
22	...	...	...	...	...	...	2·12	69	147	...	...	...	5·28	21	112	...	...	...
23	...	...	...	1·88	76	143	...	...	...	3·87	41	157	...	...	...	...	...	...
24	...	...	...	3·35	62	213	...	...	...	...	...	...	...	...	...	...	...	...
25	1·30	43	57	1·76	98	173	1·95	76	148	3·89	32	124	...	...	...	...	...	...
26	1·46	33	48	...	...	...	2·18	70	153	...	...	...	...	...	...	...	...	...
27	...	...	...	...	...	...	4·32	44	191	...	...	...	...	...	...	6·07	13	77
28	2·42	...	...	1·87	98	183	0·96	25	24	...	...	...	4·39	29	126	...	...	...
29	...	...	...	2·48	64	159	...	...	...	...	...	...	2·10	37	77	...	...	...
30	...	...	...	4·07	32	131	...	...	...	...	...	...	...	...	...	...	...	...
31	...	...	...	0·92	60	56				3·83	28	107				...	...	...
Mean	1·76	77	129	2·43	66	153	2·09	63	133	3·35	39	127	3·79	28	102	4·72	20	87
No. of days used	9	8	8	12	11	11	13	12	12	11	11	11	12	11	11	10	9	9
Year: Mean										3·32	43	111						
Year: No. of days used										120	114	114						

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	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
		hr.		hr.		hr.		hr.		hr.		hr.
1	1	2·5	0	···	1	0·3	1	2·4	2	13·1	1	2·0
2	2	3·0	0	···	1	0·1	2	3·2	1	2·4	0	···
3	0	···	1	1·3	0	···	1	2·1	0	···	0	···
4	2	7·3	0	···	1	1·7	2	3·5	0	···	0	···
5	1	2·1	0	···	1	0·7	2	3·2	1	2·8	0	···
6	0	···	0	···	0	···	2	4·4	1	2·2	0	···
7	2	3·8	1	0·2	0	···	0	···	0	···	0	···
8	0	···	1	0·1	2	3·2	0	···	0	···	0	···
9	1	0·2	2	3·0	1	0·6	0	···	0	···	0	···
10	1	2·5	0	···	1	0·1	1	0·1	1	1·1	0	···
11	1	0·6	0	···	2	4·9	0	···	0	···	1	2·9
12	0	···	1	0·5	2	7·9	0	···	2	4·9	1	0·9
13	0	···	0	···	0	···	1	0·3	1	1·6	1	0·3
14	2	4·1	0	···	1	0·2	1	0·6	1	1·0	0	···
15	2	3·0	0	···	1	2·9	1	0·1	2	7·8	0	···
16	1	1·5	0	···	2	3 3	0	···	2	8·5	1	2·4
17	1	0·9	1	0·5	1	2·1	1	1·7	1	2·9	0	···
18	1	1·4	1	0·1	0	···	1	0·7	1	1·7	1	1·2
19	1	1·9	0	···	2	6·7	0	···	0	···	0	···
20	1	2·6	0	···	1	0·4	0	···	0	···	2	3·3
21	1	2·1	0	···	1	0·2	1	0·1	0	···	2	4·6
22	1	0·4	2	10·6	1	2·7	1	1·4	0	···	2	13·6
23	1	2·9	0	···	1	0·9	2	4·6	0	···	1	2·6
24	0	···	0	···	1	1·7	2	4·5	0	···	1	1·8
25	2	9·6	2	3·2	2	7·9	0	···	2	7·1	0	···
26	2	5·2	1	0·3	2	7·7	1	1·0	1	1·1	1	1·0
27	2	9·7	0	···	2	7·7	1	2·5	0	···	0	···
28	0	···	2	4·4	2	3·2	1	1·5	1	1·0	0	···
29	0	···			0	···	2	9·8	0	···	0	···
30	0	···			0	···	2	18·3	0	···	1	2·0
31	0	···			0	···			0	···		
Total	–	67·3	–	24·2	–	67·1	–	66·0	–	59·2	–	38·6
No. of days used	–	31	–	28	–	31	–	30	–	31	–	30
Mean	–	2·2	–	0·9	–	2·2	–	2·2	–	1·9	–	1·3

	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
		hr.		hr.		hr.		hr.		hr.		hr.
1	1	1·2	1	1·6	1	0·6	1	0·4	1	0·9	0	···
2	0	···	1	1·1	1	1·8	1	0·2	1	1·8	1	0·3
3	0	···	2	15·1	1	0·7	1	0·2	2	3·3	1	1·9
4	1	0·5	2	5·3	0	···	1	1·5	2	6·7	1	0·1
5	1	1·1	2	6·7	0	···	1	2·0	2	4·3	2	3·7
6	1	1·9	1	0·2	0	···	1	0·7	1	1·4	2	5·7
7	1	0·2	0	···	0	···	1	2·7	0	···	1	0·1
8	1	0·1	1	2·2	0	···	1	0·4	1	1·7	2	3·5
9	1	0·1	0	···	0	···	2	11·1	2	3·2	0	···
10	0	···	1	0·3	0	···	1	0·7	1	0·7	1	2·5
11	0	···	0	···	1	0·3	2	4·2	1	0·1	2	3·6
12	0	···	0	···	0	···	1	0·4	0	···	1	0·1
13	0	···	0	···	0	···	2	4·6	0	···	1	0·6
14	1	0·4	0	···	1	0·3	2	4·4	1	1·6	1	0·4
15	0	···	0	···	2	3·8	2	14·0	2	4·8	0	···
16	1	1·4	0	···	1	0·9	0	···	2	5·9	1	0·1
17	1	2·3	1	0·1	0	···	1	0·3	0	···	0	···
18	1	1·3	1	0·1	0	···	2	8·3	1	1·8	0	···
19	1	0·5	1	1·0	1	1·1	2	14·2	1	0·9	0	···
20	2	4·7	1	1·0	0	···	0	···	1	1·7	1	1·9
21	2	4·3	2	5·1	0	···	0	···	1	1·9	1	0·2
22	0	···	1	0·9	1	2·1	1	0·2	0	···	1	0·1
23	0	···	0	···	0	···	0	···	1	1·3	0	···
24	1	2·9	1	0·1	1	0·5	1	1·7	2	6·9	0	···
25	0	···	1	2·3	0	···	0	···	2	6·6	0	···
26	1	1·0	0	···	0	···	2	4·6	1	2·9	2	4·1
27	0	···	0	···	1	0·9	2	4·6	2	4·2	1	0·6
28	0	···	0	···	0	···	2	10·8	1	1·8	1	1·5
29	1	0·1	0	···	1	0·7	2	7·3	1	0·2	1	0·3
30	1	0·1	0	···	1	0·2	1	0·7	1	0·7	1	0·7
31	1	1·6	0	···			1	0·8			1	0·5
Total	–	25·7	–	43·1	–	13·9	–	101·0	–	67·3	–	32·5
No. of days used	–	31	–	31	–	30	–	31	–	30	–	31
Mean	–	0·8	–	1·4	–	0·5	–	3·3	–	2·2	–	1·0

Annual values: Character 0 1 2
No. of days used 140 156 69

Duration: Total 605·9 hr.
No. of days 365
Mean 1·7 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.

	JANUARY, factor 2·75				FEBRUARY, factor 2·69				MARCH, factor 2·66			
	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.
	volts per metre											
1	150	135	405	565	390	485	645	630	120	280	305	280
2	55	160	95	475	295	500	700	590	65	135	240	720
3	335	565	515	835	320	675	-190	1075	400	505	400	570
4	595	0	270	540	415	280	350	405	210	320	Z-	530
5	295	795	1000	755	590	390	455	675	145	185	240	530
6	650	715	985	960	645	510	500	645	305	400	265	585
7	135	230	215	485	540	525	565	325	265	450	265	520
8	150	230	420	295	135	295	500	295	210	400	255	Z-
9	160	245	160	580	-55	150	335	95	265	520	265	345
10	295	770	1135	295	65	240	415	430	185	465	305	760
11	150	255	525	810	135	190	350	280	370	505	240	-440
12	515	635	620	970	135	215	Z±	270	Z±	-105	145	690
13	700	755	595	730	160	365	150	335	465	850	-	480
14	835	770	150	-270	270	525	325	350	40	370	320	345
15	80	270	365	150	215	270	375	350	65	240	250	320
16	-160	Z±	405	Z±	150	500	310	390	145	225	265	335
17	160	420	245	580	405	510	325	190	545	255	335	505
18	Z+	120	190	230	270	645	335	590	370	360	215	215
19	120	350	405	500	215	175	280	270	65	-105	-95	265
20	205	430	190	650	485	645	350	310	215	400	200	255
21	635	-515	365	565	455	455	335	405	185	305	280	530
22	215	430	405	310	150	-700	280	Z-	320	265	225	370
23	150	Z±	65	365	160	430	325	1075	345	400	Z±	690
24	245	500	460	730	725	405	415	445	600	600	Z-	425
25	555	Z+	-215	Z-	335	500	310	365	40	55	Z±	-410
26	-40	365	690	-135	280	645	335	715	-15	-15	55	160
27	15	-605	865	555	375	685	405	590	105	65	-840	490
28	380	730	660	770	175	Z-	-335	765	80	320	-280	95
29	135	160	420	205					450	610	255	810
30	215	405	515	485					240	585	545	335
31	295	555	595	540					370	570	560	640
(a)	296	423	464	553	314	431	387	476	248	380	280	457
(b)	204	361	491	516	319	412	355	473	221	325	201	380
Mean	(a) 434		(b) 393		(a) 402		(b) 390		(a) 341		(b) 282	

	APRIL, factor 2·62				MAY, factor 2·71				JUNE, factor 2·66			
	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.
	volts per metre											
1	500	340	-500	120	Z-	135	0	Z-	295	65	200	185
2	155	40	275	680	95	110	40	70	265	335	295	410
3	630	565	170	630	380	730	300	300	255	465	225	400
4	-80	460	130	840	245	175	190	610	215	400	185	385
5	300	155	225	-15	350	350	40	395	215	530	400	480
6	105	120	460	630	230	435	190	435	215	465	265	280
7	405	500	340	445	310	270	175	135	105	425	200	120
8	405	300	185	365	270	380	190	285	25	265	135	240
9	250	405	260	565	300	205	165	95	305	425	255	160
10	155	315	315	250	40	350	205	190	65	215	160	295
11	260	550	340	525	110	285	300	395	0	185	160	225
12	-	525	275	590	310	-40	-	-	55	370	160	335
13	290	225	210	290	-	230	245	530	185	295	95	305
14	185	195	355	90	205	435	285	285	175	265	175	265
15	260	315	170	40	Z+	25	15	-	135	200	135	255
16	120	130	195	220	Z±	-635	215	215	40	95	105	240
17	-185	260	Z±	235	215	-165	910	595	225	265	145	265
18	80	290	185	315	150	625	135	135	160	120	105	385
19	155	405	105	195	165	395	230	460	255	305	185	295
20	80	210	155	170	165	270	135	325	145	265	Z+	545
21	170	315	105	185	215	300	150	230	200	175	305	-95
22	155	130	80	130	110	475	165	285	-255	25	-225	-215
23	120	145	130	170	80	350	135	95	Z±	385	135	80
24	-25	-260	945	-	175	445	205	95	200	175	185	255
25	-	-	-	655	-55	15	-80	190	185	240	185	320
26	340	420	Z±	420	40	350	215	40	240	385	175	255
27	340	300	290	340	135	340	175	110	200	360	145	280
28	250	365	250	235	205	0	165	215	105	225	185	265
29	105	155	-65	-395	135	245	215	300	175	200	160	280
30	-105	Z-	Z±	-80	165	350	300	380	280	265	255	360
31					190	395	285	365				
(a)	242	301	256	359	192	310	206	277	176	280	190	289
(b)	212	278	182	289	178	286	208	270	161	276	177	255
Mean	(a) 289		(b) 240		(a) 246		(b) 235		(a) 234		(b) 217	

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.

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	JULY, factor 2·58				AUGUST, factor 2·63				SEPTEMBER, factor 2·73			
	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.
	volts per metre											
1	195	350	170	130	210	265	195	500	275	340	190	135
2	170	230	140	310	130	460	145	195	15	370	220	175
3	220	310	205	295	-540	-300	-300	395	320	230	220	355
4	195	285	170	220	170	290	Z-	105	205	260	245	125
5	Z+	195	180	245	-250	170	275	605	260	380	165	245
6	195	350	170	180	195	145	145	420	230	490	165	300
7	105	205	230	260	250	225	210	300	220	480	190	190
8	205	180	130	155	195	410	-120	210	230	380	165	300
9	155	195	105	205	275	420	210	145	190	575	175	190
10	245	260	220	230	105	265	290	445	80	275	175	220
11	170	260	130	220	210	380	160	225	25	465	165	175
12	170	310	130	205	-	565	210	225	135	245	190	230
13	260	220	130	270	145	395	145	225	175	260	220	230
14	245	170	155	195	315	370	250	185	110	315	230	190
15	140	230	155	220	195	355	225	130	135	275	-615	355
16	75	140	170	205	130	265	185	235	40	125	165	150
17	65	115	Z±	260	170	420	370	330	70	165	220	175
18	205	295	415	65	225	475	315	395	135	135	275	110
19	260	245	245	310	235	300	235	250	55	190	205	285
20	295	220	-570	-130	40	145	195	120	175	150	260	285
21	310	Z+	Z±	260	25	290	185	185	110	110	205	135
22	130	180	195	415	185	55	160	250	70	-70	245	245
23	205	310	130	310	40	395	195	210	70	165	190	230
24	310	450	Z+	260	160	210	265	160	110	190	190	260
25	195	360	130	220	105	235	130	-105	125	355	205	340
26	180	75	170	205	210	290	170	355	205	395	205	370
27	260	385	180	400	170	210	160	275	125	300	435	355
28	205	350	260	595	265	445	170	-	165	285	110	300
29	295	90	180	260	80	370	235	265	230	275	40	190
30	180	205	155	295	-	210	395	265	220	285	55	190
31	325	230	Z+	480	120	225	80	395				
(a)	205	247	179	263	169	309	211	276	147	292	197	235
(b)	198	247	150	240	123	276	174	270	147	280	170	235
Mean	(a) 223		(b) 234		(a) 241		(b) 211		(a) 218		(b) 208	

	OCTOBER, factor 2·70				NOVEMBER, factor 2·70				DECEMBER, factor 2·72			
	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.
	volts per metre											
1	150	135	150	110	155	-	500	225	110	335	-	175
2	80	205	230	120	225	295	335	445	115	350	290	580
3	175	325	380	160	250	420	370	490	465	695	260	205
4	160	135	310	65	335	100	490	530	115	405	390	350
5	190	25	95	205	80	120	-	-	120	365	-165	190
6	120	245	230	295	-	-	410	590	40	165	-15	135
7	-150	255	255	150	135	155	390	-	405	515	355	490
8	215	295	230	350	-	-	355	215	205	135	55	610
9	15	40	-245	65	155	-335	370	860	785	1125	-	-
10	365	660	150	405	530	980	335	40	-	-	255	150
11	150	405	-135	-65	350	215	370	175	-	-	625	-475
12	135	380	120	135	40	60	430	390	270	500	580	605
13	230	390	295	-	195	315	390	450	265	370	435	665
14	-	-515	215	Z-	135	355	275	80	315	350	-	810
15	15	-595	-525	Z±	-155	510	450	390	-	-	690	385
16	245	865	215	205	295	-100	80	255	530	900	610	530
17	0	-	365	430	390	490	275	155	225	610	-	-
18	160	325	350	-215	210	445	335	-15	-	-	-	-
19	0	-65	-485	190	70	250	280	405	-	-	460	395
20	295	620	325	-	405	655	305	40	370	675	360	465
21	-	-	270	325	0	40	110	70	210	360	435	345
22	160	335	335	255	40	295	545	560	385	505	1075	810
23	405	325	390	380	125	250	110	70	1830	690	820	1420
24	40	445	475	565	-515	445	-	-	770	1020	1310	1880
25	325	500	380	555	-	-	600	-15	395	715	450	1075
26	350	Z±	325	Z±	40	155	55	85	610	360	95	250
27	Z±	245	285	310	55	-30	335	460	65	570	555	635
28	350	-15	-890	245	235	615	490	15	625	770	65	80
29	110	-555	420	15	110	165	235	235	0	475	1020	320
30	390	245	160	525	40	225	545	125	795	995	585	650
31	190	190	445	660					795	1125	980	200
(a)	186	330	285	280	184	328	349	294	416	580	531	534
(b)	173	248	155	234	177	277	327	274	426	575	479	568
Mean	(a) 270		(b) 203		(a) 289		(b) 264		(a) 515		(b) 512	

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)	231	351	295	358
(b)	212	320	256	334
	(a) 309		(b) 281	

POTENTIAL GRADIENT (reduced to level surface): DIURNAL INEQUALITIES

The departures from the mean of the day are adjusted for non-cyclic change†

205 KEW OBSERVATORY — Selected quiet days — 1939

	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	Non-cyclic change†	Mean
	volts per metre																									
Jan.	−97	−130	−177	−190	−181	−191	−184	−108	−19	+38	+87	+79	+90	+58	+50	+78	+122	+173	+163	+176	+108	+81	−10	−19	−23	543
Feb.	−62	−84	−79	−90	−84	−78	−49	−3	+36	+92	+76	+40	+35	+15	−13	+12	+51	+87	+74	+51	+19	−7	−13	−24	+23	385
Mar.	+11	−65	−107	−95	−117	−98	−34	+94	+68	+92	+57	−59	−77	−67	−69	−48	−14	+24	+55	+117	+140	+82	+64	+46	···	424
Apr.	+23	+2	−32	−54	−46	−51	−34	+2	+60	+59	+43	−15	−45	−52	−41	−40	−39	−38	+2	+41	+66	+60	+73	+53	···	260
May	−8	−42	−47	−40	−44	−52	−11	+50	+75	+40	+36	+5	−16	−25	−34	−53	−43	−29	−21	+32	+83	+55	+42	+50	+49	245
June	−31	−48	−39	−35	−12	+3	+57	+82	+82	+25	−24	−59	−77	−73	−50	−53	−30	−24	+7	+36	+69	+94	+75	+25	+20	247
July	−5	−5	−23	−30	−8	+3	+51	+80	+64	+38	−18	−36	−53	−63	−72	−65	−46	−50	−9	+16	+70	+71	+45	+23	+35	232
Aug.	−39	−60	−61	−29	−20	−16	+41	+75	+105	+111	+62	+19	−17	−29	−34	−46	−50	−47	−16	+43	+28	+1	−10	−6	−20	221
Sept.	−42	−35	−46	−55	−68	−23	−19	+58	+122	+101	+53	−4	−20	−25	−32	−35	−41	−1	+11	+26	+47	+43	+10	−24	−1	219
Oct.	−55	−72	−58	−37	−12	+55	+99	+98	+132	+119	+70	+6	−22	−32	−65	−64	−69	−60	−2	−19	+17	+18	−29	−11	···	327
Nov.	−95	−99	−103	−113	−107	−109	−50	+22	+83	+109	+91	+25	+10	+34	+23	+9	+63	+72	+54	+67	+74	+34	−17	−80	···	343
Dec.	−23	−57	−138	−185	−223	−189	−126	−39	+96	+101	+153	+73	−5	+88	−18	+28	+53	+185	+95	+92	+41	−6	−10	+11	···	661
Year	−35	−58	−76	−79	−77	−62	−22	+34	+75	+77	+57	+6	−16	−14	−30	−23	−4	+24	+34	+57	+63	+44	+18	+4	···	342
Winter	−69	−93	−124	−145	−149	−142	−102	−32	+49	+85	+102	+54	+33	+49	+11	+32	+72	+129	+97	+97	+61	+25	−13	−28	···	483
Equinox	−16	−43	−61	−60	−61	−29	+3	+63	+95	+93	+56	−18	−41	−44	−52	−47	−41	−19	+17	+41	+67	+51	+29	+16	···	307
Summer	−21	−39	−43	−33	−21	−15	+35	+72	+81	+53	+14	−18	−41	−47	−47	−54	−42	−37	−10	+32	+63	+55	+38	+23	···	236

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

206 KEW OBSERVATORY — Complete days only — 1939

	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.	0·13	0·09	0·06	0·06	0·07	0·07	0·06	0·10	0·15	0·21	0·21	0·20	0·18	0·16	0·16	0·18	0·20	0·27	0·28	0·30	0·27	0·23	0·18	0·15	0·17	29
Feb.	0·13	0·10	0·08	0·07	0·07	0·06	0·07	0·10	0·20	0·22	0·17	0·14	0·13	0·14	0·13	0·16	0·17	0·21	0·25	0·25	0·23	0·21	0·19	0·17	0·15	28
Mar.	0·09	0·08	0·07	0·05	0·05	0·05	0·07	0·10	0·14	0·12	0·10	0·08	0·09	0·06	0·07	0·08	0·11	0·14	0·16	0·17	0·18	0·18	0·15	0·12	0·10	29
Apr.	0·10	0·09	0·08	0·07	0·08	0·08	0·09	0·12	0·11	0·10	0·10	0·08	0·08	0·06	0·05	0·05	0·06	0·08	0·11	0·16	0·18	0·15	0·12	0·11	0·10	30
May	0·07	0·07	0·06	0·05	0·05	0·06	0·07	0·10	0·09	0·07	0·05	0·04	0·03	0·03	0·02	0·02	0·05	0·05	0·05	0·07	0·08	0·09	0·07	0·07	0·06	31
June	0·01	0·01	0·02	0·02	0·02	0·02	0·03	0·02	0·02	0·02	0·02	0·02	0·01	0·01	0·00	0·01	0·00	0·01	0·01	0·01	0·01	0·01	0·01	0·02	0·01	29
July	0·02	0·02	0·02	0·02	0·02	0·01	0·01	0·01	0·01	0·01	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·01	0·01	0·01	0·01	0·01	0·01	31
Aug.	0·04	0·04	0·05	0·05	0·05	0·06	0·07	0·07	0·06	0·05	0·02	0·02	0·02	0·01	0·02	0·01	0·02	0·02	0·02	0·03	0·04	0·05	0·05	0·04	0·04	31
Sept.	0·02	0·02	0·03	0·02	0·04	0·03	0·06	0·07	0·06	0·03	0·03	0·02	0·01	0·01	0·01	0·01	0·01	0·02	0·02	0·03	0·04	0·04	0·03	0·02	0·03	30
Oct.	0·07	0·05	0·05	0·04	0·05	0·05	0·08	0·13	0·16	0·12	0·12	0·08	0·07	0·05	0·06	0·07	0·11	0·15	0·19	0·20	0·18	0·13	0·11	0·08	0·10	31
Nov.	0·10	0·07	0·07	0·05	0·05	0·05	0·07	0·11	0·15	0·16	0·15	0·13	0·12	0·12	0·12	0·15	0·17	0·18	0·19	0·17	0·16	0·15	0·12	0·13	0·12	30
Dec.	0·15	0·15	0·13	0·10	0·10	0·10	0·10	0·13	0·19	0·25	0·29	0·28	0·25	0·25	0·27	0·27	0·28	0·31	0·33	0·33	0·35	0·30	0·26	0·22	0·22	31
Year	0·08	0·06	0·06	0·05	0·05	0·05	0·07	0·09	0·11	0·11	0·10	0·09	0·08	0·07	0·07	0·08	0·10	0·12	0·13	0·14	0·14	0·13	0·11	0·09	0·09	360
Winter	0·13	0·10	0·09	0·07	0·07	0·07	0·08	0·11	0·17	0·21	0·21	0·19	0·17	0·17	0·17	0·19	0·21	0·24	0·26	0·26	0·25	0·22	0·19	0·17	0·17	118
Spring	0·10	0·09	0·07	0·06	0·07	0·07	0·08	0·11	0·13	0·11	0·10	0·08	0·09	0·06	0·06	0·07	0·09	0·11	0·13	0·17	0·18	0·17	0·13	0·11	0·10	59
Autumn	0·05	0·03	0·04	0·03	0·05	0·04	0·07	0·10	0·11	0·07	0·07	0·05	0·04	0·03	0·03	0·04	0·06	0·09	0·11	0·11	0·11	0·09	0·07	0·05	0·07	61
Summer	0·03	0·03	0·04	0·03	0·03	0·04	0·05	0·05	0·05	0·03	0·02	0·02	0·01	0·01	0·01	0·01	0·02	0·02	0·02	0·03	0·03	0·04	0·03	0·03	0·03	122

Galitzin seismographs, three components

207 KEW OBSERVATORY: Lat.51°28′6″N. Long.0°18′47″W. Height above M.S.L. 5m. 1939

	Compo-nent	Phase	G.M.T.	Period	Ampli-tude	Δ	Remarks
Jan.			h. m. s.	sec.	μ	Km.	
2	ZNE	eL	4 48	..	..	..	Confused by microseisms
		F	5 0	..	..	..	
3	ZNE	eL	17 56	..	..	..	Confused by microseisms
		F	18 10	..	..	..	
11	ZNE	e	18 4	..	..	..	
		F	15	..	..	..	
11	ZE	eL	22 10	..	..	..	Very small on N-S component
		F	25	..	..	..	
19	NE	eL	10 37	..	..	..	18·4°N. 106°W. (J.S.A.)
	Z	eL	46	..	..	..	
		F	11 10	..	..	..	
20	ZNE	eL	1 33	..	..	..	Confused by microseisms
	E	M	37 25	20	+18	..	32°N. 17°E.
		F	2 5	..	..	..	(Strasbourg)
20	ZNE	eL	14 32	..	..	..	Confused by microseisms
	E	M	38 35	14	+13	..	Repetition of pre-
		F	15 0	..	..	..	ceding shock
20		e	21 20	..	..	..	Very small
		F	45	..	..	..	12°N. 91°W.
							(U.S.C.G.S.)
22		e	5 15	..	..	..	Very small
		F	30	..	..	..	
22	ZNE	eL	14 38	..	..	..	
		F	15 10	..	..	..	
23	NE	iS	2 32 17	..	..	..	32°N. 17°E.
	ZNE	eL	34	..	..	..	Repetition of shocks
	E	M	38 47	13	-26	..	on Jan. 20
		F	3 0	..	..	..	
23		e	13 27	..	..	..	
		F	14 10	..	..	..	
25	Z	iP	3 46 31	..	..	12000	Dilatation. NE, e
	Z	ipP	46 53	..	..	..	NE, e
	Z	ePKP	50 39	..	..	..	
	Z	iPP	51 1	..	..	..	
	NE	ipPP	51 19	..	..	..	
	Z	i	51 27	..	..	..	Large movement
	ZNE	isPP	51 32	..	..	..	
	NE	iSKS	57 5	..	..	..	Very destructive in
	ZE	isSKS	57 53	..	..	..	Chile. 34°S. 73°W.
	ZNE	iSP	4 0 14	..	..	..	(Strasbourg)
	ZNE	isSP	0 48	..	..	..	Depth of focus about
	ZE	i	2 31	..	..	..	75 Km.
	ZNE	iSS	5 53	..	..	..	
	ZNE	isSS	6 13	..	..	..	Large movements
	ZNE	i	7 3	..	..	..	
	E	i	7 47	..	..	..	
	ZN	i	10 9	..	..	..	

Galitzin seismographs, three components

207 KEW OBSERVATORY: Lat.51°28′6″N. Long.0°18′47″W. Height above M.S.L. 5m. 1939

	Compo-nent	Phase	G.M.T.	Period	Ampli-tude	Δ	Remarks
Jan.			h. m. s.	sec.	μ	Km.	
25	E	iSSS	10 39	..	..	..	Large movements
contd.	ZE	i	10 55	..	..	..	
	ZN	i	11 9	..	..	..	
	ZNE	i	14 25	..	..	..	
	ZNE	L	16	..	..	..	
	Z	M	31 9	25	+340	..	
	E	M	31 16	23	−230	..	
	N	M	33 52	20	+140	..	
		F	7 55	..	..	..	
27	ZNE	eL	14 53	..	..	..	13°N. 91°W. (J.S.A.)
		F	15 10	..	..	..	Felt at San Salvador
27		e	20 20	..	..	..	
		F	30	..	..	..	
29	ZNE	eL	19 30	..	..	..	Confused by microseisms
		F	20 10	..	..	..	13°N. 91°W. (San Salvador) Felt at San Salvador
30	Z	iPKP	2 37 43	..	..	14700	Dilatation. NE, e
	ZNE	iPP	40 1	..	..	..	Destructive in Solomon Islands
	ZNE	iPKS	41 3	..	..	..	7°S. 156°E. (Strasbourg)
	NE	i	41 26	..	..	..	
	NE	iSKKS	46 54	..	..	..	
	ZNE	iSKSP	50 0	..	..	..	
	ZE	iPPS	52 46	..	..	..	
	E	i	56 12	..	..	..	
	E	i	56 54	..	..	..	
	NE	iSS	57 13	..	..	..	
	E	iPSS	57 42	..	..	..	
	NE	i	59 44	..	..	..	
	E	i	3 4 50	..	..	..	
	NE	eL	12	..	..	..	
	Z	eL	20	..	..	..	
	E	M	27 38	25	−310	..	
	N	M	28 1	25	+370	..	
	Z	M	28 35	28	−370	..	
		F	7 10	..	..	..	
31	Z	i(PP)	0 11 58	..	..	(14000)	NE, e
	NE	e(sPP)	13 50	..	..	..	Focal depth about 300 Km.
	Z	e(SKKS)	18 6	..	..	..	
	ZNE	e(PPS)	23 24	..	..	..	
	NE	i	43 39	..	..	..	
	ZNE	eL	46	..	..	..	
	E	M	56 9	26	+15	..	
		F	2 20	..	..	..	
Feb.							
3		e	0 6	..	..	..	
		F	15	..	..	..	Very small
3	Z	ePKP	5 45 44	..	..	15100	Diffracted waves
	Z	iPP	48 16	..	..	..	NE, e
	ZNE	iPKS	49 15	..	..	..	
	Z	iPPP	51 35	..	..	..	

