

M.O.700

AIR MINISTRY  
METEOROLOGICAL OFFICE

THE  
OBSERVATORIES'  
YEAR BOOK

1954

Comprising the meteorological and geophysical results  
obtained from autographic records and eye observations  
at the Lerwick, Eskdalemuir, and Kew Observatories

LONDON: HER MAJESTY'S STATIONERY OFFICE  
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## PREFACE

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 abridged form as outlined below.

It was arranged 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 many years; and that only important departures from these standards, together with any requisite additional information, should be included in the relevant parts of the volume for the years after 1938. As compared with the volumes before 1938, the space devoted to the discussion of observations is reduced. Monthly tables of individual hourly values of meteorological elements are omitted, but summaries of daily mean values (or totals), monthly means (or totals) of hourly values and some maximum and minimum values are given. The diary of cloud, weather and visibility is also omitted. No major changes have been made in the atmospheric electrical and magnetic tables. The aerological and seismological tables were discontinued after 1939.

The present volume, 1954, presents atmospheric electrical and geomagnetic data for Lerwick Observatory; meteorological, atmospheric electrical and geomagnetic data for Eskdalemuir; meteorological, atmospheric electrical and atmospheric pollution data for Kew. Aberdeen Observatory closed at the end of 1947.

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-General, Meteorological Office, Air Ministry, Victory House, Kingsway, London, W.C.2.

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NOTES ON THE TABLES: Maximum and Minimum values are shown in italics.



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**LERWICK**



# LERWICK OBSERVATORY

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

## INTRODUCTION

Full details of the site, instruments, procedure and tabulation are given in the *Observatories' Year Book*, 1938. Only important changes and additions are mentioned here.

### *Atmospheric Electricity*

No changes were made in 1954.

### *Terrestrial magnetism*

Until 1946 the chamber was unheated but in June of that year small, low-temperature thermostatically controlled a.c. electric heaters were installed in order to reduce the persistent damp. The diurnal variation of temperature has continued to be negligibly small.

The average day-to-day change of temperature in the magnetograph house for each of the twelve months of 1954 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
.25	.16	.27	.19	.37	.12	.12	.11	.11	.24	.16	.21	.19

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

### Notes on the results

Beginning with 1947 some changes have been made in the tables accompanying these notes. The month-by-month commentary on the autographic records has been omitted, and a change has been made in the table formerly headed "Principal magnetic disturbances". It is intended that all the disturbances, which would have been included in the previous type of table, will still be included, with, however, additional disturbances of the form of sudden commencements and those which can be recognized as being solar flare effects. The table is thus divided into three parts:

- (a) Disturbances noteworthy for some reason (usually, but not always, range) and without a sudden commencement.
- (b) Well marked sudden commencements whether followed by a large disturbance or not.
- (c) Disturbances accompanying a solar flare or other known solar-flare effect.

The time given of commencement and ending of (a) disturbances must depend on an arbitrary judgment. The list of sudden commencements under (b) will usually be a little shorter than that given in the I.A.T.M.E. bulletins because a somewhat stricter meaning has been given to the words "well marked", and also because the sharp beginnings of small polar disturbances have been omitted. The (c) table has been made as complete as possible by a careful scrutiny of the magnetograms at the time of any known solar flare or solar-flare effect, but a small "crochet" can easily be masked by other disturbance. The signs given to the movement of H, D and Z are positive for increasing H or Z and an increase of force towards the east (that is, a decreasing westerly declination).

Particulars of the same disturbances are given in both the Lerwick and the Eskdalemuir sections of the Year Book, even if the disturbance at one of the stations is relatively small.

The factor to change variations of  $D$  expressed in minutes of arc to units of force ( $\gamma$ ) perpendicular to the magnetic meridian was approximately 4.20.

Comparing the mean values for all days of 1954 with those for 1953 it is noted that  $H$  increased by  $17\gamma$ ,  $D$ (west) decreased by  $7^{\circ}.2$  and  $Z$  increased by  $23\gamma$ . The ranges between the extreme values recorded in 1954 were  $H$ , 1570 $\gamma$ ,  $D$ ,  $2^{\circ}28'.2$  and  $Z$  861 $\gamma$ .

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

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

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

TABLE I *Absolute daily range and mean monthly values*

	Mean absolute daily range						Mean daily range expressed as percentage of yearly mean					
	1954			Mean 1932-1953			1954			Mean 1932-1953		
	$H$	$D$	$Z$	$H$	$D$	$Z$	$H$	$D$	$Z$	$H$	$D$	$Z$
January	52	74	61	100	102	104	54	82	61	63	90	78
February	115	123	137	124	113	123	120	136	137	78	100	92
March	119	124	153	216	149	176	124	137	153	135	132	132
April	170	126	134	204	120	163	177	140	134	128	106	122
May	84	71	66	195	111	141	88	79	66	122	98	106
June	77	67	43	150	94	109	80	74	43	94	83	82
July	76	66	62	158	96	110	79	73	62	99	85	83
August	79	81	92	178	111	135	82	90	92	111	98	101
September	145	123	181	209	133	170	151	137	181	131	118	128
October	139	110	152	188	129	164	145	122	152	118	114	123
November	53	73	76	107	101	112	55	80	76	67	89	84
December	38	46	45	89	93	96	40	51	45	56	82	72
Winter	65	79	80	105	103	109	68	87	80	66	91	82
Equinox	143	121	155	204	134	168	149	134	155	128	119	126
Summer	79	71	66	170	103	123	82	79	66	106	91	92
Year	96	90	100	160	113	133	..	..	..	..	..	..

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

TABLE 2 Frequency distribution of absolute daily range

Range	Number of cases, 1954			Percentage distribution					
	H	D	Z	H		D		Z	
				1954	1932-1953	1954	1932-1953	1954	1932-1953
$\gamma$				%	%	%	%	%	%
0 - 9	0	0	0	0.0	0.0	0.0	0.0	0.0	0.3
10 - 19	9	5	17	2.5	1.4	1.4	0.4	4.7	6.8
20 - 29	23	11	36	6.3	4.9	3.0	2.3	9.9	10.5
30 - 39	28	17	39	7.7	6.3	4.7	4.0	10.7	9.3
40 - 49	25	28	38	6.9	7.5	7.7	7.3	10.4	7.2
50 - 59	33	47	30	9.1	9.3	12.9	10.0	8.2	6.2
60 - 69	60	60	20	16.4	9.1	16.4	12.3	5.5	5.1
70 - 79	46	40	15	12.6	8.6	11.0	10.5	4.1	4.4
80 - 89	39	24	20	10.7	7.4	6.6	9.2	5.5	3.9
90 - 99	19	24	19	5.2	5.8	6.6	7.0	5.2	3.4
100 - 109	18	24	26	4.9	4.3	6.6	5.6	7.1	3.3
110 - 119	11	13	14	3.0	3.5	3.6	4.0	3.8	2.9
120 - 129	7	10	6	1.9	2.9	2.7	3.6	1.6	2.6
130 - 139	7	12	5	1.9	2.2	3.2	3.1	1.4	2.6
140 - 149	3	8	11	0.8	2.4	2.2	2.9	3.0	2.3
150 - 159	5	6	7	1.4	1.6	1.6	1.8	1.9	2.0
160 - 169	2	7	10	0.5	1.5	1.9	1.9	2.7	1.8
170 - 179	3	7	6	0.8	1.1	1.9	1.4	1.6	1.4
180 - 189	2	2	2	0.5	1.1	0.5	1.5	0.5	1.4
190 - 199	1	5	4	0.3	1.0	1.4	1.1	1.1	1.5
200 +	24	15	40	6.6	18.3	4.1	10.0	11.0	21.1
Days omitted	..	..	..	..	..	..	..	..	..

TABLE 3 Average range of diurnal inequality 1932-53,  
with 1954 as a percentage of this

		All days			International quiet days			International disturbed days		
		Z	H	D	Z	H	D	Z	H	D
Year	1932-1953	$\gamma$	$\gamma$	'	$\gamma$	$\gamma$	'	$\gamma$	$\gamma$	'
	1954%	53.3	49.4	9.36	10.3	37.4	8.68	131.1	131.6	14.22
Winter	1932-1953	41.1	24.4	7.87	7.7	15.1	4.65	116.6	85.0	13.84
	1954%	84	57	88	145	59	90	71	40	84
Equinox	1932-1953	68.8	59.2	10.94	12.9	42.3	9.54	168.9	193.4	18.89
	1954%	103	65	101	236	81	86	93	59	90
Summer	1932-1953	53.0	72.6	12.72	17.0	57.5	12.77	134.0	156.9	15.61
	1954%	58	72	85	106	90	89	41	36	72

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

TABLE 4 Ratio of range of inequality at Lerwick  
to that at Eskdalemuir (1954)

Type of day	Ele- ment	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
q	D	1.23	1.24	1.20	1.13	1.14	1.17	1.13	1.12	1.20	.88	1.08	1.11
d	D	1.31	1.42	1.05	1.62	1.21	1.28	1.07	1.23	1.19	1.29	1.29	1.23
q	H	.80	1.18	1.11	1.21	1.17	1.23	1.27	1.12	.98	1.00	.97	1.02
d	H	1.65	1.91	2.25	3.83	1.23	1.39	1.15	1.31	3.23	2.83	1.39	.76
q	Z	1.80	1.33	2.08	1.94	.71	.81	.82	1.10	1.81	1.46	1.15	.99
d	Z	2.68	2.23	2.43	1.90	2.02	1.53	1.88	2.31	2.31	2.21	2.35	2.45

TABLE 5 Notable magnetic disturbances at Lerwick

## (a) Disturbances without S.C's

Serial Number	From		To		Range γ			Notes
	Date	Hour	Date	Hour	H	D	Z	
1a	Feb. 21	10	Feb. 22	6	621	250	358	
2a	Mar. 23	18	Mar. 24	6	594	284	520	
3a	Apr. 11	15	Apr. 12	8	1254	623	708	
4a	Sept. 1	10	Sept. 2	7	387	196	503	
5a	Sept. 20	12	Sept. 21	7	683	253	479	
6a	Oct. 3	13	Oct. 4	6	468	193	447	

## (b) Disturbances with a S.C.

Serial Number	Date	Time of S.C.	End of Disturbance		With initial reversed stroke			Magnitude main stroke of S.C.			Range of following disturbance (γ)		
			Date	Hour	H	D	Z	H	D	Z	H	D	Z
1b	Mar. 22	17.16	Mar. 23	09	Yes	No	No	+ 6	0	0	223	252	242
2b	Sept. 14	22.09						Well marked P.S.C.					
3b	Sept. 29	09.42	Sept. 30	01				Ill defined			304	262	303
4b	Oct. 23	07.22	Oct. 25	07	Yes	No	No	- 12	?	- 2	731	257	552
5b	Oct. 27	07.47			Yes	Yes	Yes	- 12	- 12	- 5			Small
6b	Oct. 29	22.07						Well marked P.S.C.					
7b	Nov. 18	17.32			Yes	Yes	Yes	+ 9	+ 1	- 1			Small
8b	Dec. 27	22.09						Well marked P.S.C.					

## (c) Disturbances due to Solar Flare

Serial Number	Date	Begin	Max.	End	Movement γ			K	K	Other S.F.E.
					H	D	Z			
1c	Jan. 29	13.04	13.06	13.10	+ 4	- 4	0	0	0	Doubtful S.F.E.
2c	Mar. 2	10.35	10.41	10.50	+ 4	- 12	0	2	2	Doubtful S.F.E.
3c	Mar. 17	07.15	07.20	07.25	+ 12	- 12	0	1	1	Doubtful S.F.E.



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

6 LERWICK

	JANUARY, factor 1·17				FEBRUARY, factor 1·16				MARCH, factor 1·11				
	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	-108	57	47	42	126	106	101	130	125	456	697	93	
2	47	19	142	-	121	106	53	159	78	111	124	138	
3	80	142	156	142	72	72	111	121	-69	82	-	183	
4	90	90	223	166	97	77	97	169	95	123	-	-	
5	71	57	52	-28	-571	97	145	-378	(407)	-	(226)	158	
6	105	237	105	190	126	-	-	(886)	135	-722	-	45	
7	38	95	109	-	48	111	218	678	-525	-112	225	449	
8	81	124	-57	138	(803)	(871)	-	319	99	188	134	166	
9	91	100	634	153	658	121	126	218	103	90	193	103	
10	86	43	143	86	97	97	155	92	58	31	-	(179)	
11	81	91	105	139	97	145	174	97	-	-	379	401	
12	86	19	196	33	208	242	169	290	280	289	254	223	
13	-	-	96	244	179	213	324	145	160	(178)	267	200	
14	86	125	101	311	111	48	155	-	142	102	147	120	
15	77	-43	427	130	-	-	145	194	77	(128)	81	-	
16	34	658	634	53	140	87	19	338	97	85	140	127	
17	-	158	134	68	>966	Z±	>1014	-	55	114	211	42	
18	91	125	-207	0	96	207	145	-	126	126	223	155	
19	106	-14	183	82	-	-	193	135	50	92	33	-	
20	101	130	197	236	87	-	154	159	50	29	-250	(166)	
21	116	130	193	154	154	72	187	230	385	91	112	124	
22	-	140	53	-	148	163	182	-	165	107	66	115	
23	-222	63	96	111	5	167	110	248	-180	20	12	-	
24	121	111	140	135	495	1076	124	281	89	102	110	-	
25	121	130	155	111	18	152	-	-	57	-445	607	-	
26	145	150	111	140	-	-	52	104	-	-	363	-	
27	188	126	-	169	517	122	179	(799)	-	-	120	120	
28	126	106	159	222	66	234	192	154	72	100	60	-	
29	150	140	97	121	-	-	-	-	-	199	290	151	
30	184	116	106	145	-	-	-	-	-	-	-91	178	
31	130	92	179	217	-	-	-	-	189	373	145	491	
(a)	101	126	182	138	191	241	145	298	135	140	209	179	
(b)	81	119	167	129	148	185	146	222	102	148	179	181	
Mean	(a) 137				(b) 124				(a) 219				
												(b) 175	
												(a) 166	
												(b) 153	

	APRIL, factor 1·09				MAY, factor 1·13				JUNE, factor 1·18				
	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	154	235	-	188	66	99	60	66	-	-	-	-	
2	168	273	159	187	-596	97	-127	-	110	240	149	158	
3	93	69	185	386	-901	23	33	84	62	122	142	497	
4	131	161	230	227	118	-	175	155	309	-	286	349	
5	233	87	-	275	-	-	88	-14	319	474	141	232	
6	-	121	80	76	34	150	279	364	213	98	115	-	
7	-	-	178	91	-	-	-	-85	-	-	-	-	
8	33	7	(117)	143	123	247	309	696	-	-	-	-	
9	-	-	-	-	283	348	321	379	-53	-356	-315	-899	
10	-	-	-	-	69	203	183	285	613	321	-	-526	
11	521	89	155	191	151	118	171	-	80	100	-	121	
12	204	-	-	-	-	-	-	159	160	127	-	271	
13	-	-	69	-229	203	183	-	-	70	244	108	195	
14	-81	91	-	97	244	-	-	-	152	-	-	-	
15	79	(106)	-	(122)	-	-	-	-	301	-	-	-	
16	-	27	-	153	-	-	43	83	347	469	-	697	
17	86	154	40	132	86	40	57	106	398	224	-	(398)	
18	61	83	89	95	67	119	113	115	-	-	-	660	
19	55	95	129	117	89	-	55	62	-	-	-	-	
20	69	56	99	121	141	-	-	-	-	-	390	564	
21	-37	113	103	107	94	146	214	151	-	-	-	-	
22	-	41	101	63	(142)	115	66	268	150	(120)	-	-	
23	29	76	60	41	149	(198)	322	198	-	-	30	39	
24	57	67	63	131	295	355	227	479	-	-	-	-	
25	-	-	-	-	237	237	515	360	-	-	-	-	
26	-	-	-	-	440	534	383	430	126	82	205	120	
27	-	91	130	-	423	529	481	629	53	70	41	29	
28	137	189	130	133	425	342	123	142	-	87	81	148	
29	85	190	-	98	186	-	-	-	-	124	104	302	
30	69	-	92	56	-	-	-	-	-	37	-	209	
31	-	-	-	-	-	-	-	-	-	-	-	-	
(a)	126	110	116	140	185	215	201	261	216	184	149	293	
(b)	108	110	120	155	127	230	230	297	98	125	67	47	
Mean	(a) 123				(b) 123				(a) 218				
												(b) 221	
												(a) 211	
												(b) 84	

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.

9

## 6 LERWICK

	JULY, factor 1·12				AUGUST, factor 1·02				SEPTEMBER, factor 1·03				
	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	-	-	(127)	-	65	168	138	490	96	164	98	414	
2	93	-	79	158	238	248	-75	465	-	-	98	115	
3	-	-	-	-	173	194	129	157	98	98	118	29	
4	-	189	161	167	125	134	110	125	-	-	-	132	
5	(124)	(105)	179	179	162	152	97	137	115	221	223	201	
6	41	82	5	145	156	69	12	-25	91	123	115	123	
7	202	101	123	169	99	149	-	149	149	194	252	319	
8	108	149	285	344	122	-	759	533	149	213	-377	439	
9	49	41	95	54	112	-	308	55	123	230	0	152	
10	38	70	135	350	-	250	126	245	105	76	171	206	
11	486	854	69	133	-	(252)	119	114	399	120	59	91	
12	168	106	106	125	79	77	82	158	93	32	108	56	
13	-	-	199	185	-	128	118	118	120	100	118	125	
14	158	355	-	368	140	160	62	130	81	147	162	681	
15	144	125	123	104	89	79	118	130	-120	154	123	169	
16	117	83	143	187	101	130	96	133	171	193	-426	-171	
17	111	39	8	3	106	150	106	187	-	-	91	123	
18	0	(5)	(91)	(65)	123	197	108	128	49	123	137	147	
19	103	(129)	-	-	116	118	64	153	147	189	289	125	
20	(212)	258	98	111	138	121	71	123	229	66	-7	57	
21	141	272	-	164	96	121	59	121	123	140	66	123	
22	136	136	51	141	64	37	-	54	99	99	99	121	
23	122	107	(153)	(273)	-37	148	49	106	47	106	89	262	
24	612	(969)	(140)	115	93	-	-	123	-672	255	241	124	
25	178	43	25	(114)	98	118	108	98	80	85	125	125	
26	-	185	430	177	96	172	261	352	Z±	100	250	250	
27	94	-	202	240	236	-	128	62	90	-	627	178	
28	287	126	126	(176)	-	-	-	-	-125	145	424	68	
29	-50	126	146	121	-	-	-	-	-401	96	207	244	
30	-	-	151	176	17	-	74	165	118	121	111	86	
31	113	(75)	-	163	-	-	116	308					
(a)	160	189	133	168	119	147	137	183	126	138	169	182	
(b)	162	186	111	153	115	142	89	176	55	140	101	173	
Mean	(a) 163				(b) 153				(a) 147				
												(b) 131	
												(a) 154	
												(b) 117	

	OCTOBER, factor 1·08				NOVEMBER, factor 1·07				DECEMBER, factor 1·05											
	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.	2-3h.	8-9h.	14-15h.	20-21h.								
volts per metre																				
1	111	306	127	127	78	131	138	42	184	451	231	202								
2	127	102	310	386	63	180	-	574	166	36	186	412								
3	260	750	449	495	115	157	102	180	225	176	267	-								
4	673	446	-	260	188	133	-	-	109	-3	-54	101								
5	876	397	346	128	115	125	211	209	148	311	254	256								
6	111	136	(90)	159	125	131	123	125	121	111	95	132								
7	182	231	172	146	34	133	84	104	-10	281	111	152								
8	111	108	142	168	167	209	-561	-144	206	152	134	111								
9	175	193	155	212	102	112	206	157	181	77	-	-								
10	215	181	122	363	94	170	(-1049)	157	-	-	155	129								
11	208	177	143	135	170	138	-809	-60	80	111	224	85								
12	130	78	5	130	104	128	104	-431	103	236	-	-								
13	157	21	149	8	251	240	170	209	152	129	152	103								
14	78	(104)	78	183	141	131	81	104	105	129	-434	-743								
15	157	183	136	110	104	91	128	5	100	113	146	128								
16	170	170	131	136	86	115	141	157	131	225	394	282								
17	136	183	118	52	120	112	102	97	-	-	77	33								
18	-139	79	86	147	39	131	-	131	110	156	-	-								
19	52	183	136	86	26	180	-3	167	168	186	-	-								
20	197	131	-	223	321	384	347	561	-	-	127	135								
21	47	13	152	65	287	245	298	128	135	-124	180	163								
22	52	58	5	65	156	120	182	148	71	81	-785	-								
23	52	131	131	-39	-317	252	275	52	-	-	-	102								
24	52	73	79	37	99	75	146	114	68	-	104	104								
25	47	26	118	131	52	190	-338	218	58	28	127	-385								
26	79	92	65	157	Z-	Z-	148	205	78	-23	-	304								
27	105	26	262	673	156	133	-174	255	154	124	124	48								
28	26	131	197	183	57	260	187	393	123	136	118	146								
29	144	786	472	-131	218	333	143	281	111	76	30	275								
30	189	189	92	189	332	98	269	-236	156	35	355	605								
31	105	26	126	157					224	255	270	252								
(a)	167	175	158	183	136	167	171	191	133	157	175	185								
(b)	138	177	158	161	123	169	19	115	129	136	139	122								
Mean	(a) 171				(b) 159				(a) 166											
												(b) 107								
												(a) 163								
												(b) 131								
(a)																				
(b)																				
Annual means																				
												(a) 169								
												(b) 140								

The factor used for converting the potential at the collector to potential gradient in volts per metre in the open is given for each month.	(a) 150	166	162	200
	(b) 115	156	127	161
Annual means		(a) 169	(b) 140	

## 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.												volts per metre												Non-cyclic change	No. of days used	Mean	
	0 to 1 1	1 to 2 2	2 to 3 3	3 to 4 4	4 to 5 5	5 to 6 6	6 to 7 7	7 to 8 8	8 to 9 9	9 to 10 10	10 to 11 11	11 to 12 12	12 to 13 13	13 to 14 14	14 to 15 15	15 to 16 16	16 to 17 17	17 to 18 18	18 to 19 19	19 to 20 20	20 to 21 21	21 to 22 22	22 to 23 23	23 to 24 24	v./m.			
0a days only*																												
NIL																												
Jan.	-10	-19	-27	-16	-25	-16	-8	-7	-10	-3	+1	0	-4	+6	+6	-1	+8	+16	+23	+36	+42	+14	+7	-12	-9	7	133	
Feb.	-24	-64	-21	-36	-39	-23	-57	-4	-12	+4	+13	+36	+24	+18	+95	+30	+1	-51	+4	+49	+37	+31	-2	-9	-39	1	132	
Mar.	-16	-23	-22	-21	-24	-17	-4	+50	-7	-3	-4	-26	-24	+1	+19	+19	+24	+19	+16	+9	+23	+9	+2	+1	+5	3	84	
Apr.	-10	-20	-27	-14	-40	-30	-28	+6	+24	+13	-11	-20	-9	-22	-20	-13	+44	+30	+17	+47	+54	+17	+16	-3	+29	9	294	
May	-81	+26	+9	+3	+71	+100	+85	+63	+107	+27	-1	+2	-33	-45	-62	-53	-39	-25	-19	-50	-11	-43	-17	-14	-55	2	158	
June	July	-15	-9	+2	+21	-11	+7	+25	+40	+32	+14	+4	-17	-35	-54	-46	-7	-13	+5	+50	-13	+6	+8	+35	-31	+47	7	180
Aug.	+5	-6	-4	+1	-3	+18	+16	+28	+17	-3	-27	-19	-26	-26	-25	-23	-10	-6	+6	+19	+22	+25	+20	0	-25	10	130	
Sept.	-29	-22	-24	-24	+12	+33	+31	+27	+8	-4	-13	-31	-42	-14	+21	+5	-10	+24	+29	+51	+27	+8	-32	-29	+47	3	171	
Oct.	-32	-55	-50	-30	-2	+13	+31	-17	+47	-30	-91	-42	-14	+3	-31	+85	+69	+30	+13	+1	-18	+100	+42	-22	+135	5	240	
Nov.	+158	-2	-166	-64	-75	-70	-54	-39	-80	-84	-68	-79	-50	-68	-94	+135	+203	+12	+146	+179	+142	+4	+9	+5	-91	1	450	
Dec.	-73	-65	-64	-67	-58	-27	-34	-12	-25	+3	+50	+52	+2	-2	-3	-38	+40	+167	+140	+154	-14	-62	-29	-35	-29	1	276	
Year	-12	-24	-36	-22	-18	-1	0	+12	+9	-6	-13	-13	-19	-18	-13	+13	+29	+20	+39	+44	+28	+10	+5	-14	+1	49	204	
Winter	+25	-29	-86	-49	-53	-38	-32	-19	-38	-28	-6	-9	-17	-21	-30	+32	+84	+65	+103	+123	+57	-15	-4	-14	-43	9	286	
Equinox	-25	-41	-29	-28	-13	+1	0	+14	+9	-8	-24	-16	-14	+2	+26	+35	+21	+5	+15	+27	+17	+37	+3	-15	+37	12	157	
Summer	-25	-2	-5	+3	+4	+24	+25	+34	+45	+13	-9	-13	-26	-37	-38	-24	-5	+1	+13	+1	+18	+2	+13	-12	-1	28	191	
1a and 2a days only*																												
Jan.	+10	-3	-27	+10	-3	-31	-24	-43	-2	-8	+20	+37	+46	+5	+38	+38	+32	-22	+17	+8	-13	-21	-33	-31	+92	7	86	
Feb.	-1	+13	+16	-2	+17	+2	+16	+9	-9	-13	-2	-8	+18	+52	+1	+10	+67	+26	-18	-29	-39	-28	-63	-35	+96	4	146	
Mar.	+17	+11	-3	-36	-58	-57	-34	-17	+9	-13	-104	-69	-3	+1	+8	+14	+31	+36	-4	+68	+53	+52	+46	+52	-147	2	167	
Apr.	0	-35	-35	-31	-24	-98	-63	-6	-33	-24	-19	-49	-1	+3	-3	-1	-29	-30	+4	+37	+32	+55	+55	+35	+2	4	70	
May	-31	-66	-63	-52	-37	-30	-28	-22	-23	-7	-12	-11	-2	-25	+36	+63	+79	+74	0	+67	+98	+50	-39	-18	-86	5	149	
June	+35	+38	-53	-22	+9	-12	-11	+18	+33	+5	-52	-87	-66	-52	-57	-55	-53	-53	-23	-73	+132	+204	+122	+73	+127	2	169	
July	-10	-16	-39	-45	-55	-64	-41	-49	-48	-51	-23	-23	-11	-37	-17	+34	+76	+77	+62	+47	+60	+63	+82	+29	-148	4	89	
Aug.	+5	+7	-6	-51	+2	+47	+75	+39	+51	+18	-8	-21	-25	-38	-21	0	-14	-24	-12	-17	+8	-1	-6	-9	+41	4	101	
Sept.	+13	-4	-12	-7	-32	-32	-14	-66	-15	-43	-37	-23	-18	-47	-26	+1	+12	+33	+19	+43	+77	+73	+62	+42	+6	10	132	
Oct.	-25	-41	-23	-1	-11	-6	-3	+1	+3	-24	-75	-41	-2	+10	-3	+11	+41	+59	+55	+41	+29	+11	-7	0	+7	7	88	
Nov.	-19	-18	-14	-13	+9	+16	+13	+16	+9	-1	+2	-19	+18	+1	0	+7	+54	+20	+35	+34	-11	-84	+2	-57	-17	9	131	
Dec.	-51	-92	-68	-66	-58	+2	-14	-12	+5	+7	+40	+58	+52	+53	+46	+51	+62	+38	+31	+39	+38	-23	-58	-79	-61	8	154	
Year	-5	-17	-27	-26	-20	-22	-11	-10	+4	-9	-19	-13	+1	-6	0	+14	+30	+19	+14	+22	+39	+29	+14	0	-7	66	123	
Winter	-15	-25	-23	-18	-9	-3	-2	-7	+1	-4	+15	+17	+33	+28	+21	+27	+54	+15	+16	+13	-6	-39	-38	-51	+27	28	129	
Equinox	+1	-17	-18	-19	-31	-48	-29	-19	+7	-14	-49	-21	-6	-8	-6	+6	+14	+25	+19	+47	+48	+48	+39	+32	-33	23	114	
Summer	0	-9	-40	-43	-20	-15	-1	-3	+3	-9	-24	-35	-26	-38	-15	+11	+22	+19	+7	+6	+75	+79	+40	+19	-17	15	127	

Winter: January, February, November, December

Equinox: March, April, September, October

Summer: May to August.

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

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

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	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE	
	Character	Duration of negative potential gradient										
1	2a	hr. 4·0	(1a)	hr. -	1c	hr. 1·6	(0a)	hr. ...	1a	hr. 3·0	-	hr. -
2	(1a)	-	1a	0·6	1b	0·5	(2b)	(3·6)	(2b)	14·7	(0a)	... .
3	0a	...	(1b)	0·9	(1b)	0·5	(1a)	0·9	2b	8·8	1a	0·9
4	1a	0·1	1a	1·5	-	-	1b	0·2	(0a)	...	(0a)	...
5	1a	2·3	2b	6·5	(1c)	-	(1b)	-	-	-	0a	...
6	1c	1·0	(1b)	-	(2a)	-	(1b)	-	1b	1·6	(0a)	...
7	(1b)	-	1c	2·0	2c	6·7	-	-	-	-	(0a)	...
8	1b	2·1	(1c)	-	(1b)	-	(1a)	-	0a	...	-	-
9	1b	1·6	1b	0·7	(0a)	...	-	-	(0a)	...	2c	16·5
10	1b	0·7	1a	0·1	(1a)	0·8	-	-	(1a)	0·2	(2a)	(9·1)
11	0a	...	1b	0·9	(0a)	...	1b	0·7	(0a)	...	(2b)	-
12	(1b)	-	2c	3·5	1a	0·1	(2c)	-	(0a)	...	(1a)	-
13	(1b)	0·3	1a	0·6	(0a)	...	(2b)	-	(1a)	-	1a	0·8
14	0a	...	(2b)	(3·1)	(0a)	...	(2b)	-	-	-	-	-
15	(2c)	-	(1a)	0·1	(0a)	...	(1a)	-	-	-	-	-
16	2c	5·3	2b	4·1	(0a)	...	(0a)	...	(1a)	-	(0a)	...
17	(1b)	-	(2c)	-	(1a)	0·4	1a	1·9	1a	0·3	(0a)	...
18	(2b)	(7·0)	(1b)	-	(0a)	...	(0a)	...	0a	...	-	-
19	2a	4·0	-	-	(1a)	-	0a	...	(1a)	-	-	-
20	1a	0·3	(1a)	0·1	(2b)	7·3	0a	...	-	-	-	-
21	0a	...	2b	3·7	(1b)	(2·0)	1a	2·1	(0a)	...	-	-
22	(1a)	0·8	(1b)	-	1a	0·9	(0a)	...	(1a)	0·7	(1b)	-
23	2a	4·6	2c	8·0	(2b)	-	1a	0·2	(0a)	...	-	-
24	1a	0·1	1c	1·2	(0a)	...	1a	0·4	0a	...	-	-
25	0a	...	-	-	(1b)	-	-	-	1a	0·3	(1a)	-
26	1b	0·3	-	-	-	-	-	-	0a	...	(1a)	-
27	(1b)	-	2c	5·2	(1b)	-	(1b)	-	0a	...	0a	...
28	0a	...	1b	0·8	(2b)	-	(0a)	...	0a	...	(0a)	...
29	0a	...	-	-	(0a)	...	(1b)	0·9	-	-	(0a)	...
30	1b	0·7	-	-	(2b)	-	(1b)	0·6	-	-	(1a)	-
31	1b	0·3	-	-	1b	0·1	-	-	-	-	-	-
Total	30	35·5	33	43·6	26	20·9	22	11·5	13	29·6	13	27·3
No. of days used	31	25	25	19	29	20	25	17	23	20	20	14
Mean	0·97	1·4	1·32	2·3	0·90	1·0	0·88	0·7	0·57	1·5	0·65	1·9

	JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	Character	Duration of negative potential gradient										
1	(1b)	hr. -	(1a)	0·7	1a	0·5	(0a)	hr. ...	1a	0·5	1a	0·2
2	(1a)	(0·2)	1b	2·4	(0a)	...	0a	...	(1b)	2·5	1c	2·3
3	-	-	0a	...	(1b)	-	0a	...	1a	0·4	(1c)	0·8
4	(0a)	...	0a	...	-	-	(1b)	-	(1c)	(1·3)	2b	7·0
5	(0a)	...	0a	...	0a	...	-	-	1c	2·5	1c	1·3
6	1a	0·7	2b	6·1	1a	1·3	(0a)	...	1b	0·7	1b	1·7
7	0a	...	(1a)	0·5	0a	...	0a	...	1b	1·0	1a	1·5
8	0a	...	(1b)	-	1b	1·5	1b	2·8	2b	7·0	1b	0·9
9	0a	...	-	-	1b	2·2	1b	1·5	1b	0·1	(2c)	-
10	0a	...	(0a)	...	(1a)	0·3	(1c)	-	(2b)	3·7	-	-
11	0a	...	(1a)	-	1a	0·6	1b	1·0	2b	5·6	(1b)	1·4
12	(0a)	...	(0a)	...	1a	2·3	2a	3·9	2c	5·0	(1b)	0·5
13	(0a)	...	(1a)	0·9	0a	...	(2b)	4·4	1b	0·7	(1a)	(0·4)
14	(1a)	0·9	1a	0·2	1a	0·3	(1b)	(0·8)	1a	0·1	2b	5·0
15	(0a)	...	1a	0·1	(1b)	(2·2)	1b	0·4	1a	2·3	(1a)	0·1
16	(0a)	...	(0a)	...	(2b)	(12·6)	1c	1·6	1a	0·3	1a	0·1
17	1a	2·7	0a	...	(2b)	-	2b	4·3	1a	1·1	(1b)	-
18	(1a)	0·6	1a	0·3	1a	0·3	2a	3·2	(1a)	1·3	-	-
19	(0a)	...	0a	...	1b	1·7	1a	2·0	1a	1·1	(1c)	-
20	(1a)	(0·2)	0a	...	(2b)	(4·4)	(1b)	-	0a	...	(1c)	-
21	(2b)	-	0a	...	1a	0·8	1a	1·1	(1a)	0·1	2b	7·5
22	1b	0·8	(1a)	0·5	1b	0·7	1a	0·6	1a	1·0	(1b)	-
23	(0a)	...	2a	4·0	1a	0·4	2b	3·1	1b	2·7	(1c)	-
24	(1b)	0·4	(0a)	...	1b	2·2	-	-	1b	2·2	(1b)	(0·6)
25	(2a)	-	0a	...	1a	0·2	-	-	2b	3·2	2a	6·6
26	(0a)	...	0a	...	(2b)	(4·2)	0a	...	2b	8·7	-	-
27	(1a)	1·1	(1b)	(0·9)	(1c)	(1·8)	2b	3·2	2b	7·2	1b	1·3
28	(1a)	0·8	-	-	(2c)	(5·3)	(1b)	-	2b	5·4	1b	0·4
29	(2b)	(5·4)	-	-	(2c)	-	(1a)	1·5	1b	0·4	1a	0·9
30	(1a)	-	(1a)	1·4	1a	0·4	1a	0·3	2b	3·2	1a	0·4
31	(1a)	-	(1a)	0·9	-	-	1a	0·2	-	-	0a	...
Total	19	13·8	17	18·9	31	46·2	28	35·9	38	71·3	32	40·9
No. of days used	30	25	28	26	29	26	28	24	30	30	28	22
Mean	0·63	0·6	0·61	0·7	1·07	1·8	1·00	1·5	1·27	2·4	1·14	1·9

Annual values: Character frequency 0 1 2  
 No. of days used 84 182 60      Mean character figure 0·93 (326 days)      Duration: Total 395·4 hr.  
 No. of days 268      Mean 1·48 hr.

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

9 LERWICK (H)

14,000γ (0.14 C.G.S. unit) +

JANUARY

	Hour	G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean									
1	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ									
2 d	444	448	449	449	446	449	452	460	457	445	444	444	444	444	447	453	453	455	454	454	453	455	454	448	450	444	441	450								
3	445	435	448	448	445	445	444	445	444	451	457	451	439	431	432	445	434	427	445	438	434	433	441	439	430	445	441	441								
4 q	442	432	434	437	437	442	447	448	441	434	436	434	434	434	437	441	442	443	441	445	445	445	445	445	443	442	445	441	441							
5	441	441	441	442	444	445	445	445	445	446	445	444	443	443	443	448	448	448	449	450	449	449	449	449	451	449	445	445	445							
6	445	443	443	445	447	448	450	449	447	445	445	447	447	445	452	456	455	453	449	451	451	451	451	456	475	448	430	449	449							
7	438	435	434	434	434	445	451	447	447	448	445	442	439	439	439	446	446	449	445	442	442	445	443	442	437	439	443	443	443							
8	444	441	442	442	446	453	456	452	451	450	449	448	449	449	449	449	453	449	445	433	434	437	438	433	437	442	442	444	444							
9	446	450	445	449	453	453	456	453	442	434	439	439	439	439	439	441	447	447	447	449	447	449	447	449	441	439	445	441	453	446						
10 q	448	433	437	445	449	449	452	452	449	447	446	446	444	444	444	441	446	449	447	449	448	448	448	448	451	451	455	447	447	447						
11	445	445	448	448	449	450	453	460	460	456	449	449	448	448	448	451	449	449	443	442	448	445	448	442	445	445	449	449	449							
12	441	448	442	447	453	460	460	459	459	460	448	441	448	451	456	430	431	430	422	423	438	441	441	438	444	444	444	444	444	444						
13	432	442	431	427	436	445	439	452	453	448	438	437	441	445	445	446	449	449	445	440	442	434	449	442	442	442	442	442	442	442						
14	445	445	445	445	448	452	456	457	454	453	452	449	449	453	454	454	453	458	456	439	441	440	445	445	445	442	442	449	449	449						
15	440	446	448	447	449	455	457	449	445	460	453	445	445	445	445	451	449	453	454	452	449	441	440	441	440	441	440	441	440	440	440					
16	441	441	449	448	453	453	453	452	452	449	451	449	449	449	449	453	454	454	457	456	434	434	441	444	445	445	448	448	448	448	448					
17	446	445	447	449	453	451	450	453	453	452	451	445	440	445	450	449	449	432	430	445	441	445	448	448	447	447	447	447	447	447						
18	443	441	444	444	449	456	452	452	456	456	454	453	454	445	445	445	446	449	446	449	453	449	445	450	500	427	451	451	451	451						
19 d	405	392	422	436	441	449	445	445	432	427	436	445	448	449	449	449	449	449	449	449	476	426	416	461	400	395	435	435	435	435						
20 d	419	423	413	434	434	437	438	434	448	438	439	434	442	441	448	445	443	434	440	444	448	439	445	447	447	447	447	447	447	447	447					
21 d	425	401	437	433	436	445	451	455	448	445	441	438	434	440	445	445	445	449	442	436	443	444	449	438	449	440	440	440	440	440						
22	443	445	438	456	445	448	464	448	444	440	443	444	445	452	445	450	448	450	453	444	442	444	447	448	447	447	447	447	447	447	447					
23 d	442	434	426	434	443	446	448	434	419	441	439	431	441	441	446	451	439	440	441	441	443	449	441	441	440	440	440	440	440	440	440					
24	441	437	442	441	445	451	449	446	450	449	446	441	440	442	448	445	445	448	449	451	449	449	449	448	446	446	446	446	446	446	446					
25	447	446	445	445	447	449	451	450	450	449	444	443	445	445	448	454	455	448	439	437	446	446	446	449	447	447	447	447	447	447	447	447				
26 q	447	453	445	444	449	450	453	456	449	446	442	442	443	443	446	451	453	449	447	446	448	447	450	448	445	448	448	448	448	448	448	448	448			
27	448	451	450	451	456	454	453	453	445	446	447	446	446	445	450	454	450	443	445	453	451	454	452	449	448	450	450	450	450	450	450	450	450			
28 q	446	447	451	450	454	454	453	456	460	460	453	451	450	450	450	453	454	458	458	456	454	453	451	451	453	453	453	453	453	453	453	453	453			
29 q	450	449	451	451	452	456	461	460	456	451	447	448	448	449	450	454	456	448	448	450	453	454	457	458	459	454	453	453	453	453	453	453	453			
30	453	453	452	451	451	451	451	452	453	451	449	449	449	449	444	444	448	449	454	453	449	451	451	446	443	443	450	450	450	450	450	450	450			
31	449	448	445	444	439	458	463	463	463	460	451	443	441	444	444	447	450	456	440	450	452	451	453	441	444	440	449	449	449	449	449	449	449	449	449	
Mean	442	440	442	444	446	450	452	451	450	448	445	443	444	444	444	447	449	448	447	446	446	445	447	445	444	444	444	444	444	444	444	444	444	444	444	444

**MAGNETIC DECLINATION (WEST)**

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

10 LERWICK (D)

10°+

JANUARY

	Hour	G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean			
1	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'
2 d	17.5	16.4	13.1	16.9	18.9	17.8	16.8	17.8	19.1	18.6	19.1	20.8	21.9	24.5	22.8	25.2	23.5	20.9	24.5	21.3	20.6	17.9	17.4	15.3	14.7	18.6	18.5	18.5	18.5	18.5
3	16.9	16.8	18.6	18.8	19.4	18.7	18.5	18.7	18.9	18.6	19.6	21.2	22.0	22.0	21.0	21.2	21.8	20.7	19.8	20.7	20.2	16.2	11.2	16.6	17.6	19.1	19.0	19.0	19.0	19.0
4 q	18.1	18.9	18.6	18.8	18.8	18.6	18.7	18.7	18.6	18.6	18.9	19.9	20.9	21.6	21.2	21.2	20.4	20.2	19.9	19.8	19.8	19.5	18.5	18.1	18.1	18.5	18.5	18.5	18.5	18.5
5	17.0	18.3	19.2	19.0	18.9	18.9	19.1	19.0	19.0	19.1	19.2	19.1	19.1	19.1	19.1	19.2	19.3	19.3	19.4	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5
6	18.1	17.7	18.9	18.7	19.4	20.3	21.7	20.4	19.3	18.9	19.5	19.9	20.9	20																

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

13

11 LERWICK (Z)												46,000γ (0.46, C.G.S. unit) +												JANUARY				
	Hour	G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	
1		γ	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	
2 d	1130	1112	1107	1112	1116	1117	1117	1116	1117	1126	1127	1124	1124	1126	1126	1127	1127	1125	1123	1123	1123	1123	1128	1130	1130	1132	1122	
3	1127	1121	1113	1113	1113	1116	1117	1115	1118	1117	1123	1126	1124	1127	1127	1124	1137	1177	1169	1140	1148	1166	1175	1154	1142	1135	1130	1134
4 q	1118	1119	1121	1122	1125	1124	1123	1121	1124	1127	1124	1127	1128	1130	1135	1134	1134	1133	1129	1128	1128	1128	1128	1128	1128	1122	1126	1126
5	1128	1128	1127	1127	1125	1124	1123	1123	1122	1120	1120	1120	1119	1123	1124	1126	1130	1130	1134	1148	1176	1179	1142	1135	1131	1131	1131	
6	1129	1130	1131	1130	1124	1112	1112	1113	1118	1119	1123	1123	1124	1126	1129	1134	1142	1135	1134	1133	1129	1128	1129	1127	1126	1126		
7	1123	1124	1125	1126	1124	1123	1123	1123	1120	1122	1120	1120	1122	1120	1118	1119	1126	1131	1142	1161	1169	1164	1158	1135	1125	1117	1131	
8	109	1082	1103	1116	1119	1122	1120	1120	1124	1126	1124	1121	1123	1124	1124	1127	1127	1128	1130	1131	1137	1141	1131	1129	1107	1122		
9	1095	1111	1117	1117	1119	1121	1121	1121	1118	1117	1117	1117	1117	1117	1117	1122	1124	1124	1123	1132	1131	1124	1123	1121	1121	1121		
10 q	1117	1118	1120	1120	1121	1123	1123	1123	1124	1124	1123	1119	1119	1119	1119	1119	1123	1123	1124	1127	1129	1134	1137	1131	1128	1123	1124	
11	1121	1120	1118	1119	1117	1117	1116	1115	1120	1120	1120	1120	1120	1120	1117	1117	1117	1121	1124	1130	1137	1134	1136	1140	1124	1119	1122	
12	1117	1111	1112	1117	1118	1117	1119	1121	1120	1118	1123	1124	1121	1121	1120	1120	1123	1141	1152	1153	1184	1196	1170	1152	1144	1138	1134	
13	1131	1117	1116	1111	1117	1117	1114	1121	1123	1125	1125	1125	1123	1122	1123	1124	1125	1127	1128	1131	1135	1137	1124	1107	1122	1122		
14	1117	1119	1120	1119	1119	1119	1120	1120	1119	1120	1120	1120	1123	1123	1123	1123	1123	1123	1123	1123	1123	1123	1126	1128	1123	1123		
15	1125	1114	1115	1120	1122	1119	1117	1117	1117	1117	1121	1123	1124	1124	1123	1123	1123	1125	1128	1137	1137	1139	1118	1123	1123	1123		
16	1112	1112	1117	1121	1118	1117	1116	1117	1119	1118	1121	1121	1123	1126	1125	1124	1123	1124	1144	1158	1135	1131	1129	1126	1124	1124		
17	1125	1126	1124	1124	1120	1119	1119	1118	1117	1117	1120	1120	1123	1123	1126	1129	1130	1141	1147	1134	1140	1134	1128	1127	1126	1126		
18	1129	1130	1120	1117	1117	1117	1117	1115	1113	1114	1117	1121	1122	1128	1134	1137	1132	1128	1134	1128	1129	1137	1124	1078	1122			
19 d	1085	1047	1073	1106	1119	1117	1116	1117	1118	1116	1113	1121	1121	1128	1134	1135	1141	1179	1200	1200	1199	1176	1144	1077	1129			
20 d	1128	1132	1110	1103	1121	1127	1128	1129	1118	1120	1119	1127	1120	1130	1134	1147	1163	1171	1154	1133	1137	1132	1123	1129	1129			
21 d	1095	1054	1096	1112	1114	1104	1103	1112	1115	1123	1125	1128	1132	1135	1139	1143	1141	1146	1154	1142	1147	1138	1106	1085	1120			
22	1094	1105	1112	1093	1095	1114	1112	1118	1124	1123	1125	1123	1120	1118	1129	1133	1137	1141	1140	1147	1144	1134	1128	1120	1122			
23 d	1121	1119	1089	1082	1098	1112	1114	1120	1128	1123	1124	1129	1130	1130	1134	1136	1141	1142	1141	1141	1138	1131	1124	1124				
24	1116	1104	1109	1116	1121	1123	1124	1125	1124	1124	1123	1123	1123	1123	1123	1123	1123	1123	1123	1123	1130	1130	1126	1124	1124			
25	1123	1123	1123	1123	1124	1124	1126	1126	1126	1124	1124	1123	1121	1123	1125	1130	1135	1148	1142	1140	1138	1135	1130	1130	1129			
26 q	1128	1116	1120	1124	1123	1123	1126	1128	1128	1128	1128	1128	1128	1128	1128	1128	1128	1128	1128	1128	1133	1135	1138	1135	1133	1128		
27	1128	1119	1122	1123	1123	1124	1125	1126	1124	1124	1123	1123	1123	1123	1123	1123	1123	1123	1123	1123	1123	1123	1123	1123	1123	1123		
28 q	1128	1125	1117	1119	1118	1118	1120	1119	1119	1118	1120	1122	1122	1122	1122	1122	1122	1122	1122	1122	1122	1122	1122	1122	1122	1122		
29 q	1127	1122	1120	1119	1117	1117	1117	1120	1120	1122	1122	1122	1123	1121	1122	1124	1130	1130	1132	1128	1128	1127	1126	1126	1123			
30	1124	1119	1118	1122	1122	1123	1123	1123	1121	1119	1120	1123	1126	1126	1125	1125	1125	1125	1125	1125	1125	1125	1125	1125	1125	1126		
31	1128	1128	1126	1126	1123	1113	1117	1117	1117	1119	1122	1123	1123	1123	1123	1123	1123	1123	1123	1123	1123	1123	1123	1123	1123	1128		
Mean	- -	470	419	- -	52	- -	25·1	7·4	- -	17·7	- -	1160	1099	- -	61	- -	- -	- -	- -	- -	- -	0·45	- -	- -	- -	- -	1126	