Galitzin seismographs, three components

207 KEW OBSERVATORY: Lat. 51°28′6″N. Long. 0°18′47″W. Height above M.S.L. 5m. 1939

	Compo-nent	Phase	G.M.T.	Period	Ampli-tude	Δ	Remarks
Feb.			h. m. s.	sec.	μ	Km.	
3	Z	e	52 27	..	..	...	
contd.	N	iSKS	52 51	..	..	..	10°S. 159°E.
	E	e	56 43	..	..	..	Focal depth about
	NE	iSKSP	58 27	..	..	..	50 Km.
	ZNE	iPPS	6 0 13	..	..	..	(Strasbourg)
	NE	iSS	6 17	..	..	..	
	NE	eSSS	11 3	..	..	..	
	NE	eL	21	..	..	..	
	Z	eL	27	..	..	..	
	E	M	34 53	27	+31	..	
	Z	M	45 15	22	−17	..	
	N	M	45 32	21	+22	..	
		F	8 20	..	..	..	
3	ZNE	eL	21 39	..	..	..	
		F	22 10	..	..	..	
4	ZNE	eL	6 22	..	..	..	Confused by microseisms
		F	7 0	..	..	..	
6	ZN	i	7 29 21	..	..	..	Northern Adriatic
	E	i	29 31	..	..	..	Felt at Fiume and
	N	i	29 45	..	..	..	Trieste
	ZNE	i	29 52	..	..	..	All pulses listed are
	ZNE	i	30 9	..	..	..	after calculated
	ZNE	i	30 16	..	..	..	arrival time of Sn.
	ZN	i	30 24	..	..	..	
	ZE	i	30 32	..	..	..	
	Z	i	30 43	..	..	..	
	ZE	i	31 16	..	..	..	
		F	37	..	..	..	
6	ZNE	e	10 42	..	..	..	
	ZNE	eL	48	..	..	..	
		F	11 0	..	..	..	
7	ZNE	eL	4 56	..	..	..	
		F	5 20	..	..	..	
8	NE	eL	7 10	..	..	..	
	Z	eL	16	..	..	..	
		F	30	..	..	..	
8	ZNE	eL	21 2	..	..	..	
		F	25	..	..	..	
9	ZNE	eL	16 9	..	..	..	11·5°N. 88°W.
	E	M	11 17	22	+9	..	(U.S.C.G.S.)
		F	35	..	..	..	
16	ZE	iP	19 3 44	..	..	9570	Compression
	NE	iS	14 22	..	..	..	Northern Japan
	NE	eL_Q	32	..	..	..	39°N. 142°E.
	ZNE	eL_R	39	..	..	..	(Strasbourg)
	N	M	43 43	20	−19	..	
	Z	M	46 0	20	−19	..	
		F	20 15	..	..	..	

Galitzin seismographs, three components

207 KEW OBSERVATORY: Lat. 51°28′6″N. Long. 0°18′47″W. Height above M.S.L. 5m. 1939

	Compo-nent	Phase	G.M.T.	Period	Ampli-tude	Δ	Remarks
Feb.			h. m. s.	sec.	μ	Km.	
17		e	16 45	..	..	..	
		F	55	..	..	..	
23		e	16 9	..	..	..	
		F	25	..	..	..	
24	ZE	iS	14 36 51	..	..	..	55°N. 160°W.
	ZNE	eL	56	..	..	..	(Strasbourg)
		F	15 15	..	..	..	
27	ZNE	eL	18 1	..	..	..	
		F	15	..	..	..	
28	ZNE	eL	3 42	..	..	..	
		F	4 5	..	..	..	
Mar.							
2	ZNE	eL	8 7	..	..	..	
		F	25	..	..	..	
4	ZNE	eL	21 0	..	..	..	
		F	25	..	..	..	
5		e	3 16	..	..	..	Very small
		F	20	..	..	..	Felt at Davao, Phillipine Is.
7	E	eL	2 52	..	..	..	
	ZN	eL	58	..	..	..	
		F	3 25	..	..	..	
7	ZNE	eL	16 2	..	..	..	
		F	30	..	..	..	
8/9	E	eL	22 56	..	..	..	Confused by microseisms
	ZN	eL	23 4	..	..	..	
	N	M	7 17	27	−13	..	
		F	0 10	..	..	..	
10		e	8 30	..	..	..	
		F	45	..	..	..	
13		e	3 45	..	..	..	Very small
		F	4 0	..	..	..	
13	ZNE	eL	6 34	..	..	..	
		F	7 10	..	..	...	
16	ZNE	eL	21 35	..	..	..	
		F	55	..	..	..	
20	Z	iP	3 35 5	..	..	9500	NE, e
	Z	iPP	38 46	..	..	..	Felt in Kyushu, Japan
	Z	ePPP	40 36	..	..	..	Focal depth 55 Km.
	NE	eS	45 29	..	..	..	(Strasbourg)
	N	ipS	45 43	..	..	..	
	NE	i	46 1	..	..	..	
	Z	eSP	46 39	..	..	..	
	E	isPS	47 1	..	..	..	
	Z	iPPP	4 1 45	..	..	..	By path exceeding 180°
	NE	eL	6	..	..	..	
	Z	eL	9	..	..	..	

Galitzin seismographs, three components

207 KEW OBSERVATORY: Lat. 51°28′6″N. Long. 0°18′47″W. Height above M.S.L. 5m. 1939

	Compo-nent	Phase	G.M.T.	Period	Ampli-tude	Δ	Remarks
Mar.			h. m. s.	sec.	μ	Km.	
20	N	M	11 24	18	−21	..	
contd.	E	M	11 33	20	−22	..	
	Z	M	19 8	13	+12	..	
		F	5 10	..	..	..	
20	ZNE	eL	5 56	..	..	..	Repetition of preceding shock (Hukuoko)
		F	6 15	..	..	..	
21	Z	iP	1 24 31	..	..	10070	
	Z	i	24 52	..	..	..	
	Z	iPP	27 58	..	..	..	Indian Ocean, to S.W. of Sumatra. 2°S. 91°E. (Strasbourg)
	NE	i	34 46	..	..	..	
	E	iSKS	35 12	..	..	..	
	N	iS	35 32	..	..	..	
	E	iPS	36 21	..	..	..	
	E	iPPS	36 52	..	..	..	
	ZN	i	40 27	..	..	..	
	NE	iSS	41 30	..	..	..	
	E	iPKKP	41 52	..	..	..	
	NE	L_Q	48	..	..	..	
	ZNE	L_R	56	..	..	..	
	N	M	2 5 50	24	+73	..	
	E	M	9 51	20	+70	..	
	Z	M	9 56	20	−69	..	
		F	4 15	..	..	..	
22	ZNE	eL	4 48	..	..	..	Confused by microseisms
		F	5 20	..	..	..	
22		e	8 43	..	..	..	Confused by microseisms
		F	9 45	..	..	..	
23		e	17 40	..	..	..	Very small
		F	18 15	..	..	..	
25	ZNE	eL	6 38	..	..	..	
		F	7 5	..	..	..	
Apr.							
4	Z	e(PKP)	10 30 35	..	..	..	
	ZNE	eL	11 30	..	..	..	
		F	12 15	..	..	..	
5	ZNE	$iPKP_1$	17 2 20	..	..	16300	Dilatation. Z large movement
	N	i	2 27	..	..	..	
	ZN	$iPKP_2$	2 41	..	..	..	Focal depth 200 Km.
	Z	$ipPKP_1$	3 6	..	..	..	
	ZN	$isPKP_1$	3 40	..	..	..	
	ZN	i	4 5	..	..	..	
	ZNE	iPP	6 1	..	..	..	
	E	e	14 11	..	..	..	
	ZNE	iPSKS	16 7	..	..	..	
	N	iPPS	19 1	..	..	..	New Hebrides 19°S. 169°W. (Strasbourg)
	Z	isPPS	20 10	..	..	..	
	E	iSS	24 51	..	..	..	
	NE	i	25 7	..	..	..	
	Z	esSS	26 11	..	..	..	
	NE	iSSS	30 31	..	..	..	
	Z	i	36 11	..	..	..	
	NE	eL	43	..	..	..	
	Z	eL	52	..	..	..	
	N	M	18 7 28	22	−63	..	
	Z	M	7 58	22	+52	..	
	E	M	9 47	20	+41	..	
		F	20 10	..	..	..	

Galitzin seismographs, three components

207 KEW OBSERVATORY: Lat. 51°28′6″N. Long. 0°18′47″W. Height above M.S.L. 5m. 1939

	Compo-nent	Phase	G.M.T.	Period	Ampli-tude	Δ	Remarks
Apr.			h. m. s.	sec.	μ	Km.	
6	ZE	e(P)	17 58 41	..	..	(2680)	
	ZNE	e(S)	18 3	..	..	..	
		F	18 10	..	..	..	
6	ZNE	eL	21 57	..	..	..	Very small. Felt in Phillipine Is.
		F	22 2	..	..	..	
10	ZNE	e	14 16	..	..	..	Very small
		F	26	..	..	..	Phillipine Is.
12	NE	e	14 23	..	..	..	Very small
	Z	e	28	..	..	..	
		F	40	..	..	..	
15	ZNE	eL	21 25	..	..	..	
		F	22 15	..	..	..	
18	Z	iP	6 36 22	..	..	11370	NE, e
	Z	iPKP	40 10	..	..	..	
	ZE	iPP	40 30	..	..	..	
	Z	i	44 32	..	..	..	
	E	i	45 50	..	..	..	
	ZE	iSKS	46 58	..	..	..	N, e
	NE	i	47 8	..	..	..	27°S. 71°W. (U.S.C.G.S.)
	E	iSKKS	47 43	..	..	..	Felt in Northern Chile
	N	i	47 51	..	..	..	
	NE	i	47 58	..	..	..	Focal depth 100 Km.
	NE	eS	48 18	..	..	..	(J.S.A.)
	Z	i	49 26	..	..	..	
	NE	iPS	49 44	..	..	..	
	ZE	i	50 30	..	..	..	
	NE	iPPS	50 38	..	..	..	
	E	iSS	54 54	..	..	..	N, e
	NE	eL_Q	7 4	..	..	..	
	Z	eL_R	11	..	..	..	
	N	M	16 17	20	+74	..	
	Z	M	16 22	21	+110	..	
	E	M	17 12	22	−130	..	
		F	− − −	..	..	..	
18			8 50	..	..	..	No record from Galitzin
19			9 40	..	..	..	instruments
19	ZNE	e	14 13	..	..	..	Very small
		F	20	..	..	..	
20/21	Z	ePKP	22 27 32	..	..	18300	
	Z	iPP	31 58	..	..	..	NE, e
	EZ	eSKKS	38 41	..	..	..	
	Z	eSKSP	42 24	..	..	..	Felt at Queenstown, N.Z.
	ZNE	eL	23 43	..	..	..	
		F	0 15	..	..	..	
21	ZN	iP	4 39 56	..	..	8300	Focal depth 525 Km.
	Z	i	39 59	..	..	..	
	N	iP_CP	40 14	..	..	..	
	ZN	ipP	41 48	..	..	..	
	Z	i	41 52	..	..	..	50°N. 140°E. (U.S.C.G.S.)
	Z	isP	42 44	..	..	..	
	Z	isP_CP	42 50	..	..	..	
	ZN	iPP	42 56	..	..	..	
	ZN	epPP	44 30	..	..	..	
	N	ePPP	44 44	..	..	..	
	ZE	e	48 22	..	..	..	
	ZNE	iS	48 52	..	..	..	
	ZN	e	49 4	..	..	..	

Galitzin seismographs, three components

207 KEW OBSERVATORY: Lat. 51°28′6″N. Long. 0°18′47″W. Height above M.S.L. 5m. 1939

	Component	Phase	G.M.T.	Period	Amplitude	Δ	Remarks
			h. m. s.	sec.	μ	Km.	
Apr. 21 *contd.*	ZN	iS_cS	49 10	..	..	..	
	ZN	iSP	49 30	..	..	..	
	N	isS	52 8	..	..	..	E, e
	Z	isSP	52 46	..	..	..	
	N	i	52 55	..	..	..	
	E	iSS	54 0	..	..	..	
	NE	isSS	56 44	..	..	..	
	Z	eSSS	57 43	..	..	..	
	E	e	59 50	..	..	..	
	Z	i	5 0 10	..	..	..	E, e
		F	6 40	..	..	..	
23	Z	iP	16 32 24	..	..	5900	Compression N, e
	Z	iPP	34 19	..	..	..	
	Z	ePPP	35 36	..	..	..	
	Z	iP_cS	37 34	..	..	..	
	NE	iS	39 55	..	..	..	
	Z	iSP	39 58	..	..	..	
	ZNE	i	40 5	..	..	..	1°S. 17°W. (U.S.C.G.S.)
	E	iS_cS	42 10	..	..	..	
	E	SS	43 48	..	..	..	
	E	SSS	45 38	..	..	..	
	Z	L	48 40	..	..	..	
	NE	L	49 40	..	..	..	
	N	M	52 5	15	+11	..	
	E	M	52 13	15	+26	..	
	Z	M	59 31	12	−10	..	
		F	18 15	..	..	..	
26	ZNE	eL	12 3	..	..	..	19°N. 121°E. (Manila)
		F	23	..	..	..	
28	ZE	eP	0 37 40	..	..	2320	
	N	iS	41 30	..	..	..	Atlantic, North of Azores, 43°N. 27°W.
	Z	iP_cP	41 44	..	..	..	
	ZNE	eL	43	..	..	..	(Strasbourg)
		F	1 15	..	..	..	
30	Z	eP	3 11 52	..	..	15000	Focal depth about 100 Km.
	Z	epP	12 16	..	..	..	
	Z	iPKP	14 49	..	..	..	NE, e
	Z	ipPKP	15 24	..	..	..	
	E	isPKP	15 32	..	..	..	7°S. 160°E. (Strasbourg)
	ZE	iPP	17 30	..	..	..	
	ZNE	ipPP	17 48	..	..	..	Destructive in Solomon Islands
	Z	isPP	18 8	..	..	..	
	NE	iPKS	18 26	..	..	..	
	Z	i	18 36	..	..	..	
	ZNE	ipPKS	18 54	..	..	..	Large movement
	Z	i	20 7	..	..	..	
	Z	iPPP	20 44	..	..	..	
	N	ipPPP	21 6	..	..	..	
	Z	iSKS	21 56	..	..	..	
	N	i	22 18	..	..	..	
	Z	isSKS	22 56	..	..	..	
	ZE	e	24 38	..	..	..	
	N	i	24 49	..	..	..	Large movement
	NE	i	26 46	..	..	..	
	ZN	iSP	27 46	..	..	..	
	ZE	isSP	28 43	..	..	..	N, e
	ZN	ipPPS	30 12	..	..	..	
	Z	i	33 0	..	..	..	
	E	isSS	35 45	..	..	..	Z,N, e
	N	i	37 16	..	..	..	
	E	iSSS	40 20	..	..	..	
	Z	i(pSSS)	40 48	..	..	..	

Galitzin seismographs, three components

207 KEW OBSERVATORY: Lat. 51°28′6″N. Long. 0°18′47″W. Height above M.S.L. 5m. 1939

	Compo-nent	Phase	G.M.T.	Period	Ampli-tude	Δ	Remarks
			h. m. s.	sec.	μ	Km.	
Apr. 30 *contd.*	NE	isSSS	41 22	..	..	..	
	NE	eL_Q	52	..	..	..	
	Z	eL_R	4 0	..	..	..	
	N	M	18 12	18	−180	..	
	E	M	21 19	20	−220	..	
	Z	M	22 6	18	+240	..	
		F	− − −	..	..	..	
May 1	Z	eP_I	6 10 52	..	..	9230	
	Z	iP_{II}	12 32	..	..	..	N, e
	Z	iP_{III}	17 38	..	..	..	Three consecutive shocks
	Z	e	18 50	..	..	..	
	N	$iSKS_I$	21 12	..	..	..	
	E	iS_I	21 14	..	..	..	
	E	ePS_I	22 32	..	..	..	Destructive in Akita, Japan
	N	$iSKS_{II}$	22 56	..	..	..	
	E	eS_{II}	22 58	..	..	..	40°N. 139°E. (U.S.C.G S.)
	Z	ePS_{II}	23 58	..	..	..	
	N	i	26 20	..	..	..	Z, e
	Z	eSS_I	27 24	..	..	..	
	N	e	27 44	..	..	..	
	N	eS_{III}	28 0	..	..	..	
	Z	e	29 48	..	..	..	
	Z	$eSSS_I$	31 4	..	..	..	
	Z	e	31 58	..	..	..	
	Z	$eSSS_{II}$	33 4	..	..	..	
	NE	eL_Q	36	..	..	..	
	Z	eL_R	40 38	..	..	..	
	E	M	47 36	17	+89	..	
	N	M	50 49	14	+48	..	
	Z	M	51 43	12	+35	..	
		F	8 55	..	..	..	
1	ZNE	eL	12 38	..	..	..	Very small. Probably repetition of preceding shocks
		F	59	..	..	..	
1	Z	eP	16 18 14	..	..	9100	Repetition of preceding shocks
	Z	ePP	21 32	..	..	..	
	N	eS	28 30	..	..	..	
	NE	eL_Q	44 8	..	..	..	
	Z	eL_R	49 8	..	..	..	
	E	M	54 56	16	+22	..	
	N	M	58 14	14	−14	..	
	Z	M	59 8	12	−10	..	
		F	18 5	..	..	..	
2	Z	eP	13 27 12	..	..	8850	
	Z	i	28 5	..	..	..	
	Z	iPP	30 14	..	..	..	
	NE	iS	37 15	..	..	..	30°N. 114°W.
	N	iSKS	37 28	..	..	..	(U.S.C.G.S.)
	NE	i	40 24	..	..	..	Felt in California and Arizona
	NE	iSS	42 24	..	..	..	
	N	e	45 40	..	..	..	
	E	eSSS	45 58	..	..	..	
	NE	eL_Q	47 38	..	..	..	
	Z	eL_R	51 38	..	..	..	
	N	M	59 0	21	+133	..	
	E	M	14 3 29	15	−108	..	
	Z	M	3 29	16	+101	..	
		F	16 15	..	..	..	
6	Z	eP	6 12 37	..	..	8940	Confused by microseisms
	EN	eS	22 44	..	..	..	
	E	iPS	23 45	..	..	..	5°N. 84°W. (U.S.C.G.S.)
	E	e	27 4	..	..	..	

Galitzin seismographs, three components

207 KEW OBSERVATORY: Lat. 51°28′6″N. Long. 0°18′47″W. Height above M.S.L. 5m. 1939

	Component	Phase	G.M.T.	Period	Amplitude	Δ	Remarks
			h. m. s.	sec.	μ	Km.	
May 6 *contd.*	E	iSS	28 32	..	..	..	
	E	eSSS	31 34	..	..	..	
	EN	eL_Q	34 38	..	..	..	
	Z	eL_R	38	..	..	..	
	Z	M	43 25	20	−11	..	
	N	M	45 44	20	+9	..	
	E	M	54 35	20	+15	..	
		F	7 20	..	..	..	
6	NE	eL	17 51	..	..	..	Felt in Phillipine Is.
	Z	eL	57	..	..	..	
		F	18 20	..	..	..	
8	ZNE	iP	1 51 49	..	..	2450	Compression
	N	i	54 11	..	..	..	Amplitudes of iP as read, in mm.
	ZNE	iS	55 50	..	..	..	Z N E
	E	i	57 34	..	..	..	+5·0 +2·3 +4·0
	NE	L	58 8	..	..	..	
	N	M	59 55	13	−193	..	Azimuth = 240°
	E	M	2 0 26	10	+150	..	Destructive in Santa Maria (Azores)
	Z	M	1 22	8	−118	..	
		F	5 30	..	..	..	37·5°N. 24·5°W. (Strasbourg)
8	Z	e	8 57	..	..	..	Repetition of preceding shock
		F	9 6	..	..	..	
8	Z	eP	16 20 18	..	..	2560	Small movements
	Z	e	20 30	..	..	..	
	Z	ePP	20 44	..	..	..	Repetition of preceding shocks
	Z	ePPP	20 54	..	..	..	
	E	eS	24 28	..	..	..	
	E	e	24 36	..	..	..	
	ZNE	eL	26	..	..	..	
		F	17 20	..	..	..	
9	ZNE	eL	8 4	..	..	..	51°N. 153°W. (J.S.A.)
		F	33	..	..	..	
9	ZNE	eS	16 36 33	..	..	..	Very small
	ZNE	eL	38	..	..	..	Repetition of Azores shocks
		F	17 12	..	..	..	
9	ZNE	eL	17 51	..	..	..	Very small. Probably repetition of Azores shocks
		F	18 0	..	..	..	
10	Z	eP	7 56 13	..	..	8620	
	Z	$ePcP$	56 26	..	..	..	
	NE	eS	8 6 4	..	..	..	51°N. 179°W. (U.S.C.G.S.)
	NZ	ePS	7 0	..	..	..	
	NE	eSS	10 28	..	..	..	
	N	eSSS	15 4	..	..	..	
	NE	eL_Q	17 8	..	..	..	
	Z	eL_R	21 38	..	..	..	
	ZNE	eL	10 5	..	..	..	By path greater than 180°
		F	10 40	..	..	..	
11	ZNE	eL	18 48	..	..	..	Very small
		F	19 0	..	..	..	
12	ZNE	eL	3 2	..	..	..	Small
		F	3 25	..	..	..	
14	Z	ePKP	18 32 23	..	..	..	37·5°S. 180° (New Zealand)
	Z	ePP	37 15	..	..	..	
	Z	ePPP	41 17	..	..	..	
	NE	eL	19 30	..	..	..	Surface waves small
	Z	eL	35	..	..	..	
		F	20 20	..	..	..	

Galitzin seismographs, three components

207 KEW OBSERVATORY: Lat. 51°28′6″N. Long. 0°18′47″W. Height above M.S.L. 5m. 1939

	Compo-nent	Phase	G.M.T.	Period	Ampli-tude	Δ	Remarks
May			h. m. s.	sec.	μ	Km.	
14/15	Z	e	23 40 55	..	..	..	Surface waves very
	ZNE	e	44 59	..	..	..	small
		F	0 25	..	..	..	
15	–	–	10 20 to	..	..	..	No record on Galitzin
			11 3	..	..	..	instruments
15	ZNE	eL	22 4	..	..	..	
		F	13	..	..	..	
16	Z	iP	7 33 10	..	..	9800	
	Z	ePP	36 47	..	..	..	
	E	eS	43 59	..	..	..	
	E	eL_Q	56	..	..	..	
	Z	eL_R	8 3	..	..	..	
		F	9 15	..	..	..	
16	–	–	9 41 to	..	..	..	No record on Galitzin
			11 50	..	..	..	instruments
16	–	–	13 17 to	..	..	..	No record on Galitzin
			15 47	..	..	..	instruments
17	–	–	13 19 to	..	..	..	No record on Galitzin
			15 58	..	..	..	instruments
17	Z	eP	18 44 15	..	..	10690	
	ZN	iPP	48 19	..	..	..	
	Z	e	50 25	..	..	..	
	Z	ePPP	50 59	..	..	..	24°N. 143°E.
	NE	iSKS	54 49	..	..	..	(Strasbourg)
	E	eS	55 43	..	..	..	
	ZN	ePS	56 59	..	..	..	
	Z	ePPS	58 15	..	..	..	
	NE	eSS	19 2 31	..	..	..	
	E	eSSS	6 7	..	..	..	
	NE	eL_Q	11	..	..	..	
	Z	eL_R	19	..	..	..	
	E	M	20 49	34	+42	..	
	N	M	22 20	30	−28	..	
	Z	M	29 54	21	−16	..	
		F	21 40				
18	–	–	9 19 to	..	..	..	No record on Galitzin
			11 5	..	..	..	instruments
19	–	–	9 4 to	..	..	..	No record on Galitzin
			10 35	..	..	..	instruments
19	Z	epPP	18 42 52	..	..	..	Very small
	E	eSKS	48 54	..	..	..	
	E	epPS	51 16	..	..	..	17°S. 70°W. Focal depth
	NE	eL	19 9 22	..	..	..	100 Km. (J.S.A.)
	Z	eL	19 28	..	..	..	
		F	20 0	..	..	..	
20	–	–	8 18 to	..	..	..	No record on Galitzin
			9 2	..	..	..	instruments
20		F	10 20	..	..	..	Early phases missed when changing records 41°N. 19°E. (Strasbourg)
21	ZNE	iPKP	20 40 45	..	..	16500	Very small. Surface
	ZN	ipPKP	43 3	..	..	..	waves poorly developed
	ZNE	eSKKS	50 18	..	..	..	Focal depth about 600 Km.
		F	21 30	..	..	..	Near Tonga (Pasadena)

Galitzin seismographs, three components

207 KEW OBSERVATORY: Lat. 51°28′6″N. Long. 0°18′47″W. Height above M.S.L. 5m. 1939

	Compo-nent	Phase	G.M.T.	Period	Ampli-tude	Δ	Remarks
			h. m. s.	sec.	μ	Km.	
May 22	Z	ePP	1 55 21	..	..	13500	
	NE	ePS	2 5 25	..	..	..	
	NE	eL	31 30	..	..	..	
	Z	eL	42 0	..	..	..	
	Z	eL	3 42 0	..	..	..	By path greater than 180°
		F	4 10	..	..	..	
22	ZE	eL	7 7	..	..	..	
		F	30	..	..	..	
22	–	–	9 4 to	..	..	..	No record on Galitzin instruments
			12 0	..	..	..	
23	ZE	eP	4 29 21	..	..	6940	Very small
	ZE	e	45	..	..	..	
	ZN	e	31 35	..	..	..	Arabian Sea 10°N. 60°E.
	NE	eS	37 58	..	..	..	(Strasbourg)
	N	eL	5 6	..	..	..	Surface waves very
		F	5 40	..	..	..	small
23	ZN	e	19 13 35	..	..	..	Very small
	ZN	e	25 35	..	..	..	Confused by microseisms
		F	40	..	..	..	
24	–	–	10 48 to	..	..	..	No record on Galitzin
25			10 7	..	..	..	instruments
25	–	–	11 11 to	..	..	..	No record on Galitzin
			50	..	..	..	instruments
25	–	–	13 13 to	..	..	..	No record on Galitzin
			14 0	..	..	..	instruments
25	–	–	14 58 to	..	..	..	No record on Galitzin
			15 42	..	..	..	instruments
26	Z	eP	9 50 42	..	..	6620	Very small
	E	eP_cP	51 26	..	..	..	
	Z	ePP	53 0	..	..	..	
	Z	ePPP	54 29	..	..	..	
	ZNE	eS	58 51	..	..	..	
	–	–	– –	..	..	..	10·02 to 10·11 missed while changing records
	Z	e	10 11 39	..	..	..	
	Z	iSS	13 17	..	..	..	Probably near Lake
	Z	i	15 19	..	..	..	Baikal
	ZE	eSSS	15 31	..	..	..	(Strasbourg)
	NE	eL_Q	16 0	..	..	..	
	Z	eL_R	18 0	..	..	..	
	N	M	19 22	16	+11	..	
	Z	M	19 34	15	+11	..	
	E	M	20 40	12	+8	..	
		F	11 20	..	..	..	
26	Z	ePP	18 10 53	..	..	13400	Very small
	Z	eSKKS	17 59	..	..	..	
	ZNE	ePS	20 52	..	..	..	
	Z	e	37 23	..	..	..	
	NE	eL	47	..	..	..	
	Z	eL	56	..	..	..	
		F	20 45	..	..	..	
27	Z	iP	3 57 14	..	..	8300	Focal depth 75 Km.
	ZNE	ipP	57 32	..	..	..	
	N	isP	45	..	..	..	25°N. 95°E. (Strasbourg)
	Z	e	58 25	..	..	..	

Galitzin seismographs, three components

207 KEW OBSERVATORY: Lat. 51°28′6″N. Long. 0°18′47″W. Height above M.S.L. 5m. 1939

	Compo-nent	Phase	G.M.T.	Period	Ampli-tude	Δ	Remarks
May			h. m. s.	sec.	μ	Km.	
27	NE	iS	4 6 38	..	..	..	iP from short-period
contd.	N	ipS	7 11	..	..	..	vertical instrument
	E	isS	7 15	..	..	..	only
	N	iPS	7 26	..	..	..	
	NE	e	7 54	..	..	..	
	E	eSS	11 55	..	..	..	
	NE	eSSS	15 29	..	..	..	
	Z	e	18 21	..	..	..	
	ZNE	eL	22 35	..	..	..	
	Z	e	33 25	..	..	..	
		F	5 25	..	..	..	
27	–	–	21 46	..	..	..	Galitzin vertical compo-nent ceased recording
28	–	–	10 18 to	..	..	..	No record on Galitzin
			12 55	..	..	..	instruments
30	NE	eL	1 22	..	..	..	Very small
		F	30	..	..	..	
30	NE	eS	10 23 0	..	..	..	No vertical component
	N	eS_cS	25 44	..	..	..	record
	NE	eSS	26 40	..	..	..	
	N	eL	33 54	..	..	..	
		F	11 20	..	..	..	
31	NE	eS	0 32 29	..	..	..	No vertical component
	N	i(L)	35 49	..	..	..	record. E, e
	NE	i	37 16	..	..	..	37·8°N. 22·1°E. (Athens)
		F	55	..	..	..	Structural damage at Kalacryta
31	NE	eL	19 46	..	..	..	Very small
		F	59	..	..	..	
June							
1	NE	eL	1 20 39	..	..	..	Very small
		F	30	..	..	..	
2	E	ePP	3 52	..	..	..	No vertical component
	E	eSKS	57 55	..	..	..	record. Felt in
	NE	e(S)	58 57	..	..	..	Mindanao and Yolo
	NE	eL	24	..	..	..	(Phillipine Is.)
		F	5 40	..	..	..	
2	NE	e(S)	14 20 8	..	..	..	No vertical component
	NE	e(L)	23 23	..	..	..	record
	NE	e	25 24	..	..	..	
		F	30	..	..	..	
3	–	–	10 4	..	..	..	Galitzin vertical compo-nent restarted recording
	Z	e	0 43 57	..	..	..	Very small
	Z	e	53 22	..	..	..	
		F	1 45	..	..	..	
4	Z	e(PKP)	12 17 16	..	..	..	Very small
	ZNE	eL	13 24	..	..	..	
		F	14 20	..	..	..	
4	ZNE	eL	16 22	..	..	..	
		F	50	..	..	..	
5	Z	iP	23 9 33	..	..	..	
	NE	$e(P_cS)$	16 38	..	..	..	39°N. 37°W.
	NE	e(L)	17 53	..	..	..	(Strasbourg)
	Z	e(L)	18 46	..	..	..	
		F	55	..	..	..	

Galitzin seismographs, three components

207 KEW OBSERVATORY: Lat.51°28′6″N. Long.0°18′47″W. Height above M.S.L. 5m. 1939

	Compo-nent	Phase	G.M.T.	Period	Ampli-tude	Δ	Remarks
June			h. m. s.	sec.	μ	Km.	
7	NE	eL	2 2	..	..	..	
		F	40	..	..	..	
7	ZNE	eL	20 37	..	..	..	
		F	47	..	..	..	
8	ZNE	eL	2 22	..	..	..	
		F	50	..	..	..	
8	ZNE	eL	16 30	..	..	..	
		F	17 30	..	..	..	
8	Z	iPKP	21 6 17	..	..	15500	Compression
	NE	epPKP	37	..	..	..	Focal depth about
	Z	isPKP	49	..	..	..	100 Km. 15°S. 173°W.
	Z	ePP	9 34	..	..	..	(U.S.C.G.S.)
	NE	eSKP	47	..	..	..	
	Z	epPP	54	..	..	..	
	N	e	10 1	..	..	..	
	Z	esPP	10	..	..	..	
	NE	e	29	..	..	..	
	NE	e	55	..	..	..	
	N	e	11 20	..	..	..	
	E	ePPP	12 49	..	..	..	
	ZN	eSKS	13 9	..	..	..	
	N	e	17 17	..	..	..	
	NE	e(SS)	28 15	..	..	..	
	E	ePSS	55	..	..	..	
	E	e	30 21	..	..	..	
	E	eSSS	34 11	..	..	..	
	ZNE	eL	52	..	..	..	
		F	23 15	..	..	..	
9	ZNE	eL	1 3	..	..	..	
		F	25	..	..	..	
9	E	eL	20 6	..	..	..	
		F	40	..	..	..	
10	E	eL	9 7	..	..	..	
		F	25	..	..	..	
12	Z	iP	4 15 12	..	..	6520	
	Z	eP_cP	16 11	..	..	..	22°N. 66°W. (U.S.C.G.S.)
	Z	e	16 35	..	..	..	
	E	eP_cS	20 10	..	..	..	
	NE	eS	23 16	..	..	..	Felt in Porto Rico
	NE	eS_cS	25 11	..	..	..	
	NE	eSS	27 20	..	..	..	
	E	eSSS	29 20	..	..	..	
	NE	eL	32	..	..	..	
	Z	eL_R	33	..	..	..	
	E	M	33 39	26	+26	..	
	N	M	39 28	17	+12	..	
		F	5 40	..	..	..	
13	Z	e(PKP)	20 58	..	..	(13500)	
	NE	e(SKKS)	21 8	..	..	..	
	NE	eL	36	..	..	..	
		F	22 0	..	..	..	
16	ZNE	eL	22 36	..	..	..	
		F	48	..	..	..	
17	ZNE	eL	13 20	..	..	..	
		F	14 20	..	..	..	

Galitzin seismographs, three components

207 KEW OBSERVATORY: Lat.51°28′6″N. Long.0°18′47″W. Height above M.S.L. 5m. 1939

	Compo-nent	Phase	G.M.T.	Period	Ampli-tude	Δ	Remarks
June			h. m. s.	sec.	μ	Km.	
18	NE	eL	4 40	..	..	..	
	Z	eL	49	..	..	..	
		F	5 10	..	..	..	
18	NE	e(L)	12 55	..	..	..	
	Z	e	58	..	..	..	
		F	13 10	..	..	..	
18	Z	i(P)	16 58 2	..	..	(8600)	Felt in Costa Rica
	Z	i(P_cP)	16	..	..	..	
	NE	e(S)	17 7 52	..	..	..	
	ZNE	eL	24	..	..	..	
		F	55	..	..	..	
19	Z	e(P)	22 8 28	..	..	..	
	NE	eL	34	..	..	..	
	Z	eL	39	..	..	..	
		F	23 25	..	..	..	
20	ZNE	eL	13 20	..	..	..	
		F	35	..	..	..	
22	Z	iP	19 27 52	..	..	5180	
	Z	e	29 18	..	..	..	
	N	iPP	29 41	..	..	..	Z, e
	ZN	eP_cS	33 22	..	..	..	Destructive at Accra (Gold Coast)
	ZE	iS	34 44	..	..	..	
	N	i(PS)	48	..	..	..	
	E	iS_cS	37 35	..	..	..	
	NE	e	52	..	..	..	5°N. 1°W. (U.S.C.G.S.)
	ZE	eSS	38 10	..	..	..	
	ZE	eL_Q	39 16	..	..	..	
	Z	eL_R	41 20	..	..	..	
	E	M	45 48	18	−70	..	
	N	M	46 0	22	−54	..	
	Z	M	48 54	14	+41	..	
		F	21 30	..	..	..	
24	ZNE	eL	0 35	..	..	..	Near Samoa (Pasadena)
		F	1 5	..	..	..	
24	ZNE	eL	5 7	..	..	..	
		F	30	..	..	..	
27/28	Z	eP	23 18 33	..	..	..	
	Z	ePP	22 58	..	..	..	
	Z	e	23 38	..	..	..	
	Z	ePPP	25 15	..	..	..	
	ZE	eSKS	29 14	..	..	..	8°N. 128°E. (U.S.C.G.S.)
	NE	e(S)	30 46	..	..	..	
	ZNE	ePS	31 57	..	..	..	Felt in Phillipine Is.
	Z	ePPS	33 0	..	..	..	
	ZE	e	33 38	..	..	..	
	ZE	e	34 14	..	..	..	
	Z	e	38 15	..	..	..	
	E	eSS	38 46	..	..	..	
	Z	e	49 58	..	..	..	
	NE	eL	54	..	..	..	
	Z	eL	0 2	..	..	..	
	E	M	6 11	24	−33	..	
	N	M	10 21	21	−19	..	
	Z	M	29	23	+23	..	
		F	1 40	..	..	..	
29	ZNE	eL	21 32	..	..	..	
		F	22 5	..	..	..	

Galitzin seismographs, three components

207 KEW OBSERVATORY: Lat. 51°28′6″N. Long. 0°18′47″W. Height above M.S.L. 5m. 1939

	Compo-nent	Phase	G.M.T.	Period	Ampli-tude	Δ	Remarks
July			h. m. s.	sec.	μ	Km.	
2	Z	ePKP	17 12 13	..	..	..	Very small
	Z	e	23	..	..	..	
	Z	eL	18 18	..	..	..	
		F	27	..	..	..	
2	Z	eL	20 25	..	..	..	Very small
		F	45	..	..	..	
2/3	Z	e	23 53 45	..	..	..	Adriatic Sea (Trieste)
	NE	e	53 57	..	..	..	
	Z	e	54 17	..	..	..	
		F	0 10	..	..	..	
4	Z	e	18 39 45	..	..	10300	Focal depth about 300 Km.
	Z	epP	40 4	..	..	..	
	Z	esP	34	..	..	..	
	Z	epPP	43 38	..	..	..	
	Z	esPP	44 18	..	..	..	23°S. 67°W. Focal depth
	NE	eSKS	48 57	..	..	..	300–400 Km.
	ZNE	eSKKS	49 3	..	..	..	(U.S.C.G.S.)
	N		22	..	..	..	
	N	eS	29	..	..	..	
	ZN	epSKS	50 36	..	..	..	
	ZN	eSP	50	..	..	..	
	NE	epS	51 9	..	..	..	
	N	ePS	33	..	..	..	
	ZNE	ePPS	52 41	..	..	..	
	Z	eSS	55 38	..	..	..	
	N	esSS	57 36	..	..	..	
	NE	e	19 1	..	..	..	
	Z	eL	5	..	..	..	Surface waves poorly
		F	20 35	..	..	..	developed
5/6	Z	$ePKP_1$	22 59 44	..	..	16500	Focal depth about 600 Km.
	Z	i	48	..	..	..	
	Z	$iPKP_2$	23 0 1	..	..	..	
	Z	$epPKP_1$	2 16	..	..	..	23°S. 178°E. Focal depth
	ZN	$epPKP_2$	24	..	..	..	600 Km.
	NE	e(SKP)	43	..	..	..	(New Zealand)
	Z	e(PKS)	3 22	..	..	..	
	N	ePP	49	..	..	..	
	ZN	epPP	5 30	..	..	..	
	ZN	e	49	..	..	..	
	ZN	ePPP	7 2	..	..	..	
	N	epPPP	9 16	..	..	..	
	ZN	e(sPPP)	10 6	..	..	..	
	Z	e	13 18	..	..	..	
	NE	ePSKS	13 42	..	..	..	
	N	epPS	16 0	..	..	..	
	Z	ePPS	50	..	..	..	
	E	eSS	21 58	..	..	..	
	NE	eSSS	26 56	..	..	..	
	NE	eL	39	..	..	..	Surface waves poorly
	Z	eL	46	..	..	..	developed
		F	1 10	..	..	..	
6	Z	e(PKP)	1 24 42	..	..	..	Very small
	Z	e	27 10	..	..	..	Recorded by short-period
				..	..	..	vertical instrument only
6	ZNE	eL	4 26	..	..	..	Small
		F	35	..	..	..	
8	ZNE	eL	3 24	..	..	..	
		F	40	..	..	..	

Galitzin seismographs, three components

207 KEW OBSERVATORY: Lat.51°28′6″N. Long.0°18′47″W. Height above M.S.L. 5m. 1939

	Compo-nent	Phase	G.M.T.	Period	Ampli-tude	Δ	Remarks
July			h. m. s.	sec.	μ	Km.	
12	Z	iP	20 20 38	..	..	8900	
	NE	eS	30 43	..	..	..	
	NE	eL_Q	50	..	..	..	Very small
	Z	eL_R	52	..	..	..	
		F	21 30	..	..	..	
12	ZE	eP	23 8 19	..	..	2260	
	N	eS	12 4	..	..	..	
	N	e	13 29	..	..	..	
	ZNE	e(L)	15	..	..	..	
		F		..	..	..	Overlapped by next shock
12/13	Z	ePP	23 18 53	..	..	13200	
	Z	ePPP	21 27	..	..	..	4°S. 140°E.
	ZNE	ePS	28 37	..	..	..	(New Zealand)
	N	eSS	35½	..	..	..	
	NE	eL_Q	52	..	..	..	
	Z	eL_R	0 6	..	..	..	
	E	M	2 24	26	+10	..	
	N	M	3 4	32	+20	..	
	Z	M	16 13	18	−11	..	
		F	1 50	..	..	..	
13	NE	eL	17 56	..	..	..	
	Z	eL	18 1	..	..	..	
		F	45	..	..	..	
14	Z	iP	8 43 17	..	..	8300	
	Z	$e(P_cP)$	26	..	..	..	
	E	eS	52 53	..	..	..	
	E	e	53 5	..	..	..	
	NE	e(SS)	58	..	..	..	
	NE	eL_Q	9 6	..	..	..	Long waves small
	Z	eL_R	10	..	..	..	
		F	10 15	..	..	..	
16	ZNE	eL	9 30	..	..	..	
		F	10 15	..	..	..	
16	Z	eP	12 34 32	..	..	9000	Small
	Z	e	37 2	..	..	..	
	Z	ePP	38 8	..	..	..	
	N	eS	45 8	..	..	..	
	E	eSS	51 12	..	..	..	
	NE	eL_Q	58	..	..	..	
	Z	eL_R	13 1	..	..	..	
		F	14 10	..	..	..	
18	Z	eP	3 37 56	..	..	8000	
	Z	$e(P_cP)$	38 49	..	..	..	
	Z	ePP	40 35	..	..	..	49°N. 130°W.
	Z	ePPP	42 48	..	..	..	(U.S.C.G.S.)
	NE	eS	47 16	..	..	..	
	E	e(PS)	48 6	..	..	..	
	N	$e(S_cS)$	48 32	..	..	..	
	NE	eSS	51 42	..	..	..	
	NE	eSSS	55 37	..	..	..	
	NE	eL_Q	56	..	..	..	
	Z	eL_R	59	..	..	..	
	N	M	4 8 7	16	−26	..	
	Z	M	18	17	−39	..	
	E	M	22	17	+24	..	
		F	6 40	..	..	..	
18	ZNE	eL	12 10	..	..	..	Very small
		F	13 0	..	..	..	

Galitzin seismographs, three components

207 KEW OBSERVATORY: Lat. 51°28′6″N. Long. 0°18′47″W. Height above M.S.L. 5m. 1939

	Compo-nent	Phase	G.M.T.	Period	Ampli-tude	Δ	Remarks
July			h. m. s.	sec.	μ	Km.	
19/20	Z	ePKP	23 35 45	..	..	(18000)	Very small
	Z	ePP	39 51	..	..	..	
	Z	e	53 11	..	..	..	
	N	eSS	0 0 11	..	..	..	
	NE	eL	35	..	..	..	
	Z	eL	45	..	..	..	
		F	1 30	..	..	..	
20	Z	$iPKP_1$	2 41 40	..	..	16000	Focal depth about
	Z	i	47	..	..	..	600 Km. N,E, e
	Z	$iPKP_2$	55	..	..	..	
	Z	e	59	..	..	..	
	Z	ePP	44 11	..	..	..	22·6°S. 177°W. Focal
	Z	e	45 21	..	..	..	depth 650–700 Km.
	Z	e(SKKS)	48 59	..	..	..	(J.S.A.)
	N	e(SKKP)	51 13	..	..	..	
	Z	e(PS)	55 8	..	..	..	
	N	eSPP	41	..	..	..	
	Z	e(sPS)	57 51	..	..	..	
	N	e(SS)	58 55	..	..	..	
	E	e(SSS)	3 3 51	..	..	..	
	N	e	8 35	..	..	..	
	Z	e	15 11	..	..	..	
	ZNE	eL	25	..	..	..	Surface waves poorly
		F	4 40	..	..	..	developed
20	ZNE	eL	17 26	..	..	..	Very small
		F	18 20	..	..	..	
23	ZNE	eL	16 2	..	..	..	Small
		F	50	..	..	..	
24	NE	eL	22 19	..	..	..	
		F	40	..	..	..	
25	N	eP	3 45 37	..	..	2690	Small
	NE	eS	49 57	..	..	..	
	N	e	53 15	..	..	..	
	NE	eL	54	..	..	..	
		F	4 27	..	..	..	
25	NE	eL	15 35	..	..	..	
		F	45	..	..	..	
26	NE	eL	5 29	..	..	..	
		F	35	..	..	..	
27	NE	e	5 33 24	..	..	..	Very small
	NE	eL	6 0	..	..	..	
		F	25	..	..	..	
27/28	E	e	23 49 33	..	..	..	Small
	NE	eL	0 12	..	..	..	
		F	40	..	..	..	
28	N	e	10 18 12	..	..	..	Very small
	NE	e(S)	22 24	..	..	..	No vertical component
	NE	eL	26	..	..	..	record
		F	11 0	..	..	..	
28	NE	e(S)	16 15 52	..	..	..	Very small
	NE	eL	20	..	..	..	No vertical component
		F	50	..	..	..	record
31	ZNE	eL	13 47	..	..	..	Small
		F	14 0	..	..	..	
31	NE	eL	19 29	..	..	..	
		F	55	..	..	..	

Galitzin seismographs, three components

207 KEW OBSERVATORY: Lat. 51°28′6″N. Long. 0°18′47″W. Height above M.S.L. 5m. 1939

	Compo-nent	Phase	G.M.T.	Period	Ampli-tude	Δ	Remarks
Aug.			h. m. s.	sec.	μ	Km.	
2	Z	eP	0 59 20	..	..	9380	
	Z	e(PcP)	36	..	..	..	
	Z	e	1 0 30	..	..	..	
	Z	ePP	2 18	..	..	..	
	Z	e	9 19	..	..	..	
	N	eS	49	..	..	..	
	N	e	11 1	..	..	..	
	N	eSS	15 33	..	..	..	
	NE	eL_Q	23 17	..	..	..	
	Z	eL_R	29	..	..	..	
		F	3 27	..	..	..	
2	NE	eL	9 36	..	..	..	
		F	46	..	..	..	
2	Z	eP	13 11 23	..	..	2600	Probably in Asia Minor
	NE	eS	15 36	..	..	..	
	ZN	e	55	..	..	..	
	N	e	19 6	..	..	..	
	NE	eL_Q	20	..	..	..	
	Z	eL_R	21	..	..	..	
		F	40	..	..	..	
3	Z	e	2 48 12	..	..	..	Small
	ZNE	eL	3 50	..	..	..	
		F	4 55	..	..	..	
3	Z	iP	12 38 2	..	..	2720	Asia Minor (Zurich)
	NE	eS	42 24	..	..	..	
	NE	e	38	..	..	..	
	N	e	44 6	..	..	..	
	N	e	45 34	..	..	..	
	ZNE	eL	47	..	..	..	
	N	M	46 48	13	−13	..	
		F	13 20	..	..	..	
5	ZNE	eL	21 22	..	..	..	
		F	30	..	..	..	
8	NE	eL	0 45	..	..	..	
	Z	eL	52	..	..	..	
		F	1 0	..	..	..	
9	ZNE	eL	3 41	..	..	..	Felt at Bari, Southern Italy (Prato)
		F	4 0	..	..	..	
9/10	Z	eP	23 48 58	..	..	2750	Very small
	ZNE	eS	53 22	..	..	..	
	NE	eL_Q	57 30	..	..	..	
	Z	eL_R	58	..	..	..	
		F	0 20	..	..	..	
12	Z	iPKP	2 26 40	..	..	15500	Focal depth about 200 Km.
	Z	epPKP	27 31	..	..	..	
	Z	ePP	29 55	..	..	..	13°S. 169°E., Focal depth 150–200 Km.
	Z	e	59	..	..	..	
	Z	eSKP	30 5	..	..	..	(U.S.C.G.S.)
	ZN	epPP	47	..	..	..	
	Z	e(sPKS)	31 43	..	..	..	
	N	e(SKKS)	36 31	..	..	..	
	Z	epPS	41 15	..	..	..	
	N	e	44 25	..	..	..	Surface waves poorly developed
		F	4 35	..	..	..	
12	Z	iP	10 2 7	..	..	8870	
	NE	eS	12 11	..	..	..	45°N. 143°E. (U.S.C.G.S.)

SEISMOLOGICAL DIARY

Galitzin seismographs, three components

207 KEW OBSERVATORY: Lat.51°28′6″N. Long.0°18′47″W. Height above M.S.L. 5m. 1939

	Compo-nent	Phase	G.M.T.	Period	Ampli-tude	Δ	Remarks
Aug.			h. m. s.	sec.	μ	Km.	
12	NE	eL_Q	10 27	..	..	..	
contd.	Z	eL_R	30	..	..	..	
		F	12 0	..	..	..	
16	NE	eL	17 37	..	..	..	
	Z	eL	41	..	..	..	13°N. 91°W.(U.S.C.G.S.)
		F	18 35	..	..	..	
17	ZNE	eL	16 35	..	..	..	
		F	50	..	..	..	
18	NE	eL	5 16	..	..	..	
		F	28	..	..	..	
18/19	Z	$iPKP_1$	22 35 38	..	..	16000	Focal depth about
	Z	$iPKP_2$	42	..	..	..	100 Km.
	Z	e	54	..	..	..	18°S. 168°E.(U.S.C.G.S.)
	ZN	epPKP	36 16	..	..	..	
	ZN	esPKP	30	..	..	..	
	ZN	ePP	39 2	..	..	..	
	ZN	ePKS	24	..	..	..	
	N	e	40 24	..	..	..	
	Z	e	59	..	..	..	
	Z	e	41 22	..	..	..	
	N	e	44 8	..	..	..	
	N	eSKKP	47 12	..	..	..	
	Z	epSP	50 4	..	..	..	
	N	eSPP	51 14	..	..	..	
	NE	eSS	58 6	..	..	..	
	N	e	23 1 46	..	..	..	
	N	eSSS	3 56	..	..	..	
	N	e	19 42	..	..	..	
	NE	eL_Q	24	..	..	..	
	Z	eL_R	30	..	..	..	
	N	M	40 41	20	-15	..	
		F	1 0	..	..	..	
19	Z	i(PKP)	1 7 10	..	..	..	Probably repetition of
	N	e	13 0	..	..	..	preceding shock
	NE	eL	2 0	..	..	..	
	Z	eL	7	..	..	..	
		F	3 20	..	..	..	
21	NE	e	15 41	..	..	..	Small
	NE	eL	45	..	..	..	
		F	16 55	..	..	..	
21	NE	eL	19 46	..	..	..	Very small
		F	20 15	..	..	..	
22	N	e(P)	0 18 59	..	..	..	Small
	NE	e(S)	29 19	..	..	..	
	NE	eL	48	..	..	..	
		F	1 35	..	..	..	
22	ZNE	e	12 56 59	..	..	..	Very small
	N	e	57½	..	..	..	Adriatic Sea (Zurich)
		F	13 5	..	..	..	
23	Z	e	4 55 53	..	..	..	Small
	NE	eL	5 45	..	..	..	
		F	7 5	..	..	..	
25	Z	iPKP	4 7 18	..	..	..	Felt in New Guinea
	ZN	e	10½	..	..	..	(Riverview)
	NE	eL	40	..	..	..	
		F	6 0	..	..	..	

Galitzin seismographs, three components

207 KEW OBSERVATORY: Lat.51°28′6″N. Long.0°18′47″W. Height above M.S.L. 5m. 1939

	Compo-nent	Phase	G.M.T.	Period	Ampli-tude	Δ	Remarks
Aug.			h. m. s.	sec.	μ	Km.	
26	NE	eL	4 17	..	..	..	Very small
		F	35	..	..	..	
30	N	e	0 33 58	..	..	..	Very small
	N	e	38 16	..	..	..	
	ZNE	eL	49	..	..	..	
		F	1 25	..	..	..	
Sept.							
2	Z	e(PKP)	9 18 9	..	..	..	
	N	i(PKS)	21 51	..	..	..	
	ZNE	eL	10 3	..	..	..	
		F	11 10	..	..	..	
3	Z	e(SKS)	8 9 25	..	..	..	Felt in Phillipines
	N	eL	32	..	..	..	(Manila)
	ZE	eL	37	..	..	..	
		F	9 3	..	..	..	
6	ZNE	eL	11 50	..	..	..	
		F	12 5	..	..	..	
8	ZN	e	12 16 40	..	..	8600	Small movement
	ZN	iP	48	..	..	..	Large movement. e, E
	ZN	ipP	17 9	..	..	..	Focal depth about 75 Km.
	ZN	isP	15	..	..	..	
	ZN	i	47	..	..	..	
	Z	e	19 3	..	..	..	
	Z	e	19 49	..	..	..	
	Z	e	23 13	..	..	..	
	Z	e	25 10	..	..	..	
	ZNE	iS	26 37	..	..	..	Large movement
	NE	isS	27 3	..	..	..	
	NE	i	25	..	..	..	
	N	e	31 10	..	..	..	
	N	iSS	32 6	..	..	..	51°N. 175°E. Focal depth
	N	isSS	45	..	..	..	about 60 Km.
	NE	eL_Q	38	..	..	..	(U.S.C.G.S.)
	ZNE	eL_R	40½	..	..	..	
	E	M	44 13	28	57	..	
	Z	M	52	25	–	..	
	N	M	52 5	24	92	..	
	ZNE	eL	14 30	..	..	..	By path greater than 180°
		F	16 20	..	..	..	
11	ZNE	eL	8 35	..	..	..	
		F	9 15	..	..	..	
12	Z	e(PKP)	12 26 10	..	..	..	Felt in Kermadec region
	ZNE	eL	13 25	..	..	..	(Wellington)
		F	14 20	..	..	..	
14	ZNE	eL	9 50	..	..	..	
		F	10 15	..	..	..	
15/16	ZE	iP	23 21 42	..	..	2690	Compression. eN
	NE	e	25 55	..	..	..	Small movement
	NE	iS	26 2	..	..	..	
	ZN	i	12	..	..	..	Asia Minor
	ZN	iSS	53	..	..	..	
	ZNE	eL	28 30	..	..	..	
		F	0 15	..	..	..	
17	ZN	eL	20 53	..	..	..	Very small
		F	21 12	..	..	..	Probably 53°S. 167°E.
							(Wellington)

Galitzin seismographs, three components

207 KEW OBSERVATORY: Lat. 51°28′6″N. Long. 0°18′47″W. Height above M.S.L. 5m. 1939

	Compo-nent	Phase	G.M.T.	Period	Ampli-tude	Δ	Remarks
Sept.			h. m. s.	sec.	μ	Km.	
18	Z	e	0 19 57	..	..	..	On short-period vertical
	N	i	20 36	..	..	..	eZ. (inst. only
	ZN	i	46	..	..	..	
	NE	i	58	..	..	..	Felt in Semmering
	N	i	21 9	..	..	..	district of Austria
	N	i	30	..	..	..	All pulses listed are
	ZN	i	57	..	..	..	after calculated
		F	40	..	..	..	arrival time of S_n
19	ZE	e(P)	3 31 58	..	..	(4450)	
	ZNE	e(S)	38 10	..	..	..	
	ZNE	eL	48	..	..	..	
		F	4 25	..	..	..	
20	Z	iP	0 24 3	..	..	2150	
	Z	i	14	..	..	..	eNE
	ZNE	i	21	..	..	..	Larger movement
	Z	i	43	..	..	..	Ionian Sea, 38°N. 18°E.
	NE	eS	27 39	..	..	..	(Zurich). Felt at
	NE	i	44	..	..	..	Patras
	N	i	48	..	..	..	eZ
	NE	i(SS)	28 4	..	..	..	
	Z	$i(P_cP)$	22	..	..	..	Long waves poorly
	N	e	43	..	..	..	developed
	N	i	30 28	..	..	..	
	NE	$i(P_cS)$	32 16	..	..	..	
		F	1 5	..	..	..	
20	Z	e(PKP)	7 48 30	..	..	..	Probably 53°S. 167°E.
	ZNE	eL	8 55	..	..	..	(Wellington)
		F	9 30	..	..	..	
21	Z	eP	11 23 29	..	..	2440	
	NE	eS	27 29	..	..	..	Epicentre probably in
	ZNE	eL	29	..	..	..	Atlantic
		F	45	..	..	..	
21	Z	eP	11 47 40	..	..	2430	Repetition of preceding
	NE	eS	51 39	..	..	..	shock
		eL	53 30	..	..	..	
		F	12 25	..	..	..	
21	ZE	iP	12 48 35	..	..	2460	eN
	ZE	i	40	..	..	..	Repetition of preceding
	NE	eS	52 37	..	..	..	shocks
	ZNE	eL	54	..	..	..	
		F	13 35	..	..	..	
21	ZNE	eL	22 8	..	..	..	Very small
		F	30	..	..	..	30°N. 114°W. (U.S.C.G.S.)
22	ZNE	iP (a)	0 41 37	..	..	2560	Dilatation. Amplitudes
	ZNE	iP (b)	43	..	..	..	of first movements as
	ZNE	ePP	42 11	..	..	..	read in mm. :-
	Z	e	45 3	..	..	..	Z = −1·0 N = −0·4 E = +0·6 (a)
	NE	$e(P_cP)$	37	..	..	..	Z = −4·0 N = −1·2 E = +1·9 (b)
	ZNE	iS	47	..	..	..	giving Azimuth = 123°
	E	iSS	46 17	..	..	..	Destructive near Smyrna
	Z	i	37	..	..	..	
	ZNE	eL	47 30	..	..	..	
	N	M	51 0	14	190	..	
	E	M	51 24	13	68	..	
	Z	M	51½	13	–	..	
		F	2 30	..	..	..	
25	ZNE	eL	16 40	..	..	..	Very small
		F	55	..	..	..	

Galitzin seismographs, three components

207 KEW OBSERVATORY: Lat. 51°28′6″N. Long. 0°18′47″W. Height above M.S.L. 5m. 1939

	Compo-nent	Phase	G.M.T.	Period	Ampli-tude	Δ	Remarks
Sept.			h. m. s.	sec.	μ	Km.	
30			10 30	..	..	..	Galitzin instruments
			24 0	..	..	..	out of action
Oct.							
1			0 0	..	..	..	Galitzin instruments
			10 45	..	..	..	out of action
2			10 15	..	..	..	Galitzin instruments
			14 0	..	..	..	out of action
7	Z	e(PKP)	21 3 10	..	..	(13500)	Very small
	ZE	e(PS)	15	..	..	..	
	Z	eL	50	..	..	..	
		F	22 15	..	..	..	
7	Z	eL	22 50	..	..	..	Very small
		F	23 5	..	..	..	
10	Z	iP	18 44 31	..	..	9800	Compression
	Z	i(P_cP)	42	..	..	..	
	Z	ipP	52	..	..	..	
	Z	isP	59	..	..	..	
	Z	iPP	47 53	..	..	..	(Focal depth about 75 Km.)
	Z	iPPP	49 45	..	..	..	
	Z	ipPPP	57	..	..	..	
	NE	iSKS	54 57	..	..	..	41°N. 143°E. (U.S.C.G.S.)
	ZNE	eS	55 5	..	..	..	
	ZE	epSKS	17	..	..	..	
	NE	ipS	25	..	..	..	
	NE	isS	37	..	..	..	
	E	eSS	19 0 39	..	..	..	
	E	eSSS	4 1	..	..	..	
	E	eL_Q	10½	..	..	..	
	ZNE	eL_R	15	..	..	..	
	E	M	17 30	27	+58	..	
	Z	M	26	20	(+140)*	..	* Approximate value
	N	M	30 43	14	−30	..	
		F	21 15	..	..	..	
13			15 10	..	..	..	No record on Galitzin
			21 10	..	..	..	instruments
15	ZE	e	4 57	..	..	..	Very small
		F	5 5	..	..	..	
15	Z	e(P)	14 7 51	..	..	(1100)	eP from short-period
	N	i(S_n)	9 47	..	..	..	vertical instrument only
	ZE	e(S*)	10 35	..	..	..	Felt in Carrara district,
	N	i(Sg)	11 4	..	..	..	Italy
	ZE	eL	12 26	..	..	..	
		F	25	..	..	..	
17	ZN	iPKP	6 41 27	..	..	15500	Compression, eE
	Z	i	45	..	..	..	
	Z	epPKP	42 7	..	..	..	Focal depth about 150 Km.
	Z	isPKP	25	..	..	..	
	Z	iPP	44 40	..	..	..	Azimuth about N
	N	iSKP	55	..	..	..	
	Z	i	45 4	..	..	..	
	N	iPKS	13	..	..	..	16°S. 168°E. Focal depth
	Z	ipPP	16	..	..	..	about 100 Km.
	N	isPP	39	..	..	..	(U.S.C.G.S.)
	ZN	i	46 19	..	..	..	
	ZN	ePPP	47 55	..	..	..	
	Z	i	48 47	..	..	..	
	NE	ipSKS	49 19	..	..	..	
	N	eSKKS	50 37	..	..	..	