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

TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +					
Horizontal force			Declination			Vertical force														
Maximum 14,000γ +	Minimum 14,000γ +	Range	Maximum 10° +	Minimum 10° +	Range	Maximum 46,000γ +	Minimum 46,000γ +	Range												
1	h. m.	γ	γ	h. m.	γ	h. m.	'	'	h. m.	γ	γ	γ	29	2,2,1,0,0,0,1,1	7	0	79·8			
2 d	8 18	460	437	0 0	23	12 36	22·3	12·0	2 2	10·3	21 18	1135	1106	2 3	142	3,2,2,2,4,4,2,2	21	1	80·7	
3	8 47	465	391	15 6	74	15 0	33·5	2·9	2 16	30·6	14 53	1242	1100	2 11	64	0,1,1,1,1,3,3,2	8	0	80·7	
4 q	0 0	457	428	1 34	29	10 52	24·0	14·2	1 10	9·8	14 5	1137	1116	0 50	21	2,1,1,1,1,1,0,1	1	0	80·2	
5	21 30	505	423	22 46	82	19 17	28·5	-6·5	22 0	35·0	21 18	1217	1118	9 36	99	1,1,0,0,1,1,3,4	11	1	80·2	
6	14 2	460	430	3 49	30	15 30	23·1	13·5	21 58	9·6	16 16	1145	1109	5 17	36	1,2,1,1,1,2,1,1	10	0	80·4	
7	5 46	462	423	17 55	39	17 36	27·5	8·1	20 4	19·4	18 0	1176	1112	24 0	64	0,1,1,1,1,3,3,2	12	1	80·1	
8																				

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

13 LERWICK (H)

14,000γ (0.14 C.G.S. unit) +

FEBRUARY

	Hour G.M.T. 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	445	437	438	435	445	435	439	440	444	442	443	435	435	434	445	449	464	469	441	434	429	430	434	441	441	
2	428	412	402	412	429	438	435	438	451	444	435	427	434	453	438	445	449	445	446	446	446	441	447	421	436	
3	435	417	424	437	441	445	451	460	444	426	439	441	433	431	446	442	445	451	449	445	435	439	460	457	441	
4	442	438	435	427	441	452	443	449	453	445	441	440	443	445	448	454	451	452	452	447	445	446	445	448	445	
5 q	448	441	442	442	445	447	449	449	450	445	439	437	438	443	445	452	452	446	433	429	434	456	442	446	444	
6 q	446	443	441	441	438	447	453	456	449	445	441	441	442	446	448	451	453	453	453	452	450	447	444	447	447	
7 q	445	447	446	448	450	456	457	457	454	449	447	445	449	454	458	459	460	462	457	445	449	453	440	451	451	
8 q	438	442	438	442	445	449	453	453	451	448	444	442	441	438	446	451	456	458	457	467	445	447	449	453	448	450
9	447	445	447	451	454	458	454	452	453	454	453	452	449	451	449	443	453	447	448	449	450	449	450	450	450	
10	448	449	447	447	448	451	453	445	454	453	447	451	448	441	451	447	448	450	462	451	450	450	453	450	450	
11	432	460	434	431	446	449	449	453	452	451	453	453	453	452	454	457	460	461	447	450	454	465	428	443	449	
12 q	441	442	442	444	445	447	445	441	443	442	439	437	442	444	446	451	453	458	456	456	448	445	450	432	445	445
13	444	449	447	448	450	455	456	452	448	441	437	447	446	445	442	451	452	457	456	456	449	459	456	450	450	450
14	450	449	451	451	449	450	454	457	457	453	448	437	452	450	450	444	448	454	453	438	443	438	460	449	449	449
15 d	445	441	443	445	453	433	459	457	458	449	450	416	404	444	456	453	437	443	442	428	439	432	445	442	442	442
16	433	391	422	419	422	417	443	442	441	438	434	435	438	445	443	441	430	449	441	460	457	438	426	428	435	435
17	469	415	408	414	436	445	450	446	439	416	396	408	417	444	443	442	447	445	435	418	443	449	435	433	433	433
18	435	434	433	435	443	444	443	444	443	439	438	420	432	443	449	434	444	435	449	460	436	447	449	446	441	441
19	444	443	445	446	446	441	437	446	453	441	431	427	433	429	441	435	450	448	446	445	473	449	438	446	443	443
20	446	439	443	441	443	446	451	451	450	448	440	438	445	444	445	446	441	440	448	447	450	451	451	450	446	446
21	444	443	441	437	446	456	457	459	457	451	434	438	446	444	460	479	529	553	649	446	430	441	336	285	453	453
22 d	200	283	386	361	390	437	424	440	437	427	423	429	432	446	444	447	448	438	445	449	425	469	415	415	415	415
23 d	402	384	317	398	422	414	441	448	435	433	440	435	440	448	458	444	443	448	436	447	424	435	440	428	428	428
24	429	438	439	439	443	444	445	445	437	435	436	423	419	432	439	442	437	436	437	452	444	444	452	439	440	440
25	446	444	442	440	436	440	450	450	447	436	421	423	428	433	435	454	444	452	440	437	444	445	442	442	442	442
26 d	443	445	443	435	445	450	457	440	453	440	407	363	430	440	444	461	445	447	450	468	456	456	409	347	432	435
27 d	419	398	427	432	429	433	442	444	423	409	395	414	423	437	460	464	443	430	437	436	440	452	435	369	429	429
28	396	431	436	438	439	441	440	439	437	433	430	435	437	445	443	444	452	446	447	445	448	447	463	453	440	440
Mean	430	429	431	433	440	444	447	448	447	441	435	431	436	442	447	449	451	452	455	447	444	444	437	437	442	442

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

14 LERWICK (D)

10° +

FEBRUARY

	Hour G.M.T. 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	13·4	14·0	14·9	12·5	7·7	14·9	18·7	17·3	19·6	17·3	18·7	21·9	23·4	27·1	29·0	26·8	23·5	20·6	25·4	21·9	17·7	4·5	10·1	16·0	18·2
2	7·8	4·8	13·6	16·3	12·4	15·1	16·8	18·2	18·7	21·6	22·1	21·2	23·3	25·7	19·2	22·2	21·1	18·0	17·3	16·6	13·2	11·5	8·3	16·8	16·8
3	8·7	5·5	12·9	13·3	14·7	16·0	17·1	19·5	20·9	23·9	20·4	22·1	24·6	21·2	21·6	21·3	21·3	18·7	18·0	19·2	18·2	13·1	16·3	12·7	12·5
4	15·8	16·8	12·7	18·9	16·6	15·3	16·1	18·9	18·2	17·4	18·7	19·9	19·9	20·5	20·4	20·3	18·2	19·2	19·2	15·3	14·0	13·1	12·9	12·5	17·5
5 q	16·3	17·2	17·3	17·7	17·9	17·4	17·5	18·7	18·0	18·7	19·7	20·6	21·5	21·9	21·9	21·9	21·9	18·9	18·2	17·7	17·8	15·5	12·5	12·5	17·9
6 q	15·6	16·3	17·5	16·3	17·0	17·7	18·7	19·2	19·7	20·6	21·3	21·4	20·9	20·1	20·1	19·7	19·7	18·7	18·5	18·3	18·7	17·5	16·2	18·4	18·4
7 q	15·8	16·5	16·7	17·5	17·3	17·7	17·4	17·5	18·0	19·2	20·6	21·6	22·3	21·5	19·9	19·9	20·2	22·1	19·9	15·1	17·5	15·6	13·2	13·2	18·4
8 q	11·2	13·9	14·4	17·1	17·0	17·5	17·7	17·7	18·0	19·0	20·6	21·2	22·3	22·7	21·5	21·3	21·3	21·1	21·6	15·1	12·5	17·7	15·8	18·1	18·1
9	15·5	15·9	17·3	17·7	17·7	17·5	17·3	17·4	18·2	17·7	18·2	20·1	21·1	22·1	22·3	21·1	21·1	25·1	22·1	19·9	18·4	17·2	17·0	19·0	19·0
10	17·4	17·5	16·3	17·9	16·0	15·1	17·1	18·7	19·2	19·7	20·1	21·9	22·5	21·6	23·3	23·3	25·2	22·9	16·8	16·3	11·5	11·5	19·2	19·2	19·2
11	10·4	17·2	4·3	12·3	16·3	16·8	18·0	18·4	19·5	20·1	20·3	21·0	22·5	23·7	23·7	22·7	22·3	24·1	24·0	23·9	4·8	8·1	16·3	17·4	17·4
12 q	21·1	19·6	18·2	17·8	17·5	17·3	17·7	18·0	19·7	20·1	21·3	21·8	21·4	20·1	19·7	19·2	18·7	18·9	18·6	16·5	14·5	12·5	12·9	18·4	18·4
13	17·0	17·1	18·1	17·7	17·5	17·9	19·5	19·7	19·7	18·2	20·1	21·6	22·5	21·9	20·9	20·4	20·1	19·9	18·7	16·6	11·5	15·1	17·1	18·6	18·6
14	17·7	17·8	17·9	17·6	17·5	17·7	17·6	17·1	17·1	17·9	18·7	20·6	20·6	23·3	24·6	26·6	27·2	20·9	18·7	20·0	12·9	9·2	16·7	18·7	18·7
15 d	16·1	17·0	17·6	17·2	17·0</																				

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

15

15 LERWICK (Z)

46,000y (0.46 C.G.S. unit) +

FEBRUARY

	Hour	G.M.T.	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	1127	1130	1129	1104	1072	1088	1082	1099	1116	1124	1131	1133	1135	1137	1149	1205	1220	1267	1237	1180	1158	1159	1126	1092	1142	1142	
2	1054	1071	1069	1052	1076	1097	1102	1106	1110	1116	1121	1128	1138	1137	1154	1162	1145	1145	1141	1134	1133	1132	1118	1062	1113	1113	
3	1020	1035	1068	1102	1123	1128	1127	1116	1114	1116	1109	1120	1130	1144	1142	1142	1140	1136	1135	1140	1147	1137	1116	1093	1116	1116	
4	1101	1103	1092	1082	1083	1100	1111	1111	1112	1116	1117	1119	1122	1127	1131	1137	1138	1137	1139	1134	1130	1128	1130	1124	1118	1118	
5 q	1120	1124	1128	1130	1128	1127	1126	1124	1123	1122	1123	1124	1125	1128	1130	1131	1138	1143	1153	1156	1152	1134	1127	1124	1131	1131	
6 q	1123	1123	1127	1131	1130	1126	1124	1123	1122	1120	1119	1118	1121	1123	1124	1128	1129	1129	1128	1128	1128	1128	1128	1130	1125	1125	
7 q	1128	1124	1125	1127	1124	1124	1123	1121	1116	1116	1115	1116	1113	1117	1121	1124	1125	1131	1148	1154	1150	1139	1138	1127	1127	1127	
8 q	1135	1131	1128	1128	1130	1130	1129	1127	1123	1120	1121	1121	1124	1124	1124	1128	1135	1150	1144	1140	1134	1130	1130	1130	1130	1130	
9	1129	1128	1124	1123	1123	1124	1123	1122	1120	1119	1117	1117	1117	1117	1119	1123	1134	1136	1143	1155	1147	1140	1136	1131	1128	1128	
10	1125	1123	1119	1112	1110	1112	1112	1117	1116	1117	1117	1117	1116	1119	1123	1127	1132	1140	1148	1145	1142	1139	1131	1125	1125	1125	
11	1128	1100	1079	1107	1116	1117	1121	1123	1123	1124	1121	1119	1118	1117	1117	1119	1123	1128	1157	1159	1188	1170	1142	1132	1127	1127	
12 q	1117	1113	1123	1124	1124	1124	1128	1127	1127	1127	1125	1125	1124	1126	1127	1126	1127	1124	1125	1126	1134	1134	1138	1134	1134	1127	1127
13	1117	1123	1128	1126	1123	1122	1121	1119	1119	1124	1123	1123	1126	1130	1132	1129	1125	1125	1126	1134	1133	1117	1124	1125	1125	1125	
14	1125	1127	1125	1124	1123	1120	1119	1119	1117	1118	1124	1124	1124	1126	1130	1146	1155	1146	1138	1142	1181	1168	1154	1129	1133	1133	
15 d	1130	1134	1129	1124	1099	1068	1092	1106	1116	1115	1131	1140	1136	1154	1266	1211	1153	1152	1182	1169	1140	1124	1120	1139	1139	1139	
16	1116	1029	997	1059	1083	1099	1097	1112	1118	1120	1123	1123	1126	1130	1145	1175	1199	1180	1189	1164	1124	1119	1110	1018	1115	1115	
17	1037	1066	1069	1076	1097	1116	1123	1124	1123	1130	1136	1140	1152	1151	1192	1205	1173	1171	1158	1160	1147	1100	1084	1106	1127	1127	
18	1117	1121	1123	1128	1126	1123	1122	1119	1119	1124	1123	1123	1123	1126	1130	1132	1129	1125	1125	1126	1134	1133	1117	1124	1125	1125	
19	1124	1126	1124	1128	1127	1116	1094	1087	1102	1111	1120	1124	1128	1129	1142	1143	1138	1134	1135	1114	1109	1119	1112	1121	1121		
20	1094	1097	1112	1123	1125	1123	1122	1117	1117	1117	1117	1119	1120	1128	1135	1140	1141	1134	1131	1128	1123	1120	1119	1122	1122		
21	1123	1123	1123	1117	1113	1114	1115	1112	1112	1112	1116	1113	1114	1113	1124	1152	1251	1271	1282	1248	1209	1175	1096	1041	1145	1145	
22 d	1011	1018	1030	1041	1059	1062	1078	1096	1105	1119	1129	1129	1129	1137	1169	1164	1163	1149	1152	1161	1142	1106	1116	1064	1105	1105	
23 d	1053	1058	1025	1023	1062	1080	1088	1105	1115	1116	1118	1123	1128	1134	1143	1175	1230	1206	1190	1163	1139	1073	1064	1080	1112	1112	
24	1093	1112	1121	1128	1130	1129	1129	1131	1130	1128	1135	1141	1140	1155	1146	1141	1146	1151	1146	1117	1112	1089	1102	1128	1128	1128	
25	1116	1117	1120	1124	1117	1121	1123	1126	1128	1131	1133	1130	1131	1134	1135	1140	1152	1157	1162	1155	1159	1148	1117	1135	1135	1135	
26 d	1097	1116	1123	1118	1109	1120	1118	1117	1103	1106	1123	1140	1120	1124	1128	1141	1182	1210	1180	1169	1108	1109	1030	1121	1121	1121	
27 d	1040	1050	1086	1117	1107	1109	1125	1130	1135	1155	1164	1154	1147	1138	1142	1216	1217	1161	1163	1168	1154	1123	1100	1044	1131	1131	
28	1031	1084	1104	1117	1124	1125	1128	1129	1130	1130	1128	1127	1129	1134	1141	1148	1161	1147	1137	1138	1138	1131	1119	1112	1125	1125	
Mean	1097	1100	1102	1107	1111	1114	1115	1117	1118	1121	1123	1126	1127	1129	1137	1153	1161	1159	1159	1152	1145	1133	1117	1101	1126	1126	

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

16 LERWICK

FEBRUARY

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +				
	Horizontal force			Declination			Vertical force													
	Maximum 14,000y +	Minimum 14,000y +	Range	Maximum 10° +	Minimum 10° +	Range	Maximum 46,000y +	Minimum 46,000y +	Range											
1	h. m.	y	h. m.	y	h. m.	'	h. m.	y	h. m.	y	h. m.	y	17	14	1300	246	°A.			
1	17 10	496	401	22 12	95	14 54	32 7	-2 4	21 32	35 1	17 14	1054	4 18	167	24	1	79 8			
2	22 38	470	366	23 37	104	14 32	28 4	0 3	1 4	28 1	15 4	1179	24 0	167	20	1	79 6			
3	23 8	488	406	2 5	82	9 45	27 7	3 2	1 23	24 5	20 14	1152	9 9	14	21	1	80 0			
4	7 30	460	418	3 2	42	3 40	21 8	10 1	2 52	11 7	18 31	1143	4 7	74	16	0	80 2			
5 q	21 36	492	424	19 20	68	14 3	22 9	7 6	21 32	15 3	19 20	1159	21 44	43	13	0	80 3			
6 q	7 20	459	435	4 49	24	11 55	22 1	15 0	5 33	7 1	4 31	1133	1116	11 10	17	6	80 1			
7 q	18 9	465	430	23 52	35	13 22	23 5	9 9	24 0	13 6	20 10	1158	1112	13 35	46	7	80 2			
8 q	19 36	486	431	13 27	55	13 18	23 6	8 2	19 33	15 4	20 44	1163	1119	12 4	44	10	80 2			
9	16 23	461	434	15 40	27	17 15	25 9	14 3	0 49	11 6	18 24	1161	1144	11 48	47	10	80 0			
10	19 58	484	427	13 13	57	17 21	26 2	7 2	23 51	19 0	19 16	1158	1104	3 50	54	15	79 8			
11	1 37	500	418	22 21	82	18 5	28 1	-16 1	21 22	44 2	20 12	1205	1 56	155	20	1	79 9			
12 q	22 3	463	421	23 43	42															

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

17 LERWICK (H)

14,000y (0.14 C.G.S. unit) +

MARCH

	Hour G.M.T.	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		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	443	441	437	441	444	447	444	446	447	441	438	433	436	437	440	443	448	449	452	455	457	453	466	429	444	
2	427	433	445	437	419	444	455	452	444	440	426	428	431	437	441	445	448	456	453	455	446	450	463	444	442	
3 q	446	445	440	443	437	444	452	451	448	443	438	437	440	448	452	447	440	448	451	453	451	459	448	452	446	
4	452	448	446	441	444	450	453	459	443	426	424	424	429	441	447	452	444	446	452	459	447	440	433	444		
5	429	422	415	433	448	452	452	455	444	437	433	433	433	448	448	449	442	448	452	455	446	448	456	437	443	
6	433	441	429	433	444	456	451	450	445	440	433	436	440	448	453	455	467	456	448	455	459	444	444	440	446	
7	450	448	418	437	447	444	449	449	448	431	414	425	437	443	430	453	452	448	452	463	450	428	433	442		
8	440	440	431	421	445	456	455	449	440	432	431	430	436	448	451	459	458	456	463	457	452	448	434	443	445	
9	455	445	442	441	447	448	448	449	447	426	418	429	440	442	440	444	468	455	448	418	433	446	449	451	443	
10	444	441	444	444	445	447	447	438	435	434	431	429	435	440	444	452	450	452	452	464	437	453	431	443		
11	430	430	433	411	429	444	448	440	440	440	434	436	433	446	433	439	439	456	447	456	444	464	444	425	439	
12	429	445	445	444	442	438	433	447	452	444	438	440	440	429	443	454	448	442	452	447	441	430	423	440		
13	444	444	439	437	444	440	444	442	441	437	429	433	436	437	455	460	466	449	448	468	418	433	446	466	444	
14 d	438	414	425	403	413	433	421	415	429	428	426	426	422	437	456	501	506	509	466	442	440	427	430	421	439	
15 d	307	424	439	428	406	448	451	410	423	423	414	423	422	443	452	452	451	473	450	446	420	436	450	431	431	
16	441	427	435	443	424	429	447	439	431	417	420	432	439	433	452	455	458	463	456	453	450	429	447	451	440	
17	452	444	439	436	437	442	447	447	440	431	430	434	443	449	463	473	457	440	445	473	474	446	411	388	443	
18	417	340	403	433	423	427	436	432	427	415	419	432	444	454	458	455	453	460	458	446	439	444	446	447		
19	450	443	442	447	446	450	452	446	437	433	428	430	444	462	463	454	443	445	454	460	447	446	465	447		
20 d	434	420	430	434	447	455	453	444	427	413	418	419	426	446	450	457	464	458	447	444	466	450	439	405	439	
21	446	427	440	446	447	447	445	442	430	414	409	417	427	439	441	460	456	454	461	452	442	431	436	440		
22	449	431	439	447	449	453	450	448	437	419	409	414	428	437	452	447	453	466	451	466	388	333	432	439		
23 d	357	377	407	426	446	453	445	417	437	424	407	398	404	436	450	439	447	455	466	529	442	454	380	251	423	
24 d	393	396	420	436	425	441	444	419	410	389	399	414	431	435	444	448	458	487	494	433	440	447	456	493	435	
25	433	372	402	418	433	458	450	442	421	422	424	427	431	432	440	448	450	452	457	455	457	442	452	452	436	
31	449	447	441	440	455	455	443	426	430	427	419	413	422	434	441	445	446	459	461	466	456	452	448	453	443	
Mean	433	429	434	437	440	447	448	442	438	428	423	427	432	441	447	453	455	456	456	457	447	442	442	435	441	

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

18 LERWICK (D)

10° +

MARCH

	Hour G.M.T.	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																										
1 q	15·4	14·7	14·9	16·4	15·8	16·3	16·3	16·9	17·4	17·8	18·5	19·6	21·2	22·0	21·6	20·7	19·6	18·8	18·9	18·7	19·2	9·6	1·2	4·1	16·5	
2	12·0	23·9	13·9	8·0	13·5	16·0	15·2	15·4	15·7	16·9	18·9	19·6	22·5	23·4	23·3	20·8	19·3	18·6	9·3	11·1	17·4	18·2	12·5	13·8	16·6	
3 q	15·0	17·7	22·3	17·7	14·0	16·5	16·3	15·6	15·4	16·7	18·7	21·5	23·7	24·7	24·7	22·3	21·8	20·4	19·6	19·0	15·7	11·7	14·9	16·3	18·4	
4	16·5	17·5	16·8	16·7	17·0	17·5	16·0	15·4	15·3	17·5	19·2	20·5	23·1	24·7	23·3	22·7	21·9	20·0	18·8	18·5	16·8	4·1	8·3	9·4	17·4	
5	11·1	12·9	18·5	16·7	16·9	14·6	17·0	16·6	17·1	17·5	18·7	21·4	22·0	26·0	25·2	26·0	22·5	18·9	18·5	18·8	17·6	17·5	14·2	5·8	18·0	
6	16·2	14·0	12·7	15·5	15·9	14·8	16·7	16·9	16·9	17·7	19·4	21·7	22·7	22·1	20·3	20·9	21·6	22·2	21·4	19·8	17·6	8·8	11·1	10·6	17·4	
7	14·8	17·4	15·6	19·6	12·0	14·4	17·8	17·2	16·8	15·7	18·1	19·2	20·5	24·5	23·6	23·6	18·7	21·1	18·2	16·2	18·1	7·1	11·0	9·6	8·1	
8	15·2	17·7	17·8	17·6	18·7	14·9	15·0	15·0	14·2	15·0	16·2	18·9	22·3	23·9	23·4	22·3	21·5	20·8	20·6	20·5	19·1	13·7	16·1	9·5	17·9	
9	12·2	15·0	14·9	14·1	15·5	16·3	17·4	17·4	16·7	15·1	15·5	17·5	21·7	21·7	20·7	19·5	19·9	20·7	21·5	18·3	11·8	12·6	16·6	16·1		
10	16·7	16·8	17·4	16·6	17·0	15·6	15·4	15·0	16·0	16·9	18·9	23·5	23·7	23·5	19·9	20·5	19·7	15·9	11·0	14·5	14·7	13·7	14·4	17·3		
11	17·9	21·4	16·8	15·0	9·5	15·3	13·9	15·0	17·0	19·5	20·2	21·6	23·3	26·6	25·7	23·2	20·7	20·0	16·8	5·0	14·1	5·4	5·1	8·5	16·6	
12	13·1	17·2	17·8	14·9	13·9	15·6	16·9	17·3	17·9	17·1	17·7	21·9	24·0	24·3	22·7	22·5	20·9	19·9	20·1	16·4	7·9	8·1	4·4	11·4	16·8	
13	12·5	16·0	14·7	13·0	13·1	15·5	16·0	15·2	15·1	15·6	16·6	19·7	22·9	24·7	27·1	27·8	19·9	23·5	19·9	-1·3	0·8	15·9	15·2	9·3	16·2	
14 d	10·0	4·5	8·1	10·5	17·0	15·4	17·4																			

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

17

19 LERWICK (z)

46,000 $\gamma$  (0.46 C.G.S. unit) +

MARCH

	Hour	G.M.T.	46,000 $\gamma$ (0.46 C.G.S. unit) +																								
	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	1109	1113	1121	1124	1126	1127	1128	1127	1126	1128	1128	1128	1128	1129	1131	1134	1135	1134	1133	1131	1134	1145	1107	1122	1127		
2	1123	1091	1103	1106	1107	1090	1101	1117	1128	1130	1134	1133	1128	1128	1133	1134	1135	1137	1148	1131	1131	1130	1123	1096	1122	1122	
3 q	1110	1117	1107	1099	1107	1116	1117	1122	1124	1124	1122	1123	1126	1131	1137	1154	1157	1145	1141	1139	1141	1131	1134	1134	1127	1127	
4	1130	1133	1133	1132	1126	1124	1125	1123	1128	1130	1128	1129	1128	1134	1137	1135	1139	1135	1130	1128	1133	1165	1148	1121	1132	1132	
5	1095	1079	1069	1096	1117	1122	1117	1117	1121	1122	1128	1145	1145	1149	1159	1158	1151	1145	1140	1136	1141	1136	1119	1098	1124	1124	
6	1096	1090	1106	1106	1111	1119	1123	1123	1122	1123	1119	1116	1119	1122	1124	1128	1134	1142	1142	1137	1138	1145	1135	1123	1123	1123	
7	1107	1111	1085	1067	1092	1115	1119	1124	1126	1128	1129	1128	1133	1140	1145	1151	1158	1164	1154	1143	1140	1127	1117	1124	1126	1126	
8	1107	1114	1117	1109	1107	1114	1122	1125	1126	1124	1124	1125	1124	1120	1125	1130	1134	1140	1148	1158	1162	1078	1123	1123	1123	1123	
9	1109	1124	1128	1129	1130	1131	1128	1131	1130	1134	1136	1131	1125	1128	1137	1135	1140	1189	1195	1210	1192	1160	1140	1131	1143	1143	
10	1126	1130	1130	1129	1131	1130	1129	1123	1119	1119	1122	1127	1135	1145	1141	1147	1151	1143	1159	1157	1145	1124	1134	1134	1134	1134	
11	1096	1087	1093	1081	1092	1124	1130	1133	1130	1123	1124	1129	1139	1151	1166	1176	1162	1145	1156	1153	1143	1112	1072	1071	1125	1125	
12	1078	1100	1119	1121	1123	1128	1129	1125	1123	1122	1120	1121	1125	1128	1125	1133	1149	1157	1148	1161	1156	1151	1144	1138	1130	1130	
13	1133	1130	1125	1122	1126	1131	1134	1136	1135	1131	1133	1130	1131	1134	1139	1154	1197	1166	1173	1165	1125	1135	1122	1079	1137	1137	
14 d	1051	1001	1035	1061	1083	1089	1096	1089	1123	1136	1138	1140	1140	1140	1151	1201	1250	1292	1211	1178	1151	1128	1106	1110	1129	1129	
15 d	970	1009	1090	1107	1076	1096	1116	1126	1122	1136	1137	1144	1144	1147	1151	1162	1157	1166	1158	1148	1148	1122	1048	1095	1114	1114	
16	1120	1118	1113	1117	1116	1113	1118	1122	1133	1132	1130	1130	1137	1157	1171	1161	1162	1161	1161	1165	1126	1110	1099	1104	1132	1132	
17	1099	1103	1121	1126	1121	1116	1121	1123	1123	1124	1124	1123	1128	1129	1154	1210	1200	1172	1151	1117	1119	1099	1068	1128	1128	1128	
18	1066	972	1047	1078	1076	1092	1113	1122	1130	1131	1130	1131	1131	1136	1155	1161	1168	1177	1176	1188	1164	1141	1135	1131	1131	1131	
19	1107	1113	1116	1128	1134	1133	1131	1133	1128	1124	1123	1122	1133	1162	1169	1171	1169	1145	1145	1134	1103	1095	1134	1134	1134		
20 d	1088	1069	1073	1084	1116	1124	1128	1131	1134	1128	1128	1133	1134	1138	1147	1158	1185	1190	1168	1145	1131	1081	986	1122	1122	1122	
21	1007	1061	1092	1114	1122	1127	1132	1134	1135	1137	1135	1134	1131	1134	1139	1142	1141	1144	1145	1154	1150	1139	1117	1093	1123	1123	
22	1100	1072	1076	1109	1124	1128	1134	1135	1134	1131	1124	1125	1129	1135	1145	1148	1153	1175	1155	1076	1030	1094	1103	1120	1120	1120	
23 d	1004	964	1012	1039	1090	1117	1116	1107	1102	1124	1127	1125	1130	1147	1174	1167	1148	1154	1160	1220	1134	1154	1082	890	1104	1104	1104
24 d	969	992	1016	1078	1104	1096	1100	1140	1145	1147	1135	1131	1129	1133	1137	1148	1150	1170	1160	1162	1147	1137	1128	1055	1113	1119	1119
25	1052	1066	1047	1063	1079	1113	1123	1135	1139	1136	1135	1137	1137	1143	1142	1148	1155	1142	1149	1131	1131	1131	1131	1131	1131	1131	
26	1128	1121	1116	1107	1110	1117	1122	1121	1124	1130	1130	1131	1138	1142	1134	1140	1162	1163	1157	1139	1101	1104	1119	1123	1128	1128	
27 q	1120	1103	1065	1078	1090	1103	1109	1117	1125	1125	1128	1128	1127	1123	1124	1126	1132	1134	1137	1141	1142	1134	1128	1120	1120	1120	
28 q	1116	1114	1109	1123	1126	1127	1126	1123	1123	1126	1124	1124	1124	1124	1126	1128	1134	1136	1134	1127	1124	1119	1125	1125	1125	1125	
29 q	1107	1112	1124	1128	1129	1130	1131	1132	1133	1130	1126	1126	1124	1130	1137	1140	1136	1138	1145	1143	1137	1130	1104	1116	1116	1116	
30	1100	1072	1049	1094	1109	1115	1119	1123	1121	1123	1123	1119	1123	1130	1142	1145	1134	1130	1127	1137	1166	1172	1104	1012	1116	1116	1116
31	1092	1117	1117	1113	1120	1121	1127	1131	1130	1130	1126	1128	1131	1133	1137	1141	1150	1151	1151	1152	1158	1134	1119	1126	1131	1131	
Mean	1088	1084	1089	1101	1110	1116	1120	1124	1127	1129	1128	1128	1130	1134	1141	1148	1155	1158	1155	1153	1141	1134	1115	1094	1125	1125	

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

20 LERWICK

MARCH

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices <i>K</i>	Sum of <i>K</i> indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +				
	Horizontal force			Declination			Vertical force													
	Maximum 14,000 $\gamma$ +	Minimum 14,000 $\gamma$ +	Range	Maximum 10° +	Minimum 10° +	Range	Maximum 46,000 $\gamma$ +	Minimum 46,000 $\gamma$ +	Range											
1 q	h. m.	$\gamma$	h. m.	$\gamma$	h. m.	'	h. m.	$\gamma$	'	h. m.	$\gamma$	'	h. m.	$\gamma$	$\gamma$	$\gamma$				
1 q	22	18	507	428	11	40	79	12	55	22	8	-5	6	22	36	28	4			
2	22	43	493	412	4	21	81	1	14	32	8	1	2	18	42	31	6			
3 q	21	20	470	432	18	0	38	13	45	26	4	7	7	21	16	18	7			
4	19	42	466	421	22	8	45	13	19	26	1	-0	9	21	20	27	0			
5	22	37	474	402	2	38	72	13	25	28	4	3	1	23	55	25	3			
6	16	35	479	415	0	10	64	12	37	25	6	4	3	0	0	21	3			

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

21 LERWICK (H)

14,000γ (0.14 C.G.S. unit) +

APRIL

	Hour G.M.T.	14,000γ (0.14 C.G.S. unit) +																							
	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	453	449	449	449	450	449	445	447	437	428	418	415	421	433	447	456	455	451	453	459	462	445	459	443	445
2	453	450	449	450	452	450	448	442	435	423	409	418	439	449	466	440	457	462	460	456	459	405	386	436	441
3	447	447	444	440	435	438	436	437	423	407	405	414	424	436	442	438	449	461	472	466	457	434	449	439	439
4	447	451	439	435	460	434	447	450	435	419	413	414	419	424	435	446	455	455	459	465	457	465	444	450	442
5	450	446	449	448	445	460	456	449	421	426	421	417	422	432	437	446	450	458	462	463	461	459	460	459	446
6	463	454	452	451	456	462	463	457	446	435	416	413	422	426	442	455	456	464	469	463	459	459	458	462	450
7 q	453	448	451	454	458	461	455	451	448	439	429	423	425	429	449	460	465	473	475	460	462	461	460	453	453
8	459	457	456	455	456	455	454	449	439	430	423	414	413	419	434	450	458	461	474	473	454	432	409	401	443
9	444	417	439	447	450	458	460	455	441	438	433	433	429	432	438	439	442	447	469	464	458	456	467	455	446
10	452	449	442	439	451	454	454	446	434	431	425	416	420	435	449	457	470	456	448	453	457	453	455	438	445
11 d	428	447	449	445	448	453	452	447	443	437	432	428	435	444	447	456	462	473	503	489	413	375	256	-182	412
12	246	-172	-149	-30	158	396	410	410	432	414	426	416	436	448	454	449	463	456	461	469	372	430	419	344	
13	406	429	411	430	436	439	437	433	430	420	417	425	430	451	463	452	465	460	450	452	454	463	445	439	
14	441	433	410	408	388	430	441	443	435	412	416	416	412	436	447	450	444	452	457	459	462	458	458	459	436
15 d	422	433	438	439	438	437	433	430	420	420	438	431	429	447	467	449	440	462	480	453	454	449	448	451	442
16	446	444	444	447	446	444	443	434	429	426	423	422	435	443	440	444	448	457	471	459	453	448	446	448	443
17	449	444	447	444	444	442	445	445	435	429	424	422	422	435	447	454	454	477	467	455	455	459	460	467	447
18	454	442	448	452	449	450	437	439	437	425	421	408	426	448	452	447	450	472	470	467	459	452	452	457	446
19	457	454	444	447	449	446	449	452	443	420	412	421	426	425	445	450	470	464	470	475	462	463	465	458	449
20 d	463	460	439	413	422	436	441	436	434	425	413	412	426	429	455	463	483	493	467	449	451	454	448	443	
21	449	451	451	446	438	433	417	427	442	431	421	423	396	426	435	450	458	478	469	461	460	458	459	459	443
22	454	436	419	444	447	438	445	451	445	431	426	421	417	433	452	455	463	465	462	464	463	462	465	447	
23 d	467	454	438	444	460	464	465	469	449	428	420	408	409	430	442	451	456	488	498	473	471	449	447	452	
24	449	446	413	427	454	456	454	447	439	422	417	417	424	432	444	469	449	461	477	494	461	456	452	452	446
25 q	451	446	452	449	442	449	448	439	439	436	429	431	433	445	457	455	458	468	473	477	481	460	467	464	452
26	462	428	427	422	446	457	448	445	437	431	424	425	428	449	449	465	451	465	477	480	469	467	439	371	444
27	311	368	356	455	451	446	421	405	413	421	415	418	427	435	442	451	461	475	474	478	465	460	455	458	432
28 q	441	454	452	452	449	448	451	446	441	433	428	429	434	442	455	458	467	471	477	474	473	470	460	453	
29 q	458	456	456	454	451	450	451	444	436	429	424	428	439	446	454	451	462	469	477	481	473	465	464	462	453
30	462	462	457	448	448	456	458	449	435	441	428	423	415	439	456	454	470	469	471	460	453	455	456	450	450
Mean	438	423	419	427	436	446	446	442	436	427	421	421	424	436	447	452	456	465	470	468	460	450	444	427	441

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

22 LERWICK (D)

10° +

APRIL

	Hour G.M.T.	10° +																							
	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	16.2	15.1	14.7	14.9	14.0	13.2	13.8	14.5	14.7	16.2	18.3	20.0	21.6	22.4	22.3	20.8	19.8	17.3	18.8	19.7	18.9	16.3	8.9	12.5	16.9
2	17.0	16.2	15.9	16.0	14.9	14.6	14.1	13.9	14.3	16.5	19.4	23.5	27.7	32.0	34.3	27.6	24.3	20.4	19.7	18.1	13.8	3.3	-4.2	3.7	17.4
3	14.4	16.6	16.2	13.9	15.1	16.4	14.9	13.0	13.8	17.5	19.6	20.6	25.0	26.4	24.5	22.2	19.4	18.8	19.7	17.1	11.2	12.0	11.1	7.6	17.0
4	8.9	13.1	7.7	9.4	6.7	13.4	18.7	14.7	13.9	15.1	18.4	20.8	22.5	23.2	22.0	20.6	19.7	17.7	17.3	17.6	13.8	3.2	11.6	10.4	15.0
5	10.1	11.6	12.9	12.7	18.2	16.0	14.2	14.1	14.4	17.0	17.5	21.8	24.2	25.3	23.7	22.3	20.4	18.8	17.7	17.3	17.4	16.6	16.7	17.2	17.4
6	15.9	15.3	13.3	14.2	16.0	15.7	15.1	14.4	14.0	14.5	16.8	19.9	23.7	25.4	23.5	21.6	20.9	17.5	-1.8	9.7	2.2	-1.8	-20.0	14.1	17.6
7 q	19.0	19.4	16.9	17.5	15.9	15.2	15.5	18.2	17.2	17.3	18.7	21.6	24.7	25.4	25.9	24.7	23.8	21.7	16.4	12.4	16.8	16.0	15.1	19.1	18.9
8	17.5	17.5	17.4	16.0	15.5	15.0	13.4	12.4	12.9	14.9	18.2	21.3	24.5	24.7	22.6	21.1	20.1	19.7	11.9	4.3	3.3	9.3	16.8	16.4	16.4
9	12.2	19.6	15.8	12.8	12.9	12.0	12.2	12.2	14.4	16.0	17.5	19.8	22.5	25.5	25.8	25.5	24.3	18.3	16.5	18.6	17.7	13.2	13.1	17.4	17.4
10	16.6	16.2	1																						

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

19

23 LERWICK (Z)

46,000y (0.46 C.G.S. unit) +

APRIL

	Hour G.M.T. 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	γ 1130	1134	1136	1134	1131	1130	1129	1123	1128	1130	1129	1127	1124	1126	1130	1135	1144	1157	1144	1137	1135	1126	1102	1114	1131		
2	1116	1123	1130	1131	1130	1130	1130	1129	1129	1131	1125	1123	1127	1133	1145	1144	1144	1136	1135	1130	1107	1049	1072	1124			
3	1107	1126	1135	1131	1133	1122	1119	1121	1124	1129	1129	1131	1131	1137	1154	1148	1138	1134	1137	1159	1153	1139	1045	1028	1125		
4	1075	1098	1097	1066	1058	1085	1089	1102	1112	1116	1120	1117	1116	1120	1127	1132	1135	1142	1138	1133	1141	1122	1116	1106	1111		
5	1100	1103	1114	1120	1115	1102	1114	1119	1127	1116	1117	1115	1116	1120	1126	1127	1131	1134	1134	1131	1130	1128	1124	1121			
6	1089	1107	1116	1127	1129	1129	1130	1131	1129	1132	1127	1127	1121	1126	1125	1133	1139	1138	1137	1139	1138	1132	1129	1116	1127		
7 q	1096	1106	1116	1124	1129	1130	1132	1128	1127	1127	1125	1124	1126	1126	1126	1132	1142	1152	1168	1161	1152	1145	1136	1121	1131		
8	1119	1125	1126	1129	1131	1134	1135	1134	1133	1129	1127	1127	1130	1129	1126	1127	1133	1137	1138	1148	1126	1087	1090	1050	1124		
9	1083	1078	1075	1109	1120	1120	1120	1123	1120	1119	1115	1116	1126	1135	1143	1155	1158	1151	1141	1141	1140	1123	1117	1123			
10	1122	1120	1124	1126	1121	1128	1128	1129	1126	1127	1129	1122	1122	1120	1123	1129	1139	1183	1177	1154	1143	1125	1119	1133			
11 d	1096	1092	1113	1124	1126	1127	1128	1128	1127	1125	1124	1121	1121	1125	1131	1148	1161	1206	1160	1119	1072	966	1042	1117			
12 d	750	766	781	968	1010	1072	1099	1114	1119	1127	1133	1144	1130	1116	1119	1127	1148	1157	1150	1152	1120	1073	1088	1048			
13	1085	1109	1097	1109	1132	1140	1143	1140	1140	1137	1137	1140	1150	1190	1172	1164	1178	1175	1156	1143	1119	1110	1116	1138			
14	1129	1121	1082	1069	1030	1075	1108	1121	1128	1145	1137	1140	1141	1144	1160	1154	1143	1134	1133	1131	1132	1124	1122				
15 d	1088	1047	1079	1096	1113	1114	1120	1131	1130	1129	1125	1134	1143	1158	1170	1162	1143	1154	1149	1126	1093	1110	1120	1123			
16	1123	1123	1124	1133	1133	1134	1131	1129	1132	1133	1131	1127	1123	1128	1134	1135	1135	1134	1137	1155	1158	1135	1124	1132			
17	1124	1131	1133	1136	1129	1128	1123	1123	1124	1125	1125	1126	1126	1128	1133	1137	1140	1145	1172	1166	1149	1141	1133	1121	1134		
18	1093	1083	1104	1119	1128	1129	1133	1129	1128	1130	1129	1130	1122	1121	1134	1140	1143	1141	1142	1159	1145	1131	1128	1126			
19	1128	1131	1134	1128	1130	1130	1130	1131	1134	1128	1124	1124	1129	1134	1140	1150	1169	1174	1155	1143	1136	1130	1128	1137			
20 d	1114	1112	1125	1099	1088	1091	1106	1116	1123	1128	1124	1128	1146	1152	1140	1145	1171	1199	1157	1152	1143	1123	1120	1130			
21	1104	1102	1121	1131	1137	1134	1121	1109	1113	1122	1123	1128	1140	1133	1135	1139	1150	1161	1157	1148	1141	1135	1131	1122	1131		
22	1110	1108	1081	1078	1113	1125	1124	1126	1127	1128	1126	1125	1125	1123	1124	1128	1132	1134	1134	1131	1130	1126	1122				
23 d	1099	1084	1089	1093	1110	1120	1121	1119	1122	1117	1120	1124	1117	1120	1130	1139	1151	1158	1191	1184	1165	1108	1093	1090	1123		
24	1107	1118	1095	1066	1100	1119	1125	1130	1131	1123	1119	1119	1123	1128	1131	1145	1140	1142	1141	1134	1134	1116	1044	1119			
25 q	1066	1089	1105	1121	1124	1118	1121	1130	1129	1128	1124	1122	1122	1123	1127	1133	1136	1137	1140	1142	1137	1133	1122	1111	1123		
26	1100	1080	1048	1038	1063	1086	1107	1116	1120	1122	1123	1121	1119	1124	1141	1154	1145	1135	1134	1148	1152	1130	1107	1024	1110		
27	1010	1003	998	1071	1106	1127	1134	1124	1113	1121	1129	1138	1140	1140	1138	1143	1143	1145	1151	1151	1137	1130	1133	1128	1114		
28 q	1107	1106	1122	1127	1128	1124	1126	1128	1126	1130	1127	1125	1127	1128	1134	1134	1137	1130	1130	1130	1128	1125	1127				
29 q	1088	1098	1114	1125	1128	1126	1125	1126	1128	1125	1119	1115	1114	1119	1123	1128	1127	1128	1128	1130	1135	1136	1133	1132	1131	1123	
30	1133	1134	1134	1130	1113	1103	1099	1106	1112	1123	1134	1134	1130	1134	1132	1135	1130	1134	1139	1144	1143	1135	1125	1127			
Mean	1090	1092	1092	1099	1110	1116	1121	1123	1125	1126	1127	1126	1126	1129	1135	1138	1142	1147	1152	1148	1141	1127	1110	1103	1123		

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

24 LERWICK

APRIL

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +		
	Horizontal force			Declination			Vertical force											
	Maximum 14,000y +	Minimum 14,000y +	Range	Maximum 10° +	Minimum 10° +	Range	Maximum 46,000y +	Minimum 46,000y +	Range	h. m.	γ	h. m.	γ	h. m.	γ			
1 q	h. m.	γ	h. m.	γ	h. m.	'	'	h. m.	'	h. m.	γ	h. m.	γ	h. m.	γ	12	0	°A.
2	22 11	475	412 11 5	63	14 12	23·1	1·2 22 3	21·9	17 9	1162	1096 22 40	66	1,1,1,1,2,1,4	18	0	80·5		
3	14 28	494	362 21 58	132	14 18	36·1	-14·3 22 17	50·4	15 57	1151	1008 22 35	143	2,0,1,2,3,3,4	19	1	80·6		
4	22 48	487	384 22 23	103	13 35	27·5	3·1 23 44	24·4	19 49	1170	1003 22 35	167	3,2,1,2,2,2,3,4	20	1	80·7		
5	18 29	465	413 11 20	52	13 27	25·6	8·3 0 20	17·3	19 23	1135	1098 5 20	37	2,2,2,1,1,1,2	12	0	80·6		
6	18 59	474	410 10 55	64	13 21	26·6	11·6 0 50	15·0	16 34	1143	1079 0 23	64	3,1,1,2,2,2,3	16	0	80·4		
7 q	19 4	512	418 11 25	94	14 31	26·6	2·4 19 1	29·0	18 58	1196	1088 0 5	108	3,1,2,1,2,4,2	17	1	80·6		
8	18 21	495	352 23 13	143	13 16	25·1	1·5 21 39	23·6	19 39	1152	1034 23 27	118	1,1,1,1,1,3,4	13	1	80·4		
9	22 26	480	409 1 33	71	14 41	26·5	9·6 23 0	16·9	17 55	1162	1057 1 54	105	3,2,2,1,2,3,2,2	17	0	80·9		
10	16 48	484	409 11 33	75	16 48	23·												