Galitzin seismographs, three components

207 KEW OBSERVATORY: Lat. 51°28′6″N. Long. 0°18′47″W. Height above M.S.L. 5m. 1939

	Compo-nent	Phase	G.M.T.	Period	Ampli-tude	Δ	Remarks
			h. m. s.	sec.	μ	Km.	
Oct. 17 *contd.*	N	ipSKKS	6 51 19	..	..	..	
	N	ePS	54 55	..	..	..	
	Z	iPPP	56 19	..	..	..	
	Z	ipPPP	55	..	..	..	By path greater than 180°
	Z	isPPP	57 8	..	..	..	
	N	iSKKS	31	..	..	..	
	Z	i	59 11	..	..	..	
	Z	i	20	..	..	..	
	N	e	7 3 0	..	..	..	
	NE	isSS	13	..	..	..	
	N	i	4 46	..	..	..	
	N	eSSS	7 52	..	..	..	
	ZNE	eL	20	..	..	..	
	N	M	45 35	18	+6	..	
	Z	M	46 28*	24	−7*	..	* Approximate values
	E	M	46 30	21	+18	..	
	ZNE	eL	8 0	..	..	..	By path greater than 180°
		F	9 20	..	..	..	
19	Z	e	12 14 54	..	..	..	Small, confused by microseisms
	ZNE	eL	18	..	..	..	
		F	25	..	..	..	48°N. 70°W. (U.S.C.G.S.) Felt in Quebec province, Canada
19	Z	iP	22 37 58	..	..	2090	eN
	NE	iS	42 18	..	..	..	eZ
	ZE	e	44 54	..	..	..	Confused by microseisms
	NE	eL	45½	..	..	..	
	Z	eL	48	..	..	..	Probably Asia Minor
		F	23 0	..	..	..	
20	NE	eL	20 50	..	..	..	Very small. No Z record
		F	21 5	..	..	..	9°N. 83°W. (J.S.A.)
26	NE	e(P)	1 10 20	..	..	..	No Z record
	NE	e(L)	26	..	..	..	Small
		F	2 0	..	..	..	
Nov. 4	ZNE	eL	10 38	..	..	..	Early phases lost when changing record
		F	55	..	..	..	47°E. 32°N. (Zurich)
5	ZN	e(S)	2 18 59	..	..	..	
	N	i	25 51	..	..	..	ZE, e
	N	i(L)	26 9	..	..	..	Confused by large microseisms
		F	45	..	..	..	
7	ZNE	e(L)	4 41	..	..	..	Confused by microseisms
		F	50	..	..	..	Very small
8	N	e	17 46 0	..	..	..	Confused by microseisms
	ZNE	eL	50	..	..	..	Not very distant
	N	M	52 27	16	+12	..	
		F	18 0	..	..	..	
10	ZN	eL	18 28	..	..	..	Very small
		F	40	..	..	..	
10	ZN	eL	21 25	..	..	..	Very small
		F	50	..	..	..	Western New Guinea (Manila)
18	N	e(S)	1 54½	..	..	..	Confused by microseisms
	ZNE	eL	2 10	..	..	..	
		F	3 0	..	..	..	
20			14 45	..	..	..	No record during standardisation
			16 25	..	..	..	

Galitzin seismographs, three components

207 KEW OBSERVATORY: Lat. 51°28′6″N. Long. 0°18′47″W. Height above M.S.L. 5m. 1939

	Compo-nent	Phase	G.M.T.	Period	Ampli-tude	Δ	Remarks
Nov.			h. m. s.	sec.	μ	Km.	
21	Z	iP	8 55 8	..	..	3150	P and S small movements,
	N	iS	9 0 2	..	..	..	long waves larger in
	N	eL	3½	..	..	..	comparison
	N	iS_cS	5 52	..	..	..	Destructive in N.E.
	ZE	eL	7½	..	..	..	Anatolia
		F	45	..	..	..	
21	ZE	iP	11 10 30	..	..	..	eN Compression
	ZE	i	52	..	..	..	eN
	ZE	ipP	11 12	..	..	..	eN
	ZE	isP	42	..	..	..	eN
	ZE	i	14 21	..	..	..	
			16	..	..	..	} Record missing
			20 20	..	..	..	
	N	i	20 30	..	..	..	
	NE	iSS	21 36	..	..	..	Depth. about 200 Km.
	NE	i	42	..	..	..	Azimuth north of east
	N	e	22 6	..	..	..	
	Z	i	20	..	..	..	35°N. 71°E. Focal depth
	E	isSS	36	..	..	..	near 200 Km.
	Z	i	56	..	..	..	(U.S.C.G.S.)
	Z	i	23 16	..	..	..	Recording lights were
	ZN	i	25 56	..	..	..	cut off for about four
	N	i	26 52	..	..	..	minutes, during which
	N	i	30 0	..	..	..	S phases were lost
	N	i	50	..	..	..	
	N	i	31 5	..	..	..	
	Z	i	35 45	..	..	..	
		F	12 20	..	..	..	
21			14 15	..	..	..	No record during
			16 15	..	..	..	standardisation
21	ZN	eL	22 30	..	..	..	
		F	50	..	..	..	
25	ZN	eL	0 30	..	..	..	
		F	1 30	..	..	..	
25			9 45	..	..	..	No record on Galitzin
26			9 45				instruments
Dec.							
1	ZN	e	7 55	..	..	..	Confused by microseisms
		F	8 10	..	..	..	
5	Z	iP	8 42 18	..	..	8780	e, NE
	Z	iP_cP	23	..	..	..	
	Z	ePP	45 11	..	..	..	Confused by microseisms
	E	iS	52 17	..	..	..	e, ZN
	ZE	iSKS	36	..	..	..	
	E	eSS	57 16	..	..	..	
	E	eSSS	9 1 31	..	..	..	14·5°N. 92·5°W.
	N	eL_Q	4	..	..	..	(U.S.C.G.S.)
	ZE	eL_R	7	..	..	..	
	E	M	19 25	17	−31	..	
	Z	M	20 2	17	−43	..	
	N	M	21 14	16	−25	..	
		F	10 10	..	..	..	
16	ZN	iP	10 58 44	..	..	8880	Compression e, E
	Z	$i(P_cP)$	59	..	..	..	42°N. 147°E. Focal depth
	Z	e	59 52	..	..	..	may be about 80 Km.
	Z	e	11 0 32	..	..	..	(U.S.C.G.S.)
	Z	ePP	1 52	..	..	..	
	Z	ePPP	4 4	..	..	..	

Galitzin seismographs, three components

207 KEW OBSERVATORY: Lat. 51°28′6″N. Long. 0°18′47″W. Height above M.S.L. 5m. 1939

	Compo-nent	Phase	G.M.T.	Period	Ampli-tude	Δ	Remarks
Dec.			h. m. s.	sec.	μ	Km.	
16	NE	iS	11 8 48	..	..	..	
contd.	N	iSKS	57	..	..	..	
	ZNE	e(PS)	9 12	..	..	..	
	NE	i(PPS)	24	..	..	..	
	Z	e	54	..	..	..	
	N	e	10 40	..	..	..	
	N	eSS	14 1	..	..	..	
	N	e	19½	..	..	..	
	ZNE	eL_R	28½	..	..	..	
	Z	M	31 9	29	−45	..	
	N	M	32 32	28	+42	..	
	E	M	38 13	20	+15	..	
		F	12 15	..	..	..	
21	ZE	iP(a)	21 6 51	..	..	8630	Compression. eN
	ZE	iP_cP(a)	57	..	..	..	Azimuth about West
	Z	e	9 35	..	..	..	
	Z	iPP(a)	47	..	..	..	
	Z	i	10 43	..	..	..	eE
	Z	iPPP(a)	11 53	..	..	..	eNE
	Z	iP(b)	14 57	..	..	..	eNE
	E	iS(a)	16 43	..	..	..	
	N	iSKS(a)	17 3	..	..	..	
	NE	i	17	..	..	..	Two shocks according to U.S.C.G.S.
	E	iPS(a)	53	..	..	..	(a) 10°N. 85°W., T_o = 20h. 54·8m.
	Z	iPP(b)	19 37	..	..	..	Felt at San José, Costa Rica
	E	i	47	..	..	..	(b) 2°S. 122°E.
	ZNE	i	20 9	..	..	..	T_o = 21h. 00·5m.
	Z	i	21 5	..	..	..	
	N	i	25	..	..	..	
	ZN	i	59	..	..	..	
	E	i(PPP(b))	22 11	..	..	..	
	NE	iSS(a)	33	..	..	..	
	Z	i	23 3	..	..	..	
	NE	e	24 27	..	..	..	
	ZNE	eL(a)	30	..	..	..	
	N	M	22 12 18	21	+345	..	
	Z	M	27	20	−420	..	
	E	M	50	19	−140	..	
22		F	1 0	..	..	..	
22	ZE	iP	4 56 3	..	..	8710	Compression
	ZE	i	5 0 5	..	..	..	
	NE	iS	5 59	..	..	..	9·6°N. 85°W. (U.S.C.G.S.)
	E	iSKS	6 13	..	..	..	
	E	e(PPS)	52	..	..	..	Repetition of Costa Rica shock
	ZE	eSS	11 37	..	..	..	
	N	eL_Q	18	..	..	..	
	Z	i	19 19	..	..	..	
	ZE	eL_R	22½	..	..	..	
	Z	M	26 21	17	−34	..	
	N	M	31 46	20	+23	..	
	E	M	43 29	18	+25	..	
		F	− − −	..	..	..	Overlapped by next shock
22	ZE	e	7 18	..	..	..	
	ZNE	eL	35	..	..	..	
		F	8 15	..	..	..	
23	Z	e	17 43 55	..	..	..	
	ZNE	eL	55	..	..	..	
		F	18 15	..	..	..	
25	ZNE	e	6 47	..	..	..	Probably Asia Minor
		F	53	..	..	..	

Galitzin seismographs, three components

207 KEW OBSERVATORY: Lat.51°28′6″N. Long.0°18′47″W. Height above M.S.L. 5m. 1939

	Compo-nent	Phase	G.M.T.	Period	Ampli-tude	Δ	Remarks
Dec.			h. m. s.	sec.	μ	Km.	
25	Z	iP	12 57 19	..	..	2150	eE
	N	eS	13 0 55	..	..	..	Epicentre probably in Atlantic
	N	i	1 0	..	..	..	
	N	iL	37	..	..	..	
	ZE	eL	2½	..	..	..	
	N	M	3 31	13	+11	..	
		F	35	..	..	..	
25	ZNE	eL	17 30	..	..	..	
		F	18 0	..	..	..	
26	ZNE	eL	12 30	..	..	..	Confused by microseisms
		F	13 0	..	..	..	13·5°N. 88·4°W. (U.S.C.G.S.)
27	ZE	iP	0 3 26	..	..	3350	Dilatation
	ZNE	i	4 15	..	..	..	Very destructive in N.E. Anatolia
	Z	i	47	..	..	..	
	ZNE	i	7 9	..	..	..	From 0009 to 0020 hr.
	ZNE	iS	8 33	..	..	..	traces are not clearly
	ZNE	i	48	..	..	..	legible owing to rapid
	E	iL	12 19	..	..	..	large movements
	E*	M*	16½*	20	−1800	..	*True maxima exceed
		F	4 30	..	..	..	limit of registration, largest movement which can be definitely identified is given here
28	Z	iP	3 31 14	..	..	3110	iP from short-period
	NE	eS	36 5	..	..	..	instrument. Aftershock
	ZE	i	17	..	..	..	of Turkish earthquake
	ZNE	eL	42½	..	..	..	
		F	4 5	..	..	..	
29	ZNE	e	11 45	..	..	..	Confused by microseisms
		F	12 5	..	..	..	May be aftershock of Turkish earthquake

MICROSEISMS OF VERTICAL COMPONENT: AMPLITUDE (μ = 0·001 mm.) AND PERIOD
Derived from readings for the periods of thirty minutes centring at the exact hours, G.M.T.

	JANUARY								FEBRUARY								MARCH							
	0h.		6h.		12h.		18h.		0h.		6h.		12h.		18h.		0h.		6h.		12h.		18h.	
	A	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ
	μ	sec.	μ	sec.	μ	sec.	μ	sec.	μ	sec.	μ	sec.	μ	sec.	μ	sec.	μ	sec.	μ	sec.	μ	sec.	μ	sec.
1	1·5	5·7	1·4	7·7	1·7	5·6	1·6	7·0	1·4	4·8	1·5	4·6	0·5	4·8	0·5	5·7	2·8	7·0	3·1	7·3	2·9	6·5	3·0	7·3
2	1·7	7·0	1·9	6·5	1·8	6·3	2·1	6·5	0·7	5·7	0·7	5·6	0·3	5·7	0·6	6·0	2·8	6·7	3·1	7·3	2·2	6·7	3·6	6·7
3	2·1	7·0	2·8	7·3	2·7	7·7	3·2	7·0	0·6	6·0	0·6	6·0	0·8	6·5	0·9	5·2	3·2	7·0	2·8	6·7	1·6	6·7	2·1	6·5
4	3·2	6·5	2·5	7·0	2·8	7·0	3·0	6·5	1·0	5·7	1·2	5·0	1·3	5·7	1·5	5·6	1·8	6·0	2·9	6·5	2·1	6·3	1·6	6·5
5	3·2	6·5	2·4	6·3	1·8	6·0	1·6	6·0	1·3	6·3	1·0	6·0	1·5	6·0	1·3	6·0	1·9	6·5	1·4	6·5	1·4	6·5	1·6	6·5
6	1·4	6·3	1·6	7·7	1·6	6·7	1·6	6·7	1·1	6·3	1·1	6·0	1·1	6·5	1·1	6·0	1·6	6·5	1·6	7·0	1·7	7·0	1·6	6·3
7	1·4	6·7	2·2	7·0	2·4	7·0	1·9	7·3	1·0	5·6	1·6	7·7	1·5	6·0	2·8	8·3	1·6	7·0	1·6	6·7	2·2	7·7	2·0	7·7
8	3·8	6·7	3·8	6·7	3·2	8·0	1·7	6·7	3·2	8·0	1·6	8·0	3·2	8·3	3·1	7·7	2·2	7·7	1·9	7·0	1·9	6·7	2·7	6·7
9	3·4	6·0	2·7	6·5	3·2	6·0	4·2	6·0	3·0	8·0	3·1	7·7	1·9	8·0	3·1	6·0	2·6	6·0	1·6	6·5	1·6	6·5	2·1	6·5
10	2·0	5·7	3·2	5·4	1·8	5·6	1·7	5·7	3·0	8·0	3·0	8·0	1·6	6·0	3·0	7·7	1·6	6·7	1·6	6·5	1·6	6·5	1·4	6·5
11	1·8	4·8	1·7	5·2	1·5	4·6	1·5	4·6	3·0	8·0	2·8	8·3	3·1	7·7	4·4	7·7	1·4	6·5	1·4	6·7	1·6	7·0	1·7	7·3
12	1·1	4·6	1·4	4·8	0·8	6·0	0·8	6·0	1·9	7·7	3·7	7·7	1·6	6·0	4·1	6·5	1·6	7·0	2·1	7·0	1·6	7·0	1·4	7·3
13	0·8	6·0	1·0	5·7	0·5	5·7	0·5	5·2	3·2	6·5	3·3	6·5	2·1	7·0	1·7	6·5	1·6	7·0	1·4	7·0	1·6	7·0	1·4	6·7
14	0·8	6·0	0·7	4·8	0·3	5·0	0·4	4·8	1·4	6·5	1·3	6·3	1·3	6·5	1·1	6·0	1·3	6·3	0·8	7·0	1·0	6·5	0·6	6·5
15	0·5	6·0	1·7	5·7	3·2	6·5	4·4	7·3	1·0	6·3	0·6	6·0	1·3	6·0	1·6	6·0	0·8	6·5	0·8	5·7	1·0	5·7	0·9	7·0
16	4·4	8·0	4·7	7·7	3·8	8·0	3·2	6·5	1·7	7·0	6·4	9·0	5·1	8·0	3·4	7·7	1·3	7·0	1·4	6·3	1·1	6·3	0·8	6·0
17	3·1	7·7	1·8	6·0	1·7	5·2	1·6	6·0	3·1	6·0	3·2	6·0	2·2	7·0	1·9	7·0	1·0	6·3	0·5	6·5	0·3	6·0	0·8	7·7
18	1·6	6·0	1·4	8·0	1·8	6·0	1·9	6·0	1·9	6·0	1·6	6·7	2·1	6·7	2·2	7·3	0·5	7·0	0·3	6·7	0·3	6·5	···	···
19	1·8	6·0	1·7	5·7	1·4	7·0	3·0	7·7	1·4	7·0	1·6	6·7	2·9	6·5	3·0	8·0	0·3	6·0	0·3	6·0	1·4	7·7	1·4	8·0
20	3·1	7·7	2·8	8·3	3·3	7·7	3·6	9·3	3·3	8·0	3·0	8·0	1·7	7·7	2·2	7·7	1·4	7·7	1·6	7·0	1·4	6·7	1·4	7·7
21	6·3	9·3	5·2	8·0	3·0	8·0	2·4	8·0	1·6	6·7	1·6	7·3	1·9	7·0	3·8	6·7	2·0	7·7	2·5	7·0	1·7	8·0	2·8	7·0
22	2·2	8·0	3·0	8·0	3·1	7·7	3·1	7·7	3·9	7·7	3·2	8·0	3·0	7·7	3·0	7·7	3·1	7·7	3·2	7·0	5·1	9·7	9·7	8·7
23	3·2	8·0	5·1	8·0	4·7	8·0	2·5	7·5	3·0	8·0	2·5	7·7	1·9	8·0	3·1	7·7	7·5	8·7	5·4	8·3	3·0	7·7	1·4	7·7
24	3·0	6·7	2·1	6·5	1·6	6·7	1·4	6·3	3·1	7·7	3·1	7·7	2·2	8·0	2·1	6·0	1·7	7·0	1·6	6·7	1·4	6·5	0·8	5·7
25	1·6	6·5	(1·6)	(6·0)	1·6	6·3	1·6	6·5	2·1	6·0	2·2	7·7	1·4	7·0	4·5	7·7	0·5	5·6	0·5	6·0	0·7	5·4	0·5	5·2
26	3·1	6·3	3·2	6·3	1·8	6·0	1·7	5·0	6·3	8·0	6·5	8·7	6·5	8·7	9·5	9·0	0·4	4·8	0·4	4·3	0·4	4·6	0·6	4·3
27	1·5	5·7	1·5	5·2	0·3	6·0	0·5	6·3	6·6	8·0	6·3	8·0	4·7	8·0	3·5	8·0	0·3	5·0	0·4	4·7	0·2	4·7	0·2	5·2
28	0·3	5·0	0·2	5·7	0·2	6·5	0·9	5·2	3·1	6·0	3·1	7·7	3·2	7·0	3·2	7·0	0·3	5·6	0·5	6·0	0·7	5·7	0·5	5·4
29	1·6	6·0	1·5	5·7	1·3	5·7	1·5	5·7									0·5	5·7	0·5	5·7	0·3	5·2	0·3	5·2
30	1·5	6·0	1·5	6·0	1·5	5·7	1·4	6·3									0·5	5·2	0·5	5·4	0·4	4·3	0·2	4·6
31	0·8	6·0	1·0	6·0	0·3	5·6	0·5	4·8									0·4	4·3	0·4	4·7	0·2	5·2	0·2	4·8
Mean	2·2	6·5	2·2	6·5	2·0	6·5	2·0	6·4	2·4	6·8	2·5	7·1	2·2	6·9	2·7	6·9	1·6	6·5	1·5	6·4	1·4	6·5	1·6	6·5
Mean for days	*A* = 2·1 μ; *T*ρ = 6·5 sec.								*A* = 2·5 μ; *T*ρ = 6·9 sec.								*A* = 1·5 μ; *T*ρ = 6·5 sec.							

	APRIL								MAY								JUNE							
	0h.		6h.		12h.		18h.		0h.		6h.		12h.		18h.		0h.		6h.		12h.		18h.	
	A	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ
	μ	sec.	μ	sec.	μ	sec.	μ	sec.	μ	sec.	μ	sec.	μ	sec.	μ	sec.	μ	sec.	μ	sec.	μ	sec.	μ	sec.
1	0·2	5·2	0·3	6·0	1·3	8·7	1·6	9·0	0·2	5·2	0·2	4·8	0·3	5·7	0·3	6·0	···	···	···	···	···	···	···	···
2	1·6	8·7	1·6	8·0	1·7	8·3	1·4	8·0	0·3	6·0	0·3	5·7	0·5	5·2	0·2	5·2	···	···	···	···	···	···	···	···
3	0·5	5·2	1·3	7·0	0·5	4·8	0·5	4·8	0·2	5·4	0·2	5·7	0·2	4·8	0·4	4·8	···	···	···	···	0·4	4·0	0·2	4·0
4	0·7	5·6	1·2	5·2	1·5	5·4	1·2	5·6	0·3	5·0	0·3	5·0	1·3	8·0	0·9	7·3	0·5	5·3	0·8	4·0	0·7	5·0	0·9	6·7
5	1·4	5·0	1·5	5·2	0·8	5·4	···	···	0·8	7·0	1·4	6·7	1·6	7·0	1·4	7·0	0·8	7·0	0·9	7·0	0·6	7·0	0·5	7·0
6	1·2	4·8	0·3	5·2	0·2	5·2	0·2	4·3	1·6	7·0	1·4	6·5	1·1	6·7	1·0	6·0	0·3	5·0	0·3	5·0	0·5	5·0	0·3	5·0
7	0·2	4·3	0·2	4·3	0·2	3·7	0·2	4·2	1·3	6·0	1·3	6·7	1·4	6·7	0·5	6·3	···	···	···	···	···	···	0·4	4·0
8	0·4	4·3	0·2	4·8	0·4	4·5	0·2	4·8	0·5	6·5	0·2	6·3	0·2	5·0	0·2	4·8	0·4	4·0	0·4	4·0	···	···	0·4	4·0
9	0·2	4·3	0·4	4·3	0·2	4·8	0·3	5·0	0·2	4·5	0·2	4·8	0·2	6·3	0·2	5·0	0·4	4·0	0·4	4·0	0·6	4·0	0·6	4·0
10	0·2	4·6	0·3	5·2	1·1	7·3	0·8	7·0	0·2	5·0	0·2	5·7	0·2	6·3	0·2	5·0	0·8	4·0	0·7	5·0	0·7	5·0	0·7	5·6
11	1·3	6·7	0·5	6·7	1·3	6·3	1·1	6·5	0·2	5·2	0·2	5·0	0·2	6·0	0·3	6·5	0·5	5·6	0·5	5·0	0·7	4·7	0·7	4·6
12	0·8	6·3	0·6	6·5	1·2	7·7	0·5	7·0	0·3	6·5	0·3	5·2	0·2	4·6	0·2	5·2	0·7	4·5	0·8	4·0	···	···	0·4	4·0
13	0·3	7·0	0·5	6·0	1·3	8·0	1·3	8·0	0·2	5·0	0·2	4·8	0·2	5·8	0·2	4·8	0·4	4·0	0·6	4·0	0·6	4·0	0·6	4·2
14	1·4	8·0	1·4	7·7	1·2	7·5	1·3	6·3	0·2	4·8	0·2	4·8	0·2	4·8	0·2	4·8	0·6	4·0	0·6	4·0	0·7	4·5	0·4	4·0
15	1·1	6·3	0·6	6·5	0·5	5·0	0·5	6·0	0·2	4·2	0·2	4·2	0·2	3·4	0·2	3·4	0·8	4·0	0·7	5·6	0·8	4·0	1·0	5·3
16	0·5	5·7	0·3	5·6	1·0	5·2	1·3	7·0	0·2	3·4	0·2	3·0	0·2	3·4	0·2	4·0	1·0	5·3	1·0	5·3	1·1	6·5	1·1	6·0
17	3·0	8·0	3·1	7·7	1·6	6·3	1·6	6·5	0·2	4·2	0·2	4·8	0·2	4·0	0·2	3·8	1·3	6·0	1·0	6·0	1·0	5·3	0·7	5·3
18	0·8	6·3	0·5	6·3	···	···	···	···	0·2	4·2	0·2	4·2	0·2	3·7	0·2	4·3	0·7	5·3	1·0	5·6	0·8	5·3	0·7	5·5
19	···	···	···	···	1·1	6·0	1·4	6·5	0·2	5·2	0·2	5·0	0·2	5·0	0·2	4·6	0·6	6·0	0·7	5·5	0·7	5·6	0·5	5·0
20	1·0	6·0	0·6	6·3	0·8	6·3	0·8	6·0	0·2	4·8	0·2	4·8	0·2	4·8	0·2	5·2	0·5	4·5	0·4	4·5	0·4	4·5	0·3	5·0
21	0·8	6·0	0·3	5·6	0·2	5·7	0·2	5·0	0·2	4·6	0·2	4·8	0·2	4·8	0·2	4·8	0·4	4·0	0·6	4·0	0·9	3·5	0·6	4·5
22	0·2	4·6	0·2	4·8	0·4	4·8	0·5	4·6	0·2	4·8	0·2	5·0	0·2	5·2	0·2	5·0	0·7	4·6	0·9	5·0	0·7	5·0	0·9	4·5
23	0·6	4·3	0·4	4·3	0·4	4·6	0·4	4·6	0·3	5·7	0·3	6·0	0·5	6·0	1·0	6·0	0·8	4·2	0·5	4·5	0·4	3·5	0·6	4·0
24	0·4	4·6	0·7	5·0	0·5	5·0	0·4	4·8	1·3	6·3	1·3	6·5	···	···	···	···	0·5	4·6	0·9	5·0	0·7	5·0	0·7	5·0
25	0·6	6·0	1·0	6·5	1·0	6·0	1·0	5·7	···	···	···	···	0·3	5·7	0·5	6·0	0·7	5·0	0·8	5·4	0·7	5·2	0·5	5·0
26	0·3	5·2	0·3	5·2	0·3	5·2	0·2	5·0	0·8	6·7	0·5	6·0	0·3	6·3	0·5	5·6	0·5	5·5	0·4	4·5	0·4	4·7	0·4	4·5
27	0·2	5·2	0·2	5·0	0·2	5·0	0·2	4·8	0·5	5·7	0·3	5·7	0·2	5·7	0·2	5·7	0·4	4·3	0·5	5·0	0·5	5·0	1·0	4·3
28	0·2	5·2	0·2	4·0	0·2	5·2	0·2	6·0	···	···	···	···	···	···	···	···	···	···	0·9	4·5	···	···	0·7	4·5
29	0·2	4·6	0·2	5·7	0·2	4·6	0·2	5·7	···	···	···.	···	···	···	···	···	0·7	4·5	0·7	4·5	0·7	5·0	1·1	4·7
30	0·2	4·6	···	···	0·2	4·8	0·2	5·7	···	···	···	···	···	···	···	···	0·9	4·7	0·7	4·7	0·7	5·0	0·7	5·0
31									···	···	···	···	···	···	···	···								
Mean	0·7	5·6	0·7	5·7	0·7	5·8	0·7	5·9	0·4	5·3	0·4	5·3	0·4	5·4	0·4	5·3	0·6	4·8	0·7	4·8	0·7	4·8	0·6	4·8
Mean for days	*A* = 0·7 μ; *T*ρ = 5·7 sec.								*A* = 0·4 μ; *T*ρ = 5·3 sec.								*A* = 0·7 μ; *T*ρ = 4·8 sec.							

The symbol ··· indicates that microseisms were not measured, either by reason of occurrence of earthquake or lack of record.

MICROSEISMS OF VERTICAL COMPONENT: AMPLITUDE (μ = 0·001 mm.) AND PERIOD
Derived from readings for the periods of thirty minutes centring at the exact hours, G.M.T.

	JULY								AUGUST								SEPTEMBER							
	0h.		6h.		12h.		18h.		0h.		6h.		12h.		18h.		0h.		6h.		12h.		18h.	
	A	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ
	μ	sec.	μ	sec.	μ	sec.	μ	sec.	μ	sec.	μ	sec.	μ	sec.	μ	sec.	μ	sec.	μ	sec.	μ	sec.	μ	sec.
1	0·6	5·0	0·6	5·0	1·0	4·0	0·6	3·0	0·5	4·5	0·9	3·3	0·9	4·7	0·9	3·3	0·9	4·5	1·4	6·5	1·1	6·5	1·9	6·7
2	0·6	3·2	0·8	4·0	0·9	5·0	0·8	4·0	0·9	3·5	0·5	4·0	0·5	4·0	0·5	4·3	1·1	6·3	1·2	5·5	1·2	5·3	0·8	5·3
3	0·8	4·0	0·7	4·5	···	···	···	···	1·1	5·0	0·7	4·5	0·5	4·5	0·5	3·5	0·9	4·6	0·9	5·0	0·8	5·6	0·8	5·5
4	···	···	···	···	···	···	1·2	4·2	0·3	3·5	0·6	3·0	0·6	3·3	0·3	3·6	0·6	5·0	0·6	5·0	1·0	5·6	1·0	5·5
5	1·8	4·0	1·0	4·2	1·1	3·7	1·0	4·2	0·5	3·5	0·7	2·7	0·4	2·6	0·3	3·0	1·4	5·5	1·0	5·3	0·8	5·2	1·0	5·6
6	···	···	0·9	5·0	1·1	3·5	1·1	4·5	0·4	2·6	0·3	3·2	0·3	4·0	0·5	4·0	1·7	5·3	1·1	5·0	···	···	1·2	5·3
7	1·5	4·3	1·9	4·5	0·9	4·4	1·2	4·3	0·7	4·5	0·8	5·3	0·8	5·3	1·1	4·5	1·0	5·3	1·3	5·0	0·8	5·3	1·1	5·0
8	0·8	4·0	0·8	4·0	···	···	···	···	1·1	4·5	0·6	5·0	0·6	5·0	0·7	4·6	0·6	5·0	0·7	4·5	0·5	4·7	0·7	4·7
9	···	···	···	···	0·5	4·0	0·5	4·0	0·7	4·6	0·4	5·0	0·5	4·0	0·3	3·5	1·1	4·7	0·7	4·7	0·8	4·0	0·5	4·3
10	0·5	4·3	0·7	4·3	0·9	4·5	0·7	4·7	···	···	0·5	4·0	0·5	4·0	0·5	3·6	0·8	4·0	0·9	4·3	1·1	4·5	0·9	4·3
11	1·1	4·7	1·1	5·0	0·7	4·7	0·7	4·7	0·7	4·3	0·7	4·5	1·2	4·3	0·9	4·7	1·1	3·7	1·0	4·0	1·2	3·2	0·9	3·3
12	0·5	4·5	0·5	4·3	0·5	4·7	0·5	4·3	1·1	4·7	0·6	5·0	0·9	4·3	1·1	4·5	1·2	4·2	1·8	5·5	1·5	5·0	1·0	5·3
13	···	···	0·7	4·7	0·5	4·5	1·0	4·0	0·8	4·0	0·5	4·3	0·3	4·0	0·3	4·0	1·1	4·7	0·8	4·0	0·5	4·5	0·5	4·3
14	0·5	4·6	0·9	4·5	0·9	5·0	0·8	5·3	0·2	4·3	0·5	4·5	0·5	4·0	0·5	4·5	0·9	5·0	0·9	5·0	1·4	5·7	1·3	5·0
15	0·6	5·3	0·9	4·5	0·9	5·0	1·2	5·3	0·9	4·7	0·7	4·7	1·1	6·0	1·5	6·0	1·2	4·3	0·7	4·5	0·6	5·3	0·6	5·3
16	0·7	4·6	0·9	4·8	0·7	4·7	0·6	5·0	1·4	5·4	1·5	5·3	1·0	5·2	···	···	···	···	0·7	4·5	0·5	4·0	0·3	4·0
17	0·5	4·5	0·5	4·0	0·5	4·3	0·5	3·7	0·8	6·0	1·0	5·5	1·1	5·0	0·9	4·7	0·5	4·0	0·7	2·5	0·6	3·0	0·7	2·5
18	0·6	3·2	0·9	4·5	0·7	4·7	···	···	0·8	5·3	0·6	5·7	1·7	6·7	1·3	6·0	0·7	7·0	0·6	3·0	0·6	3·0	0·6	3·0
19	···	···	···	···	0·5	4·7	0·7	4·2	···	···	1·2	5·7	1·0	5·3	0·4	5·3	0·3	3·3	0·6	3·0	0·6	3·0	0·4	2·5
20	0·5	4·5	0·5	4·5	0·4	4·8	0·4	5·0	0·5	4·7	0·4	5·0	0·4	5·0	0·6	5·0	0·3	4·0	0·3	3·0	0·6	3·0	0·6	3·0
21	0·5	4·3	0·3	4·0	0·3	4·0	0·3	4·0	0·3	4·0	0·3	4·0	0·3	4·0	0·4	2·5	0·6	5·0	1·1	5·0	···	···	0·6	5·5
22	0·3	4·0	0·3	4·0	0·2	4·8	0·5	4·0	0·3	3·0	0·4	2·5	···	···	···	···	0·5	4·0	0·5	4·0	0·5	4·0	0·5	4·0
23	0·4	5·0	0·9	5·0	0·8	5·3	0·9	4·7	···	···	···	···	···	···	···	···	0·5	4·0	0·5	4·0	0·9	3·3	0·8	4·0
24	0·9	5·0	0·9	4·7	···	···	0·9	4·3	···	···	···	···	0·3	4·0	0·3	4·0	1·1	3·3	0·9	5·0	0·7	4·3	0·6	5·0
25	0·9	4·7	0·9	4·7	0·5	4·0	0·7	4·5	0·2	4·5	0·3	4·0	0·3	4·0	0·5	3·7	0·8	4·0	0·6	5·0	0·6	5·0	0·4	5·0
26	0·5	4·0	0·5	4·7	0·7	4·5	0·5	4·3	0·5	4·0	0·2	4·5	0·5	4·0	0·5	4·3	0·8	4·0	0·6	5·0	0·5	4·0	0·8	4·0
27	0·5	4·0	···	···	···	···	0·5	4·0	0·5	4·0	0·5	4·7	0·7	4·5	0·2	4·5	1·0	4·0	0·5	3·6	0·8	4·0	0·9	5·0
28	0·3	4·0	0·3	4·0	0·5	3·8	0·8	4·0	0·3	4·0	0·3	4·0	0·2	5·0	0·3	3·7	1·8	4·7	2·1	5·0	2·6	5·0	3·1	5·3
29	0·9	4·3	1·1	3·7	0·5	3·7	0·5	4·0	0·5	4·0	0·5	4·0	0·7	4·7	0·7	4·3	3·8	5·0	3·8	5·5	3·4	5·0	3·2	5·0
30	0·5	4·0	0·5	4·0	0·8	4·0	0·5	4·0	0·5	4·5	0·5	4·0	0·5	4·3	0·9	3·5	3·8	4·7	2·5	4·7	···	···	···	···
31	0·5	4·0	0·8	4·0	0·5	4·3	0·5	4·0	0·7	4·3	1·1	3·5	0·8	4·0	0·7	4·3								
Mean	0·7	4·3	0·8	4·4	0·7	4·4	0·7	4·3	0·6	4·3	0·6	4·3	0·7	4·5	0·6	4·2	1·1	4·6	1·0	4·5	1·0	4·5	1·0	4·6
Mean for days	*A* = 0·7 μ; *T*ρ = 4·3 sec.								*A* = 0·6 μ; *T*ρ = 4·3 sec.								*A* = 1·0 μ; *T*ρ = 4·5 sec.							