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

25 LERWICK (H)													14,000γ (0.14 C.G.S. unit) +													MAY			
	Hour G.M.T.																												
	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	446	446	451	452	453	455	454	449	440	436	434	435	438	440	447	453	458	462	465	466	465	465	462	467	452				
2	468	460	453	451	435	439	464	454	442	430	427	432	439	445	452	459	465	470	474	476	470	469	469	463	454				
3	463	456	451	452	448	454	450	447	439	432	430	437	446	454	460	462	465	464	473	471	473	479	481	477	457				
4 d	477	470	465	462	462	453	454	451	446	439	428	426	439	453	462	461	454	502	491	477	469	455	427	451	457				
5	452	452	455	453	451	451	446	438	439	437	435	425	433	445	448	451	465	468	473	473	468	464	462	462	452				
6	454	454	459	451	443	448	446	442	446	432	418	414	425	436	443	453	465	469	469	468	467	465	462	465	450				
7 q	462	461	462	459	461	459	457	452	441	432	427	428	436	446	447	455	462	477	483	477	475	471	469	466	457				
8	467	461	458	456	458	454	455	451	439	436	433	437	429	439	459	473	458	456	486	486	480	453	437	402	453				
9 d	369	422	410	439	434	450	444	427	421	408	402	412	428	437	441	451	458	477	488	478	463	454	458	458	439				
10	457	454	448	447	451	455	442	441	437	425	421	422	432	444	455	461	468	473	488	484	469	465	462	462	453				
11 d	465	428	445	451	454	456	439	442	430	407	414	417	432	443	451	460	469	477	485	477	473	470	461	441	449				
12	458	452	457	460	462	458	451	439	430	420	418	428	443	456	470	477	486	491	471	464	464	460	457	456					
13	457	458	447	454	452	448	455	451	439	432	426	422	429	429	423	448	458	481	483	489	470	462	461	451					
14	457	439	446	454	458	458	447	447	442	429	421	422	432	442	448	452	453	466	474	476	468	458	462	462	451				
15	462	462	458	461	453	454	454	451	444	439	436	439	443	457	498	467	462	464	468	473	465	461	452	458					
16	448	447	440	454	446	435	447	447	438	428	427	432	440	451	458	456	463	471	474	477	474	475	474	472	453				
17 q	468	464	465	464	464	465	462	454	444	437	431	428	436	446	457	467	476	481	478	477	479	477	483	481	462				
18 d	477	476	445	419	462	466	462	458	448	432	420	416	418	436	434	453	469	477	487	485	470	462	459	449	453				
19	431	451	451	447	441	446	444	436	425	430	431	435	436	458	457	466	470	476	475	477	488	456	452						
20	436	454	461	461	459	458	449	438	428	423	421	422	433	437	454	458	474	483	483	484	501	476	455	456	454				
21 d	444	452	436	446	461	459	450	446	433	424	425	418	410	443	445	447	476	491	499	487	470	467	468	466	453				
22	447	448	447	447	447	454	451	444	435	430	425	427	432	439	443	457	468	472	480	480	472	470	463	452					
23	444	462	465	468	462	456	443	426	422	423	425	426	435	444	453	462	477	481	480	482	473	474	465	454					
24	462	461	465	462	458	445	436	422	420	426	434	435	450	456	458	464	479	488	478	476	474	468	471	456					
25 q	465	464	459	456	458	461	455	445	442	430	425	425	432	440	450	458	470	481	489	477	469	465	461	457					
26	460	458	462	464	464	452	450	448	446	437	433	439	447	451	455	452	474	478	471	474	472	461	461	458					
27	453	445	443	457	452	449	450	446	428	421	421	425	432	443	452	457	464	477	476	470	464	462	462	451					
28	461	460	462	462	461	457	448	439	430	417	423	428	444	453	453	465	470	477	480	473	464	466	465						
29	461	436	450	453	462	461	453	443	435	425	425	426	435	449	447	457	468	480	494	486	480	475	477	470	456				
30 q	469	465	460	455	458	458	450	441	433	428	426	430	443	456	458	466	473	473	477	478	473	473	469	471	458				
31	467	465	464	462	458	457	458	458	447	438	436	440	444	441	468	460	471	491	499	487	471	470	466	470	462				
Mean	455	454	453	454	455	454	451	445	437	428	428	427	434	444	453	458	467	476	481	479	473	468	465	461	454				

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

26 LERWICK (D)													10° +													MAY			
	Hour G.M.T.																												
	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	16·1	19·9	14·9	13·3	11·1	10·5	9·7	9·4	10·2	12·3	15·1	17·7	19·8	20·6	20·5	19·5	18·3	17·3	16·6	16·6	16·6	17·1	17·1	15·7					
2	15·5	10·2	12·0	7·1	5·1	12·1	8·1	8·1	9·2	13·3	16·2	18·6	20·6	21·8	22·0	21·6	20·7	19·6	18·7	17·9	17·5	16·7	13·7	15·2					
3	12·5	11·6	10·2	12·3	12·9	13·6	12·0	12·9	13·4	15·4	18·2	21·3	24·2	25·4	25·0	23·6	21·9	20·3	19·8	19·6	18·7	18·1	15·6	17·4					
4 d	16·1	13·3	14·1	13·9	12·7	12·3	14·0	13·4	14·8	18·4	20·6	21·6	24·7	25·1	23·9	23·9	21·1	24·0	20·6	17·5	17·7	12·2	10·2	10·1	17·3				
5	13·9	14·4	13·7	12·3	13·5	13·7	13·1	15·1	15·5	16·1	18·6	22·0	22·8	22·5	22·0	19·9	19·6	19·2	18·7	18·2	17·8	16·7	14·9	16·1	17·1				
6	19·5	19·6	16·2	11·2	13·6	13·5	13·9	14·4	14·4	14·6	15·1	18·1	20·1	21·6	21·5	19·7	18·7	18·2	17·9	17·5	17·3	16·3	17·0						
7 q	15·9	15·7	15·1	14·9</td																									

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

21

27 LERWICK (Z)

46,000 $\gamma$  (0.46 C.G.S. unit) +

MAY

	Hour	G.M.T.	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	1126	1104	1110	1123	1129	1130	1128	1128	1123	1119	1122	1123	1124	1128	1129	1130	1131	1131	1130	1128	1128	1127	1129	1127	1127	1125	
2	1113	1108	1109	1104	1112	1102	1089	1103	1110	1116	1117	1117	1116	1119	1124	1128	1129	1128	1129	1128	1128	1127	1127	1127	1127	1117	
3	1113	1114	1122	1126	1129	1127	1126	1124	1122	1119	1114	1112	1114	1121	1121	1127	1130	1134	1137	1135	1134	1130	1120	1107	1111	1123	
4 d	1116	1122	1130	1133	1131	1131	1123	1119	1117	1110	1113	1116	1116	1121	1134	1141	1143	1134	1174	1175	1151	1121	1054	1088	1126	1126	
5	1109	1117	1122	1133	1136	1137	1134	1130	1122	1117	1117	1115	1116	1123	1130	1131	1134	1140	1140	1140	1137	1133	1130	1128	1128	1128	
6	1119	1090	1096	1107	1120	1121	1123	1125	1124	1126	1124	1120	1119	1121	1126	1131	1135	1133	1130	1131	1131	1129	1128	1126	1122	1122	
7 q	1126	1127	1128	1131	1132	1132	1134	1134	1133	1130	1123	1116	1112	1114	1119	1123	1126	1125	1127	1130	1130	1129	1128	1127	1127	1127	
8	1122	1112	1103	1106	1112	1122	1127	1128	1125	1116	1115	1112	1116	1114	1125	1154	1150	1133	1145	1157	1144	1121	1090	1123	1123	1123	
9 d	1059	1031	1046	1086	1088	1112	1123	1134	1129	1129	1127	1123	1130	1140	1138	1139	1144	1150	1145	1110	1122	1129	1129	1117	1117		
10	1130	1130	1129	1124	1123	1123	1124	1121	1121	1119	1114	1114	1117	1119	1122	1124	1126	1124	1123	1134	1155	1138	1127	1125	1125		
11 d	1106	1040	1022	1052	1064	1076	1097	1112	1118	1120	1121	1117	1124	1134	1130	1131	1128	1133	1142	1154	1140	1131	1123	1094	1109	1109	
12	1089	1116	1126	1130	1134	1132	1132	1130	1128	1124	1125	1123	1124	1129	1136	1137	1141	1143	1145	1151	1147	1140	1138	1134	1131	1131	
13	1126	1106	1112	1120	1128	1129	1130	1130	1127	1127	1129	1129	1130	1140	1140	1134	1133	1132	1142	1153	1159	1153	1135	1138	1133	1133	
14	1107	1095	1076	1090	1106	1112	1117	1118	1120	1123	1129	1129	1127	1127	1132	1136	1135	1134	1136	1131	1129	1122	1122	1122	1122		
15	1127	1120	1125	1130	1133	1126	1126	1128	1126	1124	1123	1117	1116	1117	1122	1140	1147	1139	1133	1134	1132	1132	1129	1113	1127	1127	
16	1091	1101	1104	1112	1121	1119	1117	1121	1117	1118	1120	1118	1119	1122	1124	1130	1133	1135	1140	1136	1134	1130	1129	1130	1122	1122	
17 q	1133	1132	1130	1133	1130	1130	1128	1122	1121	1116	1116	1116	1119	1123	1128	1134	1136	1135	1131	1130	1126	1120	1120	1128	1128	1128	
18 d	1121	1122	1121	1078	1071	1092	1110	1115	1116	1116	1119	1121	1125	1135	1140	1133	1134	1142	1166	1148	1135	1121	1093	1121	1121	1121	
19	1089	1109	1118	1126	1133	1133	1133	1132	1130	1124	1120	1121	1125	1130	1153	1148	1146	1144	1142	1143	1122	1088	1065	1125	1125	1125	
20	1060	1087	1106	1121	1126	1127	1125	1125	1122	1118	1111	1108	1107	1115	1121	1127	1128	1131	1132	1134	1126	1103	1115	1113	1113	1113	
21 d	1093	1052	1071	1087	1100	1115	1124	1122	1120	1114	1115	1116	1110	1113	1127	1145	1154	1149	1153	1131	1138	1134	1124	1104	1117	1117	
22	1107	1103	1113	1117	1118	1116	1117	1118	1117	1114	1114	1112	1110	1114	1122	1124	1128	1130	1131	1138	1137	1130	1114	1097	1118	1118	
23	1092	1102	1114	1126	1130	1131	1132	1134	1130	1122	1119	1114	1114	1119	1123	1125	1129	1133	1134	1137	1122	1121	1123	1123	1123	1123	
24	1120	1121	1121	1127	1129	1127	1128	1125	1124	1118	1111	1106	1104	1111	1118	1125	1127	1142	1154	1147	1137	1124	1120	1124	1124	1124	
25 q	1119	1122	1121	1122	1120	1123	1123	1117	1118	1118	1113	1110	1113	1114	1121	1126	1131	1131	1132	1127	1123	1123	1121	1121	1121	1121	
26	1125	1123	1119	1123	1127	1131	1125	1124	1119	1118	1113	1114	1113	1114	1117	1124	1124	1135	1140	1137	1132	1127	1120	1113	1123	1123	
27	1097	1103	1101	1112	1111	1112	1117	1120	1119	1116	1112	1116	1116	1120	1123	1128	1127	1125	1130	1131	1131	1130	1130	1118	1118	1118	
28	1131	1131	1131	1132	1133	1135	1133	1130	1125	1119	1119	1116	1116	1122	1126	1130	1136	1137	1138	1141	1135	1126	1125	1130	1130	1130	
29	1120	1097	1087	1095	1104	1111	1117	1114	1113	1113	1110	1110	1112	1116	1124	1126	1130	1140	1141	1143	1141	1134	1120	1126	1118	1118	
30 q	1126	1130	1131	1126	1124	1123	1125	1124	1120	1115	1116	1117	1116	1117	1124	1126	1130	1130	1126	1125	1125	1125	1124	1124	1124	1124	1124
31	1123	1126	1125	1127	1125	1123	1119	1118	1113	1110	1107	1099	1101	1113	1114	1132	1132	1125	1129	1141	1135	1123	1123	1122	1121	1121	
Mean	1111	1105	1108	1114	1118	1121	1123	1124	1122	1120	1118	1116	1116	1121	1125	1130	1134	1137	1140	1138	1130	1121	1117	1123	1123	1123	

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

28 LERWICK

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +		
	Horizontal force			Declination			Vertical force											
	Maximum 14,000 $\gamma$ +	Minimum 14,000 $\gamma$ +	Range	Maximum 10° +	Minimum 10° +	Range	Maximum 46,000 $\gamma$ +	Minimum 46,000 $\gamma$ +	Range	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	
1 q	h. m.	γ	+ h. m.	γ	h. m.	'	h. m.	γ	h. m.	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	
2	23	27	472	428	0	57	44	1	3	24	8	8	4	7	28	16	4	5
3	19	29	483	417	4	56	66	14	18	22	4	3	4	39	18	1	18	39
4 d	21	54	497	428	10	25	69	13	50	25	8	9	1	2	9	16	7	17
5	17	47	516	374	22	23	142	13	50	26	0	7	0	7	25	17	20	
6	18	40	476	410	11	17	66	0	55	27	6	10	1	3	28	17	5	
7 q	18	26	489	425	10	37	64	13	42	24	4	11	3	7	9	13	1	
8	19	15	506	380	24	0	126	15	12	27	-3	23	55	27	6	52		
9 d	18	20	495	323	0	28	172	21	13	22	9	0	4	2	25	16	56	
10	18	45	498	411	10</td													

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

29 LERWICK (H)

14,000y (0.14 C.G.S. unit) +

JUNE

	Hour	G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
1	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
2	468	465	467	470	469	460	454	447	436	419	407	407	420	437	444	452	473	483	484	480	474	474	475	468	468	456	
3	466	465	462	453	454	464	464	459	454	448	428	432	437	440	439	446	466	473	482	477	469	464	467	465	465	457	
4	460	459	457	457	459	456	449	447	447	443	432	438	445	446	451	455	466	478	487	487	488	475	470	467	459	459	
5 q	462	464	470	470	466	464	448	432	420	424	420	425	437	443	449	461	469	483	493	486	480	471	466	462	457	457	
6	462	462	463	464	462	459	454	445	439	430	425	427	439	451	457	465	477	490	490	486	480	474	469	467	460	460	
7	467	470	463	462	458	455	450	446	443	431	423	426	439	443	457	460	467	475	480	486	484	481	476	473	459	459	
8 q	470	466	464	459	459	456	455	452	447	441	433	429	437	461	458	454	463	472	480	477	479	474	465	465	459	459	
9	466	462	461	458	461	459	455	450	445	441	439	443	444	450	457	460	467	477	486	486	481	476	473	472	461	461	
10 d	474	462	455	455	461	459	455	452	444	436	425	426	446	458	461	473	473	474	477	480	482	485	495	482	462	461	
11 q	484	458	467	473	473	469	438	463	457	436	431	426	439	450	459	465	469	488	498	477	469	466	458	454	461	461	
12 d	462	462	462	462	461	457	453	451	444	436	432	435	438	438	457	464	479	465	493	491	471	465	461	459	458	458	
13 d	459	459	456	454	451	454	456	450	448	442	436	419	418	426	443	446	458	469	503	489	495	489	488	476	473	459	
14 d	473	470	465	463	465	461	456	450	440	427	427	436	430	447	472	472	477	481	481	472	469	473	472	468	460	460	
15	465	465	465	464	462	459	448	441	438	435	432	441	445	452	458	459	465	473	478	484	487	475	465	458	459	459	
16 q	458	461	461	465	465	459	452	447	439	427	425	432	444	458	465	465	467	474	479	479	480	472	469	466	466	459	
17	465	455	461	469	468	466	459	457	450	439	429	428	443	462	470	473	480	482	489	484	486	480	479	476	465	465	
18	476	474	476	474	469	462	454	451	446	439	432	432	441	447	457	468	469	487	510	503	491	473	467	465	465	465	
19	462	462	462	461	458	455	446	443	436	430	422	436	436	448	459	468	475	482	487	491	483	474	465	472	460	460	
20	467	469	462	464	465	467	464	454	450	442	432	432	441	443	444	459	462	476	485	486	481	473	464	461	461	461	
21	465	463	463	462	462	459	458	450	440	432	428	430	436	451	457	464	471	478	483	488	481	462	470	459	459	459	
22	458	448	433	436	455	458	458	453	441	434	432	435	433	432	445	447	465	472	480	484	486	476	471	459	454	454	
23	459	459	451	458	461	462	462	454	451	446	439	432	435	436	446	458	467	483	500	499	486	473	466	466	460	460	
24 q	467	464	458	456	454	455	460	457	447	436	430	425	428	441	448	462	469	481	483	478	474	473	466	458	458	458	
25	467	468	468	469	466	464	458	452	448	445	443	449	449	428	433	452	470	479	478	484	478	473	470	462	462	462	
26	467	466	467	465	465	461	458	455	449	445	444	442	451	458	460	469	469	477	479	480	494	488	484	484	466	466	
27	473	467	464	465	465	463	458	451	448	446	447	445	451	449	464	475	486	480	477	480	480	490	469	465	465	465	
28 d	457	445	439	453	462	459	440	446	449	442	437	442	451	451	461	470	473	480	480	483	468	462	461	457	457	457	
29	454	455	457	461	462	459	444	446	444	436	428	425	433	441	451	460	472	477	479	477	476	474	474	481	457	457	
30	469	471	471	469	467	462	458	450	434	425	420	429	444	452	458	473	468	477	474	477	482	480	478	491	462	462	
Mean	465	462	461	462	462	460	454	450	444	436	430	431	440	446	455	462	470	479	484	483	480	475	471	468	460	460	

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

30 LERWICK (D)

10° +

JUNE

	Hour	G.M.T.	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	16·7	15·8	17·8	13·9	11·2	10·8	11·0	11·4	11·5	13·0	15·3	18·1	21·3	23·2	23·7	21·9	19·8	16·9	16·7	16·9	17·5	17·6	15·2	15·9	16·4	16·4	
2	16·2	16·2	15·3	15·7	17·6	13·0	11·1	10·9	11·7	13·6	17·2	20·5	21·7	22·6	21·5	20·0	18·5	17·2	16·9	16·8	17·5	17·5	15·5	16·7	16·7	16·7	
3	14·5	15·0	14·0	13·4	10·6	9·6	9·1	9·1	10·1	12·6	17·4	19·7	21·0	22·4	23·2	22·0	20·4	19·8	19·7	18·6	16·0	14·4	15·8	16·0	16·0	16·0	
4	16·2	18·7	15·2	15·2	14·1	9·6	10·5	11·0	11·0	12·2	15·5	18·5	20·7	23·9	24·0	24·0	20·6	19·0	19·5	19·1	19·6	18·9	17·8	16·8	16·8	17·1	
5 q	15·2	15·0	14·1	13·2	12·1	10·5	10·7	10·9	11·2	13·0	16·1	19·7	20·4	21·5	22·4	21·7	20·4	19·3	19·7	18·9	19·3	18·2	18·3	16·3	16·6	16·6	
6	14·0	14·0	13·9	13·5	12·1	11·3	10·4	9·4	10·6	13·2	15·9	19·2	22·5	23·9	22·7	21·1	19·6	19·4	19·1	19·8	19·0	15·9	15·4	16·7	16·4	16·4	
7	13·6	16·9	13·8	14·0	13·8	12·3	11·2	10·5	11·4	13·3	15·2	18·0	20·3	22·8	23·7	22·4	20·5	18·8	18·7	18·8	18·2	17·5	14·1	14·7	16·4	16·4	
8 q	15·2	15·0	14·7	14·3	12·3	10·4	9·6	10·2	11·3	14·1	17·1	18·9	20·4	20·5	20·5	20·0	19·6	19·5	19·1	19·6	18·9	17·8	16·3	16·3	16·3	16·3	
9	16·5	16·0	16·2	12·3	10·9	9·5	8·8	9·6	12·0	15·9	20·3	23·3	22·3	23·6	23·6	22·5	23·4	17·6	19·5	18·0	17·6	17·2	15·9	16·5	16·5	16·5	
10 d	15·2	19·0	13·3	10·4	11·4</																						

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

23

31 LERWICK (2)												46,000y (0.46 C.G.S. unit) +												JUNE	
	Hour G.M.T.																								
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
1	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
2	1123	1125	1111	1108	1117	1125	1126	1122	1119	1116	1114	1111	1107	1111	1122	1127	1133	1142	1139	1131	1126	1123	1121	1121	1122
2	1124	1128	1130	1130	1117	1116	1120	1120	1117	1114	1115	1113	1120	1124	1127	1131	1132	1140	1142	1139	1134	1128	1116	1114	1125
3	1119	1124	1128	1127	1124	1126	1126	1123	1118	1113	1111	1108	1110	1115	1123	1126	1127	1127	1130	1132	1127	1123	1121	1122	1122
4	1122	1110	1107	1109	1109	1115	1119	1120	1119	1111	1105	1108	1108	1111	1116	1119	1126	1131	1136	1143	1141	1133	1131	1127	1120
5 q	1127	1127	1128	1131	1131	1132	1132	1129	1123	1117	1110	1109	1108	1112	1114	1115	1121	1133	1139	1146	1140	1134	1126	1113	1125
6	1113	1116	1122	1124	1128	1131	1128	1127	1124	1119	1115	1113	1112	1116	1117	1124	1128	1126	1127	1128	1129	1130	1127	1122	1123
7	1115	1113	1116	1124	1124	1127	1127	1127	1128	1126	1122	1120	1115	1113	1126	1137	1132	1127	1126	1127	1129	1132	1134	1129	1125
8 q	1126	1123	1125	1122	1122	1126	1128	1127	1127	1123	1119	1115	1114	1115	1114	1117	1120	1121	1123	1127	1128	1128	1127	1123	1123
9	1123	1121	1110	1114	1115	1115	1122	1120	1123	1121	1115	1111	1110	1108	1108	1111	1118	1120	1123	1124	1122	1103	1102	1117	1117
10 d	1099	1062	1055	1091	1109	1117	1115	1084	1099	1110	1114	1117	1117	1118	1119	1125	1131	1143	1147	1143	1133	1128	1121	1120	1113
11 q	1115	1115	1120	1127	1130	1130	1130	1133	1132	1126	1123	1121	1122	1125	1125	1123	1125	1126	1126	1129	1131	1128	1127	1127	1126
12 d	1128	1127	1128	1129	1129	1127	1126	1127	1127	1127	1122	1111	1110	1113	1114	1123	1128	1139	1131	1159	1150	1134	1130	1127	1128
13 d	1127	1127	1126	1126	1122	1121	1126	1126	1126	1124	1118	1114	1115	1118	1118	1120	1121	1127	1153	1146	1144	1137	1133	1132	1127
14 d	1127	1127	1128	1127	1127	1127	1125	1123	1125	1125	1121	1117	1130	1128	1126	1129	1128	1131	1131	1135	1131	1128	1127	1128	1127
15	1130	1131	1132	1133	1133	1131	1130	1131	1128	1123	1123	1123	1124	1126	1127	1128	1128	1126	1123	1123	1126	1131	1130	1127	1128
16 q	1124	1121	1121	1114	1118	1127	1128	1124	1121	1121	1126	1121	1114	1115	1115	1122	1128	1128	1127	1127	1128	1127	1127	1127	1123
17	1127	1124	1119	1120	1125	1127	1128	1126	1123	1121	1122	1120	1115	1109	1114	1120	1126	1126	1127	1128	1126	1126	1125	1102	1122
18	1117	1126	1127	1128	1131	1132	1133	1127	1121	1117	1117	1111	1107	1110	1115	1119	1124	1125	1123	1133	1150	1143	1132	1128	1125
19	1129	1129	1131	1131	1133	1131	1130	1130	1125	1122	1122	1125	1121	1121	1120	1121	1124	1128	1134	1137	1138	1133	1130	1115	1127
20	1121	1108	1103	1108	1115	1117	1121	1124	1127	1127	1127	1124	1121	1120	1123	1124	1131	1131	1133	1133	1134	1129	1114	1113	1122
21	1115	1121	1125	1128	1130	1133	1131	1127	1127	1121	1121	1117	1120	1119	1120	1124	1128	1132	1128	1127	1126	1131	1133	1109	1125
22	1077	1074	1067	1065	1090	1109	1127	1134	1136	1132	1128	1126	1123	1121	1121	1120	1128	1130	1131	1133	1137	1131	1126	1117	
23	1122	1124	1126	1119	1122	1124	1127	1131	1132	1130	1125	1116	1114	1114	1111	1116	1121	1121	1127	1137	1141	1141	1136	1129	1125
24 q	1126	1126	1123	1112	1106	1109	1115	1120	1121	1117	1121	1121	1115	1116	1118	1119	1121	1123	1127	1127	1128	1127	1126	1127	1120
25	1127	1126	1127	1126	1126	1127	1126	1124	1122	1121	1121	1126	1133	1133	1125	1122	1120	1126	1128	1128	1131	1131	1129	1128	1126
26	1128	1128	1127	1128	1127	1127	1124	1125	1122	1121	1120	1120	1117	1115	1118	1118	1121	1127	1130	1132	1127	1128	1127	1114	1124
27	1109	1115	1121	1126	1126	1121	1120	1116	1115	1115	1119	1121	1123	1121	1117	1120	1131	1130	1127	1124	1125	1117	1110	1120	1120
28 d	1098	1084	1057	1095	1110	1121	1121	1109	1108	1117	1126	1128	1131	1132	1133	1135	1146	1149	1145	1140	1146	1144	1137	1134	1123
29	1134	1134	1132	1131	1131	1128	1128	1123	1123	1123	1122	1120	1120	1123	1126	1130	1133	1136	1136	1135	1130	1126	1122	1111	1127
30	1117	1120	1124	1130	1130	1129	1128	1128	1124	1115	1108	1106	1110	1110	1115	1120	1126	1136	1134	1134	1130	1123	1124	1114	1074
Mean	1120	1118	1117	1120	1122	1124	1126	1124	1123	1121	1119	1117	1117	1118	1120	1123	1127	1130	1132	1133	1131	1126	1120	1123	1123

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

TERRESTRIAL MAGNETIC ELEMENTS														3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +				
Horizontal force			Declination				Vertical force														
Maximum 14,000γ +	Minimum 14,000γ +	Range	Maximum 10° +	Minimum 10° +	Range	Maximum 46,000γ +	Minimum 46,000γ +	Range													
h. m.	γ	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	°A.				
1 18 4 487	399	11 0	88	14 33	24·4	9·6	5 1	14·8	17 55	1143	1103	3 1	40	2,1,0,1,2,2,1,1	10	0	84·7				
2 18 40 484	419	10 36	65	13 55	23·3	9·5	7 20	13·8	18 10	1144	1108	4 47	36	1,2,1,2,2,1,1,1	11	0	84·7				
3 18 48 495	427	10 47	68	14 12	23·6	7·6	7 25	16·0	20 32	1136	1105	13 15	31	1,1,2,1,2,1,1,1	10	0	84·8				
4 18 51 499	413	8 31	86	12 49	24·7	7·7	4 40	17·0	19 52	1150	1099	1 58	51	2,2,2,1,1,2,2,1	13	1	84·7				
5 q 18 25 496	422	10 57	74	14 23	22·6	10·2	6 8	12·4	19 19	1146	1107	10 56	39	1,0,0,0,1,2,1,2	7	0	84·8				
6 19 17 495	422	10 30	73	13 31	24·9	9·2	7 25	15·7	21 31	1134	1111	24 0	23	1,1,1,0,2,1,1,2	9	0	84·8				
7 18 10 502	424	12 15	78	14 41	24·6	9·9	7 19	14·7	15 47	1139	1108	13 22	31	2,1,1,0,3,2,2,2	13	1	84·9				
8 q 18 56 491	435	10 31	56	14 18	21·1	8·4	6 10	12·7	21 21	1131	1111	11 20	20	1,1,1,1,1,1,0,1	7	0	84·6				
9 22 23 503	419	11 24	84	13 10	24·0	8·1	7 20	15·9	21 25	1127	1095	22 43	32	2,1,1,1,2,1,2,1	11	0	84·5				
10 d 18 44 506	419	11 6	87	6 52	23·7	8·0	5 4	15·7	18 31	1154	1038	1 46	116	3,3,3,1,1,2,2,1	16	1	84·7				
11 q 18 58 476	413	10 55	63	14 17	21·1	9·2	6 54	11·9	7 53	1133	1112	0 10	21	1,1,0,2,2,1,1,0	8	0	84·5				
12 d 18 39 510	427	10 27	83	15 13	24·8	4·3	19 56	20·5	19 49	1180	1108	11 42	72	0,0,1,1,1,3,3,2	11	1	84·5				
13 d 17 34 528	412	10 6	116	17 35	24·8	9·2	6 17	15·6	18 47	1159	1113	11 41	46	1,1,1,1,3,2,2,1	11	1	84·3				
14 d 18 0 494	414	12 48	80	12 43	24·9	8·7	6 34	16·2	12 45	1136	1114	10 49	22	0,1,1,1,3,2,2,0	10	0	84·3				
15 20 51 490	428	9 56	62	13 9	21·0	8·8	5 36	12·2	2 53	1134	1121	9 8	13	1,1,1,1,1,1,2	9	0	84·2				
16 q 18 35 484	422	10 3	62	15 27	20·9	9·9	6 48	11·0	15 20	1131	1110	3 50	21	1,1,1,1,1,1,0,0	6	0	84·1				
17 18 30 510	422	10 42	88	13 10	25·8	10·3	6 39	15·5	19 50	1131	1092	23 19	39	1,0,1,1,2,1,1,3	10	0	84·7				
18 18 22 522	428	11 1	94	18 20	24·7	0·7	20 50	24·0	20 46	1168	1104	12 20	64	1,1,1,0,1,2,4,3	13	1	85·0				
19 19 12 497	417	11 22	80	15 0	23·6	10·3	5 34	13·3	20 8	1140	1111	23 31	29	0,1,1,1,1,1,2,1	8	0	85·0				
20 19 10 493	428	10 33	65	13 41	24·3	7·9	6 29	16·4	21 5	1136	1098	2 56	38	2,1,1,1,2,1,1,2	11	0	85·1				
21 23 48 491	420	12 37	71	13 3	24·7	6·6	23 40	18·1	22 7	1138	1075	24 0	63	1,0,1,1,1,2,2,3	10	1	85·2				
22 20 37 491	417	2 19	74	14 32	22·7	0·4	2 8	22·3	21 20	1140	1061	3 10	79	3,3,1,0,2,2,2,1	14	1	85·1				
23 19 9 511	428	10 30	83	18 15	21·8	10·0	5 3	11·8	20 16	1146	1110	14 27	36	1,1,1,1,2,2,2,1	10	1	85·0				
24 q 18 53 489	423	11 53	66	14 55	22·7	7·4	6 48	15·3	21 49	1130	1104	4 11	26	1,1,1,1,1,1,1,1	8	0	85·1				
25 17 10 488	402	14 0	86	13 35	23·8	8·4	6 16	15·4	14 0	1139	1117	16 45	22	0,1,1,1,3,2,2,1,0	9	0	85·1				
26 20 50 503	438	11 8	65	14 8	24·4	8·0	7 51	16·4	18 58	1134	1106	23 50	28	0,1,1,1,2,2,2,2	11	0	85·0				
27 16 55 501	434	13 9	67	15 13	22·3	7·7	7 50	14·6	17 36	1134	1104	23 50	30	1,1,1,1,2,2,2,2	12	1	85·0				
28 d 19 13 491	416	2 26	75	2 45	26·5	8·7	0 43	17·8	18 10	1153	1048	2 40	105	4,3,2,2,2,2,2,1	18	1	85·1				
29 23 13 493	422	11 52	71	14 26	23·4	9·1	8 3	14·3	18 13	1138	1105	23 24	33	1,1,2,1,1,1,1,2	10	0	84·9				
30 23 22 508	417	10 13	91	13 28	25·8	0·7	23 16	25·1	16 30	1139	1058	24 0	81	1,1,1,1,2,1,3	11	1	85·0				
Mean	- -	498	421	- -	77	- -	23·7	7·8	- -	15·9	- -	1141	1099	- -	43	- -	-	0·40	84·8		

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

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

33 LERWICK (H)

14,000y (0.14 C.G.S. unit) +

JULY

	Hour G.M.T.	14,000y (0.14 C.G.S. unit) +																							
	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	458	454	462	465	465	433	443	452	445	430	419	428	435	447	462	468	478	478	478	476	473	467	462	461	456
2 q	457	457	456	456	455	451	443	432	425	423	417	422	436	442	455	466	480	489	486	485	471	469	462	464	454
3 q	463	462	463	467	464	458	449	443	435	430	429	436	443	445	451	468	473	482	484	483	482	477	476	470	460
4 q	463	460	465	467	466	462	453	446	442	436	430	433	435	431	451	465	477	480	483	477	470	465	464	463	458
5	463	461	461	460	458	455	453	451	446	436	428	423	429	443	458	465	491	490	500	487	486	478	473	474	461
6	477	472	469	472	473	480	474	452	443	448	447	446	450	459	467	467	475	491	505	499	469	469	465	469	468
7	469	456	459	461	463	460	454	442	436	426	410	419	443	451	455	458	462	473	480	480	477	469	464	458	455
8	461	462	462	461	456	451	442	434	426	418	415	418	436	454	462	467	482	491	477	472	467	462	463	454	
9 q	459	455	445	460	465	465	460	454	445	436	432	432	436	442	452	458	466	469	473	481	483	480	471	457	458
10 q	467	465	467	468	462	463	460	452	437	430	427	432	441	445	463	477	477	480	487	479	478	477	475	475	462
11	473	469	469	473	474	462	449	449	443	439	443	443	448	454	463	470	474	480	485	487	491	490	486	485	467
12	473	461	458	463	465	471	474	470	458	447	435	428	435	452	491	500	467	474	489	491	484	481	476	478	468
13	466	465	466	467	471	467	461	452	439	430	429	428	432	445	463	467	482	484	484	482	475	477	481	461	
14 d	474	464	459	452	462	452	467	468	461	443	430	429	436	456	470	472	485	474	484	488	481	478	471	464	454
15	464	463	461	462	460	455	447	434	436	436	423	403	438	466	453	452	459	466	474	476	474	468	468	455	
16	465	462	458	459	459	457	454	448	440	432	434	436	426	442	447	459	467	462	479	502	475	462	459	462	456
17	456	452	454	446	451	460	445	439	442	444	440	433	438	443	451	459	472	475	476	476	470	470	468	455	
18	474	475	446	429	459	457	453	443	432	432	430	433	435	448	455	466	479	469	470	474	472	470	473	456	
19	456	461	457	464	466	464	459	451	445	432	424	423	427	449	458	471	477	485	509	490	484	468	469	467	461
20	466	456	453	455	458	446	446	433	437	427	429	431	434	439	446	448	470	471	477	472	466	465	458	455	
21	462	459	459	456	459	467	466	456	444	432	425	429	434	451	455	462	453	483	477	485	486	477	470	466	459
22	458	452	460	466	466	462	455	444	437	436	438	440	447	449	446	448	452	461	477	478	475	467	465	463	456
23	462	461	459	459	461	461	456	449	437	429	432	425	439	451	464	460	459	463	473	477	474	473	477	457	
24	472	450	455	467	464	454	454	451	454	436	432	431	442	454	449	451	458	473	484	477	469	468	464	458	
25 d	460	468	466	467	462	462	455	439	439	437	432	411	426	448	469	466	471	477	480	473	467	465	478	458	
26	458	451	454	451	451	446	441	436	433	432	433	433	425	448	455	479	470	483	469	465	471	473	475	470	455
27 d	469	469	442	444	448	454	451	444	442	432	430	439	449	452	454	461	473	477	482	476	470	465	464	457	
28 d	458	464	467	466	447	465	457	443	435	430	417	417	429	458	495	487	467	479	459	464	463	475	473	460	457
29	455	422	425	446	455	443	435	433	433	430	430	421	449	454	470	473	473	467	486	478	466	465	464	452	
30	473	469	460	460	459	458	451	443	440	438	437	450	448	465	478	482	477	473	470	471	473	474	481	463	
31	473	462	456	456	454	458	457	437	438	422	429	430	433	443	447	457	454	458	467	470	469	475	469	457	454
Mean	465	460	458	460	461	458	454	447	440	434	429	429	437	449	460	466	470	476	481	481	476	472	469	469	458

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

34 LERWICK (D)

10° +

JULY

	Hour G.M.T.	10° +																							
	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	10.9	14.1	16.7	14.3	11.7	16.2	17.6	14.6	10.4	13.3	16.7	20.0	23.4	24.9	23.9	21.5	18.5	16.5	16.0	15.6	15.8	15.6	15.7	15.7	16.7
2 q	15.6	15.3	15.4	14.1	12.4	9.9	8.6	9.2	10.0	12.2	15.7	18.2	20.7	22.0	20.2	19.6	17.5	16.9	16.5	17.2	15.3	13.1	15.5	16.6	15.3
3 q	16.3	15.7	14.8	13.1	12.2	10.3	9.3	9.1	10.6	14.3	18.7	21.8	23.3	21.9	21.4	21.7	19.9	18.9	18.5	17.8	17.9	17.4	16.0	14.8	16.5
4 q	14.7	14.6	13.6	12.8	11.8	9.5	9.3	10.0	11.9	13.3	15.7	17.9	20.3	20.4	19.9	18.1	17.7	17.7	18.2	17.0	16.5	16.3	16.0	15.4	15.4
5	15.4	15.3	13.6	13.6	12.2	11.5	10.5	10.5	11.2	12.3	14.7	17.5	18.6	20.1	21.8	23.4	22.5	23.4	24.3	23.5	21.1	19.6	16.4	16.4	16.8
6	17.2	13.9	13.1	11.7	10.5	11.4	10.9	13.1	17.8	17.7	18.3	20.4	17.7	19.4	19.4	20.0	19.1	19.3	19.4	20.5	15.1	16.0	14.1	15.1	16.2
7	15.9	14.2	11.3	11.3	9.3	8.3	8.3	9.4	10.8	15.3	18.6	19.6	21.3	20.9	18.9	18.7	17.7	18.1	18.9	18.2	17.7	16.6	14.4	15.5	14.9
8	14.3	14.1	13.9	13.5	12.5	11.4	10.9	10.8	10.7	11.4	14.2	17.9	21.8	21.5	20.0	20.1	20.1	20.0	16.0	17.3	16.9	16.7	15.4	15.9	
9 q	14.7	14.1	15.1	14.8	13.3	12.1	10.6	11.2	11.2	12.7	15.1	17.2	19.0	20.4	20.1	18.7	18								

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

25

35 LERWICK (Z)

46,000y (0.46 C.G.S. unit) +

JULY

	Hour G.M.T. 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	1069	1076	1082	1112	1118	1115	1091	1098	1115	1123	1124	1121	1124	1128	1136	1144	1150	1148	1141	1136	1132	1132	1130	1128	1120
2 q	1130	1132	1134	1135	1136	1139	1139	1137	1132	1123	1121	1118	1119	1129	1134	1141	1145	1147	1148	1147	1147	1139	1133	1128	1135
3 q	1128	1129	1133	1133	1134	1133	1130	1126	1121	1120	1118	1114	1112	1116	1124	1128	1132	1130	1130	1133	1132	1130	1126	1125	1127
4 q	1127	1129	1132	1135	1134	1134	1133	1130	1124	1119	1120	1112	1122	1126	1121	1123	1128	1127	1127	1131	1132	1128	1127	1126	1128
5	1125	1123	1123	1122	1124	1121	1119	1118	1116	1115	1112	1109	1111	1116	1121	1125	1136	1142	1148	1137	1136	1133	1128	1124	1124
6	1120	1107	1112	1111	1116	1109	1105	1116	1118	1115	1114	1110	1111	1122	1128	1129	1133	1127	1133	1150	1151	1145	1127	1119	1122
7	1103	1084	1094	1109	1126	1133	1136	1136	1132	1128	1128	1123	1124	1125	1124	1128	1132	1134	1134	1138	1136	1134	1125	1125	1125
8	1131	1129	1127	1127	1130	1134	1135	1132	1130	1130	1127	1132	1126	1117	1117	1128	1130	1130	1140	1154	1148	1139	1132	1127	1131
9 q	1122	1127	1128	1117	1120	1127	1133	1134	1132	1127	1117	1115	1118	1119	1122	1124	1125	1125	1125	1124	1127	1129	1134	1136	1126
10 q	1129	1130	1128	1127	1128	1124	1123	1122	1130	1130	1121	1116	1119	1120	1125	1133	1134	1131	1130	1129	1129	1127	1127	1127	1127
11	1112	1113	1119	1125	1125	1128	1127	1124	1122	1118	1116	1116	1118	1118	1123	1125	1126	1124	1127	1128	1129	1125	1123	1123	1123
12	1112	1107	1116	1122	1121	1118	1116	1116	1118	1123	1121	1116	1112	1110	1109	1130	1158	1160	1154	1145	1139	1132	1127	1070	1123
13	1087	1116	1126	1130	1133	1133	1134	1133	1128	1125	1124	1122	1123	1127	1133	1132	1134	1136	1132	1130	1122	1127	1127	1127	1127
14 d	1118	1118	1100	1073	1091	1097	1106	1114	1116	1117	1118	1118	1119	1127	1142	1162	1164	1142	1137	1133	1128	1120	1121	1121	1121
15	1120	1126	1130	1129	1124	1123	1120	1118	1117	1120	1118	1121	1118	1134	1151	1148	1141	1136	1132	1130	1129	1129	1127	1128	1128
16	1127	1132	1131	1132	1135	1134	1131	1129	1130	1127	1115	1113	1119	1125	1127	1129	1134	1136	1131	1132	1132	1130	1130	1130	1130
17	1132	1136	1133	1121	1092	1091	1110	1114	1114	1117	1121	1121	1122	1123	1127	1130	1135	1136	1134	1136	1128	1125	1112	1122	1122
18	1020	1056	1098	1076	1085	1109	1122	1129	1118	1121	1118	1119	1118	1118	1120	1124	1133	1140	1141	1137	1133	1125	1110	1113	1113
19	1107	1092	1110	1120	1127	1131	1133	1132	1127	1121	1115	1118	1118	1117	1122	1120	1130	1129	1130	1152	1153	1146	1132	1126	1125
20	1117	1099	1116	1128	1133	1134	1126	1124	1122	1124	1124	1123	1121	1122	1124	1124	1132	1141	1140	1139	1138	1134	1129	1125	1127
21	1122	1124	1125	1127	1131	1131	1129	1135	1135	1129	1117	1116	1116	1122	1133	1144	1149	1139	1143	1136	1138	1140	1135	1121	1132
22	1122	1125	1129	1132	1132	1134	1138	1138	1134	1131	1125	1120	1120	1124	1127	1132	1133	1131	1134	1136	1132	1130	1130	1130	1130
23	1129	1129	1128	1129	1131	1131	1133	1135	1136	1132	1130	1130	1124	1124	1127	1130	1130	1132	1134	1136	1133	1130	1130	1130	1130
24	1122	1075	1097	1112	1120	1119	1103	1104	1114	1122	1122	1124	1118	1115	1121	1122	1128	1131	1134	1145	1136	1136	1134	1121	1121
25 d	1133	1127	1124	1109	1119	1112	1115	1118	1123	1128	1132	1136	1147	1151	1148	1141	1136	1134	1134	1133	1135	1124	1130	1130	1130
26	1121	1111	1115	1126	1131	1130	1129	1124	1121	1122	1127	1127	1134	1133	1136	1138	1136	1131	1136	1134	1132	1130	1130	1129	1129
27 d	1131	1126	1097	1064	1101	1115	1122	1127	1125	1126	1121	1117	1123	1140	1146	1147	1148	1142	1142	1129	1129	1128	1093	1081	1122
28 d	1096	1112	1121	1124	1109	1076	1100	1112	1117	1116	1120	1120	1134	1138	1144	1166	1188	1201	1168	1143	1135	1126	1106	1128	1128
29	1103	1086	1081	1108	1125	1131	1132	1132	1127	1129	1133	1138	1140	1146	1150	1145	1148	1151	1147	1143	1137	1133	1132	1131	1130
30	1118	1098	1103	1120	1130	1132	1132	1129	1124	1122	1121	1118	1124	1128	1138	1143	1146	1142	1137	1133	1130	1130	1118	1127	1127
31	1109	1106	1112	1117	1124	1129	1130	1132	1132	1122	1121	1117	1116	1130	1140	1145	1147	1140	1139	1139	1138	1135	1121	1096	1127
Mean	1114	1112	1117	1118	1121	1123	1125	1125	1123	1122	1121	1121	1125	1129	1134	1139	1139	1137	1138	1137	1134	1128	1121	1126	1126

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

36 LERWICK

JULY

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +					
	Horizontal force			Declination			Vertical force														
	Maximum 14,000y +	Minimum 14,000y +	Range	Maximum 10° +	Minimum 10° +	Range	Maximum 46,000y +	Minimum 46,000y +	Range												
1 d	h. m.	γ	h. m.	γ	h. m.	'	h. m.	γ	h. m.	γ	h. m.	γ	16 51	1154	1047	10 10	107	3,3,3,2,2,1,1,0	15	1	85·0
2 q	16 28	482	416	10 14	66	14 3	26·1	9·0	0 15	17·1	18 5	1150	1117	12 8	33	0,1,1,0,2,1,2,2	9	0	85·2		
3 q	17 40	493	415	10 37	78	13 0	22·9	8·3	6 30	14·6	4 37	1136	1111	12 56	25	0,1,1,1,2,1,1,1	8	0	85·0		
4 q	18 6	488	427	10 20	61	12 45	23·7	8·0	7 42	15·7	19 17	1151	1107	12 21	44	0,1,1,0,2,1,2,3,1	7	0	85·0		
5	18 30	485	426	13 13	59	12 53	21·3	8·6	6 13	12·7	4 50	1136	1118	10 58	18	0,1,1,0,2,1,1,1	11	1	85·1		
6	19 0	515	435	8 20	80	19 44	24·0	9·2	4 12	14·8	19 51	1157	1102	6 9	55	2,2,2,2,2,3,2	17	1	85·0		
7	18 54	484	398	10 47	86	14 5	21·8	6·7	6 30	15·1	21 50	1139	1080	1 26	59	3,2,1,2,3,4,2,4	13	0	85·2		
8	18 22	500	408	11 0	97	12 46	24·2	10·2	8 18	12·2	19 26	1156	1115	14 2	41	1,1,1,1,2,2,2,1,1	11	0	85		