	OCTOBER								NOVEMBER								DECEMBER							
	0h.		6h.		12h.		18h.		0h.		6h.		12h.		18h.		0h.		6h.		12h.		18h.	
	A	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ	*A*	*T*ρ
	μ	sec.	μ	sec.	μ	sec.	μ	sec.	μ	sec.	μ	sec.	μ	sec.	μ	sec.	μ	sec.	μ	sec.	μ	sec.	μ	sec.
1	···	···	···	···	2·3	4·0	1·5	4·0	1·7	4·3	1·1	4·5	1·8	4·0	1·3	4·7	2·8	6·0	2·6	5·4	2·7	6·3	3·1	6·5
2	2·0	4·0	0·8	3·6	···	···	1·3	4·0	1·6	4·4	1·9	4·3	1·8	4·0	2·0	4·0	3·0	6·7	2·7	6·7	3·4	5·0	3·1	4·3
3	1·7	4·3	1·5	4·7	3·7	4·8	3·1	4·8	1·8	4·0	1·5	4·7	2·0	4·0	1·5	4·7	2·1	5·0	2·1	5·0	1·8	5·5	2·8	6·0
4	2·5	3·0	2·3	4·0	3·8	4·3	4·3	3·7	1·7	5·0	2·2	5·5	3·0	4·5	2·6	7·5	3·0	6·7	5·9	7·1	4·8	7·2	4·4	7·4
5	4·5	3·7	5·3	3·5	3·6	4·6	3·3	5·3	4·5	7·5	4·2	7·5	4·2	5·5	5·1	5·9	3·6	7·2	3·4	7·3	2·8	6·0	2·2	7·5
6	6·5	5·3	5·2	5·8	5·1	6·0	4·8	5·6	4·6	6·0	3·9	6·3	9·4	7·1	6·0	7·3	1·2	7·0	1·3	6·0	1·7	4·3	1·5	4·0
7	3·6	6·0	3·8	5·5	3·5	5·3	3·8	5·4	4·6	7·0	3·4	6·9	2·9	6·4	2·8	6·0	1·5	5·0	1·1	4·5	···	···	···	···
8	3·4	5·5	3·8	5·8	5·3	5·3	4·6	7·0	2·9	6·7	2·7	6·5	2·4	7·0	···	···	···	···	···	···	1·1	4·5	1·9	3·5
9	5·2	6·0	4·6	5·2	5·4	5·5	5·7	5·3	2·8	5·0	3·0	4·6	2·9	5·3	1·8	4·7	1·5	5·0	3·1	3·5	1·8	4·0	2·9	5·3
10	5·5	5·7	5·8	5·0	4·9	6·3	3·2	6·6	2·3	4·5	1·5	4·0	1·2	5·3	0·9	6·2	3·0	6·0	3·8	6·0	3·2	6·0	3·3	5·7
11	3·3	5·7	3·1	5·7	2·5	5·3	2·9	4·7	0·9	6·0	1·4	6·5	1·1	6·1	2·5	6·0	3·2	5·5	2·6	5·5	3·3	4·5	2·8	4·4
12	2·4	5·0	1·9	4·3	1·8	4·7	3·5	4·7	1·6	6·5	2·2	7·2	1·4	7·0	2·7	7·3	1·6	5·5	1·4	5·5	1·5	4·0	1·4	4·5
13	2·1	5·0	1·5	4·7	1·5	4·0	···	···	4·6	7·0	3·6	7·5	2·9	7·5	3·1	7·1	1·3	4·0	1·8	4·0	0·9	3·5	0·9	4·3
14	···	···	···	···	···	···	6·2	3·5	6·6	7·3	11·7	7·3	11·4	7·4	9·5	7·4	1·2	5·5	1·4	5·7	1·9	4·3	1·3	6·2
15	4·1	3·7	4·5	3·5	4·3	3·8	3·0	4·0	7·8	7·6	9·3	6·8	7·8	7·0	5·0	7·0	1·5	6·1	2·5	4·5	2·3	4·7	1·5	4·7
16	2·3	3·5	1·7	3·7	···	···	···	···	5·7	6·8	4·9	6·5	4·7	6·5	6·8	6·3	1·8	4·0	1·3	4·8	···	···	1·1	3·5
17	···	···	···	···	0·4	6·0	0·4	6·0	4·4	6·3	5·6	6·4	4·9	6·4	4·6	6·6	1·3	4·0	1·2	4·3	2·0	4·7	0·9	5·0
18	0·4	6·0	0·4	5·0	···	···	0·6	5·0	3·9	5·3	3·4	5·0	2·8	5·5	2·7	6·5	1·3	5·0	1·4	4·5	0·7	5·3	0·8	4·0
19	1·3	6·5	1·4	7·0	···	···	···	···	2·3	6·1	2·1	6·5	2·4	7·0	2·2	7·0	1·1	5·0	0·9	5·0	0·8	5·7	0·9	5·0
20	···	···	···	···	···	···	1·2	7·0	2·3	5·8	1·8	6·5	2·5	6·4	1·3	6·0	0·8	5·5	1·2	5·5	2·1	6·0	1·5	6·2
21	1·3	8·5	1·2	7·5	1·4	7·0	1·4	7·2	1·4	5·7	1·1	6·5	···	···	1·6	5·5	1·9	6·0	1·1	5·9	1·4	5·5	1·3	6·2
22	1·4	7·0	2·5	6·0	2·3	6·7	2·1	7·0	1·4	6·7	1·6	6·5	1·7	6·3	1·1	6·0	···	···	···	···	1·1	6·0	1·1	6·3
23	2·1	3·9	1·9	7·0	2·5	6·8	2·3	6·5	1·5	6·1	1·3	5·5	1·3	6·0	1·0	7·5	1·0	7·0	1·1	6·2	1·5	6·0	1·6	5·5
24	1·6	6·8	2·3	6·8	1·0	5·7	1·3	6·0	1·9	5·3	3·5	6·0	3·7	4·8	1·9	6·0	1·7	5·7	1·7	6·2	1·4	5·5	1·2	5·5
25	1·1	6·0	1·0	5·7	1·2	5·3	1·2	5·5	1·5	5·2	1·4	4·8	···	···	···	···	1·3	5·0	1·4	5·6	1·2	5·3	1·3	5·0
26	1·0	5·7	1·5	5·0	1·4	4·5	1·6	4·5	···	···	···	···	8·3	6·7	8·3	6·7	1·5	5·3	1·2	5·3	1·9	6·1	2·1	5·7
27	1·5	4·7	1·6	4·5	1·5	4·7	1·1	5·0	7·1	6·7	5·9	8·0	4·9	6·7	4·5	6·7	1·4	5·5	2·3	6·0	2·5	6·6	2·6	6·0
28	1·5	4·3	1·5	5·3	2·1	5·3	1·4	4·5	3·5	5·3	3·9	5·7	3·0	6·7	3·3	5·3	3·0	6·1	2·6	6·0	2·7	6·3	2·3	6·5
29	1·2	5·3	1·1	4·7	1·1	4·5	0·9	4·7	3·5	5·3	3·4	6·0	3·2	6·2	3·1	5·7	1·6	6·5	2·0	6·5	2·5	6·5	2·1	6·5
30	1·1	3·8	1·3	5·0	1·4	4·6	2·5	5·3	2·8	6·0	3·0	5·5	1·7	5·3	1·3	6·3	2·3	6·0	3·1	5·7	4·0	6·3	4·6	6·7
31	1·5	5·3	1·6	4·5	1·6	4·5	1·3	4·7									4·0	6·3	3·6	6·0	3·9	5·7	3·1	6·3
Mean	2·5	5·2	2·4	5·1	2·6	5·2	2·5	5·3	3·2	5·9	3·3	6·0	3·6	6·0	3·2	6·2	1·9	5·7	2·1	5·5	2·2	5·4	2·1	5·5
Mean for days	*A* = 2·5 μ; *T*ρ = 5·2 sec.								*A* = 3·3 μ; *T*ρ = 6·0 sec.								*A* = 2·1 μ; *T*ρ = 5·5 sec.							

The symbol ··· indicates that microseisms were not measured, either by reason of occurrence of earthquake or lack of record.

M.O. 599

THE OBSERVATORIES' YEAR BOOK 1939

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

AEROLOGICAL SECTION

Decimal Index
551.506.1
551.506.7

Obs. Yearb., 1939
London, 1956

AEROLOGICAL SECTION

Station	Latitude	Longitude	Height above sea level
	N.	W.	m.
Kew Observatory	51°28′	0°19′	7
Sealand	53°14′	3°00′	5

NOTES ON THE TABLES OF UPPER AIR TEMPERATURES OBTAINED FROM SOUNDINGS WITH REGISTERING BALLOONS AT KEW OBSERVATORY AND SEALAND, 1939

The tables in the Aerological Section are presented in substantially the same form as those appearing in the *Observatories' Year Book* since 1930. As in that volume geopotential is used in place of geometric height for the vertical coordinate. The units employed are:

1 Leo (l.) = 10^5 C.G.S. units of geopotential
1 Kiloleo (Kl.) = 10^8 C.G.S. units of geopotential

A table showing the relation between height and geopotential in latitude 52°20′N., the approximate mean latitude of Kew Observatory and Sealand, is given in the Introduction to the Aerological Section of the *Observatories' Year Book, 1930*. For ordinary purposes it may be taken that if 2·1 per cent. be added to the geopotential in kiloleos the corresponding height in kilometres will then be obtained.

The Dines-pattern meteorograph was employed solely as before, and the method of operation remained the same as in recent years. A full description will be found in a pamphlet entitled "The Dines balloon meteorograph and the method of using it"*. In the computation of pressure-geopotentials the graphical method was employed, checked as to its main features by an arithmetical process. The effect of humidity on the density of the air was neglected.

The data of 70 soundings made during the year are included in the tables, 44 from Kew and 26 from Sealand. In most cases the meteorograph was attached as an adjunct to an air-sampling apparatus or to a radio-sonde. In such cases the balloon was only a few metres above the instrument instead of forty, which tends to make the recorded temperature somewhat too high on the ascent in the day-time.

The ventilation of the Dines meteorograph is effected solely by the natural draught produced by its vertical velocity. The vertical velocity of the rising balloon near the start is indicated approximately in Table 209, being based on a formula derived from a limited number of observations†. It is probable that even when the balloon is known to have burst, this velocity was not always maintained up to the highest point of the sounding. After the balloon had burst the velocity of fall was much higher, so that the ventilation was more effective on the descent than on the ascent.

As regards temperature, unless stated to the contrary, the mean of the records on the ascent and descent in the troposphere was employed in computing the published figures. In general the difference between the two records did not exceed 5°A., with a mean of about

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* DINES, L.H.G.; The Dines balloon meteorograph and the method of using it. London, 1929.

† DINES, L.H.G.; The rates of ascent and descent of free balloons, and the effects of radiation on records of temperature in the upper air. *Prof. Notes met. Off., London*, **5**, No. 67, 1935.

half that amount. Whenever direct evidence is available it is almost always found that in the troposphere the descending record is the colder of the two. An analysis of a large number of British soundings has led to the conclusion that as far as the troposphere is concerned this effect is mainly due to a temperature lag of the thermograph member, and that the mean of the two records gives in general a close approximation to the true air temperature*. In the stratosphere the rule has been followed of using the mean for the lower part, but if the two records begin to diverge steadily with increasing height, or if in the upper part they differ consistently by more than 2°, then the descent only is employed from thence upwards.

In the case of high soundings made during the day-time a pronounced rise of temperature is sometimes observed over about a kiloleo at the extreme top. There is good evidence that this is a fictitious effect due to solar radiation and that the ascent is a great deal more affected by it than the descent. The rise of temperature in such cases is therefore usually ignored. An account of this phenomenon is to be found in *Memoirs of the Royal Meteorological Society*†.

Whenever possible the meteorograph was briefly calibrated again at one temperature after return, before the record plate had been disturbed, in order to discover whether any shift of zero had taken place since the previous calibration. This provides some check on the behaviour of the instrument, but disturbance is almost inevitable considering the rough treatment experienced in the shock of the fall and after.

All new meteorographs, and all old ones used again after repair, were seasoned in a vacuum chamber before use by being subjected to several slow reductions of pressure. This process has been found greatly to reduce the chance of a systematic difference occurring between the results of a fast and slow calibration. More detail is given in the Introduction to the tables for 1923, and within the limits of accuracy at present attainable in the measurement of upper air pressures, the results of the fast reduction of pressure in the calibration test may be taken as applying to the slow reduction in the actual sounding.

Owing to lag in the response of the aneroid box the difference in pressure reading between a falling and a rising pressure is of the order 3 or 4 mb. on the average in the middle region of a high sounding, falling off to lesser values on either side. If a correction be applied to the recorded temperatures at assigned pressures to allow for this error, it results, for an average sounding in the troposphere, in an increase in the difference between the temperatures recorded at any pressure on the ascent and descent. The effect is to make the recorded temperatures on the descent too high by about half a degree at a level of 6 or 7 Kl., with a tendency for the error to fall off above and below. When the mean of the two records is employed the resultant error is halved and becomes negligible.

In a few cases the meteorograph was fitted with a hair hygrograph. Only the record of relative humidity on the ascent in each case has been published, except when specific mention to the contrary is made in the remarks. The record of the descent appears to be the less reliable for two reasons: first, that the previous exposure of the hair to extreme cold and dryness makes it more sluggish in response to changes in the relative humidity, and second, that the higher velocity at which the meteorograph falls increases the lag in its response reckoned in terms of height. The hygrometer readily shows changes in the relative humidity in the lower part of the troposphere, but the absolute value of its readings may be subject to uncertain error, especially at temperatures below freezing. No difference has been made as concerns this or previous volumes in the interpretation of the records as between temperatures above and below the freezing point. Calibration of the hygrograph has been based entirely on observations made at temperatures above the freezing point, and its

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* FIELD, J.H.; The free atmosphere in India. *Mem. India met. Dep., Calcutta*, **24**, Part IV, 1924.

† DINES, L.H.G.; An analysis of the change of temperature with height in the stratosphere over the British Isles. *Mem. R. met. Soc., London*, **2**, No. 18, 1928.

readings at all temperatures are presumed to refer to relative humidity with regard to water and are published as such. Below a temperature of 250°A. it seems doubtful if in the ordinary way the record has any meaning, and the figures for the higher parts of the atmosphere have not therefore been published.

In order to ensure as far as poss ble that the hygrograph works under standard conditions, it is normally exposed to a saturated atmosphere for 10 min. about an hour before the sounding is made.

The method of calibrating the hygrograph has remained the same as in former years. A full account of the process will be found in the Introduction to the Aerological Section of the *Observatories' Year Book* for 1934 and for preceding years.

In working up the records the hair has been assumed to have a uniform absolute coefficient of thermal expansion of $34 \times 10^{-6}/°A$. Since the frame of the hygrograph is made of nickel silver having a coefficient of 18×10^{-6} the relative expansion of hair to frame is assumed to be $16 \times 10^{-6}/°A$.

No allowance has been made in computing the published figures for the fact that the results of the calibration are not necessarily valid at low temperatures below the freezing point.

It has been noticed on many occasions that on passing through a cloud the hygrograph hairs expand more than they do when immersed in water or in an artificial saturated atmosphere. This phenomenon is not yet fully understood, but it has been proved that it is not due to errors in calibration or setting of the instrument; accordingly its occurrence is indicated by publishing a value of the relative humidity in excess of 100 per cent. The values are determined by extrapolation of the calibration upwards through 100.

Table 210 contains notes of the weather conditions, clouds and pressure distribution at the times of the soundings. Below them are set out in tabular form the data of inversions and other special points, under the numbers of the soundings in which they occurred.

The figures given in the table of lapse rates do not in every case agree with the temperatures appearing in the table of temperatures at assigned geopotentials. The reason for this is that both were determined independently from the original data, which can sometimes profitably be read to the nearest half degree, but are rounded off to whole degrees for publication.

The lapse rates given between ground level and 0·5 Kl. are determined from the reading in the thermometer screen at the station and that of the meteorograph at 0·5 Kl. A source of error arises here in that the two standards are independent and are not exposed in the same manner. A small difference is capable of making an appreciable error in the lapse rate, and it is possible that lapse rates apparently greater than 10°A./Kl. in this layer are sometimes due to this cause.

In Table 209 occur the entries "Type of tropopause" and "L_c = Geopotential at tropopause". These are defined as follows: Type I—The stratosphere commences with an inversion, and L_c is the geopotential at the first point of zero temperature gradient; Type II—The stratosphere begins with an abrupt transition to a temperature gradient below 2°A./Kl. without inversion, and L_c is the geopotential of the abrupt transition; Type III—There is no abrupt change of temperature gradient, and the base of the stratosphere is taken at the point where the mean fall of temperature for the kiloleo next above is 2°A. or less, provided that it does not exceed 2°A. for any subsequent kiloleo. In the remarks on the soundings the pressure distribution is classified according to the types defined in "Aids to forecasting"*.

Statistical and correlation tables will be found in the Aerological Section of the *Observatories' Year Book* for the years 1929 and 1935.

* GOLD, E.; Aids to forecasting: types of pressure distribution. *Geophys. Mem., London*, **2**, No. 16, 1920.

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No. of sounding	318	323	324	325	326	328	330	331	332	333
Date	Feb.1	Mar.3	Mar.16	Mar.25	Mar.31	Apr.1	Apr.3	Apr.4	Apr.4	Apr.5
Station	Kew	Kew	Kew	Kew	Kew	Sealand	Sealand	Kew	Sealand	Sealand
Start (G.M.T.)	12h. 16m.	15h. 44m.	15h. 13m.	11h. 25m.	15h. 10m.	17h. 35m.	17h. 30m.	15h. 41m.	17h. 30m.	17h. 30m.
L_t = Greatest geopotential (Kl.)	17·16	18·56	10·09	13·28	13·82	16·18	16·39	12·61	14·99	15·41
T_t = Corresponding temperature (°A.)	216	214	214	223	219	218	218	221	218	219
P_t = Corresponding pressure (mb.)	77	63	244	144	132	91	88	158	107	102
Place of fall	Worming-hall, Aylesbury, Buckingham-shire.	Great Barton, Bury St. Edmunds	Lewes, Sussex	West Chil-tington, Pulborough, Sussex	Bishop-stone, Buckingham-shire	Cuerdley, Widnes, Lancashire	Astley, Manchester	Messing, Essex	Riverside, Warrington, Lancashire	Mere, Cheshire
Distance (Km.)	61	115	70	57	52	24	48	84	30	41
Bearing (degrees from north)	300	38	160	188	314	51	50	59	52	73
Type of balloon	Dewey-Almy	Guide Bridge	Veedip	Guide Bridge	Guide Bridge	Veedip	Veedip	Veedip	Veedip	Veedip
Weight of balloon (Kg.)	0·74	0·62	0·44	0·33	0·33	0·41	0·51	0·47	0·48	0·43
Weight of instrument (Kg.)	1·15	1·17	2·89	2·89	0·26	0·15	0·15	0·65	0·15	0·15
Net free lift (Kg.)	1·15	0·58	1·14	1·14	1·09	1·00	1·00	1·00	1·50	1·20
Estimated vertical speed at start (m./sec.)	..	4·0	5·5	5·5	7·5	7·0	7·0	6·5	8·0	7·5
Geostrophic wind										
Speed (m./sec.)	8	13	6	9	11	22	13	13	11	0
Degrees from north	90	210	300	40	120	130	150	210	120	..
Wind (anemograph)										
Speed (m./sec.)	4	4	7	4	4	0	3	7	2	0
Degrees from north	70	160	280	25	70	..	115	225	45	..
Relative humidity at surface (%)	78	70	88	58	53	66	89	88	85	81
Type of tropopause	I	II	..	II	II	II	I	II	I	I
L_c = Geopotential at the tropopause (Kl.)	10·83	11·56	..	7·99	10·15	9·23	9·33	8·34	8·28	9·19
T_c = Temperature at the tropopause (°A.)	217	208	..	223	213	216	215	221	217	215
P_c = Pressure at the tropopause (mb.)	206	197	..	328	239	277	268	310	310	272
Mean temperature in stratosphere (L_c+2) to (L_c+5) (°A.)	214	214	..	225	..	218	218	..	220	221
Mean temperature in stratosphere (L_c+5) to (L_c+8) (°A.)	..	..	..	..	..	..	..	..	..	..
Mean temperature in stratosphere (L_c+8) to (L_c+11) (°A.)	..	..	..	..	..	..	..	..	..	..
T_m = Mean temperature 1–9 Kl. (°A.)	250	254	248	243	248	248	248	247	245	246
P_s = Pressure at mean sea level (mb.)	1018	1013	1020	1008	1011	1007	991	987	987	999

WEATHER, PRESSURE CONDITIONS AND SPECIAL POINTS OF THE SOUNDINGS

210 1939

No. of sounding

318* bcz_o Clouds, St 5 tenths. Pressure distribution: a complex anticyclone lies over the North Sea moving slowly south-east. Type VIIb.

323* c Clouds, As 6 tenths, Ci 2 tenths. Pressure distribution: a deep depression west of Ireland is moving east. Type VIa.

324† cir_o Clouds, St 8 tenths, Ns 2 tenths. Pressure distribution: a depression centred over the North Sea is moving south; an anticyclone is centred south-west of the British Isles. Type Ia.

325† bcy Clouds, Cb and Sc 7 tenths. Pressure distribution: a complex depression lies over northern Europe; a depression is centred south-east of Iceland. Type IXa.

326 bcz_oy Clouds, Cs and Cc 5 tenths. Pressure distribution: a trough extends from west of Ireland to the south of France and is moving slowly north-east. Type VIIa.

328 c Clouds, Cb 9 tenths + at 0·63 Kl. Pressure distribution: a depression is centred west of Ireland; a depression over north France is deepening and moving north. Type VII.

330 $cr_or_om_o$ Clouds, Fn and Ns at 0·36 Kl. from south-east by east. Pressure distribution: a complex depression is lying south-west of the British Isles; a depression is centred over Denmark. Type VII.

331† ir_o Clouds, Ns and Cb. Pressure distribution: a complex depression lies across the south of the British Isles. Type VIIa.

332 cm_o Clouds, Sc and As from east-south-east. Pressure distribution and type as ascent No. 331.

333 cm Clouds, Sc 10 tenths at 1·14 Kl. Pressure distribution: depressions are centred south-west and north-east of the British Isles with a wedge moving in from the Atlantic. Type VIIa.

SPECIAL POINTS

No. of sounding	318	318	323	323	324	324	326	328	328
P	930	873	970	930	526	507	752	445	439
L	0·71	1·22	0·36	0·70	5·01	5·28	2·35	6·13	6·21
T	275	275	283½	285	248	249	265	239½	240
RH	60	39	..	..	..	..	54	49	49

* Meteorograph attached to air-sampling apparatus. † Meteorograph attached to radio-sonde.

209 1939

No. of sounding	334	335	336	337	338	339	340	341	342	343
Date	Apr.6	Apr.6	Apr.7	Apr.8	Apr.9	Apr.10	Apr.11	Apr.11	Apr.12	Apr.13
Station	Kew	Sealand	Sealand	Sealand	Sealand	Sealand	Kew	Kew	Sealand	Kew
Start (G.M.T.)	11h. 5m.	17h. 50m.	18h. 15m.	17h. 47m.	7h. 10m.	18h. 5m.	15h. 15m.	18h. 0m.	17h. 35m.	11h. 10m.
L_t = Greatest geopotential (Kl.)	17·77	12·82	15·94	17·03	17·04	16·84	21·71	13·51	13·71	22·39
T_t = Corresponding temperature (°A.)	221	220	219	213	217	218	212	215	218	217
P_t = Corresponding pressure (mb.)	72	155	97	80	82	85	38	144	140	35
Place of fall	Willingdale, Essex	Croxton, Cheshire	Bradley, Staffordshire	Kingsley, Staffordshire	Sale, Cheshire	Lee Fell, Abbeysted, Lancashire	Stansted, Essex	Orwell, Hertfordshire	Cambles-forth, Yorkshire	Needham, Norfolk
Distance (Km.)	53	37	75	60	51	90	60	77	142	149
Bearing (degrees from north)	52	96	134	114	65	15	35	14	67	45
Type of balloon	Dewey-Almy	Veedip	Veedip	Veedip	Veedip	Veedip	Dewey-Almy	Veedip	Veedip	Dewey-Almy
Weight of balloon (Kg.)	0·36	0·45	0·45	0·51	0·35	0·61	0·36	0·47	0·52	0·35
Weight of instrument (Kg.)	0·65	0·15	0·15	0·15	0·15	0·15	0·65	0·15	0·15	0·65
Net free lift (Kg.)	1·00	1·20	1·00	1·20	0·50	0·50	1·00	0·50	1·00	1·00
Estimated vertical speed at start (m./sec.)	6·5	7·5	7·0	7·5	4·5	4·5	6·5	4·5	7·0	6·5
Geostrophic wind										
Speed (m./sec.)	10	8	6	12	7	11	6	6	7	13
Degrees from north	60	70	210	240	210	150	150	170	240	230
Wind (anemograph)										
Speed (m./sec.)	9	3	1	2	0	4	3	1	7	7
Degrees from north	45	340	295	215	..	110	160	90	200	200
Relative humidity at surface (%)	84	69	54	73	92	49	43	69	50	75
Type of tropopause	I	I	I	I	I	I	I	I	I	I
L_c = Geopotential at the tropopause (Kl.)	8·82	9·57	10·64	11·81	11·96	10·43	11·73	11·29	11·41	11·26
T_c = Temperature at the tropopause (°A.)	218	215	217	206	208	213	207	208	211	211
P_c = Pressure at the tropopause (mb.)	295	260	225	189	187	238	193	207	204	210
Mean temperature in stratosphere (L_c+2) to (L_c+5) (°A.)	221	..	219	213	216	218	214	..	..	216
Mean temperature in stratosphere (L_c+5) to (L_c+8) (°A.)	221	..	..	..	..	..	214	..	..	214
Mean temperature in stratosphere (L_c+8) to (L_c+11) (°A.)	..	..	..	..	..	..	..	..	..	216
T_m = Mean temperature 1-9 Kl. (°A.)	249	246	249	254	255	256	258	256	256	257
P_s = Pressure at mean sea level (mb.)	1008	1013	1018	1014	1016	1012	1011	1012	1012	1014

WEATHER, PRESSURE CONDITIONS AND SPECIAL POINTS OF THE SOUNDINGS

210 1939

No. of sounding

334† ir_o Clouds, Ns and Fn at 0·27 Kl. Pressure distribution as ascent No. 333. Type IXa.

335 c Clouds, Sc at 1·05 Kl. Pressure distribution as ascent No. 333. Type IXa.

336 cy Clouds, Sc at 1·2 Kl. from west-south-west. Pressure distribution: an anticyclone is centred over south England. Type Ia.

337 c Clouds, Sc, Ac and As. Pressure distribution: an anticyclone extends from north Spain to south Scandinavia; a complex depression lies over Scotland. Type V.

338 c Clouds, Sc. Pressure distribution: an anticyclone east of Iceland is moving south-east; an anticyclone lies over north Germany and a depression is centred west of Ireland. Type IVa.

339 bcy Clouds, Ac from south. Pressure distribution: an anticyclone is centred over south Scandinavia; depressions are centred to west and south-west of the British Isles. Type VIIa.

340† bz_oy Cloudless. Pressure distribution: there is a ridge over south Scandinavia; depressions are centred over the Atlantic and north Spain. Type VIIb.

341 b Clouds, Ci 2 tenths. Pressure distribution and type as ascent No. 340.

342 bc Clouds, Cu 1 tenth at 0·75 Kl. and Ac. Pressure distribution: a depression over the Atlantic is moving north-east. Type VIa.