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

37 LERWICK (H)

14,000 $\gamma$  (0.14 C.G.S. unit) +

AUGUST

	Hour G.M.T.	14,000 $\gamma$ (0.14 C.G.S. unit) +																							
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
1	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
2	466	462	457	453	456	463	463	460	451	426	422	440	427	425	444	454	468	479	479	473	474	469	469	466	456
3 q	460	458	455	434	449	453	445	444	440	431	421	428	429	441	449	453	470	483	485	473	472	470	469	468	453
4 q	459	456	458	460	462	458	453	447	438	434	421	422	440	444	458	466	475	474	474	479	478	467	469	474	457
5 q	453	461	456	457	460	458	455	447	440	434	434	437	443	443	455	456	474	481	484	481	476	472	458	439	457
6 d	442	435	446	462	476	465	459	450	416	414	422	425	435	421	429	456	475	472	475	489	488	483	458	459	452
7	452	443	449	459	458	455	447	440	432	419	395	411	429	450	447	466	485	489	487	474	459	459	451	459	451
8 q	450	449	459	458	461	459	453	444	440	437	423	420	433	449	455	459	460	472	475	474	471	468	464	465	454
9	468	465	461	460	457	458	450	446	444	441	439	438	450	454	447	442	466	469	479	480	469	469	460	463	457
10	460	461	463	459	457	452	440	437	433	434	433	433	433	443	454	468	468	461	468	473	476	474	472	460	456
11	447	439	450	458	464	463	460	452	444	430	427	426	429	449	459	463	475	457	465	474	468	463	461	461	453
12	459	459	453	452	453	454	456	448	435	425	429	443	440	458	462	460	461	459	469	470	465	463	457	454	454
13 q	456	456	456	459	456	448	448	449	441	431	433	436	443	457	455	469	463	457	478	479	477	472	474	474	457
14	476	448	453	456	455	450	447	437	433	436	434	438	446	449	455	464	457	467	477	468	469	468	464	463	455
15	460	453	452	459	462	461	456	440	429	426	428	433	439	452	457	470	472	477	493	475	474	478	473	458	458
16	468	465	465	468	465	460	452	446	437	426	424	423	449	468	449	446	455	470	465	470	469	463	464	466	456
17	459	457	454	453	452	453	454	435	435	414	405	411	428	436	448	456	454	457	472	465	470	468	466	463	450
18	455	458	452	453	444	451	446	443	436	429	434	435	446	446	450	450	457	458	466	475	476	474	461	460	452
19	427	440	457	449	447	458	452	444	430	417	420	429	444	457	461	470	460	472	465	468	470	475	477	452	452
20	461	465	460	459	455	446	442	449	442	433	430	431	436	437	444	455	451	469	475	476	474	468	463	463	453
21	461	463	461	463	461	462	450	444	436	427	411	427	440	446	454	452	458	461	466	479	472	467	465	460	454
22 d	459	431	411	440	448	415	437	444	440	435	426	428	435	434	446	448	448	462	460	470	477	474	465	453	444
23	450	459	458	450	453	453	450	443	436	429	428	425	433	442	457	465	470	472	461	466	461	458	467	452	452
24 d	467	459	456	453	461	462	450	440	451	441	432	427	438	462	447	445	464	464	471	472	469	460	456	458	454
25	447	453	456	458	454	447	443	438	430	430	432	438	445	447	450	454	457	463	465	467	467	464	471	460	451
26 d	458	459	456	460	463	417	446	454	441	430	432	434	446	439	445	459	461	469	471	469	473	458	460	467	453
27	444	382	442	458	464	459	451	449	441	428	418	431	433	445	447	453	469	468	479	458	457	462	464	448	448
28	454	469	449	456	472	445	454	446	433	423	419	419	432	460	468	477	473	469	464	472	469	471	467	447	454
29 d	450	445	450	419	451	463	436	428	414	408	422	440	454	453	460	462	457	462	462	463	470	469	460	448	448
30	458	450	459	458	457	458	454	446	430	438	431	436	442	442	461	464	463	456	464	471	467	464	464	463	455
31	458	458	452	457	459	456	453	443	435	429	425	427	443	460	467	466	471	467	455	468	469	482	482	466	456
Mean	457	453	454	455	458	454	450	444	436	428	425	430	439	448	453	459	464	469	472	473	471	468	465	462	454

**MAGNETIC DECLINATION (WEST)**

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

38 LERWICK (D)

10° +

AUGUST

	Hour G.M.T.	10° +																								
	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	14·8	13·2	13·3	14·9	13·4	11·1	9·5	9·1	10·2	11·4	15·6	19·1	22·1	22·0	23·1	21·0	19·2	17·8	16·8	14·1	16·2	16·6	16·4	16·0	15·7	
2	14·9	14·3	16·6	20·1	18·0	16·8	9·2	10·3	10·2	11·8	14·7	16·6	18·0	19·3	20·1	19·0	18·0	18·9	16·6	14·5	15·7	15·2	13·9	13·3	15·6	
3 q	12·9	12·4	12·5	12·5	11·6	9·5	9·0	9·3	9·4	10·3	14·3	19·4	21·0	20·2	19·9	19·9	19·9	19·9	19·9	19·9	19·9	19·9	19·9	19·9	19·9	14·6
4 q	13·9	14·1	14·3	13·1	11·8	10·3	9·7	10·5	13·1	14·1	16·7	20·3	24·1	24·9	23·3	21·8	21·8	19·7	19·7	18·1	15·7	15·4	17·0	16·8	16·3	
5 q	14·8	15·4	16·7	16·2	12·2	10·8	10·0	10·6	11·9	14·2	16·4	18·6	20·5	20·9	21·3	20·5	19·9	19·9	18·5	18·5	18·1	15·1	16·6	17·0	15·6	
6 d	6·8	9·0	6·0	3·0	3·5	7·4	7·4	8·7	8·7	11·1	14·5	15·7	17·7	22·5	25·8	23·7	20·4	19·9	18·4	18·5	19·3	9·0	4·5	13·5	13·1	
7	13·5	13·6	14·2	12·2	11·8	10·8	9·9	9·6	10·7	13·7	18·5	21·3	20·8	21·0	23·7	18·3	20·7	19·9	15·3	10·4	16·6	17·0	15·4	15·3	15·3	
8 q	18·9	17·6	14·6	13·1	12·3	11·2	11·2	12·3	12·4</																	

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

27

39 LERWICK (z)

46,000 $\gamma$  (0.46 C.G.S. unit) +

AUGUST

	Hour G.M.T. 0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
1	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	1133	1142	1144	1153	1150	1150	1154	1146	1137	1129	1125	1134	
2	1112	1118	1127	1130	1129	1130	1133	1127	1127	1130	1127	1123	1133	1142	1144	1151	1153	1157	1160	1151	1142	1134	1124	1131	
3 q	1118	1122	1127	1129	1136	1141	1140	1137	1133	1126	1126	1124	1120	1124	1127	1132	1134	1137	1136	1134	1141	1136	1130	1131	
4 q	1125	1122	1124	1126	1130	1133	1132	1136	1132	1129	1126	1121	1120	1126	1130	1139	1149	1151	1146	1150	1145	1140	1136	1133	
5 q	1132	1130	1127	1121	1118	1127	1128	1133	1134	1133	1128	1127	1124	1129	1131	1133	1128	1140	1152	1166	1151	1129	1116	1133	
6 d	1104	1099	1089	1082	1080	1103	1119	1123	1132	1127	1128	1130	1136	1146	1138	1142	1148	1156	1161	1157	1164	1136	1126	1119	1127
7	1096	1101	1118	1127	1134	1136	1140	1139	1135	1139	1128	1134	1144	1157	1168	1158	1148	1157	1146	1137	1134	1134	1127	1137	
8 q	1125	1114	1116	1124	1125	1132	1135	1136	1133	1133	1128	1126	1126	1130	1138	1144	1148	1140	1136	1136	1136	1136	1135	1132	
9	1133	1133	1130	1122	1124	1125	1130	1131	1132	1129	1128	1127	1124	1123	1144	1155	1141	1139	1135	1136	1140	1135	1122	1094	1131
10	1070	1109	1126	1126	1128	1129	1130	1136	1139	1137	1133	1133	1135	1138	1142	1143	1144	1135	1133	1134	1136	1129	1121	1130	
11	1114	1105	1082	1088	1097	1111	1122	1129	1132	1136	1130	1127	1127	1125	1126	1128	1134	1144	1136	1135	1136	1135	1134	1133	1124
12	1126	1096	1093	1111	1118	1123	1129	1132	1127	1121	1126	1126	1129	1140	1145	1145	1145	1138	1138	1135	1133	1130	1128		
13 q	1130	1132	1136	1135	1136	1134	1126	1127	1132	1128	1117	1109	1110	1117	1128	1132	1147	1145	1135	1134	1128	1127	1122	1129	
14	1092	1066	1092	1118	1128	1131	1130	1129	1126	1122	1118	1118	1123	1132	1136	1141	1146	1140	1140	1147	1138	1128	1116	1101	1123
15	1085	1106	1120	1127	1129	1128	1130	1125	1121	1117	1116	1118	1124	1133	1145	1151	1144	1163	1147	1131	1112	1073	1125		
16	1094	1117	1128	1133	1136	1136	1139	1135	1138	1138	1129	1136	1129	1153	1167	1175	1171	1164	1158	1148	1141	1136	1127	1118	1139
17	1122	1130	1135	1138	1137	1134	1134	1135	1135	1130	1123	1121	1124	1134	1142	1146	1153	1158	1146	1139	1136	1132	1127	1135	
18	1124	1115	1120	1125	1133	1132	1128	1126	1130	1130	1127	1126	1123	1135	1151	1146	1149	1146	1137	1139	1130	1122	1110	1131	
19	1101	1066	1101	1125	1129	1130	1133	1134	1136	1135	1130	1122	1117	1122	1127	1134	1147	1146	1150	1148	1139	1133	1127	1106	1127
20	1078	1092	1108	1120	1127	1129	1130	1123	1123	1123	1125	1125	1129	1133	1140	1160	1165	1148	1140	1138	1137	1136	1132	1129	
21	1132	1128	1129	1126	1110	1111	1113	1103	1112	1126	1129	1130	1132	1131	1136	1136	1141	1142	1138	1142	1141	1137	1136	1129	
22 d	1119	1088	1031	1067	1057	1064	1092	1112	1127	1128	1128	1125	1126	1133	1138	1136	1139	1140	1141	1129	1124	1124	1106		
23	1124	1097	1090	1107	1118	1123	1131	1137	1138	1133	1129	1127	1126	1136	1140	1150	1157	1153	1142	1129	1131	1130			
24 d	1118	1084	1091	1103	1112	1115	1123	1124	1115	1122	1126	1127	1124	1140	1186	1179	1151	1138	1136	1149	1132	1128	1127	1102	1127
25	1056	1094	1120	1128	1130	1132	1130	1134	1134	1133	1127	1124	1128	1133	1137	1139	1140	1139	1139	1136	1136	1126	1124		
26 d	1130	1133	1136	1133	1124	1116	1080	1103	1117	1126	1126	1126	1130	1148	1152	1152	1158	1162	1144	1142	1138	1124	1121	1118	1131
27	1088	966	1038	1092	1114	1122	1126	1124	1126	1125	1124	1124	1126	1134	1136	1142	1151	1162	1143	1130	1120	1089			
28	1059	1066	1060	1063	1088	1104	1123	1127	1121	1121	1124	1123	1123	1130	1132	1130	1134	1132	1131	1127	1132	1113			
29 d	1040	1073	1096	1109	1094	1103	1118	1123	1130	1130	1127	1123	1126	1136	1142	1143	1144	1142	1155	1160	1144	1136	1107	1097	1121
30	1110	1092	1102	1124	1127	1130	1129	1133	1135	1127	1128	1130	1130	1139	1145	1160	1181	1174	1170	1153	1133	1134	1130	1118	1135
31	1110	1106	1124	1132	1135	1138	1137	1138	1138	1130	1126	1123	1120	1127	1140	1148	1157	1173	1181	1158	1142	1130	1097	1112	1134
Mean	1106	1099	1106	1114	1117	1122	1124	1128	1130	1129	1127	1125	1125	1132	1139	1144	1147	1148	1147	1146	1141	1135	1127	1117	1128

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

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices <i>K</i>	Sum of <i>K</i> indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +									
	Horizontal force			Declination			Vertical force																		
	Maximum 14,000 $\gamma$ +	Minimum 14,000 $\gamma$ +	Range	Maximum 10° +	Minimum 10° +	Range	Maximum 46,000 $\gamma$ +	Minimum 46,000 $\gamma$ +	Range	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ								
1	h. m.	γ	h. m.	γ	h. m.	'	h. m.	γ	'	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ								
18	0	488	408	13	5	80	14	28	24·9	8·3	7	18	16·6	15	16	1159	1103	0	1	56	2,1,1,3,3,2,2,1	15	1	85·3	
2	17	45	491	418	10	23	73	3	35	21·5	7·8	6	10	13·7	19	0	1165	1069	4	9	96	2,3,1,2,1,2,2,2	15	0	85·3
3 q	20	11	489	414	10	37	75	12	45	22·1	8·2	6	38	13·9	21	14	1144	1116	0	10	28	1,1,1,2,1,1,2,2	11	0	85·6
4 q	19	3	492	421	12	49	71	13	28	25·2	8·7	7	10	16·5	19	48	1159	1117	12	32	42	1,2,1,2,1,2,2,0	10	0	85·4
5 q	18	41	494	430	9	30	64	14	23	21·9	3·7	22	42	18·2	19	16	1168	1098	22	56	70	1,1,1,1,1,2,2,3	12	0	85·5
6 d	20	55	526	405	8	54	121	13	42	26·7	-12·0	21	0	38·7	20	54	1206	1072	4	12	134	2,3,2,2,3,2,4,4	22	1	85·5
7	19	0	513	385	10	31	128	14	41	25·1	5·4	19	58	19·7	15	12	1179	1077	0	53	102	3,1,1,2,3,3,3,1	17	1	85·4
8 q	18	12	478	414	11	2																			

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

41 LERWICK (H)

14,000γ (0.14 C.G.S. unit) +

SEPTEMBER

	Hour G.M.T.	14,000γ (0.14 C.G.S. unit) +																							
	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	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
2	462	454	459	462	453	448	459	444	434	425	422	433	445	461	438	487	500	474	484	469	438	430	346	337	444
3	323	451	446	404	444	462	436	438	435	427	412	429	441	449	461	467	462	475	460	466	465	461	440	443	442
4	446	456	456	456	456	454	447	437	434	414	412	406	434	457	470	483	475	452	480	464	449	441	441	405	447
5	440	453	453	451	441	441	453	448	437	428	427	422	413	440	430	492	454	459	458	460	464	460	472	456	448
6	469	457	444	435	424	446	432	424	422	419	406	417	428	435	441	456	453	462	456	462	461	460	461	462	443
7	458	447	448	445	449	443	434	441	439	425	425	425	435	446	467	474	479	505	508	536	419	408	432	416	450
8 q	458	438	435	415	427	441	442	421	414	422	428	428	428	449	453	466	472	482	461	459	469	454	446	448	444
9	445	441	441	451	456	456	451	445	436	427	423	428	437	445	450	457	453	463	456	452	459	460	454	453	447
10	452	445	449	448	451	451	445	439	428	422	436	444	454	456	441	458	455	456	459	462	457	461	466	449	449
11	454	456	453	450	459	462	459	443	442	439	439	433	423	435	448	441	450	460	462	451	451	465	455	451	449
12 q	451	453	450	449	450	454	453	451	447	437	429	431	435	443	455	459	455	458	464	466	462	460	467	452	452
13 q	463	458	456	457	458	457	455	448	442	435	434	434	446	448	450	456	453	459	469	473	475	482	478	402	453
14 d	320	420	445	409	367	468	451	447	420	428	430	425	413	423	482	457	450	460	456	458	457	454	428	446	434
15	453	455	456	449	455	460	458	447	427	384	384	404	415	447	453	456	451	450	460	462	463	461	449	449	449
16	424	461	454	415	444	461	434	433	428	411	424	419	444	448	438	460	451	459	456	459	460	470	469	441	444
17	438	443	460	455	463	458	453	450	447	433	435	438	444	448	457	459	457	460	467	467	452	436	445	447	451
18	460	453	459	459	460	464	467	450	434	429	415	414	430	439	445	441	456	457	457	460	450	460	475	454	449
19 q	456	456	456	456	457	455	460	450	435	425	419	416	426	433	439	447	457	458	461	456	451	437	453	464	447
20 d	465	463	445	428	453	471	466	444	434	423	415	419	435	470	484	605	725	502	573	485	389	362	394	313	461
21 d	363	434	419	389	424	398	425	441	427	408	415	409	425	446	456	464	491	496	492	456	441	445	452	457	436
22	436	441	454	449	450	450	451	446	434	432	434	427	434	448	444	443	446	445	454	463	460	456	464	460	447
23 q	450	453	451	451	449	449	449	447	424	424	429	423	429	431	430	437	445	455	454	456	455	453	454	455	444
24	449	448	448	453	453	450	451	447	443	431	423	423	435	445	453	457	453	460	466	469	470	464	434	453	449
25	454	458	448	446	458	460	448	440	429	427	429	433	430	434	454	449	467	452	453	460	458	441	453	456	447
26	445	453	450	457	460	453	447	441	427	431	432	432	434	448	445	453	456	459	467	461	462	462	464	461	450
27	460	452	455	450	458	456	455	453	445	437	435	438	445	449	450	455	460	441	477	451	445	433	457	453	450
28	446	406	411	453	448	453	441	434	416	412	428	426	427	441	430	447	456	460	463	465	461	462	458	453	442
29 d	453	436	427	443	434	458	464	456	453	441	426	419	431	434	435	440	465	495	461	463	387	287	374	442	434
30	449	449	448	453	446	438	442	449	435	430	432	441	435	434	445	454	458	454	466	471	459	454	453	434	447
Mean	440	448	448	442	446	452	449	443	434	425	424	425	433	445	451	462	469	464	464	452	445	446	440	446	446

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

42 LERWICK (D)

10°+

SEPTEMBER

	Hour G.M.T.	10°+																							
	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	11·6	15·5	15·6	12·7	9·4	13·5	12·4	10·4	10·6	14·1	15·2	16·6	20·9	24·5	25·1	23·6	13·7	16·6	16·8	8·9	-0·5	0·1	12·8	13·7	
2	-0·2	5·6	7·7	13·7	11·3	8·8	9·9	9·4	12·0	14·2	15·6	17·6	20·2	20·4	19·6	19·6	17·8	13·6	12·5	15·2	7·7	6·0	10·4	12·5	
3	10·4	12·5	10·8	11·8	10·5	11·5	11·6	13·0	13·4	14·5	18·0	20·4	19·7	23·8	17·0	17·8	20·2	17·1	16·1	1·7	4·3	12·1	7·5	18·0	
4	10·4	8·8	10·3	10·2	11·5	16·5	12·7	11·0	10·6	12·3	12·3	12·0	20·9	22·8	21·6	21·4	14·2	15·4	15·2	14·7	14·2	14·2	14·2	14·6	
5	12·0	15·2	8·6	13·6	14·7	13·4	12·8	14·0	11·8	13·2	16·4	20·6	22·8	21·9	18·7	15·4	16·1	14·9	12·8	13·0	15·2	13·7	13·0	15·0	
6	15·2	13·5	11·8	12·8	12·1	11·5	13·7	12·3	11·5	13·2	15·8	19·0	20·3	20·4	19·2	19·9	18·4	21·9	18·5	-3·1	13·5	4·5	3·2	5·1	13·5
7	11·5	9·1	13·7	17·1	13·2	11·5	9·4	10·1	11·4	11·5	15·2	17·1	18·8	19·2	17·6	16·1	13·5	3·0	7·5	15·2	9·1	9·4	10·1	14·7	
8 q	19·0	13·7	15·0	13·0	11·0	10·6	10·1	9·4	10·2	12·4	15·2	18·0	20·0	19·7	17·8	15·9	13·0	12·0	5·3	13·2	15·2	14·9	14·2	14·2	13·9
9	14·2	14·3	14·2	17·6	17·8	12·4	11·6	13·2	15·1	14·2	15·2	18·5	20·9	21·8	19·2	15·7	16·1</td								

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

29

43 LERWICK (z)

46,000y (0.46 C.G.S. unit) +

SEPTEMBER

	Hour G.M.T. 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	1120	1124	1117	1121	1129	1131	1125	1130	1127	1130	1127	1127	1129	1140	1161	1191	1250	1207	1199	1171	1099	1051	987	888	1124		
2	857	1030	1071	1060	1074	1098	1117	1131	1132	1130	1138	1132	1125	1127	1132	1150	1172	1184	1174	1155	1144	1132	1089	1064	1109		
3	1093	1119	1130	1133	1134	1133	1138	1137	1132	1139	1135	1138	1153	1134	1154	1193	1221	1203	1185	1203	1160	1137	1095	1020	1142		
4	1011	1089	1112	1120	1124	1110	1114	1128	1134	1135	1131	1134	1147	1152	1151	1152	1220	1177	1149	1142	1141	1140	1123	1119	1131		
5	1095	1070	1086	1102	1100	1129	1119	1125	1134	1132	1138	1137	1142	1139	1150	1150	1171	1147	1152	1146	1140	1137	1128	1128	1128		
6	1110	1107	1118	1128	1129	1135	1137	1135	1139	1136	1131	1129	1124	1124	1132	1156	1205	1233	1245	1203	1028	1056	1056	1044	1127		
7	1079	1086	1104	1086	1098	1121	1127	1137	1140	1139	1139	1137	1139	1143	1139	1152	1170	1170	1148	1140	1120	1114	1108	1128	1128	1128	
8 q	1083	1090	1101	1109	1125	1133	1138	1139	1138	1135	1134	1128	1125	1130	1137	1147	1157	1161	1176	1151	1140	1138	1137	1137	1133	1133	
9	1138	1136	1133	1123	1089	1098	1115	1128	1119	1125	1130	1133	1135	1144	1170	1195	1181	1174	1175	1171	1154	1123	1117	1127	1139	1139	
10	1125	1126	1123	1117	1121	1120	1129	1128	1133	1136	1133	1130	1137	1151	1162	1159	1163	1160	1152	1145	1144	1129	1109	1136	1136	1136	
11	1112	1126	1131	1132	1117	1119	1124	1131	1134	1133	1131	1141	1161	1171	1166	1168	1172	1184	1175	1169	1163	1129	1118	1125	1143	1143	
12 q	1135	1136	1141	1142	1141	1138	1136	1132	1134	1131	1131	1131	1132	1137	1139	1142	1143	1141	1141	1142	1142	1135	1113	1137	1144	1144	
13 q	1125	1131	1136	1138	1137	1135	1134	1134	1131	1132	1130	1129	1129	1134	1139	1143	1148	1142	1137	1134	1132	1129	1094	1059	1130	1130	
14 d	975	1058	1093	1094	1053	973	1062	1102	1120	1123	1122	1130	1155	1202	1196	1210	1182	1172	1162	1154	1148	1138	1038	1052	1113	1113	
15	1092	1120	1130	1135	1137	1139	1140	1147	1139	1138	1133	1135	1134	1161	1172	1165	1162	1160	1151	1145	1141	1129	1124	1140	1140	1140	
16	1052	998	1063	1084	1063	1084	1097	1101	1108	1119	1119	1125	1131	1147	1160	1162	1161	1162	1179	1159	1149	1124	1116	1081	1114	1114	
17	1054	1017	1051	1078	1080	1095	1116	1125	1129	1130	1124	1120	1119	1123	1125	1132	1136	1138	1146	1161	1140	1112	1092	1112	1112	1112	
18	1050	1039	1082	1102	1113	1123	1125	1131	1134	1129	1134	1132	1128	1127	1127	1131	1138	1144	1164	1184	1166	1151	1138	1080	1095	1123	1123
19 q	1115	1123	1126	1131	1131	1131	1130	1136	1140	1139	1138	1133	1127	1129	1136	1141	1143	1153	1165	1154	1142	1134	1131	1130	1136	1136	
20 d	1131	1131	1126	1064	1061	1088	1103	1122	1129	1134	1138	1136	1144	1188	1188	1267	1340	1275	1286	1140	977	1034	1077	1050	1139	1139	
21 d	1077	1112	1104	1091	1104	1088	1106	1127	1138	1154	1163	1162	1158	1182	1167	1196	1208	1211	1160	1181	1159	1151	1139	1107	1144	1144	
22	1101	1112	1119	1133	1135	1141	1142	1144	1145	1143	1150	1148	1163	1182	1167	1163	1164	1160	1150	1141	1142	1135	1131	1144	1144	1144	
23 q	1124	1126	1135	1140	1140	1141	1142	1142	1145	1142	1141	1148	1151	1153	1154	1153	1154	1154	1151	1147	1142	1141	1139	1144	1144	1144	
24	1141	1139	1135	1136	1138	1136	1133	1135	1134	1137	1138	1137	1138	1137	1141	1141	1153	1150	1141	1138	1140	1146	1101	1094	1136	1136	
25	1120	1122	1128	1121	1104	1095	1111	1125	1134	1135	1137	1149	1147	1150	1185	1186	1171	1158	1154	1143	1134	1136	1136	1136	1136	1136	
26	1114	1113	1125	1124	1123	1133	1133	1137	1140	1134	1133	1135	1136	1137	1144	1150	1147	1144	1144	1138	1137	1137	1130	1117	1134	1134	
27	1118	1128	1129	1134	1131	1134	1137	1132	1131	1131	1131	1131	1132	1135	1143	1148	1159	1186	1194	1156	1143	1149	1142	1115	1140	1140	
28	1044	1047	1057	1088	1110	1112	1117	1121	1125	1124	1128	1134	1142	1144	1156	1157	1150	1145	1143	1142	1146	1143	1138	1119	1122	1122	
29 d	1111	1125	1090	1082	1100	1104	1112	1118	1118	1123	1133	1138	1143	1161	1163	1158	1178	1197	1165	1166	1046	981	997	1077	1116	1116	
30	1126	1139	1142	1137	1120	1089	1076	1084	1100	1112	1126	1138	1144	1146	1149	1147	1149	1159	1157	1160	1146	1146	1136	1077	1129	1129	
Mean	1088	1101	1111	1113	1112	1127	1131	1133	1134	1135	1135	1138	1145	1152	1164	1175	1175	1173	1170	1153	1132	1123	1107	1093	1131	1131	

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

44 LERWICK

SEPTEMBER

	TERRESTRIAL MAGNETIC ELEMENTS										3-hr. range indices <i>K</i>	Sum of <i>K</i> indices <i>K</i>	Magnetic character of day (0-2)	Temperature in magnet house 200 +					
	Horizontal force			Declination				Vertical force											
	Maximum 14,000y +	Minimum 14,000y +	Range	Maximum 10° +	Minimum 10° +	Range	Maximum 46,000y +	Minimum 46,000y +	Range										
1 d	h. m.	y	h. m.	y	h. m.	'	'	h. m.	'	h. m.	y	h. m.	y	h. m.	y				
19 12	527	189	24 0	338	13 53	27 1	-4 7	22 45	31 8	16 12	1275	796	24 0	479	2,2,2,2,4,4,5,6				
2	17 32	483	140	0 2	343	13 15	21 0	-19 5	0 35	40 5	18 0	1187	772	0 3	415	6,4,3,2,1,3,3,3			
3	15 50	516	386	23 56	130	23 48	29 2	-11 6	19 47	40 8	16 54	1249	955	23 55	294	3,1,2,2,3,4,4,5			
4	15 44	512	396	0 8	116	13 48	24 8	6 3	0 33	18 5	16 30	1244	962	0 0	282	5,2,2,2,3,4,1,2			
5	0 18	474	397	10 45	77	13 2	23 7	6 1	2 8	17 6	16 22	1156	1063	2 0	93	3,2,2,2,2,2,2,1,2			
6	19 16	676	364	21 30	312	20 14	29 3	-26 4	19 22	55 7	19 0	1280	984	20 40	296	2,1,2,1,2,4,6,4			
7	20 46	503	401	3 33	102	3 32	21 7	-6 4	20 42	28 1	18 9	1180	1059	0 0	121	3,3,2,2,2,3,4,3			
8 q	17 20	470	421	10 52	49	0 12	23 8	1 0	18 20	22 8	18 20	1182	1075	0 30	107	3,1,2,1,2,2,3,1			
9	21 24	486	402	4 0	84	4 6	23 0	-2 8											

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

45 LERWICK (H)

14,000y (0.14 C.G.S. unit) +

OCTOBER

	Hour	G.M.T.	14,000y (0.14 C.G.S. unit) +																							
	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	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	434	436	447	456	499	551	457	444	445	449	439	443	431	
2	448	422	402	328	360	421	443	410	385	382	409	433	428	434	445	448	451	453	454	458	460	456	449	438	443	
3 d	440	426	417	450	449	443	457	449	445	435	428	427	425	437	449	467	469	476	459	460	455	484	354	274	432	
4	415	360	423	454	465	458	438	430	431	432	429	425	432	447	455	474	443	451	455	456	450	448	457	459	429	
5	262	223	415	440	450	439	450	445	443	439	431	424	432	447	455	474	443	451	455	456	450	448	457	459	429	
6	454	450	451	451	447	454	458	460	451	445	437	434	434	440	446	456	451	453	457	464	478	444	457	472	452	
7	461	458	457	450	441	445	471	461	441	412	408	419	445	429	461	478	482	493	441	447	452	449	455	450	450	
8	448	449	447	444	453	453	454	449	449	441	439	433	421	427	440	457	448	445	448	451	456	459	449	446	446	
9 q	445	442	446	456	449	451	453	448	446	445	442	443	437	423	441	430	445	452	450	453	454	459	457	453	447	
10 q	459	450	450	451	454	449	453	457	448	441	434	432	435	438	443	447	454	458	460	462	457	458	453	450	450	
11	455	460	456	449	460	463	462	457	450	440	439	439	443	448	451	454	456	459	454	458	460	461	461	460	453	
12 q	457	460	455	455	461	466	454	458	452	443	440	434	430	439	447	449	454	454	460	460	461	461	460	460	453	
13 q	460	459	460	460	461	461	461	457	450	444	439	437	437	441	448	454	457	460	463	464	466	465	466	465	456	
14	463	461	460	460	461	461	461	460	451	440	431	432	436	444	450	456	458	459	462	460	465	465	466	471	456	
15 q	466	460	462	462	464	465	466	463	458	444	427	428	434	441	444	451	456	457	456	449	453	448	456	452	452	
16	456	454	456	458	466	470	461	464	454	434	431	435	434	440	451	454	458	461	461	464	464	462	460	455	455	
17	453	454	457	454	463	468	466	461	454	445	434	429	434	444	452	461	458	463	460	450	438	429	459	452	452	
18 d	433	423	437	444	474	467	438	449	446	448	439	399	413	469	446	466	496	451	439	446	451	453	454	456	447	
19	456	450	450	433	445	452	451	451	438	430	432	415	426	439	453	451	440	449	445	451	458	469	457	446	446	
20	453	444	435	454	464	457	458	424	409	412	408	411	424	433	437	446	440	442	437	435	433	443	448	457	438	
21	451	453	451	451	456	459	458	453	448	439	425	429	438	445	450	449	450	451	452	463	453	453	454	449	449	
22	454	453	454	455	460	459	458	457	450	441	436	440	446	446	451	448	464	453	476	442	433	416	395	382	445	
23 d	414	431	450	446	446	446	446	446	446	430	424	450	447	448	467	455	448	458	464	398	380	342	312	256	425	
24 d	269	294	355	401	434	429	388	389	415	425	418	424	431	464	466	498	500	487	498	490	402	410	436	442	428	
25	455	394	424	377	440	442	456	450	433	437	422	422	421	440	446	450	453	448	446	451	451	455	449	438	438	
Mean	438	431	442	442	453	455	454	451	444	436	430	430	434	442	450	455	461	460	456	453	450	447	444	440	446	

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

46 LERWICK (D)

10° +

OCTOBER

	Hour	G.M.T.	10° +																							
	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	1·2	-0·8	1·3	10·4	20·7	14·4	12·1	19·3	20·4	19·0	17·8	15·2	16·7	17·5	17·0	16·5	17·3	-0·2	9·0	12·2	10·0	16·1	12·5	10·9	12·8	
3 d	12·8	15·6	18·2	13·0	11·9	17·6	11·0	9·6	9·4	10·3	11·3	13·3	15·7	17·1	17·9	17·1	15·9	14·9	14·2	12·9	10·6	11·0	-1·0	1·0	12·6	
4	5·4	18·1	0·8	0·2	10·9	18·0	15·2	19·9	19·1	14·3	13·0	14·1	16·3	18·9	19·7	14·8	14·0	13·0	15·9	13·1	9·1	1·2	-4·5	0·0	11·7	
5	12·5	12·5	12·0	12·1	13·4	13·4	12·3	11·6	10·4	10·8	11·3	14·3	16·9	18·0	17·1	15·2	11·8	14·5	13·4	1·6	7·5	9·4	13·0	12·6	12·6	
6	11·7	13·0	12·2	13·1	16·4	19·0	16·1	14·5	13·8	15·5	18·9	19·7	20·9	18·8	21·8	19·9	18·2	3·6	16·7	14·5	14·6	9·4	10·5	11·5	15·2	
7	11·6	12·3	12·4	15·1	13·9	13·4	12·7	11·0	11·3	13·0	14·3	17·8	19·0	18·3	17·1	13·0	16·6	4·6	13·5	12·9	13·0	11·4	10·6	13·4	13·4	
8	14·8	15·0	9·9	10·3	11·6	13·1	14·6	13·8	12·3	13·3	13·0	15·2	17·9	18·1	19·8	20·0	18·0	16·4	12·2	8·5	11·9	11·4	10·6	13·1	13·9	
9 q	9·1	10·4	10·5	10·6	11·8	13·8	14·9	15·4	12·9	12·5	12·6	13·9	15·4	15·4	17·0	14·8	14·8	14·4	14·0	11·0	11·5	13·0	13·2	13·2	13·2	
10 q	12·8	11·7	11·6	15·7	13·6	13·2	13·7	12·1	11·5	11·9	14·2	18·0	17·1	17·2	16·3	15·2	14·2	13·6	14·2	12·8	12·7	12·3	13·0	13·6	13·6	
11	15·1	10·8	8·9	9·4	10·9	10·6	12·7	13·1	12·5	12·0	13·4	15·6	17·2	17·0	16·1	15·4	14·8	14·2	13·7	13·3	13·6	13·2	13·0	12·9	13·3	
12 q	12·5	12·6	12·6	12·8	12·9	12·4	12·2	10·9	10·1	10·4	12·6	15·1	17·0	17·2	16·8	16·0	15·1	14·8	14·4	14·1	13·6	13·2	13·0	13·6	13·6	
13 q	12·9	13·0	13·2	13·1	13·0	12·8	12·3	10·9	10·6	11·5	13·6	16·8	18·7	19·0	17·6	16·1	15·4	14·9	14·3	13·8	14·2	13·7	12·8	11·9	14·0	
14	10·7	12·9	11·4	12·2	1																					

47 LERWICK (z)

46,000 $\gamma$  (0.46 C.G.S. unit) +

OCTOBER

	Hour	G.M.T.	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			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		
2	1062	1059	1017	997	991	1019	1062	1107	1110	1121	1123	1136	1145	1147	1148	1167	1199	1223	1226	1198	1172	1117	1111	1128	1116	1116			
2	1134	1119	1106	1107	1113	1117	1126	1137	1142	1145	1145	1145	1144	1141	1141	1142	1145	1145	1147	1147	1148	1117	1066	1036	1127	1127			
3 d	1041	965	982	1031	1053	1063	1092	1111	1116	1125	1132	1135	1136	1144	1157	1198	1203	1213	1229	1184	1181	1062	1050	926	1105	1105			
4	867	851	922	1052	1084	1114	1122	1126	1134	1136	1139	1135	1128	1134	1159	1183	1163	1153	1157	1161	1150	1134	1119	1102	1102	1102			
5	1121	1126	1131	1131	1134	1135	1141	1141	1145	1147	1147	1143	1141	1139	1141	1144	1153	1160	1150	1148	1123	1116	1135	1111	1138	1138			
6	1115	1132	1134	1136	1123	1116	1107	1119	1132	1142	1145	1147	1148	1183	1188	1220	1242	1222	1170	1167	1163	1163	1143	1142	1154	1154			
7	1140	1136	1138	1138	1134	1134	1139	1145	1145	1148	1147	1147	1153	1153	1161	1172	1170	1186	1167	1166	1155	1153	1145	1134	1150	1150			
8	1116	1111	1122	1130	1135	1135	1141	1143	1145	1146	1146	1152	1164	1170	1176	1159	1159	1160	1161	1155	1149	1120	1076	1142	1142	1142			
9 q	1095	1122	1129	1131	1128	1132	1131	1129	1137	1141	1142	1142	1142	1141	1141	1143	1142	1141	1141	1141	1141	1141	1146	1145	1136	1136			
10 q	1137	1135	1140	1125	1106	1113	1121	1126	1131	1134	1133	1133	1133	1134	1138	1142	1144	1145	1147	1141	1141	1140	1138	1134	1134	1134			
11	1131	1129	1134	1131	1127	1125	1129	1128	1131	1133	1135	1139	1142	1141	1144	1148	1148	1146	1143	1141	1141	1141	1141	1142	1137	1137			
12 q	1143	1145	1144	1142	1141	1139	1140	1141	1138	1137	1135	1138	1138	1140	1141	1142	1141	1139	1138	1137	1136	1137	1138	1140	1140	1140			
13 q	1141	1143	1144	1143	1142	1142	1141	1143	1142	1138	1134	1135	1139	1143	1144	1143	1141	1142	1140	1137	1134	1123	1140	1140	1140	1140			
14	1112	1125	1129	1135	1138	1139	1140	1139	1139	1141	1139	1138	1141	1150	1158	1161	1176	1170	1153	1144	1140	1134	1143	1143	1143	1143	1143		
15 q	1132	1135	1138	1141	1141	1138	1139	1143	1142	1141	1139	1134	1134	1140	1143	1144	1145	1144	1142	1141	1140	1136	1140	1140	1140	1140			
16	1125	1122	1133	1138	1146	1141	1141	1143	1140	1137	1136	1134	1134	1143	1171	1170	1170	1197	1171	1164	1157	1141	1134	1147	1147	1147	1147		
17	1130	1130	1123	1128	1121	1123	1134	1140	1144	1144	1146	1146	1145	1141	1144	1150	1147	1149	1153	1162	1156	1120	1080	1137	1137	1137	1137		
18 d	1104	1055	1047	1044	1060	1085	1101	1097	1122	1138	1143	1158	1152	1161	1242	1220	1248	1219	1164	1145	1139	1138	1131	1098	1134	1134	1134		
19	1103	1123	1128	1112	1124	1135	1138	1143	1150	1151	1163	1183	1162	1162	1191	1187	1185	1167	1161	1156	1149	1136	1125	1148	1148	1148	1148		
20	1110	1092	1092	1103	1117	1128	1129	1140	1135	1139	1150	1157	1169	1180	1163	1159	1161	1164	1165	1169	1164	1147	1111	1111	1111	1140	1140		
21	1114	1118	1127	1134	1135	1136	1137	1140	1140	1142	1146	1146	1147	1145	1149	1153	1154	1153	1151	1145	1142	1144	1143	1141	1141	1141	1141	1141	
22	1142	1142	1140	1140	1137	1137	1136	1135	1139	1138	1137	1144	1148	1145	1145	1151	1151	1182	1232	1208	1207	1186	1124	1082	1151	1151	1151	1151	
23 d	1100	1118	1130	1137	1140	1147	1145	1137	1141	1144	1152	1156	1162	1164	1190	1221	1187	1205	1202	1168	1118	1088	992	1144	1144	1144	1144		
24 d	917	904	943	998	938	946	989	1045	1067	1111	1138	1179	1179	1207	1214	1204	1280	1268	1295	1269	1149	1112	1114	1132	1108	1108	1108	1108	
25	1090	1027	974	959	1029	1067	1112	1129	1142	1159	1172	1177	1189	1182	1189	1191	1165	1163	1161	1164	1147	1142	1142	1125	1125	1125	1125	1125	
26	1130	1132	1139	1138	1142	1140	1141	1142	1140	1142	1141	1148	1156	1155	1166	1184	1182	1216	1198	1168	1140	1133	1138	1152	1152	1152	1152	1152	
27	1140	1144	1147	1148	1146	1150	1150	1150	1143	1157	1155	1152	1150	1158	1171	1215	1189	1162	1159	1158	1154	1151	1147	1146	1156	1156	1156	1156	1156
28	1136	1126	1139	1130	1136	1142	1147	1150	1152	1156	1156	1154	1154	1158	1160	1164	1162	1153	1152	1150	1150	1145	1143	1142	1148	1148	1148	1148	1148
29	1143	1146	1148	1147	1146	1146	1147	1147	1152	1150	1155	1148	1145	1146	1148	1147	1146	1144	1142	1143	1143	1144	1144	1146	1146	1146	1146	1146	
30	1107	1089	1082	1049	1030	1090	1123	1136	1143	1143	1143	1145	1145	1153	1166	1168	1158	1161	1164	1160	1121	1133	1127	1127	1127	1127	1127	1127	1127
31	1128	1130	1135	1139	1143	1141	1141	1148	1148	1146	1150	1146	1151	1165	1177	1202	1229	1257	1248	1231	1197	1123	1115	1133	1163	1163	1163	1163	1163
Mean	1103	1098	1101	1107	1109	1116	1125	1132	1136	1141	1143	1147	1149	1153	1159	1168	1175	1174	1174	1167	1156	1138	1127	1127	1127	1127	1127	1127	1127

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

48 LERWICK

OCTOBER

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200+				
	Horizontal force			Declination			Vertical force													
	Maximum 14,000 $\gamma$ +	Minimum 14,000 $\gamma$ +	Range	Maximum 10° +	Minimum 10° +	Range	Maximum 46,000 $\gamma$ +	Minimum 46,000 $\gamma$ +	Range											
1 d	h. m.	γ	h. m.	γ	h. m.	'	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ				
2	17	6	283	3	34	480	8	14	25·3	-16·0	17	18	41·3	17	5	1322				
2	21	17	484	358	23	21	126	5	29	20·3	-10·3	22	53	30·6	21	6	1153			
3 d	21	13	510	182	23	30	1	22	23·8	-15·0	23	0	38·8	18	0	1246				
4	15	16	496	42	1	0	454	1	27	21·1	-25·0	0	26	46·1	16	12	1190			

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

49 LERWICK (H)

14,000 $\gamma$  (0-14 C.G.S. unit) +

NOVEMBER

	Hour	G.M.T.	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		γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1 d	450	442	432	434	445	442	440	454	454	440	427	425	428	437	445	464	440	446	456	475	415	427	436	457	442	453	
2 d	315	335	440	454	426	422	451	454	447	440	429	435	437	427	437	437	449	446	444	450	458	451	451	420	431	437	
3 d	426	412	437	451	437	431	446	445	435	440	435	429	437	438	453	443	443	446	446	454	472	453	451	451	448	442	
4	450	448	448	451	453	451	458	458	455	444	427	426	441	446	452	451	451	451	452	457	459	460	459	455	450	451	
5	467	450	445	457	462	458	458	461	443	434	438	441	435	450	451	452	456	445	449	457	457	456	457	456	451	451	
6	463	457	452	457	457	458	455	463	457	450	443	442	447	447	454	460	453	452	467	442	451	443	450	452	453	453	
7	456	456	452	458	459	461	466	461	458	450	446	447	448	450	456	460	462	463	463	462	461	460	458	457	457	455	
8	454	455	462	461	462	464	468	466	457	448	443	444	446	450	454	456	453	453	444	449	466	451	456	456	457	455	
9 q	457	455	456	456	461	462	466	463	460	455	450	450	453	456	460	458	456	456	458	460	456	456	458	457	457	455	
10 d	455	456	457	459	462	462	462	458	451	446	447	448	453	457	457	457	457	461	462	458	459	460	461	457	457	455	
11	462	460	459	458	467	468	470	469	464	452	445	447	452	450	455	457	452	453	450	454	460	464	465	464	458	458	
12	464	463	463	456	446	473	475	470	460	453	447	448	448	447	453	457	459	463	460	448	453	457	460	457	457	455	
13	460	454	455	457	458	461	464	464	458	453	445	445	449	454	460	460	461	464	468	465	460	458	466	463	458	458	
14	458	451	451	454	462	466	467	468	464	453	450	447	450	452	457	451	447	444	447	452	457	450	457	455	455	455	
15 q	458	458	457	458	459	461	461	460	456	452	450	449	450	454	460	462	464	464	464	460	460	461	460	458	458	458	
16 q	458	463	458	458	460	461	463	461	457	453	450	452	457	462	464	465	466	468	468	468	466	464	463	461	461	461	
17 q	463	463	463	463	463	464	468	469	472	467	466	464	461	463	467	465	466	467	466	464	464	464	461	461	465	465	
18	458	461	464	465	465	464	464	464	464	462	462	469	472	474	474	467	466	477	478	474	472	472	465	463	467	467	
19	460	453	456	442	475	476	467	468	461	460	453	451	449	452	452	457	448	444	448	440	438	443	434	445	453	453	
20 d	448	440	447	445	450	457	464	454	436	437	437	450	456	438	438	441	435	440	441	433	440	449	451	446	445	445	
21	445	442	444	452	452	454	457	456	450	446	450	453	451	438	442	449	456	461	461	463	460	453	445	434	451	451	
22	443	452	453	453	455	466	463	462	441	451	451	450	450	452	455	458	461	458	454	454	451	454	461	456	455	455	
23	457	457	457	458	464	464	464	464	461	454	448	450	454	459	467	453	454	444	440	436	426	435	441	442	452	452	
24	444	442	445	447	457	461	454	451	453	447	442	442	440	442	445	447	445	445	456	457	454	456	456	456	456	450	
25	456	456	457	457	458	468	470	461	461	458	455	448	448	460	460	464	463	461	457	454	472	457	454	459	459	459	
26	452	453	457	462	463	466	464	464	456	454	454	456	447	450	457	464	461	462	464	462	456	445	448	460	457	457	
27	453	454	454	453	461	468	472	467	467	466	461	461	461	462	463	463	458	461	462	460	458	466	465	462	462	462	
28	461	460	458	458	461	463	464	463	462	461	461	453	442	438	449	458	458	457	454	454	450	445	445	443	455	455	
29	451	453	454	454	457	460	463	463	460	460	457	450	446	453	445	430	448	457	460	446	450	455	454	460	454	454	
30 d	461	450	453	452	424	456	466	460	457	457	456	453	446	449	453	457	456	443	445	453	453	457	457	457	453	453	
Mean	450	448	453	455	456	459	462	461	456	452	448	447	448	450	454	455	455	456	456	455	455	454	455	455	454	454	

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

50 LERWICK (D)

10° +

NOVEMBER

	Hour	G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
1 d		'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'
1 d	12.3	11.8	15.0	18.0	13.5	13.5	14.4	12.9	12.5	12.6	14.9	17.7	19.6	22.6	20.4	8.1	20.9	20.2	5.5	7.8	-13.2	2.9	8.4	9.6	12.6	10.4	
2 d	2.2	1.7	6.5	8.4	14.2	19.0	13.9	12.9	11.8	12.6	12.6	15.2	19.5	15.0	17.1	17.2	16.2	14.8	0.8	3.1	7.1	4.3	2.3	1.6	1.6	1.6	
3 d	7.8	13.8	15.3	14.2	15.3	19.9	17.8	15.9	14.3	14.2	16.5	17.7	18.0	17.9	15.8	8.7	9.4	14.2	13.9	13.6	9.3	11.8	11.2	11.9	14.1		
4	13.5	13.9	12.2	12.6	12.6	13.2	12.0	11.8	12.1	12.9	12.9	13.8	15.5	16.4	16.4	13.6	8.2	8.0	12.9	13.2	13.0	13.0	12.7	12.7	12.7	12.6	
5	7.6	9.3	11.1	10.3	10.4	11.0	11.3	12.2	12.1	12.6	14.2	16.4	16.4	16.4	16.5	14.9	12.9	12.6	12.4	10.7	9.6	12.0	12.0	12.2	12.2	12.2	
6	14.1	10.6	10.4	9.2	10.4	12.6	16.1	15.4	13.5	13.0	15.1	15.8	16.5	15.6	15.2	15.2	15.6	14.2	-0.7	9.5	8.7	6.5	9.3	10.7	12.2	12.2	
7	11.9	15.6	13.5	12.6	12.1	12.5	12.7	12.3	12.3	12.1	14.1	16.0	16.5	16.7	15.3	14.5	13.8	14.4	13.9	13.1	12.4	12.2	11.8	11.9	13.5		
8	12.3	15.1	13.0	13.2	13.1	13.1	12.6	12.5	11.8	11.7	13.8	16.3	18.1	18.7	17.4	16.9	17.3	16.6	15.5	14.2	10.3	11.3	13.8				

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

33

51 LERWICK (Z)

46,000 $\gamma$  (0.46 C.G.S. unit) +

NOVEMBER

	Hour G.M.T.	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	1133	1136	1131	1111	1113	1124	1134	1135	1141	1144	1150	1150	1152	1159	1179	1248	1205	1189	1257	1266	1166	1171	1146	1082	1159	
2 d	1024	947	1012	1076	1093	1111	1130	1139	1142	1143	1143	1153	1185	1204	1166	1155	1164	1175	1159	1140	1132	1116	1085	1120		
3 d	1065	1066	1086	1106	1104	1112	1114	1127	1143	1147	1146	1147	1147	1158	1165	1185	1182	1167	1166	1157	1143	1137	1142	1142	1136	
4	1134	1131	1137	1140	1141	1142	1142	1146	1147	1148	1154	1157	1152	1148	1146	1149	1157	1159	1151	1149	1147	1147	1146	1138	1146	
5	1115	1111	1111	1105	1114	1125	1133	1137	1144	1150	1151	1152	1155	1150	1153	1152	1150	1157	1159	1146	1147	1146	1142	1140		
6	1128	1119	1124	1123	1128	1127	1130	1129	1137	1144	1145	1146	1148	1156	1160	1158	1162	1167	1179	1166	1161	1154	1140	1124	1144	
7	1119	1121	1133	1136	1137	1139	1137	1142	1144	1147	1146	1143	1146	1147	1148	1149	1147	1145	1144	1146	1145	1146	1146	1142		
8	1144	1137	1130	1134	1136	1137	1136	1138	1142	1143	1142	1142	1142	1146	1150	1156	1159	1175	1173	1153	1147	1147	1147	1146		
9 q	1146	1146	1143	1142	1135	1137	1135	1136	1138	1140	1139	1139	1139	1142	1146	1151	1150	1146	1144	1152	1147	1142	1142	1142		
10 q	1139	1131	1134	1137	1136	1137	1137	1138	1140	1140	1139	1141	1142	1145	1146	1144	1143	1141	1139	1140	1138	1139	1139			
11	1139	1142	1142	1142	1136	1138	1137	1136	1140	1139	1135	1139	1145	1147	1152	1159	1162	1171	1155	1147	1141	1138	1138	1144		
12	1137	1137	1138	1137	1127	1134	1136	1139	1137	1136	1136	1139	1144	1146	1149	1148	1151	1166	1167	1162	1153	1142	1144			
13	1137	1134	1136	1140	1142	1143	1142	1141	1140	1139	1137	1136	1136	1139	1140	1143	1145	1144	1145	1131	1120					
14	1116	1124	1130	1136	1133	1138	1139	1139	1138	1136	1136	1137	1140	1144	1150	1159	1167	1179	1183	1172	1157	1144	1144			
15 q	1118	1130	1137	1139	1142	1142	1143	1142	1141	1140	1139	1139	1138	1140	1141	1144	1145	1142	1141	1140	1140	1140	1140			
16 q	1140	1134	1136	1137	1139	1139	1141	1142	1140	1139	1136	1136	1135	1137	1138	1139	1141	1142	1142	1142	1142	1142	1141	1139		
17 q	1139	1137	1136	1136	1136	1136	1134	1135	1135	1136	1136	1136	1137	1137	1136	1137	1139	1139	1141	1142	1142	1142	1138			
18	1141	1134	1131	1132	1133	1135	1136	1136	1138	1139	1135	1133	1133	1134	1137	1139	1136	1136	1139	1142	1144	1150	1154			
19	1147	1143	1129	1118	1093	1111	1122	1126	1133	1136	1139	1141	1143	1144	1146	1146	1158	1168	1168	1203	1198	1168	1165	1154		
20 d	1149	1142	1127	1127	1130	1129	1133	1142	1144	1150	1150	1152	1176	1186	1193	1190	1198	1186	1192	1176	1162	1156	1153	1157		
21	1146	1142	1125	1123	1134	1137	1138	1139	1143	1144	1144	1144	1147	1160	1162	1154	1147	1142	1142	1142	1142	1142	1142	1143		
22	1118	1139	1139	1136	1131	1135	1134	1146	1143	1143	1142	1144	1147	1148	1147	1150	1153	1154	1152	1144	1143	1142				
23	1143	1142	1140	1135	1133	1134	1136	1138	1140	1140	1137	1137	1140	1145	1170	1282	1232	1215	1203	1176	1163	1159	1149	1159		
24	1139	1130	1133	1136	1137	1134	1139	1143	1142	1143	1146	1145	1148	1154	1157	1163	1154	1152	1153	1145	1143	1144	1145			
25	1144	1145	1143	1140	1133	1133	1134	1136	1136	1141	1141	1143	1147	1148	1146	1146	1146	1149	1149	1144	1144	1141	1141			
26	1122	1134	1140	1139	1138	1137	1137	1137	1141	1140	1136	1136	1144	1144	1146	1147	1149	1144	1143	1147	1157	1156	1145	1142		
27	1147	1144	1144	1144	1139	1127	1127	1134	1130	1128	1133	1133	1134	1140	1143	1149	1148	1157	1144	1139	1139	1138	1139			
28	1139	1137	1138	1138	1139	1139	1137	1136	1134	1131	1133	1141	1144	1142	1146	1148	1149	1150	1152	1152	1147	1132	1141			
29	1133	1140	1142	1143	1143	1142	1140	1139	1140	1137	1134	1135	1139	1140	1153	1180	1154	1150	1149	1161	1165	1157	1147	1145		
30 d	1097	1117	1126	1128	1110	1076	1108	1128	1134	1134	1136	1137	1142	1143	1144	1147	1150	1163	1168	1156	1147	1146	1141	1118		
Mean	1128	1125	1128	1131	1130	1130	1133	1136	1139	1141	1141	1141	1143	1147	1151	1156	1159	1157	1160	1161	1153	1149	1145	1134		
																								1142		

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

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices <i>K</i>	Sum of <i>K</i> indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +				
	Horizontal force			Declination			Vertical force													
	Maximum 14,000 $\gamma$ +	Minimum 14,000 $\gamma$ +	Range	Maximum 10° +	Minimum 10° +	Range	Maximum 46,000 $\gamma$ +	Minimum 46,000 $\gamma$ +	Range											
1 d	h. m.	$\gamma$	h. m.	'	h. m.	'	h. m.	$\gamma$	h. m.	'	h. m.	$\gamma$	25	1	80-6					
2 d	19 47	534	404	20 11	130	14 28	25.2	-24.4	20 0	49.6	15 23	1286	1069	24 0	217	2,3,2,2,3,4,5,4				
3 d	20 3	474	215	1 21	259	5 8	22.2	-12.3	0 17	34.5	14 18	1217	914	1 20	303	6,3,3,2,3,2,4,3				
4	23 12	463	421	11 3	42	13 38	16.8	3.4	17 11	13.4	17 7	1164	1129	1 34	35	3,3,2,1,2,4,3,2				
5	0 13	490	426	8 56	64	11 20	17.5	1.6	0 8	15.9	19 3	1163	1100	3 17	63	3,2,2,2,1,1,2,1,1				
6	18 21	498	434	18 2	64	0 39	18.9	-15.4	18 18	34.3	18 13	1212	1109	0 54	103	3,2,2,1,1,2,4,3				
7	6 34	469	442	10 58	27	1 24	21.5	8.6	0 8	12.9	16 7	1152	1111	0 2	41	3,0,1,1,0,1,0,1,0,1				
8	20 43	481	440	18 19	41	16 20	19.6	1.9	20 21	17.7	19 4	1180	1127	2 3	53	2,1,1,1,1,1,3,2				
9 q	6 22	469	443	19 38	26	12 14	17.3	9.7	19 50	7.6	19 26	1186	1132	4 26	26	0,1,0,1,1,2,1,1				
10 q	23 3	464	442	10 46	22	13 39	15.7	8.1	1 4	7.6	20 42	1149	1129	1 3	17	2,0,0,0,0,0,1,0,1				
11	6 36	472	440	18 21	32	13 35	21.2	1.4	18 36	19.8	18 36	1182	1133	1 25	49	0,1,0,1,1,1,3,1				
12	6 20	479	431	2 18	48	13 53	22.7	8.2	22 10	14.5	19 55	1173	1123	5 10	50	1,3,1,2,2,1,2,2,1,2				
13	18 40	472</td																		

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

53 LERWICK (H)

14,000γ (0-14 C.G.S.) +

DECEMBER

	Hour G.M.T.	14,000γ (0-14 C.G.S.) +												DECEMBER																
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean					
1	γ	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	460	444	449	449	450	460	459	462	461	457	457	457	458	460	463	461	460	460	462	463	456	457	457	457	454	457				
2	453	455	457	461	461	464	463	463	461	461	457	455	451	451	458	458	453	457	459	458	457	456	462	458						
3	461	451	449	452	457	459	460	465	466	460	458	461	463	465	467	467	465	464	463	458	456	456	461	455	460					
4	456	457	458	461	464	468	469	466	466	464	453	447	453	461	457	461	464	467	464	459	457	456	455	456	460					
5	453	454	456	459	460	461	464	464	462	461	460	461	461	461	462	456	441	436	444	454	453	454	461	454	456	456				
6	455	456	457	457	461	465	468	466	461	459	458	460	461	464	464	462	464	464	463	462	464	461	451	461						
7 d	456	464	464	466	468	469	474	476	467	461	459	457	461	464	466	468	470	464	460	445	464	450	449	450	462					
8	453	451	450	450	448	461	464	464	461	460	457	457	456	460	461	467	469	467	466	464	461	457	454	457	459					
9	455	461	460	464	476	479	482	476	473	470	461	459	463	466	468	468	470	472	472	464	462	461	459	458	467					
10 q	458	458	461	460	461	463	463	463	464	464	459	457	458	462	464	464	466	465	464	460	460	461	457	461						
11 q	458	460	459	461	463	464	464	463	461	460	461	465	468	469	467	468	470	468	468	467	466	464	462	464						
12	459	459	461	462	465	467	464	458	461	464	461	457	457	462	464	466	461	457	449	457	454	461	431	460						
13	432	450	447	455	461	467	461	458	457	457	459	458	460	462	462	463	465	457	445	438	447	446	451	455						
14 q	446	447	453	457	457	460	458	457	457	458	458	459	459	459	457	457	461	464	461	461	459	457	456	457						
15 q	456	453	456	457	457	458	458	458	457	459	461	463	464	465	465	464	464	464	463	461	461	457	460							
16 q	457	458	460	461	464	468	468	466	464	466	465	466	468	469	464	464	468	472	472	470	469	468	466	465	466					
17 d	468	464	465	466	467	471	451	424	437	444	459	456	440	447	441	451	451	457	456	458	457	456	447	445	453					
18 d	448	415	446	438	439	461	464	466	459	452	447	457	461	459	451	452	453	451	446	448	441	472	446	451	452					
19	450	452	450	453	461	463	464	464	466	464	457	457	457	462	450	446	454	457	450	452	444	442	447	452	454					
20 d	450	450	452	456	461	464	464	467	470	468	463	457	443	454	466	466	459	452	449	453	455	485	457	459						
21	458	459	463	463	464	466	471	473	472	472	472	468	461	464	462	463	463	461	460	461	462	464	464	457	464					
22	461	463	461	461	464	470	468	470	470	467	461	459	463	463	461	460	458	456	457	460	459	458	462							
23	461	461	461	464	466	466	470	471	468	468	461	462	466	461	466	464	457	455	455	454	461	460	459	462						
24	458	459	460	461	461	461	462	463	466	469	471	474	477	474	468	466	466	467	466	466	464	467	466	461	466					
25	466	462	464	465	468	470	467	464	467	469	468	470	468	463	460	468	459	456	458	457	456	456	456	456	456					
Mean	455	454	456	458	461	465	465	464	463	462	460	460	461	461	461	462	461	460	458	458	457	460	455-	460						

460 at 0-1h. January 1, 1955.

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

54 LERWICK (D)

10° +

DECEMBER

	Hour G.M.T.	10° +												DECEMBER																
	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	11.8	11.3	11.0	11.3	13.0	12.4	12.2	12.3	12.3	12.3	14.1	14.5	14.6	14.4	14.2	13.2	13.4	13.2	12.7	12.9	12.0	10.8	11.1	12.5	12.6					
2	13.2	13.5	12.6	11.8	12.8	12.9	12.6	12.7	12.3	13.3	14.6	15.1	16.1	15.2	14.2	14.0	13.5	11.8	12.9	12.3	11.0	10.6	10.1	14.6	13.1					
3	13.7	10.8	12.0	12.3	12.4	12.2	12.5	13.0	13.0	13.2	13.4	14.2	15.4	15.4	15.0	14.4	14.2	13.6	13.2	12.9	10.6	12.4	8.7	10.6	12.9					
4	12.8	12.7	12.8	12.8	13.2	13.0	13.1	13.1	13.0	13.7	13.5	15.3	15.6	17.1	17.1	15.3	14.6	14.6	14.5	14.5	13.0	11.6	11.3	11.5	13.8					
5	11.3	10.5	11.9	11.4	12.2	13.0	13.0	13.0	13.0	13.0	13.7	14.2	14.2	14.2	13.9	13.9	13.7	13.0	11.1	12.8	13.0	12.1	9.8	10.7	12.5	12.5				
6	11.8	12.7	12.1	12.2	12.7	12.8	12.9	13.2	13.1	13.6	14.5	15.4	15.4	15.4	15.8	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4		
7 d	14.2	12.9	11.6	12.7	13.2	12.3	13.7	15.1	14.4	12.9	13.2	14.5	14.8	14.8	14.9	14.8	14.8	14.8	8.0	9.0	6.5	9.0	10.8	12.7						
8	12.3	12.3	12.5	13.2	12.8	13.2	12.5	12.0	11.8	12.5	13.7	15.5	16.8	16.5	17.1	14.1	14.2	14.2	14.8	13.2	12.6	11.6	10.8	10.7	13.4					
9	11.8	11.3	13.0	11.9	11.4	11.8	12.1	13.2	13.2	13.6	14.4	14.9	15.8	15.8	14.1	14.1	13.8	13.5	12.8	11.8	12.2	11.5	11.5	11.8	13.2					
10 q	11.8	12.3	12.5	12.6	12.0	11.9	11.7	12.8	12.4	12.1	12.2	12.5	13.2	13.2	13.4	14.1	14.7	14.2	14.1	13.6	13.0	11.3	11.8	12.4	12.4					
11 q	12.3	12.6	11.9	12.2	12.4	1																								

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

35

55 LERWICK (Z)

46,000y (0-46 C.G.S. unit) +

DECEMBER

	Hour	G.M.T.	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	1093	1117	1128	1134	1137	1138	1141	1141	1139	1138	1136	1135	1137	1137	1137	1140	1141	1143	1145	1144	1144	1147	1144	1141	1137	1137	1137			
2	1131	1132	1133	1135	1135	1136	1138	1139	1140	1138	1138	1140	1141	1141	1141	1141	1142	1142	1149	1147	1145	1145	1144	1141	1129	1139	1139			
3	1106	1122	1129	1133	1134	1137	1137	1135	1134	1135	1135	1135	1134	1134	1134	1134	1135	1137	1138	1138	1140	1144	1145	1143	1140	1140	1135	1135		
4	1138	1138	1137	1135	1134	1133	1133	1135	1135	1138	1139	1134	1135	1137	1137	1137	1138	1138	1144	1157	1157	1154	1151	1147	1140	1140	1140			
5	1144	1139	1137	1135	1135	1134	1135	1136	1137	1137	1137	1137	1137	1137	1137	1139	1144	1155	1164	1161	1151	1150	1151	1141	1143	1142	1142			
6	1143	1141	1140	1138	1135	1133	1132	1133	1135	1135	1137	1137	1138	1137	1138	1140	1138	1138	1141	1145	1143	1146	1152	1139						
7 d	1141	1134	1138	1137	1133	1131	1127	1126	1129	1134	1135	1137	1137	1138	1138	1135	1138	1144	1162	1166	1155	1134	1128	1138						
8	1135	1141	1144	1141	1139	1133	1135	1135	1135	1135	1137	1138	1138	1140	1140	1140	1140	1141	1143	1147	1151	1151	1140							
9	1149	1141	1137	1132	1126	1125	1122	1123	1127	1127	1127	1127	1131	1134	1135	1135	1138	1139	1139	1141	1141	1141	1141	1141	1133					
10 q	1139	1141	1141	1141	1139	1138	1137	1134	1132	1132	1132	1132	1137	1141	1141	1142	1141	1141	1141	1141	1141	1137	1137	1140						
11 q	1140	1136	1140	1140	1138	1137	1137	1133	1131	1128	1129	1129	1130	1133	1137	1139	1139	1139	1138	1138	1136	1137	1137	1136						
12	1138	1138	1138	1137	1134	1133	1131	1132	1130	1126	1128	1133	1134	1140	1144	1147	1162	1180	1202	1178	1161	1147	1150	1145						
13	1132	1138	1143	1144	1143	1143	1143	1141	1135	1131	1132	1133	1135	1140	1144	1144	1153	1170	1170	1161	1158	1153	1145							
14 q	1154	1149	1149	1144	1144	1145	1145	1143	1138	1137	1135	1137	1137	1140	1141	1143	1142	1143	1144	1143	1141	1141	1141	1142						
15 q	1138	1139	1135	1136	1137	1138	1138	1137	1133	1132	1135	1135	1135	1134	1137	1138	1141	1143	1143	1144	1141	1141	1141	1138						
16 q	1140	1138	1137	1135	1135	1137	1137	1138	1138	1137	1135	1135	1133	1132	1133	1136	1135	1135	1137	1138	1138	1137	1137	1136						
17 d	1132	1133	1131	1130	1130	1138	1143	1131	1120	1122	1140	1151	1166	1164	1168	1164	1158	1159	1155	1151	1148	1128	1109	1142						
18 d	1076	1084	1080	1082	1084	1094	1117	1126	1134	1138	1140	1141	1145	1145	1147	1148	1151	1158	1157	1162	1123	1127								
19	1134	1135	1134	1137	1138	1138	1138	1137	1137	1141	1140	1141	1141	1148	1151	1145	1148	1151	1152	1144	1144	1141	1141	1141						
20 d	1138	1133	1131	1133	1130	1130	1133	1135	1138	1138	1141	1147	1144	1141	1143	1142	1144	1154	1155	1154	1084	1112	1137							
21	1127	1134	1135	1135	1134	1133	1133	1134	1135	1135	1136	1138	1140	1140	1139	1139	1138	1140	1142	1146	1147	1137								
22	1139	1117	1131	1135	1135	1133	1133	1133	1135	1139	1139	1138	1141	1144	1143	1142	1142	1142	1142	1142	1142	1142	1143							
23	1141	1141	1140	1137	1134	1134	1131	1133	1138	1138	1135	1135	1138	1138	1138	1141	1144	1150	1153	1153	1149	1147	1145							
24	1145	1144	1143	1141	1140	1138	1138	1137	1134	1134	1134	1134	1134	1138	1141	1144	1141	1141	1141	1142	1140	1140	1142							
25	1137	1141	1141	1141	1140	1139	1137	1137	1136	1134	1135	1134	1136	1136	1141	1145	1150	1150	1142	1143	1145	1141	1141							
26	1140	1143	1142	1142	1137	1135	1135	1136	1136	1136	1137	1137	1138	1140	1144	1148	1147	1144	1141	1141	1140	1140	1136	1138						
27 d	1110	1044	1091	1110	1124	1130	1131	1133	1135	1139	1139	1141	1180	1174	1170	1162	1157	1154	1150	1148	1155	1116	1124	1135						
28	1129	1126	1132	1121	1124	1129	1137	1138	1140	1140	1142	1141	1147	1149	1152	1155	1150	1147	1145	1143	1140	1141	1140							
29	1143	1140	1141	1141	1141	1141	1141	1141	1141	1141	1141	1133	1137	1141	1148	1149	1152	1153	1157	1155	1149	1146	1144							
30	1143	1141	1140	1140	1141	1139	1138	1135	1135	1132	1130	1131	1134	1139	1144	1145	1146	1147	1147	1148	1141	1141	1140							
31	1142	1141	1141	1141	1141	1141	1141	1141	1141	1140	1138	1135	1131	1131	1133	1135	1139	1141	1144	1147	1148	1143	1143	1141	1140					
Mean	1133	1130	1134	1135	1134	1136	1135	1135	1135	1136	1136	1137	1137	1140	1142	1144	1144	1145	1147	1149	1148	1147	1139	1139						

1139 at 0-1h. January 1, 1955.

56 LERWICK

TERRESTRIAL MAGNETIC ELEMENTS

DECEMBER

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +				
	Horizontal force			Declination			Vertical force													
	Maximum 14,000y +	Minimum 14,000y +	Range	Maximum 10° +	Minimum 10° +	Range	Maximum 46,000y +	Minimum 46,000y +	Range											
1	h. m.	y	y. h. m.	y	h. m.	'	h. m.	y	y. h. m.	y	h. m.	'	h. m.	10°	11°	0	°A.			
2	0 0	477	440	1 36	37	11 2	15·4	9·4	1 10	6·0	20 28	1148	1089	0 5	59	3,1,1,1,1,1,1,2	11	0	81·1	
3	23 46	476	445	12 7	31	23 44	21·1	8·6	22 58	12·5	17 39	1151	1103	23 59	48	2,1,1,1,1,2,1,3	12	0	81·0	
4	0 0	472	447	2 11	25	0 0	17·6	7·5	22 10	10·1	20 37	1149	1102	0 10	47	2,0,1,1,0,1,2,2	9	0	81·3	
5	18 7	475	445	11 18	30	13 44	18·8	10·1	22 12	8·7	19 46	1160	1131	13 0	29	0,0,0,1,1,0,2,1	5	0	81·1	
6	22 32	475	428	17 32	47	12 50	15·0	6·5	22 58	8·5	17 38	1168	1130	2 57</						

## DIURNAL INEQUALITIES OF THE TERRESTRIAL MAGNETIC ELEMENTS

## ALL DAYS

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

57 LERWICK

	Hour G.M.T.												HORIZONTAL FORCE												
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
DECLINATION																									
Jan.	-1.38	-1.86	-1.91	-1.20	-1.20	-0.77	-0.43	-0.15	+0.18	+0.47	+1.32	+2.06	+3.05	+3.10	+2.72	+2.45	+2.08	+1.71	+0.37	-0.38	-1.23	-2.93	-3.26	-2.81	
Feb.	-3.50	-3.02	-2.08	-1.44	-1.62	-1.02	-0.66	+0.42	+1.00	+1.21	+2.21	+3.96	+4.52	+5.46	+5.85	+4.87	+2.98	+2.33	+0.41	-2.86	-5.10	-4.65	-4.78	-4.49	
Mar.	-2.22	-0.78	-1.55	-2.70	-1.87	-1.72	-1.18	-1.24	-0.99	+0.17	+1.97	+4.19	+6.22	+7.10	+6.42	+5.22	+3.51	+1.67	-0.22	-3.62	-5.53	-4.82	-4.20	-3.83	
Apr.	-2.13	-3.08	-3.92	-3.47	-3.27	-3.13	-3.27	-3.19	-2.45	-0.80	+1.54	+4.32	+7.12	+7.97	+6.76	+5.76	+4.65	+2.78	+1.38	-0.90	-1.94	-3.57	-3.65	-3.51	
May	-1.47	-1.86	-3.28	-4.49	-4.79	-4.71	-5.00	-4.49	-3.33	-1.28	+1.02	+3.62	+5.51	+6.11	+5.66	+4.63	+3.80	+3.21	+2.50	+1.41	+0.29	-0.09	-0.99	-1.98	
June	-1.64	-1.27	-1.98	-2.91	-4.33	-5.22	-5.57	-5.33	-4.77	-2.79	-0.10	+2.63	+4.89	+6.14	+6.09	+5.16	+3.77	+2.80	+2.41	+1.85	+1.07	+0.19	-0.03	-1.06	
July	-1.23	-2.30	-2.78	-3.06	-4.08	-4.72	-4.87	-4.53	-3.77	-2.50	-0.21	+3.00	+5.18	+5.57	+5.23	+4.33	+3.11	+2.23	+2.14	+1.78	+1.06	+0.52	+0.23	-0.33	
Aug.	-0.69	-0.94	-3.09	-3.68	-4.15	-3.28	-3.57	-3.44	-2.94	-1.54	+1.08	+3.68	+6.03	+6.47	+5.20	+3.62	+2.19	+1.38	+0.81	-0.48	-0.65	-0.37	-0.89	-0.75	
Sept.	-1.93	-1.90	-1.58	-1.55	-1.25	-1.54	-1.10	-1.31	-0.93	+0.20	+2.53	+4.87	+6.48	+6.68	+6.23	+4.04	+2.14	-0.59	-2.17	-3.26	-2.80	-4.44	-4.61	-2.21	
Oct.	-4.27	-2.61	-3.63	-1.76	+0.22	+0.50	+0.60	+0.77	+0.22	+0.07	+1.44	+3.41	+5.09	+5.69	+5.44	+4.13	+1.35	-0.17	-0.13	-1.15	-2.95	-3.90	-4.19	-4.17	
Nov.	-1.85	-1.09	-0.69	-0.50	-0.12	+0.04	-0.17	-0.35	-0.63	-0.31	+1.06	+2.65	+3.64	+3.76	+3.13	+1.79	+1.88	+1.13	-1.00	-2.09	-2.69	-2.63	-2.62	-2.34	
Dec.	-1.35	-1.76	-1.79	-0.87	-0.15	-0.18	+0.04	+0.26	+0.34	+0.75	+1.37	+1.99	+2.53	+2.34	+1.80	+1.34	+1.15	+0.82	+0.34	-0.69	-1.53	-2.06	-2.31	-2.38	
Year	-1.97	-1.87	-2.36	-2.30	-2.22	-2.15	-2.10	-1.88	-1.51	-0.53	+1.27	+3.37	+5.02	+5.53	+5.04	+3.95	+2.72	+1.61	+0.57	-0.87	-1.83	-2.40	-2.61	-2.49	
Winter Equinox	-2.02	-1.93	-1.62	-1.00	-0.77	-0.48	-0.31	+0.05	+0.22	+0.53	+1.49	+2.67	+3.43	+3.67	+3.37	+2.61	+2.02	+1.50	+0.03	-1.51	-2.64	-3.07	-3.24	-3.01	
Summer	-2.64	-2.09	-2.67	-2.37	-1.54	-1.47	-1.24	-1.24	-1.04	-0.09	+1.87	+4.20	+6.23	+6.86	+6.21	+4.79	+2.91	+0.92	-0.29	-2.23	-3.31	-4.18	-4.16	-3.43	
VERTICAL FORCE																									
Jan.	-6.4	-11.8	-10.7	-8.7	-6.9	-6.9	-6.7	-6.2	-5.2	-4.6	-4.0	-2.7	-2.5	-0.9	+2.5	+5.5	+8.1	+11.4	+16.2	+16.4	+15.1	+10.8	+3.5	-5.3	
Feb.	-28.6	-25.8	-24.1	-18.8	-15.3	-11.9	-11.4	-8.9	-7.8	-5.0	-3.0	-0.3	+1.2	+2.9	+11.1	+27.3	+34.6	+32.4	+32.7	+26.4	+19.0	+6.5	-8.7	-24.5	
Mar.	-37.5	-41.3	-35.5	-23.9	-14.7	-9.4	-5.1	-1.3	+2.2	+3.6	+3.0	+2.6	+4.6	+9.2	+16.2	+23.0	+29.8	+33.8	+30.0	+28.0	+15.6	+8.5	-9.6	-31.2	
Apr.	-32.9	-30.7	-31.0	-23.5	-12.7	-7.0	-2.1	+0.2	+2.7	+3.6	+4.1	+3.6	+3.5	+6.0	+12.4	+15.6	+19.2	+24.2	+29.2	+25.3	+18.0	+4.1	-12.6	-19.2	
May	-11.8	-17.4	-14.6	-8.9	-4.3	-1.8	0.0	+1.2	-0.7	-3.0	-4.3	-6.5	-6.3	-2.1	+2.7	+7.8	+11.1	+11.6	+14.7	+17.4	+15.6	+7.1	-1.5	-6.0	
June	-3.6	-5.4	-6.7	-3.7	-1.3	+1.1	+2.3	+0.8	-0.2	-2.3	-4.3	-6.3	-6.7	-5.5	-3.4	+0.1	+3.7	+6.9	+8.6	+10.2	+9.5	+7.2	+2.7	-3.7	
July	-11.8	-13.8	-9.4	-7.6	-4.6	-3.5	-2.8	-1.3	-1.3	-2.6	-4.2	-5.4	-5.0	-1.5	+3.2	+8.0	+12.8	+13.1	+11.2	+11.4	+10.5	+7.8	+2.4	-5.6	
Aug.	-21.9	-29.1	-21.7	-13.8	-10.7	-6.4	-3.8	-0.4	+2.0	+1.0	-1.2	-3.2	-2.9	-3.2	+11.3	+15.9	+18.9	+19.7	+18.8	+17.9	+12.4	+6.2	-1.4	-10.8	
Sept.	-43.3	-30.3	-19.6	-18.1	-19.2	-18.3	-10.8	-3.5	-0.1	+1.8	+3.1	+4.4	+7.4	+14.5	+21.3	+32.9	+44.1	+42.2	+38.7	+22.2	+0.7	-7.5	-24.3	-38.3	
Oct.	-34.5	-40.1	-37.1	-30.7	-29.3	-21.8	-12.9	-6.2	-2.1	+3.2	+5.6	+8.7	+11.0	+14.7	+20.6	+30.4	+37.4	+35.8	+36.2	+28.9	+17.7	+0.5	-10.4	-25.6	
Nov.	-14.6	-17.0	-14.1	-11.6	-12.4	-12.7	-9.3	-6.2	-3.0	-1.9	-1.9	-1.8	+0.3	+4.7	+8.6	+13.6	+16.2	+14.8	+17.9	+18.9	+10.7	+6.7	+2.3	-8.2	
Dec.	-5.4	-8.4	-4.6	-4.0	-4.7	-4.7	-3.8	-3.1	-3.5	-4.1	-3.7	-3.3	-2.2	+1.1	+3.0	+5.0	+6.1	+8.2	+10.2	+9.5	+7.8	-0.1	-0.3		
Year	-21.0	-22.6	-19.1	-14.4	-11.3	-8.6	-5.5	-2.9	-1.4	-0.9	-0.9	-0.9	+0.2	+3.9	+9.1	+15.4	+20.1	+20.9	+21.9	+19.4	+12.9	+5.5	-4.8	-14.9	
Winter Equinox	-13.7	-15.7	-13.4	-10.8	-9.8	-9.1	-7.8	-6.1	-4.9	-3.9	-3.1	-2.0	-0.8	+1.9	+6.3	+12.9	+16.0	+16.2	+18.7	+18.0	+13.6	+7.9	-0.7	-9.6	
Summer	-37.1	-35.6	-30.8	-24.1	-19.0	-14.1	-7.7	-2.7	+0.7	+3.1	+3.9	+4.8	+6.6	+11.1	+17.6	+25.5	+32.6	+33.9	+33.5	+26.1	+13.0	+1.4	-14.2	-28.6	
	-12.3	-16.4	-13.1	-8.5	-5.2	-2.7	-1.1	+0.1	-0.1	-1.7	-3.5	-5.3	-5.2	-1.5	+3.5	+7.9	+11.6	+12.8	+13.4	+14.2	+12.0	+7.1	+0.5	-6.5	

## DIURNAL INEQUALITIES OF THE TERRESTRIAL MAGNETIC ELEMENTS

37

## INTERNATIONAL QUIET DAYS

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

58 LERWICK

	Hour G.M.T.																							
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
HORIZONTAL FORCE																								
Jan.	-3.7	-2.5	-2.5	-2.3	-0.3	+0.6	+2.7	+3.7	+2.7	-0.1	-3.3	-3.7	-3.3	-0.9	+2.5	+1.3	+1.3	+1.4	+0.9	+1.9	+1.7	+2.3	+0.7	-1.1
Feb.	-3.5	-4.2	-5.3	-3.8	-2.6	+2.1	+4.2	+4.0	+2.3	-1.4	-5.1	-6.8	-4.7	-2.2	+1.5	+5.6	+7.6	+8.3	+4.0	+2.8	-1.5	+1.8	+1.1	-4.2
Mar.	+0.4	-2.7	-4.5	+0.8	+1.5	+3.7	+4.8	+1.1	-4.9	-13.2	-17.7	-16.7	-11.8	-5.3	+2.1	+4.0	+3.1	+7.7	+10.6	+10.9	+9.9	+10.4	+6.9	-1.1
Apr.	0.0	-0.5	+1.8	+0.4	-1.2	+0.3	-1.2	-5.8	-11.0	-18.1	-25.6	-26.0	-20.8	-12.1	+1.2	+4.8	+10.2	+14.5	+18.2	+22.6	+18.8	+9.9	+13.0	+6.6
May	+5.1	+3.1	+2.5	+0.3	+1.9	+2.6	-1.3	-8.7	-16.9	-24.3	-28.3	-27.7	-19.9	-11.3	-5.1	+2.9	+10.9	+17.8	+19.9	+20.5	+16.9	+14.1	+12.7	+12.3
June	+2.2	+1.5	+1.6	+2.1	+2.0	-1.5	-4.2	-9.7	-16.8	-26.3	-30.4	-27.7	-18.8	-8.7	-1.4	+3.9	+11.2	+19.3	+24.0	+21.9	+19.2	+15.5	+12.0	+9.1
July	+3.6	+1.6	+0.9	+5.4	+4.2	+1.6	-5.2	-12.8	-21.5	-27.2	-31.2	-27.2	-20.0	-17.2	-3.9	+8.6	+16.4	+21.8	+24.4	+22.8	+18.5	+15.4	+11.4	+9.6
Aug.	+3.9	+3.2	+3.9	+4.1	+4.9	+0.6	-3.3	-11.5	-17.3	-22.2	-27.9	-27.5	-19.1	-11.2	-2.3	+4.7	+10.3	+14.4	+21.7	+21.9	+19.3	+13.0	+9.9	+6.5
Sept.	+4.2	+3.5	+2.0	+4.1	+5.7	+5.4	+4.9	-0.1	-11.4	-19.1	-22.0	-22.3	-14.2	-8.7	-4.0	+2.5	+3.9	+9.8	+12.1	+11.9	+11.6	+9.7	+11.0	-0.5
Oct.	+4.7	+2.8	+2.5	+1.6	+6.4	+6.9	+5.6	+5.0	-3.3	-14.2	-19.1	-19.0	-16.9	-11.8	-5.3	-1.0	+2.6	+5.5	+7.0	+6.8	+8.7	+8.4	+7.4	
Nov.	-1.6	-0.8	-1.6	-1.0	+1.2	+2.2	+4.2	+3.2	+0.8	-4.2	-7.4	-7.4	-6.0	-2.2	+1.8	+1.6	+2.0	+2.6	+4.2	+2.4	+1.8	+2.0	+1.6	+0.6
Dec.	-6.8	-6.7	-4.0	-2.6	-1.4	+0.7	+0.4	0.0	-0.6	-1.5	-1.2	-0.6	+1.0	+2.5	+2.6	+1.8	+4.0	+4.7	+4.0	+2.8	+2.2	+1.1	0.0	-2.4
Year	+0.7	-0.1	-0.2	+0.8	+1.9	+2.1	+1.0	-2.6	-8.2	-14.3	-18.3	-17.7	-12.9	-7.4	-0.9	+3.4	+7.0	+10.7	+12.6	+12.4	+10.6	+8.6	+7.4	+3.6
Winter	-3.9	-3.5	-3.3	-2.4	-0.8	+1.4	+2.9	+2.7	+1.3	-1.8	-4.3	-4.6	-3.3	-0.7	+2.1	+2.6	+3.7	+4.3	+3.3	+2.5	+1.1	+1.8	+0.9	-1.8
Equinox	+2.3	+0.8	+0.5	+1.7	+3.1	+4.1	+3.5	+0.1	-7.7	-16.1	-21.1	-21.0	-15.9	-9.5	-1.5	+2.6	+4.9	+9.4	+12.0	+13.1	+12.3	+9.6	+9.9	+3.1
Summer	+3.7	+2.3	+2.2	+3.0	+3.3	+0.8	-3.5	-10.7	-18.1	-25.0	-29.5	-27.5	-19.5	-12.1	-3.2	+5.0	+12.2	+18.3	+22.5	+21.8	+18.5	+14.5	+11.5	+9.4
DECLINATION																								
Jan.	-1.18	-0.84	-1.13	-1.82	-1.72	-1.16	-0.74	-0.62	-0.49	+0.10	+0.66	+1.60	+2.16	+2.18	+1.93	+1.76	+1.46	+1.14	+1.10	+0.18	-0.95	-1.26	-1.20	-1.16
Feb.	-2.24	-1.54	-1.41	-0.96	-0.72	-1.04	-0.80	-0.54	-0.19	+0.68	+1.80	+2.76	+3.48	+3.60	+2.79	+1.66	+1.22	+1.04	+0.84	-0.08	-2.19	-1.46	-3.20	-3.50
Mar.	-1.42	-0.80	+0.37	-1.62	-2.66	-2.08	-1.74	-2.08	-1.95	-0.50	+1.64	+3.72	+5.62	+6.08	+5.53	+4.12	+2.90	+1.88	+1.62	-0.02	-1.63	-4.44	-5.90	-6.64
Apr.	-2.25	-2.41	-2.95	-2.89	-3.27	-3.28	-3.87	-3.09	-2.53	-1.01	+1.09	+3.57	+5.87	+6.01	+5.61	+4.41	+3.79	+2.36	+0.87	+0.41	-0.27	-1.37	-2.53	-2.27
May	-0.83	-0.45	-2.51	-3.19	-4.11	-5.07	-5.65	-5.47	-4.45	-2.35	+0.17	+3.13	+5.29	+5.55	+4.71	+3.49	+2.53	+2.03	+2.79	+1.33	+1.25	+0.89	+0.61	+0.31
June	-0.81	-0.75	-1.54	-1.89	-3.93	-4.57	-6.57	-6.05	-5.02	-2.85	-0.09	+2.19	+3.59	+4.35	+4.88	+4.59	+3.47	+2.63	+2.59	+2.23	+1.86	+1.21	+0.75	-0.27
July	-0.61	-1.03	-1.09	-1.95	-3.09	-5.22	-6.15	-5.77	-4.71	-2.71	+0.35	+3.35	+5.57	+5.95	+5.01	+3.81	+2.67	+1.94	+1.57	+1.51	+1.05	+0.19	-0.03	-0.61
Aug.	-0.65	-0.98	-1.39	-2.17	-3.73	-4.86	-5.17	-4.57	-3.55	-2.08	+0.69	+3.81	+6.15	+6.18	+5.01	+3.71	+2.11	+1.34	+1.65	+0.79	+0.03	+0.48	-0.93	-1.87
Sept.	+0.46	-0.66	-0.75	-1.42	-2.14	-1.86	-2.36	-2.28	-1.39	+0.58	+2.36	+4.06	+5.90	+5.12	+4.17	+2.32	+0.94	+0.10	-3.84	-2.24	-2.13	-1.38	-1.84	-1.72
Oct.	-2.01	-1.74	-1.49	-0.58	-0.96	-0.91	-0.78	-1.18	-2.21	-2.10	-0.29	+2.32	+3.83	+3.84	+3.21	+2.08	+1.22	+0.79	+0.56	-0.44	-0.01	-0.90	-1.17	-1.08
Nov.	-1.82	-1.45	-1.08	-0.49	-0.25	-0.44	-0.59	-0.69	-0.86	-0.53	+0.58	+1.69	+2.18	+2.15	+1.58	+1.15	+1.21	+1.00	+0.77	-0.23	-0.66	-0.93	-0.86	-1.43
Dec.	-1.37	-0.84	-1.01	-0.85	-0.51	-0.26	-0.31	-0.25	-0.19	+0.16	+1.19	+1.31	+1.59	+1.64	+1.31	+0.85	+0.71	+0.56	+0.17	-0.35	-0.95	-0.60	-0.95	-1.05
Year	-1.23	-1.12	-1.33	-1.65	-2.26	-2.56	-2.89	-2.72	-2.29	-1.05	+0.85	+2.79	+4.27	+4.39	+3.81	+2.83	+2.02	+1.40	+0.89	+0.26	-0.38	-0.80	-1.44	-1.77
Winter	-1.65	-1.17	-1.16	-1.03	-0.80	-0.73	-0.61	-0.53	-0.43	+0.10	+1.06	+1.84	+2.35	+2.39	+1.90	+1.35	+1.15	+0.93	+0.72	-0.12	-1.19	-1.06	-1.55	-1.79
Equinox	-1.31	-1.40	-1.21	-1.63	-2.26	-2.03	-2.19	-2.16	-2.02	-0.76	+1.20	+3.42	+5.31	+5.26	+4.63	+3.23	+2.21	+1.28	-0.20	-0.57	-1.01	-2.02	-2.86	-2.93
Summer	-0.73	-0.80	-1.63	-2.30	-3.71	-4.93	-5.89	-5.47	-4.43	-2.50	+0.28	+3.12	+5.15	+5.51	+4.90	+3.90	+2.69	+1.99	+2.15	+1.47	+1.05	+0.69	+0.10	-0.61
VERTICAL FORCE																								
Jan.	-0.4	-3.8	-4.0	-2.6	-3.2	-3.8	-3.6	-3.4	-2.4	-2.2	-1.6	-1.4	-1.6	-1.8	-0.8	+1.0	+3.4	+4.8	+5.2	+5.2	+6.6	+4.4	+3.4	+2.6
Feb.	-3.4	-4.9	-1.8	+0.1	+0.1	-1.8	-2.3	-2.5	-3.8	-6.3	-7.0	-7.3	-6.6	-5.1	-3.6	-1.9	+1.3	+1.8	+6.7	+10.7	+15.6	+11.5	+6.4	+4.1
Mar.	-13.4	-14.0	-20.7	-15.4	-10.2	-5.2	-3.6	-1.6	+0.3	+0.8	-0.2	0.0	0.0	+1.6	+5.1	+10.6	+13.8	+11.2	+10.8	+12.0	+12.9	+9.6	0.0	-4.4
Apr.	-29.4	-20.2	-8.3	-0.6	+1.2	-1.2	-0.6	+0.2	+0.7	+0.8	-1.4	-3.8	-4.6	-2.6	-0.1	+5.6	+9.8	+14.8	+17.0	+14.2	+11.1	+6.6	-2.8	-6.4
May	+1.0	-1.9	-1.1	+1.8	+3.1	+2.1	+3.0	+2.5	-1.9	-4.4	-4.9	-7.9	-9.4	-6.7	-3.3	-1.2	+2.7	+4.7	+6.2	+5.9	+4.5	+3.6	+2.1	-0.5
June	+0.2	-1.0	+0.1	-2.2	-2.0	+1.4	+3.2	+3.2	+1.5	-1.6	-4.6	-7.2	-8.8	-6.8	-4.7	-3.0	-0.4	+2.6	+5.2	+7.8	+7.3	+5.6	+3.4	+0.8
July	-1.1	+1.1	+2.1	+0.5	+2.3	+3.2	+3.5	+2.1	+0.7	-2.9	-7.3	-10.7	-10.9	-6.5	-4.1	-0.1	+4.3	+4.4	+3.7	+5.3	+5.5	+3.9	+1.9	-0.9
Aug.	-5.8	-7.8	-5.8	-4.8	-2.8	+1.5	+0.4	+2.0	+1.0	-2.4	-5.8	-10.0	-11.8	-6.6	-1.0	+4.2	+9.4	+10.7	+9.2	+12.2	+10.4	+7.4	+0.8	-4.6
Sept.	-19.4	-14.7	-8.1	-3.8	-0.9	+0.1	+0.4	+0.7	+2.3	-0.2	-0.7	-1.9	-3.0	+0.7	+5.1	+9.6	+12.9	+14.3	+18.8	+10.5	+4.7	+1.2	-8.3	-20.3
Oct.	-8.4	-1.9	+1.2	-0.9	-6.0	-4.5	-3.2	-3.1	+0.2	+1.7	+0.4	-0.9	-0.6	-0.7	+1.0	+4.1	+5.0	+4.3	+4.2	+4.5	+2.2	+2.3	+1.0	-1.9
Nov.	-3.4	-4.2	-2.5	-1.6	-2.0	-1.8	-2.0	-1.2	-0.9	-0.6	0.0	-2.0	-1.4	-1.0	+1.1	+2.8	+3.0	+2.6	+2.2	+3.8	+4.7	+2.2	+1.8	+1.0
Dec.	+3.8	+2.3	+2.1	+1.2</td																				