343† c Clouds, Cu, Sc and As 9 tenths +. Pressure distribution and type as ascent No. 342.

SPECIAL POINTS

	No. of sounding																				
	334	335	336	336	337	337	337	338	338	338	338	339	339	339	340	340	342	343‡	343‡	343§	343§
P	873	786	821	267	927	890	668	781	768	688	663	838	809	226	207	246	233	166	832	788	781	745
L	1·14	1·89	1·69	9·56	0·72	1·04	3·29	2·08	2·21	3·08	3·36	1·55	1·82	10·74	11·30	10·27	10·60	12·67	1·61	2·02	2·10	2·47
T	271	266½	271½	219½	277	278	265½	270	273½	268	268	278	279	214	212	214	213½	212	276	277	271½	275
RH	..	75	82	..	93	102	91	123	85	57	43	88	48	..	..	..	..	..	..	..	..	..

†Meteorograph attached to radio-sonde. ‡Inversion on descent. §Inversion on ascent.

209 1939

No. of sounding	345	347	348	349	350	351	352	353	354	355
Date	Apr.14	Apr.16	Apr.18	Apr.19	Apr.20	Apr.20	Apr.21	Apr.22	Apr.23	Apr.24
Station	Sealand	Sealand	Sealand	Sealand	Kew	Sealand	Sealand	Sealand	Sealand	Sealand
Start (G.M.T.)	17h. 30m.	7h. 30m.	18h. 15m.	17h. 30m.	14h. 0m.	17h. 30m.	17h. 30m.	17h. 35m.	7h. 15m.	17h. 30m.
L_t = Greatest geopotential (Kl.)	14·21	14·97	15·80	17·17	13·22	16·10	15·91	15·97	16·96	16·40
T_t = Corresponding temperature (°A.)	222	224	215	217	212	218	220	219	219	220
P_t = Corresponding pressure (mb.)	129	115	100	81	153	97	98	96	81	89
Place of fall	Hoo Moor, Whaley Bridge, Derby	Coningsby, Linconshire	Middle-wood, Hereford-shire	Maer, Newcastle-under-Lyme, Stafford-shire	Plaxtol, Sevenoaks, Kent	Shelford, Nottingham-shire	North Carlton, Nottingham-shire	Moreton-in-Marsh, Gloucester-shire	Market Bosworth, Nuneaton, Warwick-shire	Scholar Green, Mow Cop, Stafford-shire
Distance (Km.)	68	189	132	56	47	136	126	163	126	53
Bearing (degrees from north)	80	93	179	125	118	102	84	147	122	104
Type of balloon	Veedip	Veedip	Veedip	Veedip	Veedip	Veedip	Saul	Saul	Saul	Saul
Weight of balloon (Kg.)	0·58	0·49	0·51	0·40	0·47	0·64	0·46	0·50	0·51	0·51
Weight of instrument (Kg.)	0·15	0·15	0·15	0·15	0·68	0·15	0·15	0·15	0·15	0·15
Net free lift (Kg.)	1·20	1·00	0·50	0·50	1·07	0·50	1·00	1·20	1·20	1·00
Estimated vertical speed at start (m./sec.)	7·5	7·0	4·5	4·5	6·5	4·5	7·0	7·5	7·5	7·0
Geostrophic wind										
Speed (m./sec.)	15	11	6	7	6	7	13	22	11	10
Degrees from north	260	300	320	310	260	310	250	320	290	300
Wind (anemograph)										
Speed (m./sec.)	6	8	4	6	2	6	7	11	7	8
Degrees from north	250	280	315	315	90	325	215	280	280	305
Relative humidity at surface (%)	63	94	71	60	52	54	30	75	85	66
Type of tropopause	I	I	I	I	I	I	I	I	I	I
L_c = Geopotential at the tropopause (Kl.)	8·93	11·41	11·73	12·33	11·85	11·73	10·87	10·41	9·79	7·48
T_c = Temperature at the tropopause (°A.)	224	213	204	208	207	208	211	214	214	226
P_c = Pressure at the tropopause (mb.)	293	204	195	179	192	197	220	232	256	352
Mean temperature in stratosphere: (L_c+2) to (L_c+5) (°A.)	225	..	..	..	..	..	218	220	217	228
Mean temperature in stratosphere: (L_c+5) to (L_c+8) (°A.)	..	..	..	..	..	..	..	..	..	225
Mean temperature in stratosphere: (L_c+8) to (L_c+11) (°A.)	..	..	..	..	..	..	..	..	..	..
T_m = Mean temperature 1-9 Kl. (°A.)	251	255	254	257	256	256	252	249	250	244
P_s = Pressure at mean sea level (mb.)	1003	1013	1037	1035	1030	1030	1017	1015	1011	996

WEATHER, PRESSURE CONDITIONS AND SPECIAL POINTS OF THE SOUNDINGS

210 1939

No. of sounding

345 bc — Clouds, Cu, Sc and Ac 7 tenths from west-south-west at 0·75 Kl., Ci from west-south-west at 29 m./sec. Pressure distribution: depressions are centred over north-west Scotland and north Germany. Type Va.

347 bc — Clouds, Fn and Sc 3 tenths from north-west by west at 0·27 Kl. Pressure distribution: a complex depression is centred north of Scotland and an anticyclone lies north of Spain. Type III.

348 bc — Clouds, Ci, Cs and Cc 7 tenths from north at 27 m./sec. Pressure distribution: an anticyclone centred off south-west Wales is moving north-east. Type XI.

349 by — Cloudless. Pressure distribution: an anticyclone is centred over the south-west of the British Isles. Type XI.

350† bz_oy — Cloudless. Pressure distribution and type as ascent No. 349.

351 by — Clouds, Ac 2 tenths and Ci from north-west. Pressure distribution and type as ascent No. 349.

352 cy● — Clouds, Sc, Ac, As and Cs 4 tenths. Pressure distribution: a depression over north Scotland is moving east. Type III.

353 cpr_o — Clouds, Cu and Sc 9 tenths at 0·54 Kl. Pressure distribution: a depression is centred over south Scandinavia and an anticyclone lies to the south-west of the British Isles. Type I.

354 cr_or_o — Clouds, Fn and Ns 8 tenths. Pressure distribution: as ascent No. 353 with a secondary depression north of Iceland moving slowly east. Type I.

355 bc — Clouds, Cu 6 tenths at 0·6 Kl. from north-west by west and Ac. Pressure distribution: a depression in the central North Sea is moving east. Type XV.

SPECIAL POINTS

No. of sounding	347	347	347	347	347	348	348	348	349**	349	349	350	350	351	353	353
P	842	780	673	575	493	847	835	179	728	590	219	846	169	526	673	562
L	1·47	2·07	3·21	4·39	5·53	1·61	1·71	12·23	2·83	4·44	11·11	1·61	12·63	5·22	3·18	4·50
T	273	272	265	262	254½	271	272	205	272	263	210½	278	208½	255	257	255
RH	113	119	41	31	38	63	59	..	34	27	..	..	..	30	96	48

† Meteorograph attached to radio-sonde. ** Small isothermal.

209 1939

No. of sounding	356	357	358	362	363	364	365	366	367	368
Date	Apr.25	Apr.25	Apr.26	Apr.29	Apr.29	Apr.30	May 1	May 2	May 3	May 4
Station	Kew	Sealand	Kew	Kew	Kew	Kew	Kew	Kew	Kew	Kew
Start (G.M.T.)	9h. 22m.	17h. 30m.	14h. 51m.	9h. 5m.	17h. 59m.	7h. 8m.	9h. 13m.	9h. 4m.	9h. 13m.	9h. 51m.
L_t = Greatest geopotential (Kl.)	19·41	17·36	15·68	14·99	14·99	20·85	11·83	19·20	16·91	21·87
T_t = Corresponding temperature (°A.)	222	221	222	225	221	221	221	222	221	228
P_t = Corresponding pressure (mb.)	56	77	100	114	113	45	187	59	84	39
Place of fall	Coulsdon, Surrey	Cockshutt, Shropshire	Chessington, Surrey	Fingest, Buckinghamshire	Checkendon, Oxfordshire	Wantage, Berkshire	Ramsdell, Basingstoke, Hampshire	Newlands Corner, Surrey	Guildford, Surrey	Foots Cray, Kent
Distance (Km.)	13	42	12	43	51	80	63	31	32	32
Bearing (degrees from north)	141	166	173	290	278	283	246	206	213	98
Type of balloon	Dewey-Almy	Saul	Veedip	Dewey-Almy	Dewey-Almy	Dewey-Almy	Veedip	Dewey-Almy	Dewey-Almy	Saul
Weight of balloon (Kg.)	0·35	0·49	0·40	0·35	0·35	0·35	0·40	0·36	0·35	2·78
Weight of instrument (Kg.)	0·65	..	0·65	0·65	0·15	0·15	0·65	0·65	0·65	0·65
Net free lift (Kg.)	1·00	..	1·00	2·00	1·50	0·75	1·50	1·50	0·90	1·50
Estimated vertical speed at start (m./sec.)	6·5	..	6·5	8·0	8·0	6·0	7·5	7·5	6·0	6·0
Geostrophic wind										
Speed (m./sec.)	9	7	9	13	13	13	10	16	9	5
Degrees from north	280	30	40	40	30	40	70	50	50	40
Wind (anemograph)										
Speed (m./sec.)	2	4	7	4	4	2	4	4	2	1
Degrees from north	340	340	340	45	10	20	45	0	20	180
Relative humidity at surface (%)	69	66	73	81	96	98	98	88	73	78
Type of tropopause	II	I	I	I	II	I	I	II	I	I
L_c = Geopotential at the tropopause (Kl.)	7·75	9·05	9·09	8·66	8·93	9·89	10·51	9·51	10·18	10·73
T_c = Temperature at the tropopause (°A.)	225	218	218	220	221	215	211	221	215	216
P_c = Pressure at the tropopause (mb.)	340	282	280	304	292	254	231	271	244	224
Mean temperature in stratosphere: (L_c+2) to (L_c+5) (°A.)	227	224	224	226	223	221	..	222	221	220
Mean temperature in stratosphere: (L_c+5) to (L_c+8) (°A.)	225	222	..	..	..	220	..	221	..	220
Mean temperature in stratosphere: (L_c+8) to (L_c+11) (°A.)	221	..	..	..	..	..	..	..	..	224
T_m = Mean temperature 1-9 Kl. (°A.)	245	246	244	246	247	251	252	251	252	253
P_s = Pressure at mean sea level (mb.)	1001	1009	1014	1023	1021	1016	1015	1016	1015	1013

WEATHER, PRESSURE CONDITIONS AND SPECIAL POINTS OF THE SOUNDINGS

210 1939

No. of sounding

356† bc — Clouds, Cu and Cb 7 tenths, Ci from west by south at 4·5 m./sec. Pressure distribution: a complex depression extends from Denmark to north-west France. Type I.

357 c — Clouds, Cb 9 tenths at 0·75 Kl. and Ac. Pressure distribution: as ascent No. 356 with an anticyclone west of Ireland. Type IX.

358† cz_o — Clouds, Cu and Sc 5 tenths at 0·75 Kl., Cs 4 tenths from south-west at 4·5 m./sec. Pressure distribution: an anticyclone lies west of the British Isles; depressions are centred over south Germany and south Scandinavia. Type IXa.

362† cz_o — Clouds, Cu and Sc 8 tenths at 1·05 Kl., Ci from north-east. Pressure distribution: an anticyclone is centred over north Scotland with a ridge extending southwards to the west of Ireland; depression over Germany is moving north-west. Type VIIIa.

363 or_or_o — Clouds, Fn and Ns at 0·24 Kl. Pressure distribution and type as ascent No. 362.

364 crm_o — Clouds, Fn 9 tenths and Ns total 10 tenths. Pressure distribution as ascent No. 362. Type IXb.

365† od_om — Clouds, Ns and Fs 10 tenths at 0·45 Kl. Pressure distribution: an anticyclone centred between Iceland and Scotland is moving south-south-east; a complex depression extends from Poland to north France. Type IXa.

366† o — Clouds, Sc 10 tenths at 0·6 Kl. Pressure distribution: an anticyclone centred off north-west Scotland is moving east; a complex depression extends from Poland across France. Type IXa.

367† b — Clouds, Cu tr. Pressure distribution: an anticyclone centred off east Scotland is moving east and depressions are centred over south Germany and south-west of Iceland. Type IXb.

368† c — Clouds, Cu and Sc 9 tenths. Pressure distribution: an anticyclone is centred over south Sweden with a ridge extending over south-east England; a depression lies west of Ireland. Type VIIb.

SPECIAL POINTS

No. of sounding	357	357	357	364	364	366	366	366	366	367	367	368	368
P	653	631	254	763	678	860	850	221	197	639	560	875	759
L	3·33	3·50	9·72	2·23	3·15	1·31	1·40	10·81	11·53	3·61	4·59	1·17	2·29
T	253	253	217½	267	266	271	275½	219	223	263	255	272½	271
RH	92	85	..	106	99	..	..	..	..	..	..	..	..

† Meteorograph attached to radio-sonde.

209 1939

No. of sounding	369	371	372	373	374	375	376	377	378	379
Date	May 16	May 31	June 1	June 8	June 8	June 12	June 12	June 12	June 13	June 13
Station	Kew	Kew	Kew	Kew	Kew	Sealand	Sealand	Sealand	Sealand	Sealand
Start (G.M.T.)	19h. 40m.	15h. 11m.	20h. 30m.	18h. 0m.	18h. 20m.	17h. 20m.	18h. 10m.	19h. 0m.	13h. 15m.	14h. 0m.
L_t = Greatest geopotential (Kl.)	13·61	22·10	20·21	25·05	22·26	18·43	18·64	15·71	19·56	23·01
T_t = Corresponding temperature (°A.)	219	222	220	224	222	223	225	226	224	227
P_t = Corresponding pressure (mb.)	139	38	51	24	38	68	65	107	57	34
Place of fall	Godalming, Surrey	Hatherden, Andover, Hampshire	Four Marks, Alton, Hampshire	Chipstead, Surrey	Godstone, Surrey	Boraston, near Tenbury, Shropshire	Stoke Lacy, Hereford-shire	Pixley, Ledbury, Hereford-shire	Upton Cressett, Bridgnorth, Shropshire	Brockton, Much Wenlock. Shropshire
Distance (Km.)	37	85	58	20	30	104	124	135	84	80
Bearing (degrees from north)	214	253	232	150	145	164	167	166	162	163
Type of balloon	Dewey-Almy	Guide Bridge	Guide Bridge	Guide Bridge	Guide Bridge	Guide Bridge	Guide Bridge	Guide Bridge	Guide Bridge	Guide Bridge
Weight of balloon (Kg.)	0·34	0·85	0·34	0·85	0·34	0·35	0·34	0·84	0·35	0·85
Weight of instrument (Kg.)	0·65	0·70	0·65	0·15	0·15	0·15	0·15	0·15	0·15	0·15
Net free lift (Kg.)	1·50	0·85	0·90	0·70	0·50	1·50	1·70	2·00	1·70	1·50
Estimated vertical speed at start (m./sec.)	7·5	5·5	6·0	5·5	4·5	8·0	8·5	8·0	8·5	7·5
Geostrophic wind										
Speed (m./sec.)	7	12	16	7	7	7	7	7	5	5
Degrees from north	30	90	60	120	120	170	170	170	310	300
Wind (anemograph)										
Speed (m./sec.)	4	7	7	4	4	9	9	7	7	7
Degrees from north	350	45	0	45	45	315	315	315	315	315
Relative humidity at surface(%)	90	60	84	55	51	47	47	51	57	57
Type of tropopause	I	I	I	I	I	I	I	I	I	I
L_c = Geopotential at the tropopause (Kl.)	8·73	12·08	11·47	12·15	12·31	9·50	9·49	10·02	10·95	11·45
T_c = Temperature at the tropopause (°A.)	221	211	214	211	213	226	224	227	218	219
P_c = Pressure at the tropopause (mb.)	300	188	207	187	186	271	270	254	220	206
Mean temperature in stratosphere (L_c+2) to (L_c+5) (°A.)	··	217	218	216	218	227	225	229	223	223
Mean temperature in stratosphere (L_c+5) to (L_c+8) (°A.)	··	219	218	218	220	222	222	··	222	223
Mean temperature in stratosphere (L_c+8) to (L_c+11) (°A.)	··	··	··	221	··	··	··	··	··	225
T_m = Mean temperature 1-9 Kl. (°A.)	248	259	258	260	263	250	249	253	254	257
P_s = Pressure at mean sea level (mb.)	1007	1024	1026	1024	1024	1015	1015	1016	1016	1016

WEATHER, PRESSURE CONDITIONS AND SPECIAL POINTS OF THE SOUNDINGS

210 1939

No. of sounding		
369†	c	Clouds, Fs and Sc 8 tenths at 0·36 Kl., As total 10 tenths. Pressure distribution: a depression centred over Belgium is moving east; a wedge extends between Iceland and Scotland. Type IXb.
371*	by	Clouds, Cu 2 tenths. Pressure distribution: an anticyclone is centred north-west of Scotland and pressure is low over Spain. Type VIIIa.
372†	b	Cloudless. Pressure distribution: an anticyclone is centred off north-east Scotland; a depression centred over south-west France is filling up. Type IXb.
373	by	Clouds, Cu 2 tenths. Pressure distribution: an anticyclone is centred west of Ireland with a ridge extending over the British Isles. Type Ia.
374	by	Clouds, Cu 2 tenths. Pressure distribution and type as ascent No. 373.
375	bcy	Clouds, Cu and Sc 3 tenths at 0·9 Kl., Ci from north-north-west at 34 m./sec. Pressure distribution: a wedge extends from the Azores to the Faroes and a depression is centred over south Scandinavia. Type X.
376	bcy	Clouds, pressure distribution and type as ascent No. 375.
377	bcy	Clouds, Cu 3 tenths at 0·9 Kl., Ci from north-north-west at 34 m./sec. Pressure distribution and type as ascent No. 375.
378	cy	Clouds, Cu, Sc, As and Ac 5 tenths low, 10 tenths total. Pressure distribution: a wedge which extends over the west of the British Isles is collapsing as a depression centred off south-west Iceland moves east. Type IV.
379	cy	Clouds, pressure distribution and type as ascent No. 378.

SPECIAL POINTS

No. of sounding	369	369**	371	371	371	372	372	373	373	373	373	374	374	374	374	375	376	376	376	376	376	377	377
P	739	623	872	764	211	950	783	891	807	223	213	880	811	221	213	181	747	722	537	453	382	728	710
L	2·43	3·71	1·33	2·39	11·37	0·63	2·18	1·14	1·94	11·07	11·35	1·24	1·91	11·24	11·46	12·15	2·40	2·66	4·83	6·03	7·20	2·62	2·81
T	266½	258½	281	279	212	279	278	280½	280½	214	215	282	282	217	217	229	262½	263	251	241½	238½	264½	264½
RH	··	··	··	··	··	46	8	91	59	··	··	74	48	··	··	··	86	77	45	58	50	··	··

No. of sounding	377	377	377	378	378	378	379	379	379	379	379
P	424	404	290	727	706	587	747	587	575	154	116
L	6·56	6·89	9·17	2·63	2·85	4·23	2·44	4·26	4·42	13·29	15·13
T	243½	243½	229	264	264	258½	267	260½	261½	225	224
RH	··	··	··	71	57	89	··	··	··	··	··

* Meteorograph attached to air sampling apparatus. † Meteorograph attached to radio-sonde. ** Small isothermal.

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No. of sounding	380	381	383	384	385	386	387	388	391	392
Date	July 5	July 11	Aug. 18	Aug. 30	Sept. 2	Sept. 4	Sept. 13	Nov. 2	Dec. 9	Dec. 11
Station	Kew	Sealand	Kew	Kew	Kew	Kew	Kew	Kew	Kew	Kew
Start (G.M.T.)	13h. 55m.	14h. 40m.	12h. 45m.	14h. 50m.	10h. 20m.	14h. 25m.	14h. 0m.	13h. 44m.	10h. 30m.	11h. 40m.
L_t = Greatest geopotential (Kl.)	22·47	21·81	22·60	23·30	21·07	22·44	15·40	16·68	15·43	14·05
T_t = Corresponding temperature (°A.)	230	229	227	223	224	218	221	220	210	214
P_t = Corresponding pressure (mb.)	38	42	37	32	46	36	111	85	102	130
Place of fall	Peterborough, Northamptonshire	Shifnal, Shropshire	Windsor, Buckinghamshire	Dagenham, Essex	Thaxted, Essex	Kennington, London	West Malling, Kent	Luton, Bedfordshire	St. Helens, Hastings, Sussex	Henley-on-Thames, Oxfordshire
Distance (Km.)	198	75	22	33	70	15	55	46	93	42
Bearing (degrees from north)	112	146	88	77	39	83	110	348	132	276
Type of balloon	Guide Bridge	Guide Bridge	Guide Bridge	Dewey-Almy	Dewey-Almy	Dewey-Almy	Veedip	Dewey-Almy	Dewey-Almy	Dewey-Almy
Weight of balloon (Kg.)	0·86	0·86	0·85	0·35	0·35	0·35	0·53	0·76	0·36	0·34
Weight of instrument (Kg.)	0·70	0·70	0·73	0·65	0·65	0·65	0·65	2·55	3·09	3·09
Net free lift (Kg.)	0·75	0·75	0·83	0·90	0·90	0·90	1·50	1·10	1·41	1·41
Estimated vertical speed at start (m./sec.)	5·0	5·0	5·5	6·0	5·2	5·9	7·7	5·9	6·0	5·5
Geostrophic wind										
Speed (m./sec.)	15	7	12	4	7	6	11	11	12	6
Degrees from north	220	310	50	90	170	290	160	130	60	100
Wind (anemograph)										
Speed (m./sec.)	4	5	2	2	1	2	3	5	2	3
Degrees from north	180	290	70	80	155	265	255	70	195	85
Relative humidity at surface (%)	60	66	73	75	81	67	71	63	92	86
Type of tropopause	I	I	II	II	I	II	I	I	I	II
L_c = Geopotential at the tropopause (Kl.)	10·01	11·13	11·95	11·03	12·27	8·81	10·43	9·67	12·33	10·47
T_c = Temperature at the tropopause (°A.)	222	221	216	217	216	230	220	214	203	214
P_c = Pressure at the tropopause (mb.)	258	220	200	225	186	311	243	260	173	233
Mean temperature in stratosphere: (L_c+2) to (L_c+5) (°A.)	228	224	217	219	218	223	220	221	..	..
Mean temperature in stratosphere: (L_c+5) to (L_c+8) (°A.)	226	225	222	220	221	217	..	..	..	..
Mean temperature in stratosphere: (L_c+8) to (L_c+11) (°A.)	227	..	..	221	..	217	..	..	..	..
T_m = Mean temperature 1-9 Kl. (°A.)	257	259	265	261	262	257	259	249	255	251
P_s = Pressure at mean sea level (mb.)	1008	1023	1019	1014	1016	1015	1010	1006	1016	1018

WEATHER, PRESSURE CONDITIONS AND SPECIAL POINTS OF THE SOUNDINGS

210 1939

No. of sounding

380* bcy — Clouds, Cu 5 tenths and Ci. Pressure distribution: a depression is centred off north Ireland. Type VII.

381* b — Clouds, Cu and Sc 1 tenth. Pressure distribution: a wedge lying along the west of the British Isles is moving east. Type IV.

383* c — Clouds, Cu 8 tenths. Pressure distribution: pressure is high from the Azores to Scandinavia. Type XIa.

384† bcz — Clouds, Cu 7 tenths at 1·05 Kl. and Ci. Pressure distribution: a trough extends across north France and an anticyclone is centred over the Faroes. Type VIII.

385† c — Clouds, Cu tr., Sc 6 tenths, Ac 3 tenths. Pressure distribution: a complex trough extending from west of Ireland to north Spain is moving north-east. Type VIIb.

386† bcy — Clouds, Cu 7 tenths at 1·09 Kl., Ci 1 tenth. Pressure distribution: pressure is high from north Spain to Scandinavia and low over the Atlantic. Type VIIc.

387† c — Clouds, Cu, Sc 7 tenths at 0·78 Kl., Ac, As, Ci, Cs 3 tenths. Pressure distribution: a depression centred over the North Sea is filling up; an anticyclone is to south-west of the British Isles. Type I.

388† cm — Clouds, St at 0·3 Kl., Ac, Ci and Cs 10 tenths total. Pressure distribution: a deep depression is centred off south Ireland. Type VIIa.

391† bcm_o — Clouds, Ci 7 tenths. Pressure distribution: a depression is centred west of north Ireland and a trough extends from the Faroes to north Germany. Type IVa.

392† cf — Clouds, St, Sc 9 tenths +. Pressure distribution: a trough extends over the British Isles from south-south-west to north-east and is moving west. Type VIIc.

SPECIAL POINTS

No. of sounding	380	380	381	381	383	383	383	384**	385	385	385	385	385	387	387	387	387	388	388	388	388	388
P	687	662	826	811	830	797	159	880	667	566	506	497	219	879	716	651	638	950	930	690	665	512
L	3·61	3·85	1·73	1·86	1·71	2·03	13·35	1·17	3·42	4·67	5·51	5·64	11·25	1·13	2·76	3·50	3·66	0·45	0·62	2·94	3·24	5·16
T	270½	270	272	275½	281½	283½	215	284	270½	265	258½	260	218	282½	272½	269	269½	279	280	264	264	250
RH	..	..	..	..	..	..	..	..	96	83	99	84	..	54	101	66	52	..	..	..	..	..

No. of sounding	388	391	391	392	392	392
P	507	810	785	862	850	253
L	5·23	1·81	2·04	1·32	1·43	9·96
T	249	273	274	272	274	218
RH	..	..	..	..	..	..

* Meteorograph attached to air sampling apparatus. † Meteorograph attached to radio-sonde. ** Small inversion.

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No. of sounding	393	394	395	396	397	398	399	400	401	402
Date	Dec.11	Dec.12	Dec.13	Dec.14	Dec.15	Dec.16	Dec.16	Dec.18	Dec.19	Dec.20
Station	Kew	Kew	Kew	Kew	Kew	Kew	Kew	Kew	Kew	Kew
Start (G.M.T.)	15h. 30m.	16h. 43m.	16h. 20m.	9h. 55m.	9h. 38m.	9h. 40m.	11h. 30m.	11h. 23m.	16h. 15m.	16h. 15m.
L_t = Greatest geopotential(Kl.)	14·86	13·05	19·48	15·72	15·30	12·38	14·72	14·35	16·50	12·97
T_t = Corresponding temperature (°A.)	211	213	208	218	219	219	220	218	207	209
P_t = Corresponding pressure (mb.)	114	149	52	98	104	167	117	124	84	157
Place of fall	Odiham, Hampshire	Alresford, Hampshire	Ford, Sussex	Windsor, Buckingham-shire	Camberley, Surrey	Andover, Hampshire	Stock-Bridge, Hampshire	Goring, Oxfordshire	Windlesham, Surrey	Send, Woking, Surrey
Distance (Km.)	50	73	74	20	32	87	91	58	26	26
Bearing (degrees from north)	241	232	194	272	246	250	241	272	240	222
Type of balloon	Para-Kay	Dewey-Almy	Dewey-Almy	Para-Kay	Para-Kay	Para-Kay	Dewey-Almy	Dewey-Almy	Dewey-Almy	Dewey-Almy
Weight of balloon (Kg.)	0·45	0·34	0·73	0·45	0·45	0·45	0·34	0·75	0·34	0·36
Weight of instrument (Kg.)	2·14	2·55	2·47	2·14	2·23	2·23	3·01	2·97	2·39	2·45
Net free lift (Kg.)	0·86	1·45	1·53	0·86	0·77	0·77	1·49	1·53	1·51	1·75
Estimated vertical speed at start (m./sec.)	5·1	5·9	5·5	4·4	4·4	4·0	5·5	5·5	5·5	5·4
Geostrophic wind										
Speed (m./sec.)	5	6	2	7	4	13	13	9	15	8
Degrees from north	80	90	30	330	160	90	90	110	80	60
Wind (anemograph)										
Speed (m./sec.)	2	4	4	5	1	6	7	6	7	6
Degrees from north	40	45	45	90	110	40	40	45	40	50
Relative humidity at surface (%)	87	81	93	84	79	67	80	81	91	90
Type of tropopause	II	II	I	I	I	I	I	I	II	I
L_c = Geopotential at the tropopause (Kl.)	10·49	9·66	10·18	10·04	9·29	10·28	10·43	10·36	9·72	11·70
T_c = Temperature at the tropopause (°A.)	212	215	214	216	215	216	217	220	212	205
P_c = Pressure at the tropopause (mb.)	232	260	239	243	271	234	231	234	260	189
Mean temperature in stratosphere: (L_c+2) to (L_c+5) (°A.)	..	..	214	218	219	..	..	..	212	..
Mean temperature in stratosphere: (L_c+5) to (L_c+8) (°A.)	..	..	211	..	..	..	..	..	..	..
Mean temperature in stratosphere: (L_c+8) to (L_c+11) (°A.)	..	..	..	..	..	..	..	..	..	..
T_m = Mean temperature 1-9 Kl. (°A.)	251	246	247	246	246	246	247	248	250	249
P_s = Pressure at mean sea level (mb.)	1012	1024	1021	1012	1012	1021	1021	1023	1018	1027

WEATHER, PRESSURE CONDITIONS AND SPECIAL POINTS OF THE SOUNDINGS

210 1939

No. of sounding		
393†	om	Clouds, St 10 tenths. Pressure distribution: an anticyclone covers Norway, while a trough line lies south-south-west to north-east over the western British Isles. Type VIIc.
394†	cm_o	Clouds, Sc 10 tenths at 0·63 Kl. Pressure distribution: a depression is centred over Iceland and a ridge extends from south Norway to south-west of the British Isles. Type VIIc.
395†	cm_o	Clouds, St, Sc, 10 tenths at 0·56 Kl. Pressure distribution: an anticyclone over south Norway is moving south-west. Type VIIc.
396†	cm_o	Clouds, St 10 tenths at 0·56 Kl. Pressure distribution: depressions are centred off north Scotland and Cornwall and there is an anticyclone over Scandinavia. Type XII.
397†	om	Clouds, St 10 tenths. Pressure distribution: depressions are centred off north Spain and north-west Iceland and an anticyclone over south Scandinavia is moving south-west. Type VIIb.
398†	cz_o	Clouds, Sc 10 tenths. Pressure distribution: an anticyclone is centred off south Norway with a ridge extending south-west over the British Isles. Type VIIc.
399†	cz_o	Clouds, Sc 6 tenths at 0·56 Kl., Ac 3 tenths. Pressure distribution and type as ascent No. 398.
400†	cm	Clouds, Sc 10 tenths at 0·47 Kl. Pressure distribution: an anticyclone is centred over Denmark with a ridge extending over the central British Isles. Type VI.
401†	om	Clouds, St 10 tenths at 0·38 Kl. Pressure distribution: a ridge extends from east of Iceland across the British Isles to north Germany. Type VIII.
402†	cd_om_o	Clouds, St, Sc 10 tenths. Pressure distribution: an anticyclone is centred over Scotland. Type IXb.

SPECIAL POINTS

No. of sounding	393	393	394	394	394	395	395	395	395	395	395	396	396	396	396	397	397	397	398	398	398	398
P	869	847	875	865	820	864	859	728	694	680	623	605	930	887	786	770	795	780	750	814	803	434	410
L	1·27	1·46	1·23	1·31	1·73	1·31	1·35	2·62	2·98	3·13	3·79	4·00	0·67	1·04	1·97	2·13	1·85	1·99	2·30	1·74	1·84	6·29	6·68
T	272	274	267	270	270	268	271	266	263	263	257	257	272	270	265	269	262	267	267	262	266	236	236
RH	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	99	94	86	100	100	46	45

No. of sounding	398	398	399	399	399	399	400	400	400	400	401	401	401	401	401	402	402	402	402	402
P	307	290	825	818	310	285	894	880	856	583	945	925	774	760	546	860	840	825	789	781
L	8·57	8·93	1·65	1·73	8·56	9·10	1·04	1·16	1·37	4·27	0·58	0·74	2·15	2·28	4·77	1·38	1·56	1·70	2·05	2·13
T	222	221	264	268	223	223	267	270	270	254	272	277	269	269	255	269	269	270	268	269
RH	45	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

† Meteorograph attached to radio-sonde.

T = Temperature *L* = Geopotential level *P* = Pressure *RH* = Relative humidity

No.	318	323	324	325	326	328	330	331	332	333
Date	Feb. 1	Mar. 3	Mar. 16	Mar. 25	Mar. 31	Apr. 1	Apr. 3	Apr. 4	Apr. 4	Apr. 5
Station	Kew	Kew	Kew	Kew	Kew	Sealand	Sealand	Kew	Sealand	Sealand
Start (G.M.T.)	12h. 16m.	15h. 44m.	15h. 13m.	11h. 25m.	15h. 10m.	17h. 35m.	17h. 30m.	15h. 41m.	17h. 30m.	17h. 30m.

GEOPOTENTIALS, TEMPERATURES AND RELATIVE HUMIDITIES CORRESPONDING WITH ISOBARIC SURFACES

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Pressure	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*
mb.	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%
100	15·55	15	..	15·71	14	..	..	..	..	..	..	..	..	..	..	15·59	17	..	15·49	18	..	..	..	..	..	..	..	15·53	19	..
200	11·33	7	..	11·48	9	..	..	..	..	11·17	25	..	11·26	14	..	11·25	18	..	11·15	17	..	11·13	21	..	11·05	21	..	11·13	21	..
300	8·85	21	19	8·95	26	..	8·83	21	..	8·57	22	..	8·77	20	58	8·74	20	59	8·63	20	76	8·55	21	66	8·50	17	83	8·59	18	56
400	6·97	36	19	7·03	39	..	6·94	37	..	6·71	30	..	6 89	35	62	6·86	35	52	6·75	36	74	6·70	31	67	6·65	32	79	6·73	33	58
500	5·42	49	19	5·47	51	..	5·38	49	..	5·19	41	..	5·35	46	68	5·32	46	46	5·21	47	95	5·17	46	77	5·13	45	80	5·20	46	64
600	4·09	59	20	4·13	62	..	4·07	55	..	3·91	49	..	4·03	56	70	4·01	55	71	3·88	58	99	3·85	57	85	3·81	56	69	3·89	55	82
700	2·93	67	23	2·95	69	..	2·93	62	..	2·79	57	..	2·89	64	64	2·86	63	87	2·72	65	107	2·69	65	86	2·67	63	94	2·75	63	106
800	1·89	71	29	1·91	75	..	1·91	68	..	1·79	63	..	1·87	69	43	1·83	70	110	1·69	71	112	1·67	71	104	1·65	69	111	1·74	68	70
900	0·97	75	46	0·97	84	..	1·00	73	..	0·89	70	..	0·94	77	42	0·91	78	86	0·77	75	110	0·74	78	101	0·73	..	..	0·83	74	56
1000	0·15	..	..	0·11	85	..	0·17	..	..	0·07	78	..	0·09	84	..	0·06	85	..	..	..	..	..	..	..	..	..	..	..	..	..

PRESSURES, TEMPERATURES AND HUMIDITIES AT GIVEN GEOPOTENTIALS

212 1939

Geopotentials	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*
Kl.	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%
25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
23	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
22	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
21	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
18	..	..	..	69	14	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
17	79	16	..	81	14	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
16	93	15	..	95	14	..	..	..	..	..	..	..	..	..	..	94	17	..	93	18	..	..	..	..	..	..	..
15	109	14	..	113	14	..	..	..	..	..	..	..	..	..	..	110	19	..	108	18	..	..	..	..	109	20	..
14	129	13	..	132	15	..	..	..	..	..	..	..	..	..	..	129	18	..	127	18	..	..	..	..	125	18	..	127	20	..
13	151	14	..	156	13	..	..	..	..	151	24	..	151	16	..	151	18	..	149	19	..	..	..	..	147	20	..	149	21	..
12	179	10	..	183	9	..	..	..	..	176	25	..	177	15	..	178	17	..	175	18	..	174	22	..	172	20	..	175	22	..
11	211	6	..	216	10	..	..	..	..	205	25	..	209	14	..	209	17	..	205	17	..	204	21	..	201	21	..	205	20	..
10	249	12	..	255	19	..	249	15	..	240	23	..	246	13	..	245	15	..	241	16	..	239	20	..	236	20	..	239	17	..
9	293	20	..	298	26	..	292	20	..	280	23	..	289	18	..	288	18	60	283	17	..	279	21	..	277	19	..	281	16	..
8	343	26	19	347	33	..	341	28	..	328	23	..	338	26	59	337	26	57	331	25	76	327	22	67	325	20	82	329	23	56
7	398	35	19	402	39	..	396	36	..	382	28	..	393	34	61	392	34	53	385	34	74	382	29	67	379	29	80	385	31	58
6	461	43	19	464	46	..	458	45	..	444	37	..	455	42	65	453	40	48	446	42	84	443	37	69	440	38	72	446	40	61
5	530	52	19	533	55	..	528	48	..	514	42	..	525	49	70	523	49	45	515	49	95	512	48	79	509	46	81	514	47	64
4	607	60	20	610	62	..	606	55	..	592	48	..	603	56	69	601	55	71	590	57	98	588	56	86	585	54	70	591	54	79
3	694	67	23	696	68	..	693	62	..	680	55	..	689	63	65	687	62	94	675	63	105	672	63	81	670	61	86	677	61	101
2·5	740	68	24	742	71	..	741	65	..	728	59	..	736	65	59	734	66	90	720	67	108	718	66	90	716	64	99	724	65	109
2	789	71	28	792	75	..	791	67	..	778	61	..	786	68	46	783	69	109	768	70	111	766	69	98	764	67	111	773	66	84
1·5	842	73	34	842	79	..	843	70	..	831	65	..	838	72	41	835	73	108	819	72	112	818	72	107	815	70	112	825	69	53
1	897	75	45	896	83	..	899	73	..	887	69	..	893	76	41	890	77	89	873	74	111	872	76	103	869	72	114	880	72	51
0·5	956	70	90	954	85	..	958	76	..	946	73	..	951	80	..	948	81	71	930	77	..	928	80	99	927	..	..	938	76	70
Ground	1017	77	78	1012	86	..	1019	82	..	1007	79	..	1011	86	53	1007	85	66	990	81	89	986	84	88	987	80	85	998	80	81

Tables of correlation coefficients, mean monthly pressures and temperatures for geodynamic levels, and corrections for kilometre heights will be found in the Introduction to the *Observatories' Year Book, 1935*.

LAPSE RATE OF TEMPERATURE BETWEEN GIVEN GEOPOTENTIALS

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Kl.	*Degrees Absolute per kiloleo*									
24 to 25	..	..	..	..	..	..	..	..	..	..
23 to 24	..	..	..	..	..	..	..	..	..	..
22 to 23	..	..	..	..	..	..	..	..	..	..
21 to 22	..	..	..	..	..	..	..	..	..	..
20 to 21	..	..	..	..	..	..	..	..	..	..
19 to 20	..	..	..	..	..	..	..	..	..	..
18 to 19	..	..	..	..	..	..	..	..	..	..
17 to 18	..	0	..	..	..	..	..	..	..	..
16 to 17	−1	0	..	..	..	..	..	..	..	..
15 to 16	−1	0	..	..	..	2	0	..	..	..
14 to 15	−1	1	..	..	..	−1	0	..	0	0
13 to 14	1	−2	..	..	..	0	1	..	2	1
12 to 13	−4	−4	..	1	−1	−1	−1	..	0	1
11 to 12	−4	1	..	0	−1	0	−1	−1	1	−2
10 to 11	6	9	..	−2	−1	−2	−1	−1	−1	−3
9 to 10	8	7	5	0	5	3	1	1	−1	−1
8 to 9	6	7	8	0	8	8	8	1	1	7
7 to 8	9	6	8	5	8	8	9	7	9	8
6 to 7	8	7	9	9	8	6	8	8	9	9
5 to 6	9	9	3	5	7	9	7	11	8	7
4 to 5	8	7	7	6	7	6	8	8	8	7
3 to 4	7	6	7	7	7	7	6	7	7	7
2·5 to 3	4	4	6	7	4	8	6	7	6	7
2 to 2·5	4	8	5	5	6	6	6	5	7	2
1·5 to 2	6	9	5	7	9	9	6	6	4	8
1 to 1·5	3	9	5	7	7	7	3	8	5	5
0·5 to 1	−10	3	7	9	9	7	5	7	} 8 {	8
Gd. to 0·5	13	1	12	11	11	10	9	9		8

T = Temperature *L* = Geopotential level *P* = Pressure *RH* = Relative humidity

No.	334	335	336	337	338	339	340	341	342	343
Date	Apr.6	Apr.6	Apr.7	Apr.8	Apr.9	Apr.10	Apr.11	Apr.11	Apr.12	Apr.13
Station	Kew	Sealand	Sealand	Sealand	Sealand	Sealand	Kew	Kew	Sealand	Kew
Start (G.M.T.)	11h. 5m.	17h. 50m.	18h. 15m.	17h. 47m.	7h. 10m.	18h. 5m.	15h. 15m.	18h. 0m.	17h. 35m.	11h. 10m.

GEOPOTENTIALS, TEMPERATURES AND RELATIVE HUMIDITIES CORRESPONDING WITH ISOBARIC SURFACES

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Pressure	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*
mb.	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%
100	15·69	21	..	..	..	..	15·75	18	..	15·67	13	..	15·81	15	..	15·83	18	..	15·77	14	..	..	..	..	..	..	..	15·91	14	..
200	11·29	21	..	11·22	21	..	11·39	20	..	11·49	7	..	11·56	10	..	11·52	12	..	11·57	8	..	11·53	8	..	11·55	11	..	11·59	12	..
300	8·74	19	..	8·69	18	35	8·83	24	40	8·96	26	75	9·00	27	..	9·01	25	52	9·05	26	40	9·01	25	34	9·01	26	39	9·03	28	..
400	6·87	35	..	6·83	32	34	6·94	34	38	7·03	41	75	7·07	42	36	7·08	41	46	7·12	42	38	7·09	40	35	7·08	42	40	7·09	43	..
500	5·31	48	..	5·31	44	33	5·40	47	38	5·45	54	75	5·48	55	31	5·49	53	52	5·53	54	37	5·51	53	35	5·49	55	46	5·50	54	..
600	3·99	57	..	4·00	54	37	4·08	56	37	4·10	62	97	4·12	64	35	4·15	63	51	4·18	65	41	4·16	63	37	4·13	63	49	4·15	64	..
700	2·84	65	..	2·85	62	46	2·93	65	40	2·93	67	101	2·94	69	67	2·97	71	27	2·99	73	56	2·98	70	53	2·95	70	51	2·96	73	..
800	1·81	70	..	1·85	64	94	1·90	70	77	1·89	73	110	1·90	71	110	1·91	78	46	1·93	80	65	1·93	78	61	1·90	76	59	1·91	75	..
900	0·89	72	..	0·93	71	69	0·99	73	76	0·96	78	97	0·97	79	111	0·97	83	63	0·97	88	74	0·98	86	50	0·96	81	65	0·97	80	..
1000	0·07	78	..	0·11	..	..	0·15	..	..	0·11	83	..	0·13	..	..	0·10	..	..	0·09	95	48	0·11	..	..	0·10	..	..	0·12	85	..

PRESSURES, TEMPERATURES AND HUMIDITIES AT GIVEN GEOPOTENTIALS

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Geopotentials	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*
Kl.	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%
25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
23	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
22	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	37	16	..
21	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	43	13	..	..	..	..	..	..	..	44	16	..
20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	50	15	..	..	..	..	..	..	..	51	15	..
19	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	59	14	..	..	..	..	..	..	..	61	15	..
18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	70	14	..	..	..	..	..	..	..	71	14	..
17	81	21	..	..	..	..	..	..	..	81	13	..	83	17	..	..	..	..	82	14	..	..	..	..	..	..	..	84	14	..
16	95	21	..	..	..	..	..	..	..	95	13	..	97	15	..	97	17	..	96	14	..	..	..	..	..	..	..	99	14	..
15	111	20	..	..	..	..	113	18	..	111	14	..	114	15	..	114	17	..	113	14	..	..	..	..	..	..	..	116	16	..
14	131	21	..	..	..	..	132	19	..	131	13	..	134	17	..	134	19	..	133	15	..	..	..	..	..	..	..	136	19	..
13	153	22	..	..	..	..	155	20	..	155	10	..	158	14	..	157	17	..	157	13	..	157	15	..	157	14	..	159	20	..
12	180	21	..	177	20	..	181	19	..	183	6	..	186	8	..	185	14	..	186	8	..	185	11	..	186	12	..	187	16	..
11	209	21	..	207	20	..	213	18	..	217	10	..	219	14	..	218	13	..	219	9	..	218	10	..	219	13	..	220	14	..
10	245	20	..	243	17	..	249	19	..	255	18	..	257	20	..	256	17	..	258	17	..	256	18	..	257	19	..	258	21	..
9	287	18	..	286	17	..	292	23	..	298	26	75	300	27	..	301	25	52	302	26	40	300	25	33	301	26	39	301	28	..
8	337	26	..	335	23	34	341	29	39	347	32	75	349	35	..	350	33	50	352	35	38	349	33	33	350	34	39	350	36	..
7	392	34	..	391	31	34	397	34	38	402	41	75	404	42	36	405	42	46	407	43	38	405	41	35	405	43	40	405	44	..
6	454	42	..	453	39	33	459	42	37	463	50	75	465	50	33	466	50	43	468	49	38	468	48	35	466	51	44	466	50	..
5	523	50	..	522	47	34	528	50	38	531	57	80	533	58	30	536	57	62	537	58	37	537	57	35	534	59	50	536	58	..
4	600	57	..	600	54	37	606	57	37	608	62	100	610	65	35	612	64	47	614	67	43	613	64	38	610	64	44	612	65	..
3	686	64	..	687	61	45	693	64	40	693	66	99	695	69	62	697	71	27	699	73	56	698	70	53	696	70	51	697	72	..
2·5	733	67	..	733	64	51	739	67	52	739	69	93	740	72	64	743	74	33	745	75	59	744	74	56	742	73	50	742	75	..
2	782	70	..	783	66	75	789	70	69	788	72	109	790	70	116	791	78	41	793	80	64	793	77	60	790	75	58	791	75	..
1·5	834	71	..	836	67	82	842	69	87	840	76	113	841	74	93	842	79	84	844	83	72	844	81	61	841	77	67	842	78	..
1	888	72	..	892	71	71	898	73	76	895	78	99	896	79	108	896	82	64	897	87	75	897	86	50	895	81	66	897	80	..
0·5	946	74	..	952	..	..	957	78	66	953	79	..	954	80	96	952	85	..	953	91	64	953	90	..	952	86	58	954	83	..
Ground	1007	79	..	1013	80	69	1018	83	54	1013	84	73	1015	81	92	1012	91	49	1010	96	43	1011	92	69	1011	91	50	1013	88	..

Tables of correlation coefficients, mean monthly pressures and temperatures for geodynamic levels, and corrections for kilometre heights will be found in the Introduction to the *Observatories' Year Book, 1935*

LAPSE RATE OF TEMPERATURE BETWEEN GIVEN GEOPOTENTIALS

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Kl.	*Degrees Absolute per kiloleo*									
24 to 25	..	..	..	..	..	..	..	..	..	..
23 to 24	..	..	..	..	..	..	..	..	..	..
22 to 23	..	..	..	..	..	..	..	..	..	..
21 to 22	..	..	..	..	..	..	..	..	..	0
20 to 21	..	..	..	..	..	..	2	..	..	-1
19 to 20	..	..	..	..	..	..	-1	..	..	0
18 to 19	..	..	..	..	..	..	0	..	..	-1
17 to 18	..	..	..	..	..	..	0	..	..	0
16 to 17	0	..	..	0	-2	..	0	..	..	0
15 to 16	-1	..	-1	1	0	0	0	..	..	2
14 to 15	1	..	1	-1	2	2	1	..	..	3
13 to 14	1	..	1	-3	-3	-2	-2	..	..	1
12 to 13	-1	..	-1	-4	-6	-3	-5	-4	-2	-4
11 to 12	0	0	-1	4	6	-1	1	-1	1	-2
10 to 11	-1	-3	1	8	6	4	8	8	6	7
9 to 10	-2	0	4	8	7	8	9	7	7	7
8 to 9	8	6	6	6	8	8	9	8	8	8
7 to 8	8	8	5	9	7	9	8	8	9	8
6 to 7	8	8	8	9	8	8	6	7	8	6
5 to 6	8	8	8	7	8	7	9	9	8	8
4 to 5	7	7	7	5	7	7	9	7	5	7
3 to 4	7	7	7	4	4	7	6	6	6	7
2·5 to 3	6	6	6	4	6	6	5	7	7	5
2 to 2·5	6	5	5	6	-3	7	8	7	5	-1
1·5 to 2	3	0	-3	8	8	2	8	8	4	7
1 to 1·5	1	8	9	5	9	7	7	9	6	4
0·5 to 1	5	} 9 {	9	2	2	7	8	8	10	5
Gd. to 0·5	9		10	10	2	11	10	5	11	10

T = Temperature *L* = Geopotential level *P* = Pressure *RH* = Relative humidity

No.	345	347	348	349	350	351	352	353	354	355
Date	Apr. 14	Apr. 16	Apr. 18	Apr. 19	Apr. 20	Apr. 20	Apr. 21	Apr. 22	Apr. 23	Apr. 24
Station	Sealand	Sealand	Sealand	Sealand	Kew	Sealand	Sealand	Sealand	Sealand	Sealand
Start (G.M.T.)	17h. 30m.	7h. 30m.	18h. 15m.	17h. 30m.	14h. 0m.	17h. 30m.	17h. 30m.	17h. 35m.	7h. 15m.	17h. 30m.

GEOPOTENTIALS, TEMPERATURES AND RELATIVE HUMIDITIES CORRESPONDING WITH ISOBARIC SURFACES

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Pressure	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*
mb.	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%
100	..	..	..	..	..	..	15·80	15	..	15·89	14	..	..	..	..	15·93	18	..	15·79	20	..	15·72	18	..	15·65	16	..	15·67	21	..
200	11·39	24	..	11·55	13	..	11·60	6	..	11·67	10	..	11·63	8	..	11·67	9	..	11·47	13	..	11·36	18	..	11·33	15	..	11·18	28	..
300	8·79	24	57	8·99	28	35	9·09	26	..	9·17	25	28	9·13	24	..	9·13	26	29	8·97	24	48	8·82	25	52	8·81	23	77	8·53	28	48
400	6·87	38	60	7·04	43	36	7·17	41	..	7·25	40	27	7·21	41	..	7·21	41	28	7·02	39	49	6·91	39	51	6·90	39	86	6·65	30	54
500	5·32	48	53	5·45	55	37	5·59	52	71	5·50	54	27	5·63	53	..	5·61	54	28	5·45	50	43	5·35	50	46	5·33	51	95	5·15	41	59
600	3·99	58	57	4·09	63	29	4·25	61	76	4·31	64	27	4·28	63	..	4·27	63	35	4·12	60	46	4·01	55	55	4·00	59	100	3·85	51	61
700	2·83	65	94	2·91	67	68	3·08	65	79	3·13	72	32	3·10	70	..	3·09	70	35	2·95	67	41	2·88	60	99	2·85	62	103	2·72	60	75
800	1·81	72	104	1·87	72	118	2·05	70	61	2·08	76	40	2·05	77	..	2·04	76	31	1·93	72	38	1·87	67	79	1·83	68	107	1·71	67	80
900	0·87	78	104	0·95	76	106	1·13	74	..	1·14	79	53	1·11	82	..	1·10	80	42	0·99	79	35	0·96	74	71	0·92	73	115	0·80	74	79
1000	0·03	..	..	0·11	..	..	0·30	80	..	0·29	..	..	0·25	90	..	0·25	..	..	0·14	..	..	0·12	..	..	0·09	..	..	..	..	..

PRESSURES, TEMPERATURES AND HUMIDITIES AT GIVEN GEOPOTENTIALS

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Geopotentials	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*
Kl.	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%
25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
23	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
22	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
21	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
17	..	..	..	..	..	..	..	..	..	84	16	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	..	98	15	..	..	..	..	99	18	..	..	..	..	..	..	..	94	16	..	95	21	..
15	..	..	..	..	..	..	114	16	..	116	14	..	..	..	..	116	18	..	113	19	..	112	21	..	111	16	..	111	23	..
14	133	22	..	135	20	..	134	15	..	136	13	..	..	..	..	136	16	..	133	17	..	131	20	..	130	16	..	130	25	..
13	156	26	..	158	17	..	158	11	..	161	10	..	159	11	..	160	14	..	156	15	..	154	19	..	153	17	..	151	28	..
12	182	25	..	185	13	..	187	5	..	189	10	..	188	7	..	189	9	..	184	15	..	180	18	..	180	18	..	177	28	..
11	212	24	..	218	14	..	221	10	..	223	11	..	222	10	..	223	13	..	216	11	..	211	17	..	211	15	..	206	28	..
10	248	22	..	256	21	..	260	18	..	263	18	..	261	16	..	262	20	..	255	16	..	249	16	..	248	14	..	239	28	..
9	290	24	56	299	28	..	304	27	..	308	26	28	306	25	..	306	27	28	298	23	..	291	23	..	291	21	76	279	28	..
8	338	30	58	348	36	36	354	35	..	359	34	28	356	34	..	356	34	30	347	32	48	340	31	54	340	30	80	325	27	50
7	393	38	60	402	43	37	409	42	..	415	43	27	412	42	..	412	43	28	402	39	50	394	38	51	394	38	85	379	28	53
6	454	43	56	463	51	38	472	49	70	478	51	27	475	51	..	474	51	25	463	46	48	455	45	48	455	46	92	441	34	56
5	522	50	51	531	58	35	542	56	74	547	59	27	545	58	..	543	57	31	532	53	46	524	52	46	523	53	97	510	42	59
4	599	58	56	607	64	29	620	62	76	625	65	27	622	64	..	621	65	37	610	60	46	601	55	55	600	59	100	587	50	60
3	685	64	88	692	66	60	708	66	79	711	72	33	709	71	..	708	71	34	697	67	41	688	59	98	686	61	103	674	58	73
2·5	731	68	95	738	70	106	755	68	71	758	74	36	756	74	..	754	74	31	743	70	39	736	62	92	733	64	103	721	61	79
2	779	71	102	787	72	118	806	71	60	808	76	40	806	77	..	804	76	32	792	72	39	787	66	80	782	67	104	770	65	77
1·5	831	74	104	839	73	113	859	72	67	860	78	47	858	79	..	856	78	38	845	75	37	839	69	76	835	70	113	822	68	78
1	886	77	108	894	76	106	916	75	..	915	80	55	913	83	..	911	81	41	900	79	35	894	73	71	891	73	115	878	72	76
0·5	943	..	..	952	80	95	975	79	..	974	..	..	970	87	..	969	..	44	957	82	..	953	78	..	949	..	105	935	..	..
Ground	1002	86	63	1013	82	94	1036	83	71	1035	85	60	1029	94	..	1029	86	54	1017	87	30	1015	81	75	1011	80	85	995	81	66

Tables of correlation coefficients, mean monthly pressures and temperatures for geodynamic levels, and corrections for kilometre heights will be found in the Introduction to the *Observatories' Year Book, 1935*.

LAPSE RATE OF TEMPERATURE BETWEEN GIVEN GEOPOTENTIALS

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Kl.	*Degrees Absolute per kiloleo*										
24 to 25	..	..	..	..	..	..	..	..	..	..	..
23 to 24	..	..	..	..	..	..	..	..	..	..	..
22 to 23	..	..	..	..	..	..	..	..	..	..	..
21 to 22	..	..	..	..	..	..	..	..	..	..	..
20 to 21	..	..	..	..	..	..	..	..	..	..	..
19 to 20	..	..	..	..	..	..	..	..	..	..	..
18 to 19	..	..	..	..	..	..	..	..	..	..	..
17 to 18	..	..	..	..	..	..	..	..	..	..	..
16 to 17	..	..	..	-1	..	..	..	..	..	..	..
15 to 16	..	..	..	-1	..	0	..	2	0	2	
14 to 15	..	-4	-1	-1	..	-2	-2	-1	0	2	
13 to 14	4	-3	-4	-3	..	-2	-2	-1	1	3	
12 to 13	-1	-4	-6	0	-4	-5	0	-1	1	0	
11 to 12	-1	1	5	1	3	4	-4	-1	-3	0	
10 to 11	-2	7	8	7	6	7	5	-1	-1	0	
9 to 10	2	7	9	8	9	7	7	7	7	0	
8 to 9	6	8	8	8	9	7	9	8	9	-1	
7 to 8	8	7	7	9	8	9	7	7	8	1	
6 to 7	5	8	7	8	9	8	7	7	8	6	
5 to 6	7	7	7	8	7	6	7	7	7	8	
4 to 5	8	6	6	6	6	8	7	3	6	8	
3 to 4	6	2	4	7	7	6	7	4	2	8	
2·5 to 3	6	7	5	3	6	6	6	7	6	6	
2 to 2·5	6	4	5	6	5	5	4	7	6	7	
1·5 to 2	7	2	4	4	5	3	7	7	6	7	
1 to 1·5	6	6	5	3	8	6	7	8	5	8	
0·5 to 1	} 9	7	8	} 5	9	} 5	7	9	} 7	9	
Gd. to 0·5	{	5	8	{	12	{	10	6	{		

T = Temperature *L* = Geopotential level *P* = Pressure *RH* = Relative humidity

No.	356	357	358	362	363	364	365	366	367	368
Date	Apr. 25	Apr. 25	Apr. 26	Apr. 29	Apr. 29	Apr. 30	May 1	May 2	May 3	May 4
Station	Kew	Sealand	Kew	Kew	Kew	Kew	Kew	Kew	Kew	Kew
Start (G.M.T.)	9h. 22m.	17h. 30m.	14h. 51m.	9h. 5m.	17h. 59m.	7h. 8m.	9h. 13m.	9h. 4m.	9h. 13m.	9h. 51m.

GEOPOTENTIALS, TEMPERATURES AND RELATIVE HUMIDITIES CORRESPONDING WITH ISOBARIC SURFACES

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Pressure	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*
mb.	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%
100	15·72	22	..	15·70	21	..	15·68	22	..	..	..	..	..	..	..	15·80	20	..	..	..	..	15·86	20	..	15·81	19	..	15·83	20	..
200	11·23	27	..	11·25	24	..	11·25	26	..	11·37	27	..	11·35	24	..	11·39	21	..	11·41	20	..	11·45	22	..	11·43	20	..	11·46	17	..
300	8·57	26	77	8·67	22	60	8·67	21	..	8·75	20	68	8·78	21	81	8·87	21	78	8·91	22	86	8·87	24	..	8·89	25	..	8·91	27	..
400	6·71	30	86	6·78	36	59	6·79	34	..	6·90	32	66	6·91	33	87	6·97	37	81	7·01	39	89	6·97	38	..	6·98	40	..	6·99	40	..
500	5·19	41	85	5·24	45	57	5·27	43	..	5·37	45	59	5·37	46	103	5·41	51	87	5·43	50	95	5·41	49	..	5·41	50	..	5·41	52	..
600	3·91	51	78	3·94	51	69	3·97	50	..	4·07	54	69	4·07	55	112	4·07	61	91	4·10	60	99	4·08	60	..	4·08	60	..	4·07	61	..
700	2·77	61	81	2·82	57	91	2·85	58	..	2·93	60	100	2·92	63	117	2·90	66	102	2·93	69	111	2·91	66	..	2·91	66	..	2·91	68	..
800	1·76	67	85	1·81	66	77	1·85	65	..	1·92	65	103	1·91	67	122	1·87	68	107	1·89	74	113	1·89	73	..	1·89	71	..	1·87	72	..
900	0·85	74	76	0·91	72	61	0·95	72	..	1·01	71	88	0·99	72	122	0·97	72	109	0·96	75	112	0·96	73	..	0·97	74	..	0·95	74	..
1000	0·01	..	..	0·07	..	..	0·11	80	..	0·19	79	..	0·17	..	..	0·13	78	..	0·12	79	..	0·13	79	..	0·13	82	..	0·11	82	..