DIURNAL INEQUALITIES OF THE TERRESTRIAL MAGNETIC ELEMENTS  
INTERNATIONAL DISTURBED DAYS

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

59 LERWICK

	Hour G.M.T.												Horizontal Force											
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
HORIZONTAL FORCE																								
Jan.	-11.5	-21.7	-9.4	-1.7	+1.1	+5.7	+6.5	+5.1	+2.2	+1.7	+0.1	-2.9	+0.7	+4.5	+5.8	+4.9	+6.3	-0.1	+6.7	-1.3	-0.6	+7.5	-6.3	-3.3
Feb.	-47.9	-39.6	-26.5	-15.6	-2.0	+3.7	+14.8	+15.4	+12.1	+3.8	-5.9	-20.0	-5.5	+8.8	+21.1	+26.2	+13.4	+12.3	+15.2	+11.6	+13.5	+4.8	-14.9	+1.2
Mar.	-47.4	-27.0	-9.1	-7.8	-5.8	+12.8	+9.6	-12.2	-8.1	-17.8	-20.4	-17.2	-12.2	+6.2	+17.1	+26.2	+32.2	+38.8	+36.0	+26.4	+9.5	+6.4	-5.0	-31.2
Apr.	-13.3	-94.1	-95.5	-76.5	-33.1	+18.8	+22.5	+16.5	+17.9	+9.9	+1.3	+3.9	+4.9	+15.1	+28.7	+34.5	+35.5	+55.2	+67.5	+55.1	+33.1	+5.1	-11.1	-101.9
May	-3.9	-0.7	-10.0	-6.9	+4.3	+6.5	-0.5	-5.5	-14.6	-28.3	-32.5	-32.5	-24.9	-7.9	-3.6	+4.1	+14.9	+34.5	+39.7	+30.5	+18.8	+11.3	+4.1	+3.1
June	+7.9	-0.4	-1.4	+1.9	+3.2	+0.8	-12.1	-8.8	-14.0	-27.1	-30.2	-26.2	-18.9	-12.8	+2.2	+8.9	+14.2	+24.2	+29.1	+24.4	+14.0	+11.7	6.4	+3.0
July	+5.5	+5.5	+0.9	+0.5	-1.5	-5.0	-3.7	-9.1	-13.9	-23.9	-32.7	-33.5	-23.3	-6.1	+11.7	+12.5	+16.5	+18.8	+16.7	+19.7	+14.9	+12.1	+8.9	+8.5
Aug.	+4.7	-4.8	-6.8	-3.7	+9.2	-6.2	-4.9	-7.4	-18.2	-24.9	-23.8	-19.8	-8.9	-8.8	-5.2	+3.5	+14.8	+19.3	+23.4	+24.2	+16.5	+6.8	+7.8	
Sept.	-29.4	-0.6	-2.9	-15.8	-15.8	+6.6	+11.0	+4.4	-8.3	-17.0	-20.4	-21.0	-12.2	+4.8	+17.1	+48.6	+84.2	+43.4	+51.2	+24.2	-19.5	-46.4	-43.2	-43.0
Oct.	-36.8	-46.6	-19.3	-18.0	+3.2	+14.2	+0.2	-5.4	-5.3	-9.2	-8.8	-6.4	-2.6	+18.2	+22.3	+35.8	+69.8	+52.0	+30.8	+15.0	-6.1	-5.0	-33.6	-58.4
Nov.	-22.8	-26.9	-1.0	+4.5	-6.3	-1.2	+10.7	+10.7	+3.0	+0.1	-6.0	-4.3	-2.0	-4.9	+2.4	+5.7	+1.9	+1.4	+3.7	+10.3	+4.8	+3.9	+6.4	+5.9
Dec.	+1.0	-8.1	-0.7	+1.6	+4.1	+10.9	+9.0	+4.5	+4.1	+1.6	+0.1	-0.9	-4.8	-9.7	-3.5	+0.8	+2.7	+0.9	-2.4	-4.3	-0.7	-6.6	+7.1	-6.7
Year	-16.2	-22.1	-15.1	-11.5	-3.3	+5.6	+5.3	+0.7	-3.6	-10.9	-14.9	-15.1	-9.1	+0.6	+9.7	+17.6	+25.4	+24.7	+26.1	+19.6	+8.8	+1.8	-6.2	-17.9
Winter	-20.3	-24.1	-9.4	-2.8	-0.8	+4.8	+10.3	+8.9	+5.3	+1.8	-2.9	-7.0	-2.9	-0.3	+6.5	+9.4	+6.1	+3.6	+5.8	+4.1	+4.3	+2.4	-1.9	-0.7
Equinox	-31.7	-42.1	-31.7	-29.5	-12.9	+13.1	+10.8	+0.8	-0.9	-8.5	-12.1	-10.2	-5.5	+11.1	+21.3	+36.3	+55.4	+47.3	+46.4	+30.2	+4.3	-10.0	-23.2	-58.6
Summer	+3.5	-0.1	-4.3	-2.1	+3.8	-1.0	-5.3	-7.7	-15.2	-26.1	-29.8	-28.0	-19.0	-8.9	+1.3	+7.3	+14.7	+23.1	+26.2	+24.5	+18.0	+12.9	+6.5	+5.6
DECLINATION																								
Jan.	-0.86	-5.95	-5.02	-2.05	-2.99	-0.44	-0.45	+0.13	+1.82	+2.39	+3.18	+2.95	+3.78	+3.57	+3.76	+2.95	+2.23	+3.18	-2.87	-1.25	-1.84	-3.05	-0.06	-3.11
Feb.	-2.91	-4.42	-0.20	-1.67	-1.50	-0.14	-1.03	+1.16	+2.72	+2.35	+3.48	+6.58	+6.05	+7.44	+8.98	+6.13	+2.28	+3.24	+0.15	-3.80	-12.44	-6.09	-8.50	-7.86
Mar.	-1.57	-3.97	-4.81	-4.87	+0.03	-2.10	-0.49	-0.35	+0.05	+1.15	+3.13	+5.87	+7.37	+7.07	+6.15	+5.79	+5.09	+0.06	-5.43	-6.81	-6.89	-2.61	-1.93	+0.07
Apr.	-1.32	-9.83	-14.91	-8.56	-3.81	-2.85	-4.04	-2.87	-1.65	+1.30	+3.75	+7.09	+10.42	+11.07	+9.59	+9.10	+7.89	+6.79	+3.42	-1.55	-1.59	-4.16	-5.15	-8.13
May	-1.23	-1.81	-5.23	-5.07	-4.63	-4.79	-4.67	-4.25	-2.63	+0.39	+2.91	+5.29	+6.77	+7.43	+6.31	+5.59	+4.11	+4.31	+2.23	-1.21	-1.11	-1.97	-2.75	-3.99
June	-2.62	-0.56	-2.59	-2.90	-4.12	-5.52	-4.18	-3.18	-3.23	-1.64	+0.10	+2.64	+5.40	+5.80	+5.33	+5.20	+3.84	+2.52	+0.74	+0.16	-0.99	-0.04	+0.28	-0.44
July	-4.00	-2.61	-1.20	-1.66	-3.42	-2.69	-3.10	-4.00	-4.14	-2.81	+0.46	+4.82	+6.66	+6.49	+6.22	+4.56	+1.70	-0.57	+0.16	+0.68	+0.32	-0.27	+0.04	-1.64
Aug.	-1.81	-0.86	-3.82	-5.75	-5.78	-0.04	-0.87	-2.02	-2.04	-0.83	+1.46	+3.62	+6.41	+7.34	+4.80	+3.17	+2.86	+1.42	+1.29	-0.64	-2.68	-3.45	-1.84	-0.02
Sept.	-3.90	-1.83	+0.65	-1.24	-0.09	-1.07	-0.84	-1.31	-0.63	+0.90	+3.73	+6.27	+8.42	+7.85	+10.29	+8.28	+2.41	-5.37	-2.78	-4.63	-3.79	-9.60	-9.45	-2.27
Oct.	-13.27	-8.59	-12.74	-6.55	+2.31	+4.35	+5.15	+7.35	+5.90	+2.87	+4.05	+5.05	+7.79	+10.49	+7.98	+7.73	-2.59	-2.81	+1.39	-0.67	-4.56	-5.27	-7.15	-8.21
Nov.	-4.23	-2.62	-0.77	-0.80	+1.50	+3.95	+1.78	+0.84	+0.59	+0.84	+2.33	+4.56	+6.19	+5.98	+5.37	+0.96	+2.44	+0.93	-5.58	-4.30	-8.15	-4.58	-3.91	-3.32
Dec.	-1.36	-4.18	-5.12	-1.98	+0.22	-0.35	+0.80	+2.24	+2.28	+2.48	+1.92	+3.06	+4.28	+4.36	+2.78	+3.10	+2.58	+0.69	-0.02	-1.62	-2.36	-4.46	-4.28	-5.06
Year	-3.26	-3.94	-4.65	-3.59	-1.86	-0.97	-0.99	-0.52	-0.08	+0.78	+2.54	+4.82	+6.63	+7.07	+6.46	+5.21	+2.90	+1.20	-0.61	-2.14	-3.84	-3.80	-3.73	-3.67
Winter	-2.34	-4.29	-2.78	-1.63	-0.69	+0.75	+0.27	+1.09	+1.85	+2.01	+2.73	+4.29	+5.07	+5.34	+5.22	+3.29	+2.38	+2.01	-2.08	-2.74	-6.20	-4.55	-4.19	-4.84
Equinox	-5.01	-6.05	-7.95	-5.31	-0.39	-0.42	-0.05	+0.71	+0.92	+1.55	+3.67	+6.07	+8.50	+9.12	+8.50	+7.73	+3.20	-0.33	-0.85	-3.41	-4.21	-5.41	-5.92	-4.63
Summer	-2.41	-1.46	-3.21	-3.85	-4.49	-3.24	-3.36	-3.01	-1.22	+1.23	+4.09	+6.31	+6.77	+5.67	+4.63	+3.13	+1.92	+1.11	-0.25	-1.11	-1.43	-1.07	-1.52	
VERTICAL FORCE																								
Jan.	-16.8	-33.4	-31.7	-24.8	-15.0	-12.8	-12.4	-9.4	-8.5	-8.2	-7.2	-1.8	+0.8	+5.2	+15.7	+18.0	+17.2	+29.2	+38.4	+34.4	+26.3	+16.8	+0.2	+20.2
Feb.	-55.4	-46.4	-42.0	-36.0	-29.4	-27.5	-26.2	-13.6	-8.8	+0.8	+8.2	+13.8	+11.2	+12.2	+25.6	+70.8	+79.0	+54.3	+45.8	+47.0	+20.8	-11.4	-34.8	-58.0
Mar.	-100.0	-109.3	-71.2	-42.5	-22.5	-12.0	-6.9	-0.3	+9.0	+16.3	+16.4	+15.9	+18.8	+23.9	+33.8	+48.7	+56.3	+77.0	+59.5	+58.9	+28.6	+18.1	+27.4	-89.1
Apr.	-78.9	-88.1	-90.9	-69.7	-27.3	-15.9	-0.1	+8.1	+15.1	+16.1	+17.5	+17.7	+20.5	+23.7	+27.9	+31.5	+38.3	+47.9	+73.1	+51.7	+34.5	-1.1	-35.3	-16.3
May	-18.9	-44.5	-39.9	-30.7	-27.1	-12.8	-2.5	+2.5	+3.1	-0.1	+1.5	+1.5	+1.7	+8.7	+16.3	+20.1	+21.5	+19.8	+33.1	+37.3	+26.5	+8.3	-9.1	-16.3
June	-7.7	-18.0	-24.9	-9.7	-4.1	-1.2	-1.3	-9.3	-6.5	-3.6	-4.1	-6.1	-2.9	-1.6	-1.5	+2.9	+7.3	+14.4	+17.9	+21.1	+17.3	+10.8	+6.1	+4.7
July	-14.6	-13.1	-15.6	-22.3	-20.3	-22.3	-19.0	-11.9	-6.2	-3.3	-2.0	-2.5	+3.0	+10.3	+16.8	+25.3	+33.8	+34.1	+21.4	+11.7	+9.2	+6.3	+5.6	-13.5
Aug.	-20.2	-37.0	-42.8	-30.8	-27.0	-23.8	-21.6	-9.4	-1.2	+4.0	+4.6	+4.4	+5.8	+16.8	+27.8	+28.4	+25.0	+24.8	+24.0	+27.0	+21.2	+10.8	-0.4	-10.4
Sept.	-44.4	-17.1	-21.1	-36.8	-37.7	-50.3	-25.6	-7.7	-0.1	+5.0	+10.1	+11.5	+18.6	+47.5	+47.9	+77.2	+104.5	+85.3	+67.2	+35.3	-41.3	+56.2	-79.5	-92.3
Oct.	-76.8	-101.3	-100.2	-81.5	-85.7	-71.0	-43.3	-20.5	-11.2	+5.7	+14.4</													

RANGE OF MEAN DIURNAL INEQUALITIES FOR THE  
MONTHS, YEAR AND SEASONS OF 1954

39

The ranges are derived from the diurnal inequalities  
printed in Tables 57 to 59

60 LERWICK

	All days			Quiet days			Disturbed days		
	H	D	Z	H	D	Z	H	D	Z
Jan.	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	12.0	6.36	28.2	7.4	4.00	10.6	29.2	9.73	71.8
Feb.	26.3	10.95	63.2	15.1	7.10	22.9	74.1	21.42	137.0
Mar.	33.6	12.63	74.5	28.6	12.72	34.5	86.2	14.26	186.3
Apr.	51.0	11.89	62.1	48.6	9.88	46.4	169.4	25.98	164.0
May	55.7	11.11	34.8	48.8	11.20	15.6	72.2	12.66	81.8
June	54.8	11.71	16.9	54.4	11.45	16.6	59.3	11.32	46.0
July	51.9	10.44	26.9	55.6	12.10	16.4	53.2	10.80	56.4
Aug.	47.8	10.62	48.8	49.8	11.35	24.0	49.1	13.12	71.2
Sept.	45.1	11.29	87.4	34.4	9.74	39.1	130.6	19.89	196.8
Oct.	30.7	9.96	77.5	27.8	6.05	13.4	128.2	23.76	210.0
Nov.	14.8	6.45	35.9	11.6	4.00	8.3	37.6	14.34	108.8
Dec.	10.4	4.91	18.6	11.5	3.01	9.5	20.6	9.48	58.4
Year	32.6	8.14	44.5	30.9	7.28	14.5	48.2	11.72	96.3
Winter	13.8	6.91	34.4	8.9	4.18	11.2	34.4	11.54	82.4
Equinox	38.3	11.04	71.0	34.2	8.24	30.4	114.0	17.07	156.6
Summer	52.3	10.82	30.6	52.0	11.40	18.0	56.0	11.26	55.1

AVERAGE DEPARTURE

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

61 LERWICK

	All days			Quiet days			Disturbed days		
	H	D	Z	H	D	Z	H	D	Z
Jan.	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	2.4	1.63	7.5	2.0	1.19	3.1	4.9	2.49	16.9
Feb.	6.5	2.93	16.2	3.8	1.66	4.9	14.8	4.21	32.5
Mar.	8.2	3.04	17.5	6.5	2.62	7.4	18.4	3.49	40.1
Apr.	13.0	3.52	14.3	10.2	2.83	6.8	35.5	5.87	35.3
May	11.9	3.15	7.4	12.0	2.84	3.5	14.3	3.78	16.8
June	12.6	3.08	4.4	12.1	2.86	3.5	12.7	2.67	8.5
July	12.3	2.87	6.7	13.9	2.75	3.7	12.7	2.68	14.3
Aug.	10.9	2.54	10.6	11.9	2.66	5.8	11.9	2.70	18.7
Sept.	9.8	2.76	19.4	8.5	2.17	6.8	24.6	4.07	42.5
Oct.	7.9	2.41	20.9	7.5	1.49	2.7	21.8	6.03	57.7
Nov.	3.0	1.59	9.6	2.7	1.03	2.1	6.3	3.19	25.8
Dec.	2.3	1.26	4.7	2.3	0.79	1.9	4.0	2.57	14.1
Year	7.2	2.42	10.8	6.9	1.96	3.6	12.2	3.14	25.4
Winter	3.1	1.80	9.3	2.5	1.15	2.7	6.1	3.03	21.8
Equinox	9.4	2.83	17.8	7.7	2.21	5.8	23.1	4.16	42.3
Summer	11.8	2.86	6.9	12.4	2.75	3.8	12.3	2.90	13.8

NON-CYCLIC CHANGE

62 LERWICK

	All days			Quiet days			Disturbed days		
	H	D	Z	H	D	Z	H	D	Z
Jan.	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	0.0	-0.11	-0.1	+1.0	-0.12	+2.2	+5.3	+0.23	+0.4
Feb.	+0.2	+0.01	-0.5	-0.4	-0.69	+2.3	+23.7	-1.70	-4.1
Mar.	+0.2	+0.06	+0.6	-5.3	-2.93	+4.3	+7.7	+0.42	-10.5
Apr.	-0.1	0.00	-0.1	+4.2	-0.13	+13.2	-8.5	-3.05	-5.7
May	+0.6	+0.03	-0.1	+4.1	+0.38	-3.1	+0.2	-1.77	-2.4
June	+0.2	-0.26	-1.7	+6.5	+0.29	-1.1	-7.3	+1.19	+9.7
July	-0.3	+0.22	+1.0	+3.4	-0.22	-1.7	-6.3	+0.96	+3.5
Aug.	0.0	-0.15	+0.4	+1.5	-1.57	-5.2	-0.6	+1.81	-9.6
Sept.	-0.8	-0.21	-1.5	-15.3	-2.20	-6.8	-14.2	-0.01	-45.7
Oct.	+0.2	+0.20	+2.0	+3.1	+0.87	+4.3	-19.5	+3.24	-10.4
Nov.	+0.6	+0.03	-0.9	+1.4	+0.37	+4.0	+1.0	+0.86	-0.6
Dec.	-0.2	-0.05	+1.1	+4.1	+0.62	-4.3	-6.8	-2.16	-7.3
Year	+0.1	-0.02	0.0	+0.7	-0.44	+0.7	-2.1	0.00	-6.9
Winter	+0.1	-0.03	-0.1	+1.5	+0.05	+1.1	+5.8	-0.69	-2.9
Equinox	-0.1	+0.01	+0.3	-3.3	-1.10	+3.7	-8.6	+0.15	-18.1
Summer	+0.1	-0.04	-0.1	+3.9	-0.28	-2.8	-3.5	+0.55	+0.3

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

MEAN MONTHLY AND ANNUAL VALUES OF TERRESTRIAL MAGNETIC ELEMENTS  
For all, a, quiet, q, and disturbed, d, days for H, D and Z and for all days for N, W, I and T

63 LERWICK

	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				
	14,000y +			10° +			46,000y +						
Jan.	γ	γ	γ	'	'	'	γ	γ	γ	γ	γ	°	γ
Jan.	446	449	439	18.7	18.9	17.6	1126	1125	1128	14213	2586	72 57.4	49292
Feb.	442	447	430	17.6	18.2	16.3	1126	1128	1122	14209	2581	72 57.8	49289
Mar.	441	446	433	16.8	17.1	16.3	1125	1126	1116	14209	2577	72 57.8	49288
Apr.	441	451	419	16.5	17.5	14.4	1123	1127	1108	14209	2576	72 57.8	49286
May	454	457	450	16.3	16.5	16.0	1123	1125	1118	14222	2578	72 56.9	49290
June	460	458	459	16.2	16.3	16.6	1123	1123	1123	14228	2578	72 56.5	49292
July	458	458	458	15.9	15.8	16.5	1126	1128	1124	14227	2576	72 56.7	49294
Aug.	454	457	451	15.0	15.7	14.4	1128	1132	1122	14223	2572	72 57.0	49295
Sept.	446	449	442	13.5	13.7	12.8	1131	1136	1127	14217	2565	72 57.5	49295
Oct.	446	454	433	13.0	13.7	12.3	1138	1138	1122	14217	2562	72 57.7	49302
Nov.	454	460	443	13.0	13.2	12.6	1142	1140	1141	14225	2564	72 57.3	49309
Dec.	460	462	456	12.7	12.7	12.7	1139	1138	1136	14231	2564	72 56.8	49307
Year	450	454	443	15.4	15.8	14.9	1129	1131	1124	14219	2573	72 57.2	49295

## AURORAL LOG

64 LERWICK

Night commencing		Night commencing		Night commencing	
JANUARY					
3 a ..	Fair	14 b ..	Fair. Moonlight	24 c ..	Cloudy becoming fair. Faint glow 01h. and 02h. Moderate homogeneous arc 03h.
4 b ..	Fair	17 c ..	Fair	25 a ..	Fair
5 c ..	Overcast becoming fair to cloudy. Faint glow at 02h.	18 b ..	Fair to fine. Moonlight	26 a ..	Fair. Faint glow 18h. 20m. becoming homogeneous band 19h. 15m. then faint glow 19h. 30m. seen through cloud breaks till 21h. 30m.
6 a ..	Fair	21 c-b ..	Cloudy to fair		
7 c-a ..	Cloudy becoming fair	22 a ..	Fine		
9 ca ..	Cloudy to fair	23 b ..	Cloudy to fair		
10 c ..	Cloudy to fair	25 c ..	Cloudy. Faint glow 01h. 55m.		
11 c-a ..	Cloudy at first becoming fine			28 a ..	Fair
15 cb ..	Fair. Moonlight			30 ca ..	Fair to cloudy
17 b ..	Fine. Moonlight			31 ca ..	Fair to cloudy. Faint homogeneous arc with rays observed 20h. to 20h. 40m. Rays moderate to bright at 20h. 30m. Aurora obscured at 21h. 20m. but faint glow observed at 22h.
20 b ..	Fair. Moonlight				
21 a-b ..	Fair. Moonlight				
28 ca ..	Fair to cloudy	6 a ..	MAY		
31 a ..	Fair		Fair to fine. Faint glow 00h. to 01h.		
FEBRUARY					
2 c ..	Cloudy. Faint glow 24h.			SEPTEMBER	
3 a ..	Fair to fine. Faint glow 22h. 30m. persisting till 01h.	2 b ..	Fair	1 cb ..	NOVEMBER
5 ca ..	Fair to cloudy	4 cb ..	Cloudy		Fair. Faint diffuse surface 19h. 30m. seen intermittently till 20h. 45m.
7 ca ..	Mainly fair but cloudy at times. Faint glow 24h.	10 b ..	Fair to fine. Moonlight		Faint homogeneous band 22h. 40m. with faint rays. Moderate rayed arc seen 01h. 45m. becoming glow by 02h. 40m., ceased 03h. 40m.
8 a ..	Fair	14 b ..	Fine then cloudy. Moonlight		Cloudy to fair
9 a ..	Fair	15 b ..	Fair. Moonlight		Fair to fine. Moonlight
22 ca ..	Cloudy to fair	17 cb ..	Cloudy to fair. Moonlight		Cloudy becoming fine. Moonlight
23 a ..	Fine. Faint glow 01h.	18 b ..	Fine. Moonlight		Fair to cloudy. Moonlight
24 a ..	Fair	21 a ..	Fine		Cloudy becoming fair. Moonlight
25 ca ..	Cloudy. Faint glow 19h. 30m.	22 a ..	Fine		Fair. Moonlight
26 ca ..	Fair to cloudy	25 a ..	Fine. Faint homogeneous band 19h. 45m. accompanied by faint rays at 20h. 10m. and becoming faint diffuse surface at 20h. 20m.		Fair to cloudy. Moonlight
28 c-a ..	Cloudy to fair		Fair		Fine soon becoming cloudy
MARCH					
2 ca ..	Fine to cloudy	26 ca ..	Fair then fine. Faint glow 20h. to 21h. 30m.		Cloudy
3 b ..	Cloudy	27 a ..	Cloudy to fair. Faint glow commenced 19h. 30m. becoming rays 19h. 53m. to 20h. 15m., moderate at times and decreasing to faint diffuse surface by 20h. 20m. Glow visible through cloud breaks till 22h. 15m.		Cloudy
4 ca ..	Fair to cloudy. Faint glow 01h. and 02h.	29 ca ..	Fine. Faint glow observed 22h. 45m. becoming homogeneous arc at 02h. 50m., decreasing to faint glow by 03h. 45m. All activity ceased by 04h. 20m.		Fine
5 a ..	Fine				Fair to cloudy
7 b ..	Fair. Faint glow 02h.				
8 a ..	Fair to fine. Faint homogeneous band and rays 22h. to 22h. 30m.	30 a ..			
9 a ..	Fine				
18 b ..	Fair. Moonlight				
24 a ..	Fair				
25 a ..	Cloudy then fine. Faint glow 21h. and 02h.				
26 a ..	Cloudy to fair. Bright glow 02h.				
APRIL					
1 a ..	Fine. Faint homogeneous band 20h. 30m. fading to faint glow by 21h.	4 a ..	Fine	1 a ..	DECEMBER
2 b ..	Cloudy to fair. Faint homogeneous arc 21h. obscured by cloud later	5 c ..	Cloudy to fair	2 a ..	Fine to fair
3 b ..	Fair to cloudy. Faint glow 03h.	6 b ..	Fine. Moonlight. Faint glow observed 21h. 15m. and 03h.	3 ca ..	Fine to fair
4 a ..	Fair	8 cb ..	Fair to cloudy. Moonlight	5 cb ..	Fair to cloudy
5 b ..	Cloudy to fair	9 b ..	Fair. Moonlight	6 b ..	Fair to fine. Moonlight
6 c ..	Cloudy	12 b ..	Fair to fine. Moonlight. Faint homogeneous arc observed 20h. 20m.	7 cb ..	Cloudy to fair. Moonlight.
8 a ..	Fine. Faint glow 22h. to 23h.	14 b ..	Fair to fine. Moonlight. Faint homogeneous arc observed 20h. 20m.		Moderate homogeneous arc 21h. 25m. partly obscured by cloud. Disappeared by 21h. 40m.
11 b ..	Fine to fair. Moonlight. Glow first observed 22h. 15m. becoming moderate draperies, rays, corona 01h. 30m. decreasing to moderate rays 02h. 45m. and finally to faint glow by 03h. 30m.	16 b ..	Fair to fine. Moonlight		Cloudy to fair. Moonlight
		19 c ..	Fine soon becoming cloudy		Cloudy to fair. Moonlight
		20 ca ..	Fair to cloudy		Fair to cloudy. Moonlight
		21 ca ..	Fair		Fine
		22 a ..	Fine. Faint homogeneous band 18h. 45m. becoming diffuse surface 19h. to 20h. Moderate homogeneous arc 20h. 15m. becoming faint 21h. 15m., then diffuse surface 22h. decreasing to glow 23h. to 02h.		Variable cloud
					Cloudy becoming fair
					Fine to fair. Faint diffuse surface 20h. 05m. mostly obscured by cloud
					Cloudy becoming fair
					Fair to fine
					Cloudy becoming 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  $\ddag$ . 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

## 65 OTHER SCOTTISH STATIONS

Night com- mencing		Night com- mencing		Night com- mencing	
	JANUARY		APRIL (contd.)		SEPTEMBER (contd.)
1 Kinloss		12	B., Cape Wrath (0300 to N.), Dyce, Glenlivet, G. (0100-0300 to N.), Kinloss (0200-0300), Leuchars (0400 to N.), S., T. (0200 to N.), Wick	27	B., Kinloss, Leuchars, S., T., Wick
2 Kinloss, Wick		13	Leuchars	28	B., Dyce, G., Kinloss, S., T., Wick
4 T., Wick		18	Kinloss	29	G., Kinloss, Wick
5 S.		19	Kinloss	30	G., Kinloss, Wick
7 T. Wick		21	Kinloss, Wick		OCTOBER
8 Wick		22	Kinloss		
11 T.		26	Kinloss (2300-0300 to N.), S. (0001 to N.), T. (2300 to N.W.), Wick (2300 to N.W.)	1	G., Kinloss
17 Kinloss		27	B., Kinloss, S., T., West Freugh (0001- 0100 to N.)	3	B., G., T.
30 Wick				4	B., T., Wick
31 S., Wick				5	Kinloss, S., Wick
	FEBRUARY			6	Kinloss
2 Dyce				20	Wick
5 B.				22	B., Duntulm, Glenlivet, G., Kinloss, S., T., West Freugh
8 Wick				23	B., Duntulm, Dyce, Glenlivet, G., Kinloss, S., T., Wick
21 B., Kinloss, S., T., Wick		1	B., Wick	24	B., Dyce, Huntly, Kinloss, Leuchars, S., T., West Freugh, Wick
22 B., Kinloss, T.		5	B., S.	25	B., Kinloss, S., T., West Freugh, Wick
23 Kinloss, Wick		7	G.	26	B., Kinloss, Wick
24 Wick		14	B., S.	29	B., Kinloss, Wick
25 G., Kinloss, Wick (2100-0001 to N.)		15	S.	30	B., Cape Wrath, Duntulm, G., Kinloss, S., T., Wick
26 B. (0400-0500), Forres, Kinloss, West Freugh, Wick				31	B. (2200 to N.), Duntulm, G., Kinloss, S. (2100 to N.W.), T. (2000-0100 to N.), Wick (2200-0300)
27 West Freugh, Wick					
28 B.					
	MARCH				
1 Forres, Kinloss, Wick					
2 Kinloss					
3 Wick		22	West Freugh		
4 B., Kinloss, S., T., Wick		24	West Freugh		
5 B., Kinloss, S.					
7 B., G., S., Wick					
8 B., Dyce, G., Kinloss, Nairn, T., Wick					
9 B., G., Kinloss					
13 S.		3	West Freugh	1	B., Duntulm, G., Huntly, S., T., Wick
14 B.		5	West Freugh	2	B., Duntulm, G., T., Wick
15 B.		25	Wick	5	B., S., Wick
17 S.		27	B.	6	B., S.
18 Kinloss		29	Wick	14	S.
20 Wick				17	S.
23 T.				19	B., Duntulm, T.
24 T.				20	Wick
26 Kinloss				23	B., S., T., Wick
29 Wick				24	B.
30 Kinloss, S., T., West Freugh, Wick		1	B., S., Wick	25	S., T.
31 B., Cape Wrath, Dyce, T., Wick		2	B., S., Wick	26	G.
	APRIL				
1 Wick		3	B., Wick	27	Wick
2 G., Kinloss, S., Wick		4	B., Kinloss	28	Wick, S.
3 Kinloss, S., T., Wick		5	Kinloss	29	B., Wick
4 B., Dyce, Kinloss, T., Wick		6	B., Forres, Glenlivet, Kinloss, Nairn, T., Wick		
5 B.		7	B., G., Kinloss, S., Wick		
6 B., S., T.		17	B.	6	Wick
8 G., Kinloss, S., Wick		18	B., T.	14	S.
11 B. (0200 to N.), Duntulm, Dyce, Glenlivet, S., T., Wick (0200 to N.)		19	B., Wick	17	Kinloss
		20	B., Dyce, Kinloss	18	Kinloss, Wick
		21	Kinloss	19	S., Wick
		22	B., Kinloss, Wick	23	T.
		23	B.	24	S.
		25	Kinloss	27	Kinloss, S.
					DECEMBER

For brevity, stations which figure frequently in the above table are represented by their initials, namely B - Benbecula, G - Grimsetter, S - Stornoway,

T - Tiree.



# **ESKDALEMUIR**



# ESKDALEMUIR OBSERVATORY

Latitude . . . . . 55°19'N.  
Longitude . . . . . 3°12'W.  
G.M.T. of Local Mean Noon 12h. 13m.  
Height of site above M.S.L. 235-250 metres

## INTRODUCTION

Reference should be made to the 1938 volume for details of site and meteorological instruments.

### *Notes on the meteorological summaries*

The extreme temperatures recorded during the year were 295.3°A. (72.1°F.) on 12 May and 258.9°A. (6.6°F.) on 2 March. 2 February was the coldest day of the year, with a mean temperature of 267.0°A. (21.2°F.). 24 July, with 288.9°A. (60.6°F.), was the hottest. There were seven 'ice-days'; i.e. days when the maximum temperature was below 273°A.; these occurred on 7, 27 and 31 January, 1, 2, 3 February and 7 December.

The total rainfall for the year 2050.3mm. (80.72 in.) was above normal. Snow fell on 36 days.

The total duration of bright sunshine, 953.6 hr., was below normal.

The highest gust of wind during the year was 36.0 m./sec. (70 kt.) on 15 January. The highest hourly speed, 17.0 m./sec. (33 kt.), occurred on 9 September.

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. Chrichton Mitchell.\*

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

TABLE 66 Harmonic coefficients of the diurnal inequality of atmospheric pressure

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

	$c_1$		$a_1$		$c_2$		$a_2$		$c_3$		$a_3$		$c_4$		$a_4$	
	1954	1911-1920	1954	1911-1920	1954	1911-1920	1954	1911-1920	1954	1911-1920	1954	1911-1920	1954	1911-1920	1954	1911-1920
	mb.	mb.	°	°												
January	0.04	0.09	5	346	0.24	0.23	157	152	0.14	0.13	356	345	0.08	0.05	209	214
February	0.33	0.12	194	215	0.29	0.27	139	138	0.15	0.08	349	341	0.04	0.04	63	68
March	0.17	0.13	301	185	0.31	0.30	153	145	0.09	0.05	327	335	0.08	0.05	30	25
April	0.21	0.21	71	92	0.33	0.30	153	155	0.03	0.02	244	156	0.05	0.05	2	356
May	0.17	0.23	22	53	0.24	0.27	140	147	0.08	0.07	179	160	0.01	0.03	268	330
June	0.12	0.15	175	54	0.22	0.23	142	146	0.09	0.08	138	161	0.03	0.02	332	326
July	0.20	0.17	154	69	0.23	0.21	136	141	0.06	0.08	153	156	0.02	0.02	227	300
August	0.27	0.11	185	115	0.22	0.24	144	148	0.02	0.06	143	157	0.06	0.05	331	331
September	0.29	0.12	128	88	0.33	0.31	151	152	0.06	0.01	24	111	0.05	0.05	18	345
October	0.22	0.11	155	76	0.31	0.31	152	159	0.08	0.06	344	8	0.06	0.04	53	33
November	0.49	0.13	138	183	0.24	0.24	159	168	0.12	0.10	351	9	0.05	0.01	196	146
December	0.18	0.14	271	97	0.23	0.21	168	147	0.11	0.12	18	4	0.05	0.07	225	213
Arithmetic mean	0.22	0.14			0.27	0.26			0.09	0.07			0.05	0.04		
Year	0.11	0.09	156	91	0.26	0.26	150	150	0.04	0.02	4	42	0.01	0.02	348	342
Winter	0.16	0.04	173	165	0.25	0.24	155	151	0.13	0.11	357	355	0.04	0.02	203	189
Equinox	0.11	0.11	122	104	0.32	0.31	152	153	0.05	0.02	341	4	0.06	0.04	28	9
Summer	0.11	0.15	161	67	0.23	0.24	141	146	0.06	0.07	155	159	0.02	0.03	313	324

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

#### Terrestrial Magnetism

Reference should be made to the '938 volume for notes on the instruments and tables.

#### Notes on the results

Comparing mean values on all days of 1954 with those for 1953, it is noted that  $H$  increased by  $21\gamma$ ,  $D$  (west) decreased by  $7.6$  and  $Z$  increased by  $7\gamma$ . The changes in the deduced quantities  $N$ ,  $W$ ,  $I$ , and  $T$  are  $+27\gamma$ ,  $-32\gamma$ ,  $-1.3$  and  $+14\gamma$ . If these changes are compared with those for previous years the discontinuities introduced on 1 January 1934 in  $H$  and  $Z$  and the components derived from them must be kept in mind.

The ranges between the extreme values recorded during 1954 were  $H$   $433\gamma$ ,  $D$   $62.8$  and  $Z$   $484\gamma$ . The range of  $1^{\circ} 2.8$  in declination is equivalent to a range of about  $304\gamma$  in the component of force perpendicular to the magnetic meridian.

The  $K$  index is fully described in *Terrestrial Magnetism and Atmospheric Electricity*.\* Briefly, a figure is allotted on a scale 0-9 to each three-hour interval. The figure is a measure of the range of magnetic force during that period, measured from a curved line which represents the normal quiet-day variation. The figures are first allotted from the  $H$  magnetograms and then increased, if necessary, by inspection of the  $D$  and  $Z$  curves so that the most disturbed component determines the final figure. The scale of ranges in  $\gamma$  corresponding to the figures 0-9 varies from observatory to observatory. The lower limit of each number for Eskdalemuir is:

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

\* BARTELS, J., HECK, N.H. and JOHNSTON, H.F.; The three-hour-range index measuring geomagnetic activity. *Terr. Magn. atmos. Elect.*, Baltimore, 44, 1939, p. 141.

Beginning with 1947 some changes have been made in the tables accompanying these notes. The month by month commentary on the autographic records has been omitted, and a change has been made in the table formerly headed "Principal Magnetic Disturbances". It is intended that all the disturbances, which would have been included in the previous type of table, will still be included, with, however, additional disturbances in the form of sudden commencements and those which can be recognized as being solar flare effects. The table is thus divided into three parts:

- (a) Disturbances noteworthy for some reason (usually, but not always, range) and without a sudden commencement.
- (b) Well marked sudden commencements whether followed by a large disturbance or not.
- (c) Disturbances accompanying a solar flare or other known solar flare effect.

The time given of commencement and ending of disturbances in (a) must depend on an arbitrary judgment. The list of sudden commencements under (b) will usually be a little shorter than that given in the I.A.T.M.E. Bulletins because a somewhat stricter meaning has been given to the words "well marked", and also because the sharp beginnings of small polar disturbances have been omitted. The (c) table has been made as complete as possible by a careful scrutiny of the magnetograms at the time of any known solar flare or solar flare effect, but a small "crochet" can easily be masked by other disturbance. The signs given to the movements of  $H$ ,  $D$  and  $Z$  are positive for increasing  $H$  or  $Z$  and an increase of force towards the east (i.e. a decreasing westerly declination).

Particulars of the same disturbances are given in both the Lerwick and the Eskdalemuir sections of the Year Book, even if the disturbance at one of the stations is relatively small.

In Table 67 the values of mean absolute daily range for the months and seasons are brought together. 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 68 gives the frequency distribution of absolute daily ranges and compares the percentage distribution for 1954 with that for the 22-year period 1932-1953. Table 69 gives the average values of the diurnal inequality ranges for the year and seasons for the period 1932-1953 (not the values of the range of the representative mean diurnal inequalities for this period) along with the 1954 values expressed as a percentage of the average values. The units employed are ly for force and  $1'$  for declination.

TABLE 67 *Absolute daily range and mean monthly values*

	Mean absolute daily range						Mean daily range expressed as percentage of yearly mean					
	1954			Mean 1932-1953			1954			Mean 1932-1953		
	$H$	$D$	$Z$	$H$	$D$	$Z$	$H$	$D$	$Z$	$H$	$D$	$Z$
January	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	$\gamma$	64	76	61	76	90	75
February	47	57	26	78	83	47	114	126	130	82	97	84
March	84	94	56	84	89	53	116	134	135	124	123	135
April	86	100	58	126	113	85	128	124	142	123	112	122
May	95	93	61	125	103	77	97	86	81	114	99	113
June	72	64	35	116	91	71	96	84	67	103	91	87
July	71	63	29	105	84	55	99	81	72	108	92	89
August	73	61	31	110	85	56	104	96	91	111	101	108
September	77	72	39	113	93	68	102	138	140	115	116	129
October	102	105	66	117	106	81	112	121	137	105	111	121
November	83	91	59	107	102	76	73	80	72	72	86	75
December	54	60	31	73	79	47	58	50	47	65	80	67
Winter	43	38	20	66	74	42	77	83	77	74	88	75
Equinox	57	62	33	75	81	47	123	130	142	117	115	127
Summer	91	97	61	119	106	80	99	87	78	109	96	100
Year	73	65	34	111	88	63	..	..	..	..	..	..

TABLE 68 Frequency distribution of absolute daily range

	Number of cases, 1954			Percentage distribution					
	H	D	Z	H		D		Z	1954
				1954	1932-1953	1954	1932-1953		1932-53
$\gamma$				%	%	%	%	%	%
0 - 9	0	0	7	0.0	0.0	0.0	0.0	1.9	2.3
10 - 19	8	5	64	2.2	0.8	1.4	0.4	17.5	14.1
20 - 29	19	15	87	5.2	3.9	4.1	2.5	23.8	19.8
30 - 39	28	24	70	7.7	6.0	6.6	5.0	19.2	16.0
40 - 49	28	32	53	7.7	7.8	8.8	7.4	14.5	10.2
50 - 59	54	61	31	14.8	10.4	16.7	12.1	8.5	7.5
60 - 69	56	60	9	15.3	11.7	16.4	12.9	2.5	5.6
70 - 79	38	43	9	10.4	10.6	11.8	12.3	2.5	3.6
80 - 89	49	29	4	13.4	9.0	7.9	10.7	1.1	3.0
90 - 99	21	28	10	5.8	7.3	7.7	8.3	2.7	2.4
100 - 109	21	14	5	5.8	5.8	3.8	5.9	1.4	2.1
110 - 119	12	13	1	3.3	5.1	3.6	4.0	0.3	1.7
120 - 129	10	12	3	2.7	3.3	3.3	3.5	0.8	1.7
130 - 139	2	5	0	0.6	2.9	1.4	2.6	0.0	1.2
140 - 149	4	7	1	1.1	2.3	1.9	2.2	0.3	0.8
150 - 159	4	2	2	1.1	1.9	0.6	1.7	0.6	0.9
160 - 169	4	4	4	1.1	1.5	1.1	1.6	1.1	0.7
170 - 179	1	1	0	0.3	1.5	0.3	1.2	0.0	0.4
180 - 189	2	0	0	0.6	0.9	0.0	1.0	0.0	0.6
190 - 199	0	1	0	0.0	0.9	0.3	0.8	0.0	0.5
200 +	4	9	5	1.1	6.3	2.5	4.0	1.4	4.8
Days omitted	..	..	..	..	..	..	..	..	..

TABLE 69 Average range of diurnal inequality 1932-53 with 1954 as a percentage of this

		All days			International quiet days			International disturbed days		
		Z	H	D	Z	H	D	Z	H	D
Year	1932-53	28.7	37.8	8.66	13.7	34.4	8.43	82.1	53.9	11.93
	1954(%)	69	62	82	105	74	78	53	49	77
Winter	1932-53	21.2	19.3	6.95	5.9	16.2	4.44	66.5	34.4	11.45
	1954(%)	68	59	81	144	50	81	51	56	76
Equinox	1932-53	37.1	43.1	10.18	14.8	39.7	9.69	108.9	75.4	15.11
	1954(%)	83	65	92	113	76	76	67	46	83
Summer	1932-53	33.9	59.7	11.84	21.9	50.4	11.76	82.4	83.7	13.11
	1954(%)	66	70	81	93	84	85	33	52	73

TABLE 70 Notable magnetic disturbances at Eskdalemuir

## (a) Disturbances without S.C's

Serial Number	From Date	Hour	To Date	Hour	Range $\gamma$	H	D	Z	Notes
1a	Feb. 21	10	Feb. 22	6		174	200	229	
2a	Mar. 23	18	Mar. 24	6		231	184	165	
3a	Apr. 11	15	Apr. 12	8		367	279	346	
4a	Sept. 1	10	Sept. 2	7		136	138	182	
5a	Sept. 20	12	Sept. 21	7		156	276	243	
6a	Oct. 3	13	Oct. 4	6		158	143	189	

## (b) Disturbances with a S.C.

Serial Number	Date	Time of S.C.	End of Disturbance Date      Hour	With initial reversed stroke			Magnitude main stroke of S.C.			Range of following disturbance ( $\gamma$ )		
				H	D	Z	H	D	Z	H	D	Z
1b	Mar. 22	17.16	Mar. 23 09	Yes	No	No	+ 8	0	0	126	189	92
2b	Sept. 14	22.09					Well marked P.S.C.					
3b	Sept. 29	09.42	Sept. 30 01				Ill defined			183	205	79
4b	Oct. 23	07.22	Oct. 25 07	Yes	No	No	-14	?	-1	178	212	216
5b	Oct. 27	07.47		Yes	Yes	No	-12	-9	0			Small
6b	Oct. 29	22.07					Well marked P.S.C.					
7b	Nov. 18	17.32		Yes	Yes	No	+ 14	0	-1			Small
8b	Dec. 27	22.09					Well marked P.S.C.					

## (c) Disturbances due to Solar Flare

Serial Number	Date	Begin	Max.	End	Movement $\gamma$			K	K	Other S.F.E.
					H	D	Z			
1c	Jan. 29	13.03	13.05	13.10	+ 4	- 7	0	1	0	
2c	Mar. 2	10.34	10.40	10.50	+ 4	-13	0	2	2	
3c	Mar. 17	07.15	07.20	07.25	+14	-10	0	1	1	

*Irregular changes in declination.* In connexion with the supply of declination data to mine surveyors, it has been the practice to classify the hourly periods between the exact hours G.M.T. into four groups according to the range in declination within each period. The range limits which were adopted in consultation with representative mine surveyors are: less than 5 ft., between 5 ft. and 15 ft., between 15 ft. and 30 ft., and greater than 30 ft. The range is less than 5 ft. in about 85 per cent of the hourly periods. The actual frequencies of occurrence in the last three of the four divisions mentioned are set out below.