PRESSURES, TEMPERATURES AND HUMIDITIES AT GIVEN GEOPOTENTIALS

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Geopotentials	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*
Kl.	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%
25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
23	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
22	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
21	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	45	26	..
20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	51	21	..	..	..	..	..	..	..	52	24	..
19	60	22	..	..	..	..	..	..	..	..	..	..	..	..	..	60	21	..	..	..	..	61	22	..	..	..	..	61	23	..
18	70	21	..	..	..	..	..	..	..	..	..	..	..	..	..	71	20	..	..	..	..	71	22	..	..	..	..	71	21	..
17	82	21	..	81	21	..	..	..	..	..	..	..	..	..	..	83	20	..	..	..	..	83	21	..	..	..	..	83	20	..
16	96	22	..	95	21	..	..	..	..	..	..	..	..	..	..	97	20	..	..	..	..	98	20	..	97	19	..	97	20	..
15	112	24	..	111	22	..	111	21	..	..	..	..	..	..	..	113	20	..	..	..	..	115	21	..	114	19	..	114	20	..
14	130	25	..	131	23	..	130	23	..	133	24	..	132	22	..	133	23	..	..	..	..	134	21	..	133	21	..	133	20	..
13	152	26	..	153	25	..	152	24	..	155	25	..	155	23	..	155	21	..	..	..	..	157	22	..	156	21	..	157	20	..
12	177	27	..	177	25	..	178	25	..	181	27	..	181	24	..	182	21	..	..	..	..	184	23	..	183	20	..	183	18	..
11	207	27	..	207	23	..	208	25	..	212	27	..	211	23	..	213	18	..	214	17	..	215	20	..	215	17	..	215	16	..
10	241	27	..	243	18	..	243	21	..	247	25	..	247	21	..	250	15	..	252	12	..	251	21	..	252	17	..	253	19	..
9	281	26	..	285	19	60	285	19	..	289	21	..	290	21	..	293	20	77	296	21	86	294	23	..	295	24	..	296	26	..
8	327	26	79	333	27	60	333	26	..	338	23	67	339	25	84	342	28	79	345	29	87	343	30	..	344	32	..	344	32	..
7	382	29	85	387	35	59	388	32	..	394	31	66	395	32	87	398	37	81	400	39	89	398	38	..	399	40	..	399	40	..
6	444	35	87	449	41	59	450	38	..	457	40	62	457	40	95	460	46	84	462	47	86	460	44	..	460	47	..	461	48	..
5	514	42	82	517	46	54	519	44	..	527	48	61	527	49	109	529	54	89	531	53	91	529	52	..	529	53	..	529	54	..
4	592	51	78	595	51	65	598	50	..	605	54	71	605	55	112	606	61	92	608	61	100	606	60	..	606	60	..	606	61	..
3	679	59	78	683	55	93	686	56	..	693	60	99	693	62	117	691	66	101	694	68	110	693	66	..	692	66	..	692	67	..
2·5	725	62	83	731	60	86	734	60	..	740	62	117	740	65	119	737	67	105	739	71	113	738	69	..	739	68	..	738	70	..
2	775	65	85	781	65	78	784	64	..	791	64	107	790	67	121	786	68	106	788	73	113	787	72	..	788	70	..	787	71	..
1·5	827	68	86	834	69	70	837	67	..	845	67	84	843	69	122	839	70	108	841	75	112	840	75	..	841	71	..	839	73	..
1	882	73	81	890	72	62	893	71	..	902	71	89	899	72	122	895	72	109	896	75	112	896	73	..	896	74	..	894	73	..
0·5	940	78	..	947	75	..	953	75	..	961	75	..	958	..	119	954	75	..	954	77	..	955	75	..	954	78	..	953	78	..
Ground	1000	83	69	1008	80	66	1013	81	..	1022	81	81	1020	79	96	1015	79	98	1014	80	98	1015	80	..	1015	83	..	1012	84	..

Tables of correlation coefficients, mean monthly pressures and temperatures for geodynamic levels, and corrections for kilometre heights will be found in the Introduction to the *Observatories' Year Book, 1935.*

LAPSE RATE OF TEMPERATURE BETWEEN GIVEN GEOPOTENTIALS

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Kl.	*Degrees Absolute per kiloleo*									
24 to 25	..	..	..	..	..	..	..	..	..	..
23 to 24	..	..	..	..	..	..	..	..	..	..
22 to 23	..	..	..	..	..	..	..	..	..	..
21 to 22	..	..	..	..	..	..	..	..	..	..
20 to 21	..	..	..	..	..	..	..	..	..	−2
19 to 20	..	..	..	..	..	0	..	..	..	−1
18 to 19	−1	..	..	..	..	−1	..	0	..	−2
17 to 18	0	..	..	..	..	0	..	−1	..	−1
16 to 17	1	0	..	..	..	0	..	−1	..	0
15 to 16	2	1	..	..	..	0	..	1	0	0
14 to 15	1	1	2	−1	1	3	..	0	2	0
13 to 14	1	2	1	1	1	−2	..	1	0	0
12 to 13	1	0	1	2	1	0	..	1	−1	−2
11 to 12	0	−2	0	0	−1	−3	..	−3	−3	−2
10 to 11	0	−5	−4	−2	−2	−3	−5	1	0	3
9 to 10	−1	1	−2	−4	0	5	9	2	7	7
8 to 9	0	8	7	2	4	8	8	7	8	6
7 to 8	3	8	6	8	7	9	10	8	8	8
6 to 7	6	6	6	9	8	9	8	6	7	8
5 to 6	7	5	6	8	9	8	6	8	6	6
4 to 5	9	5	6	6	6	7	8	8	7	7
3 to 4	8	4	6	6	7	5	7	6	6	6
2·5 to 3	7	9	8	5	6	1	7	6	4	7
2 to 2·5	5	10	6	5	4	3	3	6	5	2
1·5 to 2	7	8	7	6	4	4	3	7	2	2
1 to 1·5	9	6	8	7	5	4	1	−5	5	1
0·5 to 1	9	7	9	8	} 8 {	6	4	4	8	10
Gd. to 0·5	10	11	11	11		9	6	10	10	11

T = Temperature *L* = Geopotential level *P* = Pressure *RH* = Relative humidity

No.	369	371	372	373	374	375	376	377	378	379
Date	May 16	May 31	June 1	June 8	June 8	June 12	June 12	June 12	June 13	June 13
Station	Kew	Kew	Kew	Kew	Kew	Sealand	Sealand	Sealand	Sealand	Sealand
Start (G.M.T.)	19h. 40m.	15h. 11m.	20h. 30m.	18h. 0m.	18h. 20m.	17h. 20m.	18h. 10m.	19h. 0m.	13h. 15m.	14h. 0m.

GEOPOTENTIALS, TEMPERATURES AND RELATIVE HUMIDITIES CORRESPONDING WITH ISOBARIC SURFACES

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Pressure	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*
mb.	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%
100	..	..	..	16·01	18	..	16·01	18	..	16·04	17	..	16·18	19	..	15·98	22	..	15·89	22	..	..	..	..	15·99	21	..	16·09	22	..
200	11·31	23	..	11·73	12	..	11·70	14	..	11·77	14	..	11·88	15	..	11·49	28	..	11·44	26	..	11·61	31	..	11·57	18	..	11·65	19	..
300	8·73	21	..	9·18	28	..	9·15	28	12	9·21	30	50	9·29	32	33	8·85	28	..	8·82	27	53	8·95	32	..	8·99	29	..	9·05	31	..
400	6·85	34	..	7·24	42	..	7·21	43	12	7·25	45	49	7·31	48	38	6·91	39	..	6·90	40	52	6·97	44	..	7·03	45	77	7·07	46	..
500	5·31	46	..	5·65	56	..	5·61	55	12	5·64	58	48	5·67	60	35	5·35	48	..	5·35	46	53	5·40	50	..	5·43	55	88	5·46	57	..
600	3·99	58	..	4·28	66	..	4·25	65	13	4·27	67	52	4·29	69	41	4·04	57	..	4·03	56	50	4·07	58	..	4·07	60	90	4·10	62	..
700	2·84	64	..	3·09	74	..	3·07	72	12	3·07	74	53	3·09	76	42	2·89	62	..	2·89	62	65	2·91	64	..	2·91	64	59	2·93	66	..
800	1·81	69	..	2·02	80	..	2·01	79	9	2·01	80	59	2·01	82	39	1·88	67	..	1·88	66	78	1·89	69	..	1·89	68	103	1·91	70	..
900	0·89	75	..	1·07	83	..	1·06	82	19	1·06	81	87	1·07	82	69	0·97	74	..	0·97	74	65	0·97	77	..	0·98	75	86	0·98	77	..
1000	0·05	82	..	0·20	..	..	0·21	..	..	0·20	..	..	0·20	89	..	0·13	..	..	..	..	..	0·13	..	..	0·13	..	..	0·13	..	..

PRESSURES, TEMPERATURES AND HUMIDITIES AT GIVEN GEOPOTENTIALS

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Geopotentials	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*
Kl.	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%
25	..	..	..	..	..	..	..	..	..	24	24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
24	..	..	..	..	..	..	..	..	..	28	23	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
23	..	..	..	..	..	..	..	..	..	33	22	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	34	27	..
22	..	..	..	39	22	..	..	..	..	39	21	..	40	22	..	..	..	..	..	..	..	..	..	..	..	..	..	40	26	..
21	..	..	..	45	21	..	..	..	..	45	20	..	47	21	..	..	..	..	..	..	..	..	..	..	..	..	..	47	25	..
20	..	..	..	53	20	..	54	19	..	53	19	..	55	20	..	..	..	..	..	..	..	..	..	..	..	..	..	54	24	..
19	..	..	..	62	20	..	62	18	..	62	19	..	64	20	..	..	..	..	..	..	..	..	..	..	62	23	..	63	23	..
18	..	..	..	73	18	..	73	19	..	73	18	..	75	19	..	73	23	..	72	23	..	..	..	..	73	22	..	74	24	..
17	..	..	..	85	18	..	85	17	..	86	17	..	88	19	..	85	21	..	84	22	..	..	..	..	85	21	..	87	23	..
16	..	..	..	100	18	..	100	18	..	101	17	..	103	18	..	100	22	..	98	22	..	..	..	..	100	21	..	101	22	..
15	..	..	..	117	16	..	117	18	..	118	16	..	121	17	..	117	23	..	115	22	..	119	26	..	117	22	..	118	24	..
14	..	..	..	138	16	..	138	18	..	139	15	..	142	17	..	136	25	..	135	23	..	139	28	..	136	23	..	138	24	..
13	153	20	..	162	14	..	162	18	..	163	14	..	167	14	..	159	27	..	157	25	..	162	30	..	159	24	..	162	24	..
12	179	22	..	191	11	..	191	15	..	193	12	..	196	14	..	185	29	..	183	26	..	189	30	..	187	20	..	189	20	..
11	210	23	..	225	15	..	224	16	..	226	15	..	230	19	..	215	27	..	214	26	..	219	31	..	219	18	..	222	20	..
10	245	22	..	264	21	..	263	21	..	265	23	..	269	26	..	251	26	..	250	24	..	255	27	..	256	22	..	260	25	..
9	287	21	..	308	29	..	307	29	12	309	31	49	313	34	34	293	27	..	292	25	..	297	31	..	299	29	..	303	31	..
8	336	25	..	358	36	..	356	37	12	358	39	49	362	42	37	341	34	..	340	33	51	345	39	..	348	37	67	351	40	..
7	391	33	..	414	44	..	411	44	12	414	46	49	417	51	39	395	39	..	394	39	52	399	44	..	402	45	77	404	47	..
6	453	40	..	477	53	..	474	52	12	475	55	48	478	58	36	457	44	..	455	42	59	460	46	..	462	52	84	464	54	..
5	522	49	..	546	60	..	543	59	12	544	62	50	547	65	38	526	50	..	525	49	48	528	53	..	530	57	88	532	60	..
4	599	58	..	622	68	..	620	66	13	620	68	53	623	70	42	603	57	..	603	56	52	605	58	..	606	60	90	608	62	..
3	685	64	..	708	75	..	706	72	11	706	74	52	708	77	40	690	62	..	690	61	62	692	64	..	692	63	63	694	66	..
2·5	732	66	..	753	78	..	752	76	9	751	77	48	754	80	32	737	63	..	737	63	80	739	65	..	739	65	80	741	67	..
2	781	68	..	802	80	..	801	79	9	800	80	59	802	82	39	787	66	..	787	65	45	789	68	..	789	67	104	790	69	..
1·5	833	71	..	853	81	..	852	81	13	852	80	86	853	82	78	840	70	..	840	69	50	842	72	..	842	71	95	842	73	..
1	888	74	..	907	83	..	907	82	21	906	81	85	907	83	67	896	75	..	896	74	54	897	76	..	898	74	86	897	76	..
0·5	946	77	..	965	88	..	965	79	..	963	85	64	964	86	53	954	80	..	954	78	58	955	81	..	955	..	75	955	81	..
Ground	1006	83	..	1023	95	..	1025	85	84	1023	92	55	1023	92	51	1015	86	..	1015	86	47	1015	84	..	1016	86	57	1016	86	..

Tables of correlation coefficients, mean monthly pressures and temperatures for geodynamic levels, and corrections for kilometre heights will be found in the Introduction to the *Observatories' Year Book, 1935*.

LAPSE RATE OF TEMPERATURE BETWEEN GIVEN GEOPOTENTIALS

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Kl.	*Degrees Absolute per kiloleo*									
24 to 25	..	..	..	-1	..	..	..	..	..	..
23 to 24	..	..	..	-1	..	..	..	..	..	..
22 to 23	..	..	..	-1	..	..	..	..	..	-1
21 to 22	..	-1	..	-1	-1	..	..	..	..	-1
20 to 21	..	-1	..	-1	-1	..	..	..	..	-1
19 to 20	..	0	-1	0	0	..	..	..	..	-1
18 to 19	..	-2	1	-1	-1	..	..	..	-1	1
17 to 18	..	0	-2	-1	0	-2	-1	..	-1	-1
16 to 17	..	0	1	0	-1	1	0	..	0	-1
15 to 16	..	-2	0	-1	-1	1	0	..	1	2
14 to 15	..	0	0	-1	0	2	1	2	1	0
13 to 14	..	-2	0	-1	-3	2	2	2	1	0
12 to 13	2	-3	-3	-2	0	2	1	0	-4	-4
11 to 12	1	4	1	4	5	-2	0	1	-2	0
10 to 11	-1	6	5	7	7	-1	-2	-4	4	5
9 to 10	-1	8	8	8	8	1	1	4	7	6
8 to 9	4	7	8	8	8	7	8	8	8	9
7 to 8	8	8	7	7	9	5	6	5	8	7
6 to 7	7	9	8	9	7	5	3	2	7	7
5 to 6	9	7	7	7	7	6	7	7	5	6
4 to 5	9	8	7	6	5	7	7	5	3	2
3 to 4	6	7	6	6	7	5	5	6	3	4
2·5 to 3	4	6	7	6	5	1	2	2	2	1
2 to 2·5	4	4	7	6	4	6	6	7	6	6
1·5 to 2	6	1	3	1	0	10	8	7	6	6
1 to 1·5	6	6	3	1	2	8	8	9	7	8
0·5 to 1	6	10	-5	9	7	10	9	9	} 12 {	8
Gd. to 0·5	12	12	10	13	12	12	15	6		11

T = Temperature *L* = Geopotential level *P* = Pressure *RH* = Relative humidity

No.	380	381	383	384	385	386	387	388	391	392
Date	July 5	July 11	Aug. 18	Aug. 30	Sept. 2	Sept. 4	Sept. 13	Nov. 2	Dec. 9	Dec. 11
Station	Kew	Sealand	Kew	Kew	Kew	Kew	Kew	Kew	Kew	Kew
Start (G.M.T.)	13h. 55m.	14h. 40m.	12h. 45m.	14h. 50m.	10h. 20m.	14h. 25m.	14h. 0m.	13h. 44m.	10h. 30m.	11h. 40m.

GEOPOTENTIALS, TEMPERATURES AND RELATIVE HUMIDITIES CORRESPONDING WITH ISOBARIC SURFACES

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Pressure	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*
mb.	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%
100	16·17	27	..	16·22	24	..	16·29	18	..	16·13	19	..	16·14	19	..	16·08	17	..	..	..	..	15·68	18	..	..	..	..	..	..	..
200	11·65	26	..	11·77	22	..	11·95	17	..	11·77	17	..	11·82	17	..	11·71	25	..	11·67	22	..	11·30	22	..	11·48	06	..	11·40	13	..
300	9·03	29	..	9·15	32	..	9·33	36	..	9·19	32	..	9·22	33	55	9·05	30	41	9·08	29	36	8·77	20	..	8·99	25	..	8·88	22	..
400	7·08	44	..	7·17	46	..	7·32	51	..	7·21	47	..	7·23	48	49	7·11	41	40	7·12	45	38	6·89	37	..	7·06	41	..	6·99	37	..
500	5·48	55	..	5·57	56	..	5·68	62	..	5·59	59	..	5·60	60	90	5·53	54	42	5·51	57	40	5·33	49	..	5·47	53	..	5·43	49	..
600	4·13	64	..	4·21	66	..	4·29	71	..	4·21	67	..	4·22	67	81	4·18	62	46	4·14	67	44	4·01	58	..	4·12	62	..	4·09	60	..
700	2·93	72	..	3·01	72	..	3·07	77	..	3·01	73	..	3·03	74	102	3·00	70	72	2·94	72	96	2·85	64	..	2·95	69	..	2·93	65	..
800	1·89	76	..	1·96	76	..	2·00	83	..	1·95	80	..	1·96	81	112	1·95	78	77	1·89	79	67	1·82	71	..	1·91	74	..	1·90	72	..
900	0·94	83	..	1·03	76	..	1·05	87	..	0·99	85	..	1·00	87	95	1·00	84	67	0·94	82	68	0·89	78	..	0·97	79	..	0·98	74	..
1000	0·07	..	..	0·19	..	..	0·17	..	..	0·11	..	..	0·13	..	..	0·13	..	..	0·08	..	..	0·05	..	..	0·13	..	..	0·14	80	..

PRESSURES, TEMPERATURES AND HUMIDITIES AT GIVEN GEOPOTENTIALS

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Geopotentials	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*
Kl.	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%
25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
23	..	..	..	..	..	..	..	..	..	34	22	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
22	41	30	..	..	..	..	41	26	..	39	21	..	..	..	..	39	18	..	..	..	..	..	..	..	..	..	..
21	48	29	..	48	27	..	48	25	..	46	21	..	47	24	..	45	18	..	..	..	..	..	..	..	..	..	..
20	56	28	..	56	26	..	56	24	..	54	20	..	54	23	..	53	18	..	..	..	..	..	..	..	..	..	..
19	65	27	..	65	26	..	65	23	..	63	20	..	64	21	..	63	16	..	..	..	..	..	..	..	..	..	..
18	75	26	..	76	26	..	76	21	..	74	20	..	75	20	..	73	17	..	..	..	..	..	..	..	..	..	..
17	88	26	..	89	25	..	89	18	..	87	20	..	87	21	..	86	15	..	..	..	..	..	..	..	..	..	..
16	103	26	..	103	24	..	105	19	..	102	19	..	102	19	..	101	17	..	..	..	..	95	19	..	..	..	..
15	120	26	..	121	24	..	123	17	..	119	19	..	120	16	..	119	17	..	118	20	..	111	18	..	110	10	..
14	139	28	..	141	24	..	144	15	..	140	19	..	141	16	..	139	19	..	139	20	..	130	19	..	130	10	..
13	162	28	..	165	24	..	169	16	..	164	19	..	165	19	..	163	21	..	162	21	..	153	21	..	154	10	..
12	189	28	..	193	23	..	199	17	..	193	17	..	195	17	..	191	25	..	190	23	..	180	22	..	183	3	..
11	221	24	..	225	21	..	233	24	..	226	17	..	228	19	..	223	27	..	223	22	..	211	21	..	217	8	..
10	259	22	..	263	26	..	271	31	..	255	25	..	266	26	..	260	30	..	260	21	..	247	14	..	255	17	..
9	302	29	..	307	33	..	315	39	..	308	34	..	310	34	54	302	30	41	303	30	36	289	18	..	299	25	..
8	350	38	..	355	40	..	364	46	..	357	41	..	359	43	52	351	35	41	352	38	37	338	27	..	348	33	..
7	404	45	..	410	47	..	418	53	..	411	48	..	413	50	48	407	42	40	407	46	38	393	35	..	403	41	..
6	465	51	..	472	53	..	479	60	..	472	56	..	474	58	61	469	51	39	468	54	40	454	44	..	464	49	..
5	533	58	..	540	60	..	547	66	..	541	63	..	541	62	85	538	57	44	535	61	37	523	50	..	533	57	..
4	609	65	..	616	68	..	623	72	..	616	69	..	617	68	68	614	64	48	611	68	46	600	58	..	610	63	..
3	693	71	..	701	72	..	707	77	..	701	73	..	703	74	103	700	70	72	694	72	95	685	64	..	695	69	..
2·5	739	74	..	747	74	..	752	80	..	746	76	..	748	77	107	746	73	76	740	75	91	731	66	..	740	71	..
2	788	76	..	796	76	..	800	83	..	794	80	..	796	80	112	795	77	77	789	78	70	780	70	..	790	74	..
1·5	839	78	..	848	73	..	851	83	..	845	83	..	847	84	104	846	80	72	839	80	48	831	73	..	843	75	..
1	893	82	..	904	76	..	905	87	..	899	85	..	902	87	95	901	84	67	894	82	68	887	77	..	897	78	..
0·5	949	88	..	962	81	..	961	91	..	955	..	..	958	..	..	957	89	61	951	84	81	944	79	..	953	81	..
Ground	1007	93	..	1023	86	..	1019	95	..	1013	95	..	1015	95	81	1015	96	67	1009	89	71	1005	83	..	1015	81	..

Tables of correlation coefficients, mean monthly pressures and temperatures for geodynamic levels, and corrections for kilometre heights will be found in the Introduction to the *Observatories' Year Book, 1935*.

LAPSE RATE OF TEMPERATURE BETWEEN GIVEN GEOPOTENTIALS

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Kl.	*Degrees Absolute per kiloleo*									
24 to 25	..	..	..	..	..	..	..	..	..	..
23 to 24	..	..	..	..	..	..	..	..	..	..
22 to 23	..	..	..	-1	..	..	..	..	..	..
21 to 22	-1	..	-1	0	..	0	..	..	..	..
20 to 21	-1	-1	-1	-1	-1	0	..	..	..	..
19 to 20	-1	0	-1	0	-2	-2	..	..	..	..
18 to 19	-1	0	-2	0	-1	1	..	..	..	..
17 to 18	0	-1	-3	0	1	-2	..	..	..	..
16 to 17	0	-1	1	-1	-2	2	..	..	..	..
15 to 16	0	0	-2	0	-3	0	..	-1	..	..
14 to 15	2	0	-2	0	0	2	0	1	0	..
13 to 14	0	0	1	0	3	2	1	2	0	0
12 to 13	0	-1	1	-2	-2	4	2	1	-7	1
11 to 12	-4	-2	7	0	2	2	-1	-1	5	-1
10 to 11	-2	5	7	8	7	3	-1	-7	9	3
9 to 10	7	7	8	9	8	0	9	4	8	4
8 to 9	9	7	7	7	9	5	8	9	8	7
7 to 8	7	7	7	7	7	7	8	8	8	9
6 to 7	6	6	7	8	8	9	8	9	8	8
5 to 6	7	7	6	7	4	6	7	6	8	8
4 to 5	7	8	6	6	6	7	7	8	6	7
3 to 4	6	4	5	4	6	6	4	6	6	5
2·5 to 3	4	4	6	6	5	7	5	6	4	6
2 to 2·5	4	4	7	7	6	8	7	6	6	6
1·5 to 2	5	-6	-1	6	6	5	5	7	2	6
1 to 1·5	9	7	8	5	8	8	3	7	7	-1
0·5 to 1	11	8	8	} 9	8 {	10	4	5	5	10
Gd. to 0·5	11	12	9			15	10	8	-1	6

T = Temperature *L* = Geopotential level *P* = Pressure *RH* = Relative humidity

No.	393	394	395	396	397	398	399	400	401	402
Date	Dec. 11	Dec. 12	Dec. 13	Dec. 14	Dec. 15	Dec. 16	Dec. 16	Dec. 18	Dec. 19	Dec. 20
Station	Kew	Kew	Kew	Kew	Kew	Kew	Kew	Kew	Kew	Kew
Start (G.M.T.)	15h. 30m.	16h. 43m.	16h. 20m.	9h. 35m.	9h. 38m.	9h. 40m.	11h. 30m.	11h. 23m.	16h. 15m.	16h. 15m.

GEOPOTENTIALS, TEMPERATURES AND RELATIVE HUMIDITIES CORRESPONDING WITH ISOBARIC SURFACES

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Pressure	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*	*L*	*T*	*RH*
mb.	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%	Kl.	°A. 200+	%
100	..	..	..	..	..	..	15·53	11	..	15·60	18	..	..	..	..	..	..	..	..	..	..	..	..	..	15·52	8	..	..	..	..
200	11·35	11	..	11·27	14	..	11·27	15	..	11·25	20	..	11·20	20	..	11·26	19	..	11·33	20	..	11·38	20	..	11·31	12	..	11·37	6	..
300	8·85	22	..	8·77	19	..	8·77	18	..	8·72	19	..	8·67	19	37	8·73	22	45	8·76	23	..	8·81	23	..	8·83	18	..	8·88	22	..
400	6·95	38	..	6·91	32	..	6·91	32	..	6·86	33	..	6·82	32	37	6·85	35	45	6·88	34	..	6·92	34	..	6·97	35	..	6·99	36	..
500	5·39	50	..	5·39	44	..	5·38	46	..	5·32	46	..	5·29	45	38	5·33	43	48	5·36	44	..	5·38	47	..	5·42	49	..	5·45	47	..
600	4·05	60	..	4·09	54	..	4·07	56	..	4·00	56	..	3·97	57	45	4·03	54	50	4·05	55	..	4·07	55	..	4·09	59	..	4·12	58	..
700	2·89	67	..	2·94	62	..	2·92	63	..	2·86	63	..	2·82	64	64	2·89	61	49	2·90	63	..	2·92	63	..	2·92	66	..	2·97	64	..
800	1·86	72	..	1·92	69	..	1·90	69	..	1·84	65	..	1·81	62	100	1·87	66	97	1·88	68	..	1·90	69	..	1·89	71	..	1·95	68	..
900	0·94	74	..	1·01	68	..	0·99	69	..	0·93	72	..	0·91	68	..	0·98	68	93	0·98	68	..	0·99	67	..	0·97	76	..	1·04	71	..
1000	0·10	..	..	0·19	..	..	0·16	..	..	0·10	..	..	0·09	75	..	0·16	..	..	0·17	..	..	0·18	73	..	0·14	..	..	0·21	76	..

PRESSURES, TEMPERATURES AND HUMIDITIES AT GIVEN GEOPOTENTIALS

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Geopotentials	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*	*P*	*T*	*RH*
Kl.	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%	mb.	°A. 200+	%
25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
23	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
22	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
21	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19	..	..	..	..	..	..	56	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	66	9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
17	..	..	..	..	..	..	79	11	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	93	11	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	92	7	..	..	..	..
15	..	..	..	..	..	..	109	13	..	110	18	..	109	19	..	..	..	..	..	..	..	..	..	..	109	9	..	..	..	..
14	129	11	..	..	..	..	128	14	..	129	18	..	128	18	..	..	..	..	132	20	..	131	18	..	129	12	..	..	..	..
13	153	11	..	151	13	..	151	14	..	152	18	..	150	19	..	..	..	..	153	20	..	154	19	..	152	12	..	..	..	..
12	180	13	..	176	13	..	178	16	..	178	19	..	176	20	..	177	18	..	180	20	..	180	20	..	178	12	..	180	5	..
11	212	12	..	208	14	..	209	16	..	208	19	..	207	19	..	208	18	..	211	19	..	211	21	..	210	12	..	212	8	..
10	250	14	..	245	15	..	246	14	..	244	16	..	242	17	..	245	16	..	247	18	..	247	20	..	248	13	..	251	14	..
9	293	21	..	288	17	..	289	17	..	287	18	..	284	16	..	287	21	..	290	23	..	290	22	..	292	16	..	294	21	..
8	342	29	..	338	23	..	339	23	..	336	23	..	333	23	37	335	25	45	338	27	..	339	27	..	342	25	..	343	28	..
7	397	38	..	395	31	..	395	32	..	391	32	..	389	31	37	390	33	45	393	33	..	395	34	..	398	34	..	399	36	..
6	459	45	..	458	39	..	457	40	..	453	40	..	451	39	36	453	38	47	456	39	..	457	42	..	460	43	..	461	43	..
5	528	53	..	529	47	..	527	49	..	522	48	..	521	48	38	523	46	48	526	48	..	527	49	..	529	53	..	531	50	..
4	605	60	..	608	55	..	605	57	..	600	56	..	598	57	44	602	54	50	604	56	..	605	55	..	606	60	..	610	59	..
3	690	66	..	695	62	..	692	63	..	687	61	..	683	62	61	689	60	49	690	62	..	691	62	..	692	65	..	697	64	..
2·5	736	67	..	742	65	..	739	67	..	733	66	..	730	66	77	736	63	60	737	65	..	738	65	..	739	68	..	744	66	..
2	786	71	..	792	69	..	790	69	..	784	66	..	779	67	94	786	66	80	788	68	..	788	68	..	788	70	..	794	68	..
1·5	837	74	..	844	70	..	842	71	..	836	68	..	832	64	107	840	63	98	841	64	..	841	70	..	840	73	..	846	69	..
1	892	73	..	901	68	..	899	69	..	891	71	..	889	67	106	896	67	94	898	68	..	899	67	..	896	76	..	902	71	..
0·5	951	78	..	960	71	..	959	72	..	949	73	..	949	71	..	956	70	..	958	71	..	958	69	..	954	72	..	962	74	..
Ground	1012	81	..	1023	77	..	1020	77	..	1011	77	..	1011	77	79	1020	77	67	1020	76	..	1022	76	..	1017	76	..	1026	78	..

Tables of correlation coefficients, mean monthly pressures and temperatures for geodynamic levels, and corrections for kilometre heights will be found in the Introduction to the *Observatories' Year Book, 1935*.

LAPSE RATE OF TEMPERATURE BETWEEN GIVEN GEOPOTENTIALS

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Kl.	*Degrees Absolute per kiloleo*									
24 to 25	..	..	..	..	..	..	..	..	..	..
23 to 24	..	..	..	..	..	..	..	..	..	..
22 to 23	..	..	..	..	..	..	..	..	..	..
21 to 22	..	..	..	..	..	..	..	..	..	..
20 to 21	..	..	..	..	..	..	..	..	..	..
19 to 20	..	..	..	..	..	..	..	..	..	..
18 to 19	..	..	1	..	..	..	..	..	..	..
17 to 18	..	..	2	..	..	..	..	..	..	..
16 to 17	..	..	0	..	..	..	..	..	..	..
15 to 16	..	..	2	..	..	..	..	..	2	..
14 to 15	..	..	1	0	−1	..	..	..	3	..
13 to 14	0	..	0	0	1	..	0	1	0	..
12 to 13	2	0	2	1	1	..	0	1	0	−4
11 to 12	−1	1	0	0	−1	0	−1	1	0	3
10 to 11	2	1	−2	−3	−2	−2	−1	−1	1	6
9 to 10	7	2	3	2	−1	5	5	2	3	7
8 to 9	8	6	6	5	7	4	4	5	9	7
7 to 8	9	8	9	9	8	8	6	7	9	8
6 to 7	7	8	8	8	8	5	6	8	9	7
5 to 6	8	8	9	8	9	8	9	7	10	7
4 to 5	7	8	8	8	9	8	8	6	7	9
3 to 4	6	7	6	5	5	6	6	7	5	5
2·5 to 3	3	6	7	9	8	5	6	6	5	4
2 to 2·5	6	8	4	0	1	6	5	6	4	4
1·5 to 2	6	2	4	5	−6	−5	−7	4	6	1
1 to 1·5	−1	−3	−3	7	7	7	7	−6	6	5
0·5 to 1	10	6	7	4	7	7	7	4	−8	6
Gd. to 0·5	6	11	10	8	12	14	11	13	8	9