Number of cases per month, 1954

Range interval	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
5' to 15'	59	108	134	76	28	14	26	50	125	107	47	23	797
15' to 30'	3	13	10	10	0	0	0	4	12	12	5	0	69
> 30'	0	1	1	2	0	0	0	0	4	1	0	0	9

Hourly distribution 1954

Range interval	Hour ending at G.M.T.																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
5' to 15'	69	61	47	36	28	17	9	13	5	4	10	7	11	6	17	29	28	38	54	60	63	57	65	63
15' to 30'	2	3	2	2	1	0	0	0	0	0	0	0	0	0	0	1	1	7	10	14	9	6	6	5
> 30'	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3	1	0	0	1

## 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

71 ESKDALEMUIR:  $b_b$  (height of barometer cistern above M.S.L.) = 237.3 m.

	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE		
	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean
<i>millibars</i>																		
1	08.0	06.0	07.2	03.1	98.5	00.0	73.6	71.2	72.5	79.1	68.6	74.4	71.2	64.1	68.3	92.8	89.1	90.6
2	08.1	01.7	05.2	06.9	99.5	03.1	73.2	49.3	63.9	81.9	75.6	77.6	64.1	59.0	61.1	96.8	92.5	94.2
3	03.2	00.9	02.3	07.0	04.5	05.3	49.3	41.8	43.4	81.7	70.8	74.1	77.2	63.4	69.5	97.4	96.1	96.8
4	05.2	00.7	02.6	04.5	99.5	01.9	60.7	43.8	52.1	87.0	72.8	82.3	84.1	77.2	82.0	96.9	90.9	93.4
5	00.7	93.0	97.4	99.5	91.6	95.5	71.6	60.7	67.9	95.2	85.2	89.2	83.7	63.1	75.3	90.9	82.5	86.5
6	95.6	88.0	91.1	91.6	62.6	80.3	70.8	49.9	62.0	00.2	95.2	98.4	86.2	65.6	76.2	82.6	74.5	77.9
7	03.6	95.6	99.9	67.7	57.9	63.2	58.7	50.6	52.8	00.2	97.5	98.8	92.5	86.2	89.5	74.8	71.4	73.3
8	03.6	96.7	01.2	68.3	67.0	67.7	79.2	58.7	70.0	00.2	96.5	98.2	94.0	91.3	92.5	71.4	63.0	66.0
9	00.6	95.1	97.8	69.0	66.0	67.5	82.0	79.2	80.9	99.5	98.3	98.2	92.6	88.4	90.3	63.5	61.9	62.4
10	96.5	91.3	95.0	66.6	58.0	61.4	82.7	80.9	81.7	99.9	98.0	98.8	90.9	89.1	90.1	68.7	61.5	64.4
11	93.0	89.9	91.4	79.5	65.8	74.6	85.3	82.7	83.7	98.1	94.5	96.0	92.7	90.5	91.1	85.6	68.7	77.3
12	89.9	70.0	80.0	79.4	64.0	71.9	92.2	85.2	88.4	97.2	95.6	96.3	94.1	92.0	92.8	87.2	85.6	86.5
13	70.0	55.6	60.0	65.8	58.4	60.9	95.2	92.2	94.2	98.9	94.5	96.4	96.1	93.7	95.1	91.2	85.5	87.8
14	63.1	58.1	61.6	84.5	65.8	75.3	94.9	91.6	92.9	98.4	94.7	95.9	97.1	95.5	96.3	92.7	90.4	91.7
15	62.9	51.2	55.8	93.1	84.5	89.9	96.4	92.4	94.3	09.8	96.1	02.5	96.6	92.0	94.1	90.4	81.4	84.4
16	83.2	61.9	75.4	93.2	88.8	91.5	96.4	92.7	94.7	10.0	07.3	08.6	92.2	89.6	90.8	90.0	84.4	87.7
17	01.8	83.2	91.1	91.3	88.2	90.0	92.7	87.5	89.8	08.5	04.6	06.7	94.6	89.7	91.0	89.7	86.3	88.8
18	02.2	87.8	96.7	90.7	75.5	84.0	87.5	83.1	85.1	08.6	03.2	06.9	98.9	94.6	96.8	86.3	82.0	83.2
19	87.8	73.5	79.8	78.7	72.6	74.6	84.0	78.3	80.9	03.2	90.4	95.3	99.0	95.3	97.3	85.6	83.1	84.4
20	86.5	81.7	83.9	85.8	78.7	83.8	82.3	78.8	80.7	98.6	92.5	95.5	95.8	90.5	93.0	84.9	81.0	83.2
21	94.8	86.5	91.1	86.7	83.6	84.5	82.6	75.8	80.1	99.2	96.6	98.2	92.1	89.5	90.9	86.7	79.2	81.0
22	99.0	94.7	97.1	90.0	75.8	85.1	75.8	62.9	69.1	98.9	96.2	97.7	89.5	83.7	85.7	90.4	82.0	87.9
23	99.9	96.8	98.8	75.5	69.7	72.5	78.1	60.7	66.0	98.8	95.8	97.2	83.7	78.4	80.4	88.1	81.6	86.4
24	96.8	82.1	90.3	75.8	63.4	72.4	89.6	78.1	86.9	98.6	97.0	97.9	78.5	74.4	76.1	87.6	75.5	81.0
25	82.1	75.9	78.3	64.2	52.8	59.2	87.9	78.6	81.7	97.6	96.6	97.0	86.3	75.6	79.7	76.0	68.3	72.5
26	91.6	79.2	85.9	61.1	45.4	53.9	89.3	81.6	85.9	97.0	95.0	96.1	88.0	86.1	86.9	74.1	65.8	70.0
27	92.5	87.5	90.9	71.5	61.1	66.3	89.7	80.2	86.6	98.4	96.0	96.9	89.1	87.1	88.1	82.7	74.1	78.4
28	87.5	78.6	82.4	74.6	69.9	72.2	82.5	76.8	79.0	99.0	95.3	97.7	88.8	85.3	87.2	93.3	82.6	87.3
29	91.7	78.5	83.9				82.4	63.9	75.9	95.3	81.9	88.9	92.5	81.9	86.0	97.2	93.3	95.5
30	98.3	91.7	96.5				70.7	63.0	66.0	81.9	71.2	75.4	93.6	91.4	92.7	95.5	90.5	93.1
31	04.7	97.0	02.7				72.2	68.6	70.8				93.7	90.2	91.9			
Mean	93.69	84.88	89.46	83.06	73.90	78.87	80.95	72.28	76.77	97.36	91.78	94.43	89.34	83.69	86.42	86.37	80.16	83.12

	JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER			
	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	
<i>millibars</i>																			
1	90.5	83.0	85.7	81.3	76.0	79.5	87.6	81.7	84.2	87.4	82.5	84.9	92.8	83.9	89.3	75.7	58.1	69.3	
2	83.6	74.4	80.1	79.9	74.2	77.1	87.0	81.6	84.4	88.1	84.1	86.6	92.5	81.1	88.0	82.9	71.3	75.3	
3	74.4	66.1	69.3	82.8	79.4	81.2	86.5	76.6	81.0	84.1	77.1	80.0	83.8	80.8	80.8	82.3	95.1	82.6	89.2
4	73.7	65.6	68.9	82.9	81.5	82.3	87.0	80.0	85.2	85.3	79.1	83.2	80.8	76.4	78.6	90.8	76.6	82.0	82.0
5	78.4	73.3	75.4	81.5	73.6	77.6	86.4	82.4	84.5	85.8	78.9	82.1	81.8	79.0	80.5	89.6	81.8	86.5	86.5
6	87.7	78.4	83.3	73.7	68.5	70.0	84.1	78.2	80.3	98.6	85.8	92.3	86.7	80.8	83.3	81.8	67.1	75.1	
7	90.2	87.6	89.1	69.9	68.0	69.1	85.8	81.5	84.1	91.8	98.0	00.1	87.2	80.6	85.4	67.9	59.1	65.4	
8	89.7	87.1	87.9	70.2	65.2	67.2	82.1	77.5	80.4	98.0	92.1	94.1	80.6	57.8	66.0	59.1	33.3	47.9	
9	89.1	83.7	87.5	65.2	62.4	63.6	77.5	60.6	67.4	92.6	85.9	89.1	76.9	60.0	71.8	42.3	31.5	34.2	
10	83.7	80.4	81.2	73.0	63.7	67.0	70.8	63.5	67.1	89.3	86.9	87.8	77.5	63.4	70.6	72.5	42.3	58.5	
11	83.1	79.3	80.7	78.2	72.8	76.2	72.4	65.0	69.8	90.8	87.1	89.0	78.4	62.0	70.6	77.8	65.9	74.2	
12	89.2	83.1	85.9	77.5	70.5	73.3	78.4	71.0	73.9	91.2	85.2	88.1	83.7	66.1	74.6	65.9	57.2	60.5	
13	89.2	81.6	86.9	75.1	69.1	71.7	81.2	77.9	79.5	87.4	80.0	83.7	88.9	79.0	82.8	72.9	63.7	66.7	
14	86.2	80.7	83.8	79.6	75.1	76.7	81.3	69.9	78.5	85.3	80.8	83.6	82.7	78.8	96.2	74.7	66.0	70.8	
15	89.4	85.1	87.1	85.6	79.5	82.6	75.5	67.7	72.7	80.8	69.9	74.1	95.1	02.7	04.3	96.7	73.2	89.2	
16	88.6	70.7	81.7	90.4	85.6	87.7	72.9	57.2	64.9	84.5	70.8	78.5	98.3	02.0	05.6	95.8	86.4	91.7	
17	70.7	57.7	62.1	90.3	77.1	85.4	81.1	71.7	75.0	84.6	78.7	82.1	98.0	98.8	03.9	96.3	87.9	94.1	
18	86.3	60.1	72.4	89.1	76.3	82.1	82.9	81.1	82.1	78.9	63.9	72.7	98.8	93.9	95.5	93.5	87.5	88.2	
19	92.7	86.3	90.9	92.6	88.9	90.9	81.2	70.6	75.9	74.9	59.7	66.9	94.7	93.6	9				

## PRESSURE AT STATION LEVEL

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

72 ESKDALEMUIR:  $b_b = 237.3$  m.

	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.	89.62	89.45	89.48	89.47	89.42	89.30	89.20	89.39	89.53	89.78	89.93	89.87	89.57	89.29	89.11	89.13	89.21	89.30	89.37	89.47	89.50	89.54	89.51	89.58	89.51	89.46	
Feb.	79.55	79.35	79.21	78.92	78.61	78.50	78.52	78.61	78.78	79.08	79.22	79.30	79.26	79.00	78.82	78.63	78.66	78.73	78.87	78.95	78.83	78.59	78.58	78.49	78.87	78.87	
Mar.	76.83	76.82	76.78	76.52	76.50	76.57	76.67	76.85	77.10	77.19	77.22	77.23	77.23	76.93	76.67	76.48	76.29	76.37	76.59	76.73	76.83	76.82	76.66	76.67	76.67	76.77	
Apr.	94.73	94.64	94.46	94.38	94.17	94.20	94.34	94.49	94.52	94.59	94.57	94.53	94.47	94.28	94.16	93.96	93.91	94.00	94.13	94.42	94.73	94.91	94.86	94.87	94.81	94.43	
May	86.37	86.21	86.17	86.11	86.10	86.17	86.35	86.44	86.47	86.50	86.57	86.58	86.50	86.45	86.34	86.24	86.21	86.10	86.34	86.55	86.87	86.91	86.99	87.00	86.41		
June	83.33	83.21	82.98	82.87	82.68	82.77	82.89	83.07	83.18	83.13	83.20	83.16	83.19	83.13	83.17	83.10	82.99	83.00	83.11	83.23	83.43	83.44	83.40	83.32	83.12		
July	80.18	79.99	79.76	79.57	79.47	79.48	79.51	79.59	79.75	79.77	79.77	79.73	79.73	79.74	79.67	79.70	79.58	79.56	79.58	79.65	79.78	80.01	80.02	80.00	79.86	79.72	
Aug.	81.37	81.28	81.18	81.00	80.80	80.75	80.94	81.14	81.25	81.41	81.37	81.49	81.55	81.55	81.49	81.57	81.44	81.50	81.53	81.62	81.80	81.96	81.83	81.75	81.59	81.40	
Sept.	78.25	78.04	77.85	77.61	77.30	77.18	77.39	77.46	77.65	77.74	77.75	77.65	77.55	77.33	77.32	77.36	77.49	77.62	77.91	78.07	78.17	78.04	78.13	78.09	77.69		
Oct.	79.26	79.13	78.93	78.68	78.47	78.48	78.60	78.68	78.89	79.02	79.05	79.21	79.15	78.94	78.79	78.72	78.67	78.87	79.18	79.32	79.31	79.47	79.47	79.20	79.30	78.98	
Nov.	77.41	77.21	76.95	76.73	76.56	76.38	76.17	76.15	76.25	76.43	76.60	76.52	76.26	76.15	76.12	76.16	76.23	76.47	76.71	76.85	76.84	76.88	76.80	76.75	76.55	76.55	
Dec.	76.57	76.46	76.59	76.67	76.49	76.67	76.83	77.04	77.37	77.57	77.77	77.81	77.55	77.38	77.31	77.47	77.56	77.61	77.71	77.83	77.82	77.95	77.97	77.97	77.97	77.36	
Annual	81.96	81.82	81.70	81.55	81.39	81.38	81.46	81.58	81.74	81.86	81.93	81.95	81.85	81.71	81.59	81.56	81.54	81.59	81.71	81.86	81.95	82.08	82.02	82.00	81.95	81.74	

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.

73 ESKDALEMUIR:  $b_b = 237.3$  m.

	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.	19.17	18.99	19.03	19.03	18.99	18.82	18.72	18.91	19.08	19.33	19.44	19.32	18.96	18.65	18.52	18.65	18.77	18.86	18.98	19.02	19.06	19.04	19.12	19.07	18.95		
Feb.	09.04	08.84	08.70	08.39	08.09	07.96	07.98	08.05	08.25	08.48	08.54	08.55	08.45	08.17	07.97	07.76	07.85	07.98	08.20	08.33	08.25	08.25	08.03	08.03	07.96	08.23	
Mar.	05.94	05.95	05.92	05.66	05.54	05.71	05.83	06.00	06.19	06.19	06.09	06.01	05.97	05.54	05.30	05.12	04.99	05.13	05.46	05.66	05.81	05.84	05.67	05.72	05.76	05.72	
Apr.	24.26	24.35	24.19	23.96	23.76	23.79	23.91	23.91	23.75	23.67	23.57	23.45	23.33	23.10	22.92	22.74	22.72	22.87	23.13	23.23	23.57	24.05	24.30	24.63	24.36	24.34	23.65
May	15.18	15.05	15.04	14.99	15.11	15.06	15.18	15.15	15.07	15.00	14.99	14.91	14.79	14.68	14.53	14.42	14.39	14.31	14.40	14.76	15.12	15.55	15.64	15.76	15.82	14.97	
June	11.85	11.71	11.53	11.41	11.45	11.24	11.30	11.37	11.47	11.50	11.36	11.59	11.08	11.20	11.20	11.12	11.17	11.13	11.04	11.11	11.30	11.51	11.79	11.87	11.86	11.83	11.41
July	08.49	08.33	08.13	07.96	07.87	07.85	07.82	07.76	07.71	07.79	07.76	07.72	07.63	07.63	07.54	07.60	07.48	07.44	07.53	07.65	07.89	08.21	08.28	08.29	08.17	07.84	
Aug.	09.71	09.63	09.54	09.36	09.19	09.12	09.28	09.39	09.40	09.49	09.37	09.47	09.49	09.44	09.38	09.47	09.37	09.45	09.54	09.49	09.70	09.98	10.22	10.13	10.06	09.93	09.55
Sept.	06.77	06.57	06.40	06.15	05.85	05.34	05.97	05.97	06.05	05.99	05.88	05.78	05.67	05.54	05.31	05.35	05.43	05.62	05.84	06.29	06.45	06.60	06.50	06.64	06.61	06.01	
Oct.	07.75	07.63	07.44	07.14	06.97	07.00	07.13	07.23	07.40	07.46	07.39	07.43	07.37	07.12	06.96	06.91	06.90	07.18	07.56	07.73	07.77	07.95	07.69	07.89	07.38		
Nov.	06.28	06.06	05.80	05.61	05.43	05.27	05.04	05.05	05.16	05.29	05.39	05.22	04.89	04.73	04.71	04.79	04.92	05.22	05.48	05.65	05.67	05.72	05.64	05.60	05.39	05.34	
Dec.	05.41	05.32	05.45	05.53	05.36	05.56	05.72	05.95	06.29	06.48	06.64	06.64	06.35	06.15	06.07	06.26	06.36	06.41	06.53	06.69	06.67	06.81	06.85	06.87	06.88	06.21	
Annual	10.82	10.69	10.58	10.44	10.28	10.27	10.33	10.41	10.50	10.55	10.53	10.49	10.34	10.17	10.03	10.01	10.03	10.12	10.31	10.52	10.69	10.86	10.80	10.84	10.80	10.45	

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.

74 ESKDALEMUIR: Louvred hut:  $b_t = 0.9$  m.

	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.	74.28	74.31	74.17	74.15	74.04	74.39	74.43	74.38	74.18	74.32	74.65	75.24	75.62	75.85	75.80	75.54	75.10	74.79	74.67	74.54	74.53	74.45	74.42	74.33	74.15	74.67	
Feb.	72.08	72.00	72.03	72.06	72.16	72.13	72.11	72.28	72.29	72.75	73.47	74.16	74.69	74.85	74.96	75.00	74.53	73.93	73.32	72.99	72.59	72.30	72.33	72.20	71.99	73.06	
Mar.	74.71	74.56	74.41	74.38	74.32	74.32	74.25	74.36	74.96	75.87	77.01	77.85	78.32	78.90	79.09	79.01	78.40	77.75	76.87	76.34	75.88	75.60	75.42	75.24	74.95	76.16	
Apr.	75.75	75.56	75.36	75.22	75.11	75.10	75.32	76.71	78.																		

## TEMPERATURE

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

75 ESKDALEMUIR: Louvred hut:  $b_f$  (height of thermometer bulb above ground) = 0.9 m.

	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	79.5	71.8	75.5	72.1	61.7	67.9	73.1	63.8	68.0	84.4	72.7	77.9	81.4	72.4	77.3	86.3	79.0	81.2
2	82.0	72.8	78.1	72.7	60.2	67.0	73.0	58.9	67.2	83.3	75.7	79.2	80.4	76.4	78.2	90.7	78.8	83.5
3	78.7	74.4	75.7	72.3	66.0	70.3	74.4	70.4	72.2	83.5	76.0	80.1	82.4	75.3	78.5	95.0	78.0	86.3
4	77.3	74.9	76.1	76.3	72.2	75.1	74.5	71.8	73.4	80.0	73.6	76.5	84.6	77.9	80.6	92.9	78.8	86.6
5	76.8	67.7	72.9	74.4	65.0	71.7	76.1	72.8	74.1	80.1	73.1	76.1	81.4	73.9	78.0	93.2	78.6	85.3
6	74.6	68.8	72.1	73.2	62.2	68.3	78.0	73.8	75.8	82.1	72.0	76.9	82.0	74.0	77.3	84.8	79.4	81.7
7	72.7	64.2	69.4	74.7	69.3	72.7	78.2	73.9	76.1	82.0	68.8	76.3	82.2	73.2	77.5	83.2	79.1	81.5
8	78.9	63.9	72.3	74.0	64.3	69.6	79.0	70.9	76.0	83.4	77.9	79.6	87.4	75.4	81.5	88.0	80.7	83.4
9	80.1	74.3	76.8	73.3	65.6	71.1	81.2	71.5	75.7	83.9	74.4	79.6	88.1	76.6	82.5	88.3	81.2	84.3
10	80.0	74.7	77.9	74.4	73.0	73.7	81.3	75.1	78.0	84.8	70.1	77.9	94.3	78.5	85.6	89.5	81.4	84.3
11	80.6	77.3	78.7	74.1	73.6	73.9	86.1	76.1	80.7	83.2	76.6	80.0	94.2	80.5	87.2	86.6	80.1	83.0
12	80.2	76.2	78.4	74.1	73.2	73.8	86.0	74.4	79.2	82.6	75.5	78.8	95.3	77.8	87.5	89.0	77.7	83.4
13	76.9	72.3	74.1	76.3	73.8	75.0	79.7	73.4	75.5	82.9	75.8	79.2	87.0	83.6	85.2	89.0	75.6	82.8
14	76.5	73.6	75.2	76.7	74.7	75.8	75.6	73.9	74.6	83.4	78.9	81.4	84.0	79.7	81.6	87.3	79.6	83.2
15	82.3	75.9	78.9	77.7	70.6	74.8	76.1	73.0	74.2	85.4	73.8	81.5	86.3	76.4	81.6	85.7	79.9	83.2
16	78.0	74.4	75.9	77.1	72.0	75.0	77.0	72.6	74.1	86.4	70.9	80.0	88.1	75.3	81.7	90.4	83.3	86.2
17	77.0	71.2	75.1	80.4	69.4	76.2	81.0	72.0	75.7	85.9	76.2	80.8	87.8	75.1	81.3	91.4	83.2	86.5
18	80.5	69.7	75.4	75.8	68.0	72.6	82.0	71.9	75.6	82.6	71.0	77.3	88.7	75.0	81.9	87.3	83.8	85.2
19	83.0	79.7	80.9	74.7	73.2	74.0	79.8	73.4	76.3	85.0	68.6	77.3	89.3	75.4	82.9	87.1	83.5	84.3
20	80.0	73.9	76.7	77.5	68.9	73.5	81.8	76.2	78.6	83.0	70.5	76.6	87.9	77.9	82.6	85.1	83.4	84.2
21	75.9	73.9	74.8	80.3	73.9	77.8	82.2	78.0	79.6	85.0	68.8	76.7	84.6	77.5	80.9	86.2	82.7	84.6
22	76.3	74.3	75.7	80.5	69.9	76.0	83.9	78.2	81.3	84.5	70.6	77.8	83.4	77.1	79.6	89.2	80.7	85.0
23	75.9	73.3	74.3	79.9	73.9	76.9	83.1	77.4	80.4	84.0	70.6	77.5	85.3	79.0	81.2	87.0	82.2	84.2
24	73.9	71.1	72.9	78.1	72.8	76.1	78.1	73.3	75.6	81.6	74.0	78.3	83.9	79.7	81.7	85.2	82.3	83.7
25	75.0	71.2	72.9	77.7	70.9	74.1	80.2	74.0	77.6	84.3	72.8	78.6	87.7	80.2	83.7	88.2	80.4	84.4
26	73.0	70.6	72.2	75.1	65.1	72.0	83.0	74.9	78.6	84.1	71.9	78.3	89.5	79.7	85.4	86.2	80.5	82.7
27	72.0	69.8	71.0	75.0	64.2	70.2	81.0	70.5	76.5	84.5	72.3	78.2	92.7	83.9	87.6	86.2	80.8	83.4
28	74.1	69.5	71.7	73.6	65.2	70.5	85.4	71.0	78.8	85.7	74.0	79.7	88.4	84.3	86.4	88.1	79.7	83.8
29	74.1	71.2	72.7	83.7	69.6	77.2	83.7	69.6	77.2	86.1	72.6	80.1	90.4	81.8	85.7	88.1	77.7	82.8
30	73.2	68.2	71.5	81.8	64.5	74.6	81.8	74.6	78.0	80.7	73.8	77.0	94.1	80.9	87.4	86.1	80.3	83.4
31	72.5	65.0	69.0				81.1	72.0	76.5				91.0	79.1	84.7			
Mean	77.1	71.9	74.7	75.8	69.0	73.1	79.9	72.7	76.2	83.6	73.1	78.5	87.2	77.9	82.4	88.0	80.4	83.9

	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	87.7	80.4	84.3	87.7	80.0	84.2	93.4	81.2	87.5	88.9	80.8	83.9	82.1	77.8	79.4	80.8	78.9	79.6
2	85.2	78.8	82.9	90.7	82.9	86.3	90.8	85.5	87.6	87.9	84.9	86.0	81.2	73.8	78.3	84.9	80.0	83.0
3	86.0	79.6	82.5	89.0	80.2	84.7	89.2	84.1	85.8	89.0	82.0	85.7	81.2	78.9	80.1	82.3	76.2	80.1
4	86.9	79.0	82.2	91.4	77.1	84.6	87.4	76.1	83.2	85.5	80.7	83.3	81.9	75.2	80.1	82.3	76.4	78.7
5	87.3	75.2	82.2	87.1	83.4	85.0	90.5	74.4	82.7	88.2	80.9	85.0	79.1	73.7	76.0	77.4	72.8	75.5
6	87.7	71.4	81.2	90.0	83.2	86.1	88.6	77.4	83.8	85.3	77.0	81.2	78.2	73.7	76.3	76.6	69.5	73.6
7	89.1	80.3	84.3	92.0	80.4	86.1	88.3	79.0	84.1	83.6	71.6	77.6	78.4	70.6	74.9	71.6	66.7	69.6
8	89.7	81.2	84.7	89.3	80.1	84.8	87.2	84.3	85.3	85.6	76.9	81.4	81.4	75.7	79.0	74.2	66.0	71.3
9	89.3	82.2	85.6	86.9	79.2	84.1	86.1	82.9	84.1	85.0	76.6	81.1	78.8	74.6	76.6	74.2	73.5	73.9
10	87.6	83.5	85.7	89.3	78.3	84.2	87.3	82.4	84.3	85.7	76.4	80.5	80.9	74.7	78.4	76.1	73.9	75.1
11	91.0	84.4	87.5	88.0	77.7	84.1	87.7	79.8	83.6	85.0	79.4	82.1	85.6	73.4	78.9	75.9	69.5	73.1
12	90.2	80.9	86.4	88.0	73.9	82.4	87.7	79.7	83.4	86.7	80.9	84.1	78.7	74.4	76.6	76.0	72.7	74.0
13	89.0	81.1	85.2	90.4	80.8	84.9	84.0	77.7	81.1	86.8	80.9	85.0	81.0	74.4	77.8	76.4	67.8	73.3
14	89.1	84.1	86.2	90.1	80.1	85.1	86.7	78.7	82.3	83.6	75.3	80.1	80.0	70.1	75.7	81.9	66.6	75.1
15	89.3	82.9	85.5	86.1	81.5	83.9	85.9	81.8	83.5	86.1	79.6	83.3	78.6	67.0	72.7	80.2	73.4	77.6
16	87.9	82.5	85.0	86.1	80.2	82.7	85.1	80.4	82.5	85.4	76.7	81.3	80.5	69.6	76.5	82.0	73.4	79.3
17	88.0	83.0	85.3	86.1	80.5	83.0	84.4	77.3	81.5	86.2	79.2	82.2	78.3	66.4	71.8	80.0	74.9	77.7
18	88.8	79.4	85.5	86.3	81.6	83.5	85.5	73.2	80.1	87.8	85.7	86.5	80.5	73.9	77.9	82.1	79.3	80.5
19	90.9	76.5	84.4	86.0	81.2	83.4	85.3	75.7	81.3	85.7	80.5	83.6	81.8	80.0	80.8	83.1	79.8	82.1
20																		

**MEAN RELATIVE HUMIDITY AND VAPOUR PRESSURE FOR EACH DAY**

53

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

76 ESKDALEMUIR: Louvred hut:  $b_f = 0.9$  m.

	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER			
	Rel. Vap. hum. press.	% mb.																								
1	94.7	6.9	85.2	3.6	73.9	3.1	80.1	7.0	86.6	7.2	82.3	9.0	89.6	12.0	85.3	11.3	82.6	13.6	95.4	12.4	91.8	8.8	90.0	9.2		
2	92.5	8.1	82.5	3.2	85.4	3.4	93.2	8.8	91.3	8.1	81.3	10.3	88.5	10.8	84.8	12.9	90.8	15.1	94.4	14.1	91.9	8.2	98.4	12.1		
3	71.4	5.3	93.5	4.7	95.3	5.5	95.0	9.6	88.7	8.0	77.5	11.8	88.4	10.5	86.0	11.8	92.8	13.7	95.8	14.1	88.9	9.0	92.7	10.1		
4	81.4	6.2	93.7	6.7	88.6	5.6	83.1	6.5	80.3	8.4	62.9	9.8	90.5	10.5	80.6	11.0	81.7	10.2	92.4	11.6	93.6	9.4	89.4	8.2		
5	85.9	5.2	89.9	5.0	74.5	4.9	76.0	5.8	90.5	7.9	81.7	11.7	81.0	9.4	95.0	13.3	85.9	10.3	94.9	13.2	92.5	7.0	90.2	6.6		
6	82.1	4.7	89.5	3.9	96.5	7.2	70.2	5.7	85.1	7.1	96.0	10.8	82.2	8.9	95.9	14.5	92.4	12.0	77.5	8.4	88.5	6.9	89.2	5.7		
7	74.5	3.5	84.3	5.0	90.5	6.9	85.3	6.6	88.7	7.5	97.0	10.8	82.0	11.0	80.9	12.2	93.3	12.3	86.7	7.4	89.1	6.2	93.0	4.4		
8	93.4	5.4	81.3	3.9	80.4	6.1	92.8	9.0	73.4	8.1	91.3	11.5	95.2	13.1	86.4	11.9	93.7	13.4	95.3	10.5	95.9	9.0	94.5	5.1		
9	89.7	7.2	86.0	4.6	84.7	6.3	91.7	8.9	72.9	8.7	90.0	12.1	86.1	12.6	86.5	11.4	94.8	12.5	97.0	10.5	82.4	6.5	98.1	6.4		
10	86.1	7.5	95.4	6.1	92.6	8.1	84.5	7.3	75.3	11.0	87.2	11.7	91.7	13.5	88.5	11.8	96.4	12.9	87.6	9.1	89.3	8.0	97.5	6.9		
11	81.4	7.5	93.8	6.1	85.9	9.1	93.8	9.4	83.0	13.4	80.8	9.9	77.2	12.6	85.4	11.3	87.2	11.2	89.7	10.4	91.8	8.5	93.8	5.8		
12	97.4	8.7	90.7	5.9	87.8	8.3	78.1	7.2	77.5	12.8	77.9	9.8	83.2	12.8	78.3	9.2	86.0	10.9	95.5	12.6	88.8	7.0	95.0	6.2		
13	95.0	6.3	92.7	6.5	89.8	6.6	84.1	8.0	97.3	13.8	82.1	9.9	93.4	13.3	87.9	12.1	90.8	9.8	96.7	13.6	91.0	7.8	92.1	5.7		
14	90.4	6.5	97.4	7.3	95.6	6.6	87.7	9.7	93.7	10.5	87.7	10.9	84.1	12.8	92.0	13.0	88.4	10.4	89.9	9.1	83.7	6.2	95.5	6.8		
15	88.9	8.3	89.6	6.3	90.4	6.0	68.5	7.6	75.4	8.4	99.2	12.3	76.5	11.1	86.4	11.3	85.5	10.9	97.0	12.2	89.8	5.4	90.7	7.7		
16	84.7	6.4	93.7	6.6	85.2	5.6	73.2	7.3	76.7	8.6	89.0	13.5	89.3	12.5	86.5	10.4	83.5	9.9	87.1	9.5	86.4	6.8	98.2	9.4		
17	85.8	6.1	89.3	6.2	84.4	6.3	85.8	9.6	79.7	8.7	92.8	14.4	91.7	13.1	88.5	10.9	95.3	9.5	99.7	11.6	94.0	5.3	91.0	7.8		
18	98.3	7.1	90.3	5.4	84.6	6.2	70.0	7.1	72.7	8.2	94.8	13.5	83.1	12.1	85.4	10.8	83.7	8.4	99.0	15.3	100.0	8.7	96.9	10.0		
19	95.2	10.1	94.5	6.2	95.4	7.4	74.6	6.2	76.7	9.4	94.7	12.7	79.0	10.7	78.3	9.9	95.7	10.5	89.1	11.4	98.9	10.5	95.5	11.0		
20	96.0	7.7	89.2	6.5	89.3	8.1	73.5	5.8	74.1	8.9	99.0	13.2	83.0	12.3	87.9	12.0	91.4	9.1	85.3	10.1	94.1	8.9	83.8	6.9		
21	95.8	6.7	98.2	8.4	97.7	9.5	77.2	6.2	72.5	7.7	97.5	13.3	79.7	10.6	92.0	12.6	87.5	9.7	85.4	9.2	92.9	8.2	86.5	8.1		
22	93.0	6.9	93.6	7.1	95.3	10.5	78.7	6.8	80.3	7.8	90.7	12.7	75.7	10.1	89.4	12.2	80.4	8.2	93.5	9.2	92.4	8.2	86.4	8.2		
23	89.2	6.0	89.8	7.3	85.6	8.8	77.3	6.5	82.1	8.9	81.7	10.9	96.7	12.4	85.3	11.7	84.8	8.3	94.3	9.8	93.9	7.5	73.2	5.1		
24	74.1	4.5	97.2	7.4	85.1	6.3	82.7	7.4	91.9	10.3	96.5	12.4	88.3	16.0	80.9	12.8	95.5	13.2	89.5	7.7	89.0	6.8	84.0	4.8		
25	75.6	4.6	87.6	5.8	91.5	7.8	76.9	7.0	89.8	11.5	94.3	12.7	79.0	11.6	92.1	12.7	86.9	9.8	78.2	5.5	92.8	8.5	97.1	9.0		
26	80.5	4.6	90.7	5.2	75.8	6.9	76.6	6.8	79.0	11.4	88.7	10.7	92.0	11.3	90.7	12.6	87.5	7.5	88.5	6.2	93.2	7.2	86.8	8.5		
27	70.6	3.7	87.3	4.3	87.8	6.9	71.2	6.3	86.7	14.4	82.0	10.3	94.6	11.7	94.3	13.3	83.6	6.2	95.6	12.4	93.9	9.0	90.4	10.1		
28	74.0	4.1	80.1	4.1	84.9	7.8	71.6	7.0	90.4	13.9	77.8	9.4	89.5	11.7	87.2	11.4	84.9	6.8	96.0	11.9	91.4	8.0	93.1	10.5		
29	90.8	5.4			86.0	7.1	76.0	7.7	88.2	12.9	76.3	8.6	82.6	11.4	95.3	14.9	78.0	6.8	95.0	11.2	92.7	7.5	97.0	10.3		
30	82.6	4.5			86.5	7.5	91.5	7.4	76.6	12.6	91.6	11.6	85.2	11.2	78.2	11.4	94.6	10.1	90.0	9.2	90.4	9.1	90.9	8.0		
31	85.3	3.7					88.6	7.0			77.1	10.6			90.5	11.9	98.3	15.7			95.0	8.4			92.5	7.5
Mean*	86.3	6.1	90.2	5.7	87.6	6.9	81.2	7.4	82.4	9.9	87.4	11.4	86.1	11.8	87.4	12.1	88.2	10.4	91.8	10.5	91.5	7.8	91.9	7.8		

\* Mean of the column

**RELATIVE HUMIDITY**

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

77 ESKDALEMUIR:  $b_f = 0.9$  m.

	Hour G.M.T.												per cent.												Mean*	
	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24	
Jan.	87.7	86.7	87.2	87.9	88.5	88.4	88.7	88.9	87.6	87.5	86.8	85.9	83.7	82.9	81.8	82.6	83.5	85.1	86.3	87.1	87.2	86.8	86.5	86.9	87.6	86.3
Feb.	91.3	91.6	91.9	92.6	92.5	92.6	92.5	92.3	92.3	92.4	91.4	89.1	87.4	86.1	85.6	85.4	86.6	88.0	90.1	90.6	91.2	91.3	90.7	90.5	90.6	90.2
Mar.	91.1	91.0	91.3	90.7	91.6	92.3	92.7	92.2	90.9	89.8	86.2	82.3	80.7	79.5	77.5	78.1	81.1	83.7	86.5	88.7	90.3	91.0	91.3	91.5	91.9	87.6
Apr.	90.3	90.4	90.6	91.2	90.4	90.3	89.4	87.7	82.9	76.9	74.8	72.3	69.2	68.3	66.1	67.6	68.5	72.3	76.1	80.7	85.8	87.6	89.6	89.3	90.3	81.2
May	91.1	91.3	91.5	91.9	91.9	91.9	91.0	87.7	82.9	79.3	77.3	74.7	72.4	71.9	70.5	69.2	70.0	72.2	76.9	80.2	84.7	87.8	88.9	89.7	90.8	82.4
June	93.2	94.1	94.2	94.1	93.8	93.2	91.9	88.7	84.8	83.7	83.0	82.2	81.2	79.1	79.2	80.1	81.3	81.9	85.6	87.0	89.7	91.2	92.3	92.5	92.9	87.4
July	91.8	93.3	93.8	93.6	93.6	93.4	92.9	89.7	86.7	82.3	80.8	79.3	78.3	78.9	78.5</td											

## RAINFALL

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

79 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.

	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE		
	Amount	Dura-tion	Max. rate	Amount	Dura-tion	Max. rate	Amount	Dura-tion	Max. rate	Amount	Dura-tion	Max. rate	Amount	Dura-tion	Max. rate	Amount	Dura-tion	Max. rate
1	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.
2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3	...	...	...	0.4	1.6	1	5.1	13.6	-	18.9	15.2	12	22.5	14.1	19	...	...	...
4	...	...	...	...	...	...	2.3	8.0	2	1.6	1.9	2	1.0	2.4	2	...	...	...
5	...	...	...	...	...	...	...	...	0.7	1.0	1	11.9	7.7	19	...	...	...	
6	2.2	2.3	...	5.0	3.5	3	29.5	12.2	13	...	...	...	24.5	9.7	8	6.0	7.0	4
7	...	...	...	8.2	5.8	6	8.5	9.8	20	...	...	...	6.0	2.9	32	2.6	3.3	1
8	1.0	1.7	...	...	...	...	0.5	0.3	...	0.5	1.4	1	...	...	...	4.1	4.3	6
9	0.6	0.7	...	1.0	3.2	1	...	...	...	...	...	...	...	...	...	11.5	3.5	19
10	...	...	...	14.5	12.6	3	...	...	...	...	...	...	...	...	...	1.8	1.4	18
11	...	...	...	0.2	1.0	...	...	...	...	0.4	1.3	1	...	...	...	0.5	0.4	1
12	11.8	7.6	28	5.7	6.5	5	...	...	...	1.7	3.2	5	...	...	...	...	...	...
13	19.0	12.0	13	7.4	6.9	22	...	...	...	1.6	2.4	7	34.9	16.0	36	0.4	0.3	...
14	0.8	1.4	...	...	...	...	...	...	...	1.2	3.2	4	0.9	2.4	1	0.3	0.1	...
15	13.5	12.6	28	0.2	0.2	...	...	...	...	...	...	...	...	...	...	40.4	15.2	10
16	6.8	5.5	10	3.3	6.4	4	...	...	...	...	...	...	...	...	...	1.2	3.3	1
17	3.7	5.1	3	4.0	4.2	6	...	...	...	...	...	...	0.1	0.1	...	4.3	7.7	4
18	16.4	13.8	8	...	...	...	...	...	...	...	...	...	...	...	...	5.6	8.9	24
19	36.4	12.4	14	5.1	13.6	4	0.9	1.4	2	...	...	...	...	...	...	2.8	4.8	-
20	21.2	16.1	7	0.1	0.2	...	2.2	0.8	23	...	...	...	...	...	...	27.0	18.4	(8)
21	0.4	3.0	...	9.1	14.1	3	9.9	6.9	33	...	...	...	...	...	...	17.3	15.8	5
22	2.3	8.7	3	5.2	5.5	10	23.1	13.0	19	...	...	...	0.5	1.9	1	3.9	5.8	20
23	1.0	3.3	1	11.0	6.6	(29)	1.4	2.3	1	...	...	...	1.0	1.5	3	0.9	1.6	8
24	...	...	...	18.8	9.7	10	0.4	2.3	...	...	...	...	22.2	11.5	53	6.9	12.6	8
25	0.3	0.3	...	3.7	3.5	5	3.2	5.7	2	...	...	...	12.9	9.9	13	10.6	7.6	40
26	...	...	...	6.9	4.8	1	...	...	...	...	...	...	0.1	0.1	...	6.5	6.1	15
27	...	...	...	...	...	...	...	...	...	...	...	...	10.9	4.3	38	...	...	...
28	1.8	2.2	...	0.3	0.2	...	5.3	5.6	5	...	...	...	13.2	6.6	22	...	...	...
29	0.9	3.9	-	...	...	...	13.0	7.5	4	...	...	...	5.5	6.1	11	0.7	1.2	...
30	0.3	2.5	...	...	...	...	4.2	3.2	10	3.4	2.1	21	...	...	...	2.4	5.0	...
31	0.5	4.8	...	...	...	...	2.1	0.4	14	...	...	...	...	...	...	...	...	...
Total	140.9	119.9	-	110.1	110.1	-	112.8	97.3	-	35.6	42.2	-	178.7	106.0	-	157.7	134.3	-

	JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER		
	Amount	Dura-tion	Max. rate	Amount	Dura-tion	Max. rate	Amount	Dura-tion	Max. rate	Amount	Dura-tion	Max. rate	Amount	Dura-tion	Max. rate	Amount	Dura-tion	Max. rate
1	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.
2	1.0	1.8	1	0.6	1.3	11	...	...	...	4.9	7.5	7	0.6	4.2	...	13.1	5.6	19
3	0.2	0.5	...	5.1	6.2	13	0.4	1.4	3	2.4	3.1	1	2.8	2.3	5	51.5	14.8	22
4	5.2	4.2	22	...	...	...	4.2	5.0	4	5.6	3.0	6	0.8	1.7	1	7.9	2.1	40
5	4.9	4.0	7	...	...	...	...	...	...	1.2	4.1	3	5.6	7.9	3	10.5	5.1	57
6	0.2	0.2	...	17.6	7.6	18	...	...	...	19.0	9.6	48	0.2	0.3	...	1.7	1.2	4
7	...	...	...	14.9	7.8	67	9.7	8.4	7	...	...	...	1.8	5.0	...	...	...	...
8	1.0	0.6	8	0.2	0.2	...	6.7	5.2	70	0.6	0.8	4	1.1	2.6	1	...	...	...
9	3.7	9.3	7	2.7	1.1	22	4.0	2.7	13	7.3	8.6	5	42.0	16.3	28	13.2	8.3	3
10	0.3	1.1	...	12.8	7.5	25	24.7	11.3	33	3.2	2.3	3	2.2	1.6	4	7.2	4.6	2
11	5.3	9.1	9	6.5	1.8	48	23.0	10.2	84	...	...	...	22.2	6.6	45	5.6	8.1	1
12	...	...	...	1.2	0.5	5	1.0	0.9	4	1.9	2.3	1	10.4	5.1	9	10.3	10.7	1
13	4.9	4.4	9	9.5	5.0	33	0.1	0.1	...	20.2	14.8	4	10.4	7.1	55	0.7	0.2	3
14	2.8	2.6	15	0.5	0.3	1	12.7	5.4	10	1.5	3.0	2	...	...	...	19.7	11.8	28
15	0.2	0.2	...	0.5	0.4	5	12.9	5.7	20	36.5	17.4	33	0.1	0.1	...	...	...	...
16	6.9	8.0	8	5.7	1.9	18	21.6	7.9	48	5.7	6.7	8	1.0	2.7	3	11.0	9.1	82
17	5.0	7.4	11	19.0	8.6	10	10.4	4.9	50	50.7	24.0	51	...	...	...	3.3	1.0	2
18	...	...	...	11.5	10.0	4	0.3	0.1	15	47.3	20.3	98	3.7	9.3	1	12.9	16.9	5
19	...	...	...	...	...	...	16.9	4.7	45	9.9	4.4	33	2.8	2.5	8	7.1	5.6	36
20	9.6	4.9	14	0.5	0.9	3	9.8	5.8	53	1.0	4.5	3	1.4	1.4	3	3.9	2.9	28
21	0.3	0.1	7	9.0	4.2	49	4.3	3.6	15	3.0	4.0	3	6.7	7.4	6	6.1	6.5	28
22	0.2	0.1	3	3.8	3.1	10	...	...	...	4.0	4.1	15	9.7	4.5	19	2.1	1.7	8
23	21.9	14.1	8	1.0	3.3	5	12.0	4.0	10	24.4	14.5	41	30.8	18.0	7	0.7	0.9	...
24	0.6	2.3	1	0.6	1.2	5	18.3	8.5	28	0.7	0.8	1	1.5	3.1	...	3.2	5.8	1
25	...	...	...	...	...	...	2.9	2.8	23	...	...	...	9.4	6.0	7	13.7	13.2	28
26	20.9	9.0	26	...	...	...	1.4	1.4	4	8.6	4.9	(15)	8.5	6.6	7	5.4	6.4	14
27	17.8	13.7	73	0.7	1.0	4	1.2	0.9	4	12.1	6.7	133	30.9	12.8	17	3.0	6.2	5
28	20.0	11.5	47	2.4	5.9	3	2.0	1.0	7	4.5	2.7	76	24.1	8.8	17	5.6	9.3	4
29	...	...	...	5.4	11.6	4	2.0	1.3	2	41.4	12.5	57	5.8	4.0	8	0.6	0.8	4
30	0.2	0.4	...	...	...	...	16.1	10.6	3	0.7	2.3	1	9.8	6.8	3	0.8	1.8	3
31	1.6	2.4	13	16.6	12.3	27	...	...	...	...	...	...	...	...	...	...	...	...
Total	134.7	111.9	-	148.3	103.7	-	220.5	115.1	-	318.6	190.3	-	271.4	162.9	-	221.0	161.0	-

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

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

	Hour G.M.T.	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.	3.9	5.8	7.1	7.4	8.3	6.0	4.4	6.0	9.9	7.4	5.4	3.5	3.6	6.3	6.3	2.1	5.4	4.1	6.6	6.7	7.4	5.4	5.4	6.5	140.9	
Feb.	5.4	4.8	6.0	6.0	3.1	2.3	4.6	5.3	4.1	3.5	4.3	2.0	6.6	3.9	6.4	4.5	4.3	4.0	2.1	3.4	6.3	7.1	6.5	3.6	110.1	
Mar.	5.2	3.3	1.2	2.4	4.4	4.7	4.3	2.7	3.4	3.2	2.6	2.4	1.4	2.4	1.8	1.8	4.3	7.7	8.5	11.5	13.5	10.6	6.0	3.5	112.8	
Apr.	0.5	1.4	0.8	2.2	2.2	1.9	3.0	3.6	4.8	2.2	0.9	1.6	1.4	0.5	1.2	2.8	0.6	0.7	0.3	2.1	0.2	...	...	0.7	35.6	
May	7.3	7.8	10.9	12.6	7.3	6.5	4.9	6.8	9.5	7.7	3.3	7.5	10.1	6.8	3.0	1.1	3.9	3.4	4.2	8.0	7.8	10.3	13.4	14.6	178.7	
June	7.6	9.4	4.0	5.6	5.3	2.9	3.4	6.9	7.5	7.1	9.8	10.4	6.8	11.7	11.6	10.1	5.2	5.7	6.1	4.4	7.2	2.9	2.7	3.4	157.7	
July	6.7	3.9	7.1	6.1	6.8	4.8	2.3	1.7	4.6	4.2	5.1	6.2	9.2	7.4	8.6	6.7	5.8	3.9	6.1	3.6	2.6	9.4	5.5	6.4	134.7	
Aug.	4.6	4.6	8.7	8.6	10.5	12.6	14.4	12.0	5.6	6.4	3.0	7.2	3.6	2.5	1.6	3.4	6.7	7.0	2.0	4.4	5.2	1.7	6.7	5.3	148.3	
Sept.	15.1	14.7	8.9	8.4	5.4	2.0	8.7	5.3	9.4	11.4	8.2	7.7	8.1	6.3	11.4	15.0	9.8	2.8	5.3	8.4	8.2	14.6	13.8	11.6	220.5	
Oct.	12.4	13.4	15.7	12.4	9.7	13.3	11.2	13.0	9.3	9.5	11.7	16.2	11.0	10.5	19.3	20.1	10.3	12.2	12.0	14.5	16.1	14.9	12.5	17.4	318.6	
Nov.	6.9	9.3	12.7	15.2	17.1	9.2	13.2	20.7	12.9	19.9	15.4	14.1	11.6	15.6	8.8	7.3	13.0	7.8	9.5	5.5	9.2	7.8	5.3	3.4	271.4	
Dec.	15.9	13.1	7.7	10.0	5.8	9.0	9.1	9.4	10.6	11.7	9.0	9.0	5.9	5.2	9.6	6.5	12.1	7.7	7.3	5.3	5.7	10.8	10.0	14.6	221.0	
Annual	91.5	91.5	90.8	96.9	85.9	75.2	83.5	93.4	91.6	94.2	78.7	87.8	79.3	79.1	89.6	81.4	81.4	67.0	70.0	77.8	89.4	95.5	87.8	91.0	2050.3	

**RAINFALL**

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

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

	Hour G.M.T.	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.	3.9	6.3	5.0	4.6	5.2	5.7	6.1	2.8	5.1	4.1	5.1	4.6	3.3	5.0	3.6	4.8	6.3	6.1	6.4	6.7	6.4	5.6	3.8	3.4	119.9	
Feb.	3.2	3.3	4.8	5.3	4.9	3.0	3.5	7.3	5.0	5.1	4.4	3.9	5.0	3.7	3.7	6.1	4.8	4.1	4.1	5.2	6.3	5.3	5.6	2.5	110.1	
Mar.	4.5	3.2	2.1	2.5	4.0	4.1	6.6	3.4	3.6	4.0	3.6	2.2	3.1	3.9	2.8	1.9	3.8	5.5	5.7	6.1	7.2	5.2	4.5	3.8	97.3	
Apr.	1.8	1.4	1.3	2.0	2.2	2.4	2.5	3.9	3.3	1.0	2.0	2.6	2.1	0.6	3.1	1.0	1.3	1.8	1.8	2.3	0.8	...	...	1.0	42.2	
May	4.5	4.7	4.3	4.4	4.3	5.9	5.4	6.6	5.9	5.3	5.7	3.8	3.7	3.5	3.0	3.3	4.2	3.1	3.4	3.7	4.4	4.8	4.4	106.0		
June	6.5	8.5	5.9	7.2	7.7	4.4	5.0	4.7	4.9	5.1	6.1	4.8	4.8	6.2	7.1	4.9	4.3	5.0	5.2	4.1	4.6	4.2	6.0	7.1	134.3	
July	5.0	2.9	4.6	5.6	5.0	5.8	5.2	4.4	5.3	3.7	3.4	2.9	4.2	3.7	4.6	5.3	5.1	2.4	4.7	4.6	4.8	5.6	7.2	5.9	111.9	
Aug.	5.8	5.5	6.7	6.4	7.4	8.9	6.4	5.8	2.9	3.5	3.0	3.6	2.3	2.5	1.4	2.4	2.0	3.5	3.2	6.3	4.3	2.8	3.9	3.2	103.7	
Sept.	4.7	5.6	5.6	4.9	4.7	5.0	5.3	5.2	6.7	5.4	3.1	4.1	5.3	4.5	3.9	5.2	4.3	3.1	3.7	4.6	5.6	4.8	4.8	5.0	115.1	
Oct.	8.7	10.7	10.1	7.1	8.7	8.6	9.5	9.8	8.5	6.5	7.3	5.4	6.1	6.2	7.3	7.0	7.4	6.1	7.1	8.3	8.5	7.8	7.5	10.1	190.3	
Nov.	8.1	10.3	11.7	9.3	7.6	7.0	6.9	8.9	8.7	6.8	6.7	6.5	5.4	4.1	4.7	4.4	8.8	6.1	4.0	3.8	6.2	5.3	6.2	5.4	162.9	
Dec.	7.5	7.6	6.8	4.4	6.0	4.6	8.1	7.7	7.9	5.7	5.8	6.9	6.9	5.9	6.0	6.1	8.6	6.7	8.1	5.8	6.4	7.4	6.7	7.4	161.0	
Annual	64.2	70.0	68.9	63.7	67.7	65.4	70.5	70.5	67.8	56.2	56.2	51.3	52.2	49.8	51.2	52.4	60.9	53.5	57.4	61.5	64.8	58.4	61.0	59.2	1454.7	

NOTES ON RAINFALL

82 ESKDALEMUIR

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" April 15-29

"Partial drought" No occasions

"Dry spell" April 15-29

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" November 18-December 5; December 16-30

"Wet spell" November 18-December 5

Rainfall Duration

There were 102 days on which no duration of rainfall was registered. The day with the greatest duration was October 17 when the duration was 24.0 hr., the amount falling being 50.7 mm.

Hours	0-1-1-0	1-1-2-0	2-1-6-0	6-1-12-0	>12-0
Number of days	42	33	85	71	32

Notable Falls of the Year

The greatest amount in a 60 min. period was 8.2 mm. which was recorded between 11h. and 12h. on October 18; on this occasion 5 mm. of rain fell in 18 min. Falls of 5 mm. in 1 hr. or less occurred on 21 days.

Details of the greatest continuous falls are as follows

	January 18-19	June 15	October 16-17	October 18	December 1-2
Amount (mm.)	52.8	40.4	55.9	44.5	61.5
Duration of rainfall (hr.)	26.2	15.2	29.8	19.2	16.4

Rate of Rainfall (Jardi recorder)

The highest instantaneous rate of rainfall was 133 mm./hr. at 23h. 8m. on October 27. The maximum rate exceeded the 50 mm./hr. four times on October 27, three times on October 18, twice on October 28 and once on May 24, July 27, August 6, September 7 and 10, October 17 and 29, November 13, December 4 and 16.

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

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

	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER				
	Dura- tion	Per cent. of pos- sible																									
1	hr.	%	hr.	%																							
2	3.2	45	3.7	43	7.4	70	9.8	75	2.7	18	4.3	25	2.4	14	1.2	8	4.2	30	0.0	...	0.6	6	0.0	...	0.0	...	
3	2.2	31	0.8	9	0.0	...	0.0	...	0.5	3	10.8	64	0.5	3	9.9	62	0.0	...	0.9	8	2.3	25	0.0	...	0.9	12	
4	3.8	53	0.0	...	0.0	...	0.0	...	1.9	12	13.5	79	3.9	23	0.7	4	0.6	4	0.0	...	0.3	3	0.0	...	0.1	4	
5	3.2	44	0.0	...	0.0	...	8.1	74	8.0	60	1.4	9	9.6	56	6.0	35	0.0	...	7.1	53	0.3	3	0.4	4	1.1	15	
6	3.2	44	0.0	...	0.0	...	6.8	51	1.6	10	0.6	4	6.9	40	1.3	8	3.2	24	7.1	64	0.0	...	3.3	45	0.0	...	
7	6.3	87	5.7	63	0.0	...	1.4	10	4.0	26	0.0	...	3.0	18	7.4	47	2.6	19	2.2	20	2.6	29	0.0	...	0.0	...	
8	0.0	...	1.5	17	6.1	55	0.0	...	5.3	34	2.8	15	2.5	15	4.2	27	1.6	12	0.1	1	0.0	...	0.0	...	0.0	...	
9	0.0	...	0.0	...	5.0	45	4.9	36	3.0	19	2.2	13	1.3	8	0.0	...	0.0	...	4.7	54	0.0	...	4.7	54	0.0	...	
10	1.6	22	0.0	...	0.0	...	7.5	55	6.0	38	2.8	16	0.0	...	4.3	28	0.6	5	5.6	52	3.2	37	0.0	...	0.0	...	
11	3.1	42	0.0	...	6.1	54	0.4	3	7.0	44	2.2	13	2.5	15	5.7	37	4.1	31	0.7	6	0.6	7	0.0	...	0.0	...	
12	0.0	...	0.0	...	8.9	78	7.3	53	10.1	64	3.7	21	2.6	15	4.5	30	5.1	39	0.1	1	3.1	36	0.0	...	0.0	...	
13	0.0	...	0.0	...	2.1	18	4.2	30	0.0	...	2.0	12	3.3	19	4.5	30	0.0	...	0.0	...	0.1	1	0.0	...	0.0	...	
14	0.0	...	0.0	...	0.0	...	0.0	...	0.0	...	1.5	9	7.8	46	6.4	42	4.6	36	5.6	53	7.4	88	0.0	...	0.0	...	
15	0.0	...	1.5	16	0.0	...	11.3	81	5.3	33	0.0	...	7.5	45	0.3	2	1.9	15	0.0	...	1.7	20	1.4	20	0.0	...	
16	2.6	34	0.0	...	0.5	4	4.3	30	4.1	25	2.7	16	0.4	2	0.3	2	4.1	32	5.0	48	6.4	77	0.0	...	0.0	...	
17	4.7	61	2.5	26	4.1	35	1.1	8	7.0	43	5.6	32	1.9	11	0.0	...	4.3	34	0.0	...	6.0	73	2.8	40	0.0	...	
18	0.0	...	0.3	3	5.5	46	1.9	13	10.5	55	3.1	18	2.2	13	2.3	16	8.0	54	0.0	...	0.0	...	0.0	...	0.0	...	
19	1.1	14	0.0	...	0.0	...	9.3	65	2.1	13	0.6	3	5.6	34	1.5	10	2.3	18	1.0	10	0.0	...	0.0	...	0.0	...	
20	0.0	...	6.2	62	0.6	5	10.9	76	6.9	42	0.0	...	1.9	11	0.7	5	2.1	17	3.6	36	2.6	32	0.9	12	0.0	...	
21	0.0	...	0.0	...	0.3	2	8.2	57	4.0	24	0.0	...	6.1	37	0.0	...	3.1	25	2.8	28	0.0	...	0.0	...	0.0	...	
22	0.0	...	2.1	21	0.1	1	7.9	54	3.5	21	1.6	9	2.4	15	0.0	...	8.1	66	0.1	1	0.0	...	0.1	4	1.9	27	
23	0.0	...	1.7	17	2.0	16	7.5	51	0.7	4	2.8	16	0.0	...	3.2	22	2.2	18	0.0	...	0.0	...	0.0	...	2.2	31	
24	0.0	...	0.3	3	1.5	12	0.0	...	0.0	...	0.0	...	2.1	13	1.6	11	0.0	...	0.1	1	4.2	54	0.0	...	0.0	...	
25	0.0	...	2.4	23	0.0	...	6.2	42	6.7	40	0.8	5	4.9	30	0.0	...	1.4	12	6.4	66	0.4	5	0.0	...	0.0	...	
26	0.0	...	1.2	12	5.6	45	10.9	73	6.3	38	4.3	25	0.2	1	0.0	...	4.5	38	2.5	26	0.0	...	0.8	11	0.0	...	
27	1.9	23	2.7	26	1.1	9	8.7	58	1.6	10	3.7	21	1.8	11	0.0	...	4.6	39	1.2	12	2.2	29	0.0	...	0.1	0.0	
28	5.1	61	0.0	...	5.4	43	4.4	29	0.0	...	3.6	21	1.0	6	3.0	21	6.4	54	0.0	...	0.1	1	0.0	...	0.0	...	
29	1.4	17			1.4	11	5.4	36	5.8	34	8.4	49	5.6	35	0.2	1	8.6	73	0.1	1	0.3	4	0.0	...	0.0	...	
30	1.7	20			4.0	31	0.3	2	10.3	61	0.4	2	1.9	12	5.1	37	0.3	3	2.6	28	0.0	...	0.0	...	0.0	...	
31	5.7	67					7.0	54			13.8	82			1.7	11	0.0	...			0.0	...			0.0	...	
Mean	1.76	23	1.16	12	2.67	23	5.23	37	4.33	27	3.61	21	2.93	17	2.47	17	3.39	27	1.63	16	1.64	20	0.50	7			
													Annual mean	2.61	21												

DURATION OF BRIGHT SUNSHINE  
Monthly and annual totals between exact hours, local apparent time84 ESKDALEMUIR:  $h_s = 1.5$  m.

	Hour L.A.T.	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total	Per cent. of possible	%
Jan.	-	-	-	-	...	1.3	6.4	8.4	8.9	11.0	9.6	7.2	1.8	...	-	-	-	-	-	54.6	23	
Feb.	-	-	-	...	...	1.2	3.7	5.7	5.8	5.5	4.3	4.1	2.2	0.1	...	-	-	-	-	32.6	12	
Mar.	-	-	-	...	3.5	6.3	9.0	8.9	11.3	11.3	11.0	9.3	7.3	3.7	1.2	...	-	-	-	82.8	23	
Apr.	-	...	0.3	7.2	11.1	13.3	13.1	15.5	13.5	14.0	16.0	15.7	14.7	13.2	7.8	1.4	...	-	-	156.8	37	
May	...	0.1	4.2	5.5	7.0	8.7	10.9	11.3	11.1	12.8	12.6	13.7	13.0	10.9	8.3	3.8	0.4	...	-	134.3	27	
June	...	0.8	4.3	6.4	6.4	7.9	7.8	8.3	9.9	10.2	9.5	8.9	7.0	8.9	6.1	4.2	1.8	...	-	108.4	21	
July	...	0.1	3.7	6.1	6.3	6.7	7.5	7.9	8.6	7.1	6.4	6.0	6.4	5.7	5.8	5.2	1.2	...	-	90.7	17	
Aug.	-	...	0.3	3.1	6.5	8.1	8.7	7.3	7.0	7.7	7.7	6.5	5.3	4.4	3.0	1.0	0.1	-	-	76.7	17	
Sept.	-	-	...	0.9	4.1	7.2	12.5	13.3	12.1	12.0	12.9	11.1	9.0	4.9	1.6	...	-	-	-	101.6	27	
Oct.	-	-	-	...	0.7	2.5	7.5	8.0	8.4	8.8	6.8	4.3	2.2	1.2	...	-	-	-	-	50.4	16	
Nov.	-	-	-	...	1.6	6.4	8.6	9.3	8.7	7.7	5.2	1.7	...	-	-	-	-	-	49.2	20		
Dec.	-	-	-	-	...	3.0	4.6	4.0	1.5	1.6	0.8	...	-	-	-	-	-	-	15.5	7		
Annual	1.0	12.8	29.2	45.6	64.8	96.5	107.8	109.9	110.6	105.1	92.8	70.6	53.0	33.8	15.6	3.5	...	-	-	953.6	21	

## WIND

Mean speed and highest instantaneous speed recorded each day (0h. to 24h., G.M.T.) by the pressure-tube anemograph  
 85 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.

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	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	0.3	5	1.0	7	2.0	11	2.3	11	1.6	12	4.9	16	3.6	14	1.8	9	2.3	11	3.3	15	1.9	9	7.9	23
2	1.4	15	0.1	4	2.8	14	2.2	14	5.0	20	3.6	10	4.2	14	4.1	16	2.6	12	4.9	18	2.9	16	9.3	22
3	4.4	18	0.1	2	2.5	11	7.1	23	5.7	17	2.9	8	4.6	16	2.9	10	6.5	23	2.9	12	3.8	15	8.0	24
4	2.9	17	0.6	5	5.9	21	5.2	22	1.9	9	3.7	12	1.5	10	0.7	6	2.0	19	3.5	13	3.7	15	8.8	34
5	0.2	4	0.1	2	4.3	20	3.0	14	4.8	29	3.8	11	1.8	10	2.0	13	1.8	11	4.2	14	0.3	6	2.8	20
6	2.4	14	2.7	16	5.8	23	1.7	10	6.6	31	2.9	10	1.1	10	2.3	11	2.8	12	3.1	15	3.2	13	0.9	12
7	2.4	12	3.7	19	8.9	28	3.4	13	3.0	13	2.3	9	1.3	8	2.1	9	3.7	17	0.5	5	0.9	6	0.0	0
8	1.1	12	0.6	7	3.0	19	4.5	12	2.4	11	3.6	14	2.0	8	3.5	13	5.0	15	0.6	8	5.7	21	5.9	29
9	1.3	16	0.9	7	1.0	7	4.2	13	3.9	13	1.5	8	1.6	9	1.3	6	9.6	30	3.1	16	4.0	16	1.7	24
10	3.2	22	7.1	23	0.9	7	1.2	8	2.4	10	2.3	11	2.2	10	1.4	11	6.1	14	4.0	16	5.7	21	5.1	20
11	3.3	25	3.4	11	1.3	8	3.4	13	1.7	6	2.4	11	0.3	4	3.6	14	4.0	15	4.2	15	5.8	30	1.3	11
12	5.5	17	4.9	13	2.4	11	2.2	16	1.2	8	0.9	6	1.3	9	1.1	6	3.3	17	9.4	23	5.5	29	2.0	14
13	3.4	23	1.6	15	3.4	13	4.2	18	1.4	7	1.4	9	3.0	11	2.7	12	0.8	8	9.7	23	4.8	20	1.1	13
14	4.0	20	2.1	9	5.2	17	5.1	23	3.5	13	1.8	10	3.7	16	1.2	8	4.8	20	0.6	5	1.3	11	4.1	22
15	10.4	36	1.5	10	3.3	10	3.9	18	1.2	7	4.0	15	3.6	18	2.1	9	8.3	23	4.7	19	0.5	6	3.2	24
16	7.5	29	2.4	12	3.3	10	0.7	7	1.2	8	3.2	11	4.6	14	1.9	8	7.8	29	2.8	13	1.5	11	5.7	22
17	3.7	25	1.5	10	1.5	7	0.7	9	2.2	12	5.0	12	3.9	13	3.8	17	6.8	21	3.5	18	0.3	6	4.8	17
18	3.6	18	2.7	11	1.8	9	1.1	7	1.6	8	8.5	20	2.8	12	7.2	23	1.8	11	6.8	21	0.7	6	10.3	23
19	8.4	26	2.1	14	1.0	9	1.5	9	2.1	15	6.8	18	2.0	10	5.8	19	4.2	18	5.8	20	1.9	10	6.8	20
20	2.5	13	0.6	6	2.2	12	1.9	8	4.1	15	7.6	17	3.8	14	6.8	18	5.7	19	7.7	24	2.8	11	5.8	24
21	1.7	9	4.3	19	7.9	20	1.2	9	3.5	13	3.7	12	4.6	19	5.3	18	3.9	23	5.6	18	5.0	12	8.1	34
22	2.3	10	3.8	27	4.4	16	2.1	10	4.9	17	4.9	18	3.3	15	3.6	14	1.7	11	2.7	17	6.7	23	6.6	29
23	2.7	10	9.3	26	2.2	16	2.5	12	1.6	9	5.9	21	3.8	12	3.0	13	3.2	16	5.9	20	3.1	11	8.3	31
24	4.5	15	6.6	21	3.9	20	1.4	7	5.5	15	5.4	17	4.8	13	3.1	14	7.9	20	0.9	12	3.0	16	1.3	9
25	4.5	17	4.5	16	2.8	12	3.4	12	5.9	18	5.5	16	2.0	11	0.6	6	3.8	19	2.1	12	5.0	16	4.7	25
26	3.2	11	2.3	13	2.2	15	3.5	13	3.1	12	6.3	19	3.0	14	1.4	9	2.7	19	2.3	18	4.9	21	8.5	30
27	5.7	19	0.4	7	1.6	9	1.0	7	3.4	16	4.5	17	6.0	16	3.4	15	1.2	9	7.4	19	7.3	28	7.5	25
28	5.5	19	4.1	18	2.7	12	0.6	7	1.5	14	2.1	9	3.0	12	4.3	17	3.4	22	7.0	22	8.6	28	6.7	24
29	6.8	19	3.6	17	1.5	11	4.8	15	1.6	10	4.9	21	7.9	28	4.2	20	3.9	21	4.5	23	2.8	11	3.9	21
30	1.3	9			5.1	19	0.9	9	4.3	15	3.1	13	4.3	17	5.5	27	1.3	12	2.6	11	11.2	30	2.1	10
31	2.3	11			2.9	10			4.2	17			3.8	12	4.3	14			1.1	9			1.3	10

## WIND

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

86 ESKDALEMUIR:  $h_a = 235$  m. + 15 m.

	Hour	G.M.T.	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.	3.3	3.6	3.1	3.0	3.1	3.6	3.5	3.2	3.2	3.6	4.1	4.1	4.5	4.4	4.1	4.1	3.7	3.4	3.6	3.7	3.6	3.5	3.2	3.6	3.6	3.6	
Feb.	2.0	2.1	2.3	2.2	2.1	2.1	2.3	2.3	2.7	2.8	2.8	3.1	3.2	3.4	3.4	3.1	2.5	2.7	2.7	3.0	3.0	3.2	3.0	3.2	3.0	2.3	2.7
Mar.	2.7	2.6	2.6	2.7	2.8	2.6	2.7	3.0	3.2	3.8	4.0	4.2	4.3	4.3	4.3	4.1	3.9	3.5	3.1	2.7	2.7	2.9	2.8	3.0	3.0	3.3	3.3
Apr.	1.9	1.9	1.8	1.7	1.9	1.7	1.9	2.5	3.0	3.6	3.8	3.7	3.8	3.9	3.9	3.6	3.4	2.9	2.0	1.6	1.6	1.7	1.7	1.7	1.7	2.6	2.6
May	2.5	2.4	2.4	2.0	2.0	2.4	2.7	3.3	4.0	4.0	4.3	4.3	4.1	4.1	4.2	4.2	4.2	3.9	3.6	3.1	2.5	2.4	2.6	2.6	2.6	3.2	3.9
June	3.0	3.1	2.9	3.1	3.4	3.4	3.6	4.2	4.5	4.7	4.8	5.1	4.9	4.9	4.9	4.9	4.9	4.5	4.1	3.5	3.1	3.0	3.2	3.1	3.1	3.9	3.9
July	2.1	2.1	2.1	2.4	2.7	3.4	3.5	3.7	4.0	4.1	4.3	4.3	4.3	4.3	4.3	4.2	3.8	3.6	3.2	2.9	2.7	2.5	2.3	2.3	2.3	3.1	3.1
Aug.	2.4	2.4	2.4	2.6	2.6	2.6	2.6	3.0	3.5	4.0	4.2	4.5	4.3	4.6	4.5	4.4	4.4	3.9	3.4	2.8	2.6	2.4	2.5	2.5	2.5	3.3	3.3
Sept.	3.1	2.9	3.0	2.8	3.1	3.1	3.0	3.4	4.0	4.8	5.4	5.6	5.8	5.9	6.2	5.7	5.2	4.7	4.1	3.4	3.3	3.3	3.1	3.1	3.1	4.1	4.1
Oct.	3.6	3.5	3.5	3.3	3.6	3.5	3.6	3.4	3.8	4.1	4.4	4.8	5.1	5.4	5.2	5.0	4.7	4.3	4.1	4.0	3.7	3.8	3.9	3.9	3.9	4.1	4.1
Nov.	3.1	3.4	3.5	3.5	3.3	3.6	3.7	3.7	4.2	4.0	4.8	5.2	5.2	5.2	4.5	4.2	4.0	4.0	3.8	3.4	3.4	3.2	3.2	3.0	3.0	3.9	3.9
Dec.	5.3	5.1	5.1	5.0	5.1	4.8	4.8	4.6	4.																		

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

88 ESKDALEMUIR

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

89 ESKDALEMUIR

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
	degrees Absolute											
1	68·8	62·1	59·5	69·5	71·2	77·5	81·2	78·1	78·1	80·5	78·0	78·1
2	71·0	56·3	55·7	73·1	76·6	77·9	75·7	83·3	86·0	83·0	71·0	79·0
3	72·6	63·3	69·3	73·9	74·6	76·9	78·2	77·1	84·5	83·4	78·8	77·0
4	71·4	71·0	69·0	73·1	77·1	76·7	78·2	75·0	78·1	78·9	80·1	77·9
5	70·1	72·2	71·0	71·2	71·2	77·0	76·9	80·0	71·4	84·7	72·6	73·8
6	64·1	59·0	69·0	67·9	73·7	79·8	68·8	82·0	77·1	76·5	76·1	70·4
7	62·8	70·4	73·2	65·1	72·9	79·0	78·7	81·0	75·4	69·0	65·4	64·0
8	60·2	64·0	73·8	75·8	73·7	79·2	80·2	78·7	83·5	71·8	74·9	63·4
9	74·8	62·0	68·4	77·0	74·2	80·4	81·4	82·3	79·7	78·0	73·1	73·0
10	71·7	72·2	73·1	67·5	77·1	80·2	83·1	76·0	82·5	74·0	75·2	72·4
11	73·0	72·1	73·5	73·7	79·6	80·6	82·1	81·9	81·3	78·1	72·3	64·7
12	76·0	73·1	72·2	72·1	76·1	78·2	77·8	71·9	78·2	79·4	73·1	72·6
13	71·2	73·0	71·3	74·3	84·0	74·0	79·0	81·9	77·3	84·7	73·0	71·0
14	70·0	73·0	73·9	76·4	81·1	77·0	83·2	78·2	76·7	74·7	70·3	64·3
15	73·6	74·6	73·6	78·8	75·5	77·5	80·9	81·6	80·0	77·0	65·0	76·2
16	76·1	67·8	72·6	68·0	72·2	84·0	81·3	79·7	81·0	74·3	71·8	71·8
17	73·0	73·7	71·0	74·5	74·0	83·7	84·1	76·9	79·1	79·0	63·4	72·1
18	67·2	64·7	68·7	69·1	71·9	84·5	82·0	82·2	70·7	85·4	70·2	78·3
19	78·6	73·0	69·0	65·2	73·4	83·4	73·3	80·0	76·4	83·8	78·0	81·0
20	77·8	65·4	75·5	70·2	75·4	83·0	84·0	83·0	73·9	79·8	75·5	76·8
21	73·5	69·4	76·2	64·9	74·0	82·7	80·6	82·6	78·0	78·0	77·4	73·4
22	72·8	66·3	78·0	70·2	76·4	79·4	79·8	82·9	71·8	75·0	76·9	75·5
23	73·5	76·3	75·6	68·3	78·0	80·7	73·6	81·5	68·8	77·2	70·8	73·0
24	69·8	71·0	74·9	70·7	78·0	81·9	87·0	82·8	81·0	74·6	75·0	66·8
25	69·8	72·8	71·4	76·3	81·6	83·2	72·1	82·6	82·0	68·7	69·6	72·7
26	71·0	68·7	74·0	69·9	78·6	78·4	75·7	78·1	70·1	64·9	68·8	74·9
27	68·0	60·0	68·5	68·9	82·9	80·2	80·2	79·7	64·8	77·0	77·9	77·9
28	67·6	64·7	74·0	71·0	84·4	78·4	81·6	75·8	65·0	80·1	76·9	79·4
29	69·5		66·9	69·6	83·0	75·0	80·0	83·0	73·1	80·4	75·9	80·1
30	63·5		75·7	70·4	81·0	80·1	81·4	82·7	74·6	77·6	76·0	77·1
31	60·9		72·8		79·5		80·9	82·4		72·0		75·1
Mean	70·5	68·3	71·3	71·2	76·9	79·7	79·8	80·2	76·7	77·5	73·4	73·7
						Year	75·0					

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.

The minimum on the glass refers to the melting point of the glass, which is known as the softening point or the temperature at which the glass becomes ductile. The softening point of glass is given by the formula:

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

59

90 ESKDALEMUIR

	JANUARY, factor 4.47				FEBRUARY, factor 4.62				MARCH, factor 4.76			
	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	290	245	225	70	145	150	265	505	200	340	Z+
2	210	Z+	140	265	195	170	160	290	185	185	300	Z+
3	195	140	220	220	90	85	330	Z+	Z+	35	Z+	Z+
4	80	160	305	250	Z-	215	35	Z+	115	Z+	Z+	Z+
5	85	85	135	220	75	10	250	285	Z+	Z+	295	295
6	Z-	160	235	290	165	210	215	75	125	125	Z-	Z-
7	225	160	270	515	Z-	Z+	435	245	105	15	Z±	-45
8	235	-45	215	195	205	145	195	495	70	145	145	240
9	75	50	250	280	285	315	410	145	160	135	200	300
10	195	115	170	185	250	Z+	Z+	Z-	215	105	180	95
11	120	105	80	120	65	55	-5	195	285	455	210	190
12	125	85	Z-	Z-	225	160	185	55	170	355	290	390
13	75	Z+	135	365	135	Z±	Z±	320	205	210	205	115
14	235	85	85	195	Z+	Z+	Z+	Z+	65	90	120	75
15	Z-	Z-	75	Z±	160	185	160	190	95	95	155	145
16	Z±	Z±	Z-	Z+	90	70	195	260	150	120	160	245
17	Z-	140	160	140	Z-	175	110	270	165	125	245	245
18	115	125	70	Z-	90	215	285	220	320	275	370	435
19	Z-	-90	115	55	-5	95	290	290	20	-5	145	310
20	70	Z-	Z-	30	295	295	255	430	285	400	180	15
21	25	-5	310	310	65	150	480	210	30	95	185	Z-
22	135	40	-20	20	80	155	140	170	190	Z-	140	Z-
23	130	115	150	230	Z-	Z-	Z-	225	110	160	10	45
24	205	290	315	320	140	Z±	Z-	Z-	20	-	65	65
25	260	185	285	170	135	-	190	435	30	Z-	45	130
26	75	190	165	240	Z-	285	Z+	415	90	135	135	165
27	90	150	205	360	210	335	340	Z+	85	135	135	75
28	175	140	140	70	Z+	Z+	Z+	355	55	-20	135	125
29	-115	-15	150	150	Z-	Z-	Z-	Z-	30	65	170	Z-
30	85	105	155	455	Z-	Z-	Z-	Z-	145	75	145	150
31	110	130	235	170	Z-	Z-	Z-	Z-	80	190	145	125
(a)	141	138	186	224	151	173	241	265	142	164	180	181
(b)	134	118	194	233	137	158	224	238	146	167	174	183
Mean	(a) 172	(b) 170			(a) 207	(b) 189			(a) 167	(b) 167		

	APRIL, factor 4.92				MAY, factor 4.96				JUNE, 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	290	105	125	150	130	200	45	190	-	-	155	165
2	45	410	25	170	150	Z±	Z±	195	60	160	165	120
3	Z-	Z-	95	Z-	Z-	Z-	Z-	-45	55	85	110	115
4	125	Z+	Z±	135	-110	165	165	75	85	150	150	130
5	Z+	190	200	270	75	170	190	90	50	115	85	130
6	365	180	100	110	Z±	Z-	Z+	190	70	40	Z+	Z-
7	110	175	160	150	160	115	Z±	175	15	200	55	95
8	80	140	95	160	175	270	145	150	180	-60	Z±	Z+
9	75	220	150	65	160	175	190	240	100	130	115	140
10	60	130	165	100	115	80	125	40	-	-	100	135
11	65	235	-45	20	65	125	80	25	85	145	100	95
12	100	160	165	175	45	70	210	85	120	145	85	95
13	60	135	125	155	70	Z+	Z-	-215	130	135	75	-10
14	70	75	60	160	115	25	40	170	35	85	90	100
15	125	-	-	205	90	110	95	90	25	Z-	Z-	385
16	105	155	180	50	85	155	100	80	70	250	-	-
17	5	85	110	150	Z-	100	105	165	-	-	180	395
18	75	95	130	10	65	110	145	65	205	190	50	90
19	0	185	155	65	60	65	80	100	35	80	-70	30
20	30	120	-	-	25	70	125	190	40	10	65	150
21	-	-	160	35	100	125	155	75	Z-	Z-	45	-
22	15	90	145	80	75	-80	90	65	-	-	135	-
23	165	115	110	95	35	75	95	75	120	100	95	120
24	55	85	105	120	135	35	Z-	195	45	Z-	75	225
25	115	60	165	140	Z-	Z-	250	155	45	75	Z-	Z-
26	115	115	135	170	100	125	85	140	-25	Z-	85	85
27	65	80	135	170	140	275	95	Z+	65	95	135	210
28	55	75	80	80	Z+	90	105	Z+	70	170	100	80
29	35	165	85	145	Z±	Z±	125	165	40	100	120	200
30	95	170	Z+	90	185	165	130	170	15	110	75	140
31	-	-	-	-	115	120	180	-	-	-	-	-
(a)	93	144	128	121	103	126	126	129	73	122	102	149
(b)	92	142	116	117	84	116	121	111	74	123	89	113
Mean	(a) 121	(b) 117			(a) 121	(b) 108			(a) 111	(b) 100		

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.

90 ESKDALEMUIR

	JULY, factor 5.10				AUGUST, factor 5.06				SEPTEMBER, factor 5.14			
	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	30	-20	115	265	415	90	135	130	-	140	270	20
2	195	85	105	185	60	255	130	215	165	20	170	325
3	135	Z-	Z+	-5	130	80	100	165	-	90	20	-
4	45	160	105	230	65	135	105	105	-	-	130	-
5	105	105	170	270	55	-25	150	120	-	-	145	-
6	45	155	120	105	-210	95	130	335	-	-	320	270
7	25	105	110	150	120	70	Z+	40	175	300	155	135
8	-	115	100	-	-	130	130	220	Z-	155	105	120
9	-	160	135	70	-	Z±	-90	20	45	15	Z-	30
10	-	225	45	190	400	150	135	-45	105	Z-	Z-	Z+
11	65	105	85	185	110	115	120	195	55	125	Z-	45
12	100	130	60	180	45	80	85	70	15	45	120	60
13	35	295	145	100	0	125	140	20	-	-	25	-
14	-	130	45	75	10	40	105	25	-	-	180	-140
15	150	190	185	265	-	45	35	-	-	-	70	35
16	60	35	110	155	-	45	120	60	-60	100	Z-	Z-
17	190	115	80	285	15	80	80	Z-	-	-	115	150
18	565	160	115	170	Z-	-	55	185	-	-	125	-
19	140	120	150	245	35	40	-20	20	-	10	20	135
20	Z-	100	100	120	20	10	-	-	25	10	185	20
21	35	85	115	-	-	195	275	5	0	20	60	-
22	-	-	90	80	160	115	35	175	10	20	130	280
23	-	-	-100	-30	90	155	130	105	70	85	110	-260
24	45	40	70	270	20	90	205	10	Z-	150	-	-
25	135	120	115	215	15	55	80	15	-	-	-	-
26	135	105	-70	Z±	70	155	210	65	-	-	160	245
27	65	Z-	Z-	105	65	30	45	0	100	160	230	Z-
28	Z-	-55	Z-	250	-	4	110	105	95	190	115	Z-
29	260	170	-	135	55	120	70	70	105	140	155	195
30	65	85	180	180	65	150	135	-	Z-	105	160	90
31	60	175	105	330	5	355	Z-	-	-	-	-	-
(a)	117	131	110	185	88	108	114	110	75	98	135	130
(b)	114	120	118	211	84	100	110	94	71	77	131	102
	(a) 136	(b) 141			(a) 105	(b) 97			(a) 109	(b) 95		

  

	OCTOBER, factor 5.24				NOVEMBER, factor 5.17 to 18th, 7.74 from 18th				DECEMBER, factor 8.10			
	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	10	20	-	65	75	40	90	-	70	75	145	75
2	90	95	165	-	20	25	145	Z-	-155	Z-	90	230
3	-	25	15	Z-	95	45	90	160	-140	130	Z±	125
4	110	65	45	15	60	80	10	-	Z	65	-	-
5	-	-	10	55	-	-	20	-	-	-	Z+	145
6	20	70	150	45	-205	10	130	90	45	105	230	110
7	10	20	-	-	35	30	95	-10	130	100	120	85
8	-	-	35	10	-30	Z-	Z-	155	70	320	Z±	Z±
9	-	-	-	310	Z±	130	Z-	160	-120	-185	45	320
10	520	225	130	285	Z-	Z-	165	230	Z-	Z-	140	65
11	75	-	-	-	150	Z-	85	105	175	115	200	475
12	130	90	-	-	130	95	170	Z-	Z±	-80	Z+	310
13	-	-	0	105	Z+	Z-	-	-	145	140	135	185
14	60	230	185	60	-	-	80	-	165	Z-	130	40
15	25	5	Z-	Z-	-	-	70	40	120	-	180	775
16	75	110	Z-	-10	85	115	155	185	240	15	220	15
17	-	-	-	-	70	85	-	-	85	150	100	80
18	-	-	-	-	-	-	-	265	55	-315	Z±	110
19	-	-	75	35	210	295	220	280	80	-	75	20
20	-	-	165	Z-	95	275	400	195	70	Z±	105	125
21	Z-	175	155	170	225	185	-65	Z-	55	5	35	Z-
22	120	165	120	-	145	235	60	Z+	75	45	125	-5
23	-	-	Z-	305	270	Z-	-	-	15	70	180	300
24	400	125	340	265	-	-	115	230	180	110	140	190
25	110	95	110	195	Z-	135	225	160	115	70	115	Z±
26	135	155	215	Z-	150	90	370	Z±	Z±	25	30	-35
27	Z-	185	155	-	Z±	Z-	110	Z-	60	110	150	Z-
28	95	-	-	-	Z±	40	175	360	95	40	Z-	70
29	-	-	-	-	Z±	170	415	-65	90	180	200	240
30	-	-	150	235	140	Z-	-90	220	Z-	330	205	210
31	45	85	200	150	-	-	-	-	95	95	165	340
(a)	119	108	128	144	122	116	154	188	101	109	136	193
(b)	181	128	166	145	53	128	182	150	95	78	158	186
	(a) 125	(b) 155			(a) 145	(b) 128			(a) 135	(b) 129		

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

(a)	110	128	145	168
(b)	105	121	149	157
Annual means	(a) 138	(b) 135		

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

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91 ESKDALEMUR

	Hour	G.M.T.											volts per metre												Non-cyclic change <sup>†</sup>	No. of days used	Mean
		0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	21 to 22	22 to 23	23 to 24		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
0a days only*																											v./m.
Jan.	+27	-59	-49	-62	-66	-63	-53	-42	-24	-23	-6	+6	+25	+11	+10	+33	+74	+76	+42	+49	+52	+57	+28	+14	-38	6	200
Feb.	-21	+20	-37	-1	-29	-41	-68	-49	-36	0	-28	-24	-11	+1	-42	-11	+71	+122	+43	+61	+93	+18	+4	-40	+58	3	203
Mar.	-34	-30	-23	-16	-10	-36	-10	-6	+5	-4	-26	-29	-16	-4	-3	+15	-3	+28	+80	+81	+25	+23	+9	-12	+39	7	230
Apr.	-22	-19	-32	-42	-40	-32	-19	-1	+23	+13	+6	+6	+14	+17	+25	+23	+20	+22	+37	+21	+12	-2	-4	-24	-39	8	105
May	-17	-20	-23	-27	-19	+9	+32	+19	+12	+8	-1	0	+2	-2	-1	+5	+15	+10	+7	-4	-8	+2	+8	+2	-24	9	124
June	-9	-12	-41	-37	-42	-26	-5	-5	+9	+12	+12	+1	-8	-11	-3	+15	+19	+27	+20	+24	+9	+25	+24	+9	-16	4	113
July	+9	-15	-34	-50	-46	-29	-33	-19	-15	-24	-6	-20	-12	-4	+1	-9	-9	+12	+13	+48	+88	+86	+40	+20	-30	5	122
Aug.	-12	-2	-65	-76	-97	-41	-19	-19	-18	+2	+4	+20	-3	+18	+16	+42	+48	+62	+53	+61	+34	+15	+1	-19	-81	4	127
Sept.	-	-	-	-	-	-	-	-	-	-	-	-	(No 0a days)	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Oct.	-18	+4	+22	0	-14	-22	-18	-9	-29	-41	-34	-11	-16	-17	-2	+19	+43	+34	+47	+21	+24	+17	+14	-8	-9	4	149
Nov.	-	-	-	-	-	-	-	-	-	-	-	-	(No 0a days)	-	-	-	-	-	-	-	-	-	-	-	0	-	
Dec.	-7	-43	-34	-32	-54	-49	-26	-38	-32	-18	-12	+28	+28	+23	+26	+4	+43	+97	+38	+26	+23	-7	+1	-3	+38	3	139
Year	-10	-18	-32	-34	-42	-33	-22	-17	-11	-7	-9	-2	0	+3	+3	+14	+32	+49	+38	+39	+35	+23	+13	-6	-	-	151
Winter	0	-27	-40	-32	-50	-51	-49	-43	-31	-14	-15	+3	+14	+12	-2	+9	+63	+98	+41	+45	+56	+23	+11	-10	-	-	181
Equinox	-25	-15	-11	-19	-21	-30	-16	-5	0	-11	-18	-11	-6	-1	+7	+19	+20	+28	+55	+41	+20	+13	+6	-15	-	-	161
Summer	-7	-12	-41	-47	-51	-22	-6	-6	-3	-1	+2	0	-5	0	+3	+13	+18	+28	+23	+31	+32	+18	+3	-	-	121	
1a and 2a days only*																											
Jan.	+2	-11	-57	-40	-59	-56	-62	-53	-55	-37	-35	-21	-5	+6	+30	+29	+33	+41	+68	+71	+56	+66	+55	+29	-48	7	154
Feb.	+23	-41	-88	-91	-90	-93	-100	-66	-56	+10	-1	-33	+57	+79	+61	+31	+68	+31	+38	+4	+62	+66	+34	+35	-24	6	180
Mar.	+25	+17	-35	-44	-52	-78	-65	-45	-39	-17	-4	-1	-23	-3	+21	+18	+17	+32	+55	+26	+21	+58	+73	+50	-28	6	140
Apr.	-25	-29	-34	-46	-33	-27	-15	+5	+16	+11	+12	+5	+4	+22	+35	+22	+18	+35	+36	+10	+5	+16	-12	-30	-2	8	103
May	-12	+28	+4	-2	+17	+36	+40	0	-15	+2	-7	+11	-5	+19	+7	-15	-18	-7	-13	-8	-13	-2	-22	-31	+60	4	109
June	+3	-17	-22	+3	+2	+8	+12	+26	+26	+38	-1	+6	+1	-18	-21	-31	-32	-9	-3	-9	-15	-13	+5	+24	+15	8	101
July	-11	+36	+43	+46	+20	+8	-20	-47	-48	-43	-41	-37	-36	-35	-21	-25	+11	+4	+41	+74	+77	+18	+14	-34	+12	7	146
Aug.	-50	-52	-38	-24	-5	-7	+3	+13	+14	+30	+40	+28	+20	+12	+17	+57	+35	+39	+17	-11	-31	-30	-42	-30	-8	5	77
Sept.	-	-	-	-	-	-	-	-	-	-	-	-	(No. occasions)	-	-	-	-	-	-	-	-	-	-	-	0	-	
Oct.	-61	-36	-43	-29	-16	+92	+79	+48	+110	+76	+6	0	+18	+47	+49	+47	-9	-19	-32	-47	-89	-55	-55	-93	+64	1	127
Nov.	+5	-30	-86	-75	-78	-69	-61	-54	-47	-28	-11	-6	-20	+16	+30	+31	+113	+160	+83	+76	+19	+21	-8	-101	2	105	
Dec.	-58	-50	-40	-79	-79	-71	-37	-48	-66	-83	-30	+8	+15	-19	-29	+33	+106	+153	+185	+119	+79	-54	+44	-7	+43	2	206
Year	-14	-17	-36	-35	-34	-23	-21	-20	-14	-4	-7	-4	+2	+12	+16	+18	+31	+42	+43	+28	+15	+8	+10	-9	-	-	132
Winter	-7	-33	-68	-71	-77	-72	-65	-55	-56	-35	-19	-13	+12	+21	+23	+31	+80	+96	+93	+67	+54	+23	+39	+12	-	-	161
Equinox	-20	-16	-37	-40	-34	-4	0	+2	+9	+23	+5	+1	0	+22	+35	+29	+9	+16	+20	-4	-21	+6	+2	-24	-	-	123
Summer	-17	-1	-3	+6	+9	+11	+9	-2	-3	+7	-2	+2	-5	-5	-5	-3	-1	+7	+11	+11	+5	-7	-11	-18	-	-	108

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.

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

92 ESKDALEMUR

	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE	
	Character	Duration of negative potential gradient										
1	0a	hr.	0a	hr.	(0a)	hr.	1b	0.5	1b	0.2	(0a)	hr.
2	(0a)	...	(0a)	...	1b	0.3	1b	2.5	2c	8.8	1a	0.1
3	0a	...	(1a)	0.1	1c	2.3	2c	10.0	2c	13.9	0a	...
4	1b	0.6	1b	2.8	(1b)	0.9	1c	2.4	2b	3.2	0a	...
5	1a	0.5	1a	2.1	(1b)	0.3	1b	0.3	2c	3.7	0a	...
6	1b	2.2	(1a)	2.6	2c	13.3	0a	...	2c	9.3	2c	7.5
7	(0a)	...	2b	3.7	2c	6.3	1a	0.1	2c	4.1	1a	2.5
8	1b	2.2	0a	...	1b	0.7	1b	0.6	0a	...	2c	6.2
9	0b	0.7	1a	0.3	0a	...	0a	...	0a	...	(2b)	3.5
10	0a	...	2c	4.7	1a	0.5	1a	0.1	0a	...	(1c)	1.9
11	0a	...	2a	3.1	0a	...	2b	5.1	0a	...	1a	0.5
12	2c	5.1	2b	5.2	0a	...	1c	2.5	1a	0.1	0a	...
13	1c	2.6	2c	4.9	1a	0.1	1c	2.1	2c	13.7	1a	0.5
14	(1b)	0.7	(1c)	0.1	1a	0.2	1a	0.1	1a	1.5	1b	0.5
15	2c	5.8	0a	...	1a	0.1	0a	...	0a	...	2c	11.2
16	2c	5.2	1a	0.1	0a	...	1a	0.5	0a	...	(0a)	...
17	1c	2.7	2b	3.3	0a	...	1a	0.9	1b	0.5	(1b)	0.2
18	2c	5.7	1a	0.5	0a	...	1a	1.7	0a	...	1b	0.3
19	2c	9.9	1a	2.7	2a	3.8	0a	...	0a	...	2a	3.2
20	2c	10.4	(1b)	0.3	1b	0.8	(0a)	...	1b	0.6	1b	1.8
21	1a	2.6	1b	1.5	2b	4.1	0a	...	1a	0.1	2c	4.2
22	1a	1.5	1b	2.1	2c	8.5	0a	...	1b	2.7	(1a)	0.2
23	1a	0.1	2c	7.8	1b	2.7	0a	...	1b	1.3	1a	0.3
24	0a	...	2c	9.2	2b	3.3	1a	0.1	2c	8.6	2b	3.5
25	1a	0.1	1b	0.2	2b	5.9	1a	0.1	2b	4.9	2c	3.8
26	1a	0.2	1b	1.5	1a	0.2	0a	...	1a	0.2	2b	3.4
27	0a	...	(0a)	...	0a	...	0a	...	1c	2.9	1a	0.3
28	1b	1.1	(1b)	0.2	2b	5.6	0a	...	2c	5.0	1a	0.3
29	2b	8.8			(2c)	7.8	1a	0.2	2c	4.2	(0a)	...
30	1b	0.1			1c	2.7	2c	3.6	(0a)	...	(1a)	0.4
31	1a	0.1			1b	1.8			(0a)	...		
Total	-	68.9	-	59.0	-	72.2	-	33.4	-	89.5	-	56.3
No. of days used	-	31	-	28	-	31	-	30	-	31	-	30
Mean	-	2.2	-	2.0	-	2.3	-	1.1	-	2.9	-	1.9

	JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	Character	Duration of negative potential gradient										
1	1a	1.1	1b	0.4	(0a)	hr.	(1a)	1.2	(1a)	0.9	2b	4.9
2	1a	0.2	1b	0.9	(0b)	...	(1a)	1.2	1b	1.4	2c	11.0
3	2c	7.3	0a	...	(1a)	1.4	2b	3.1	1a	1.1	1b	2.3
4	2b	3.7	0a	...	(0a)	...	(0a)	...	(1a)	1.7	(2b)	3.5
5	1a	0.9	2b	3.1	(0a)	...	2b	3.8	(1b)	0.4	(1b)	1.1
6	1b	0.7	2b	4.4	(1b)	0.9	0a	...	(2b)	5.4	0a	...
7	1b	0.7	1b	1.2	0b	0.3	(0a)	...	1b	1.7	0a	...
8	(1a)	(1.2)	(1a)	0.8	2c	4.3	(0a)	...	2c	12.5	2c	4.0
9	(1a)	0.1	2b	5.4	2c	8.1	(0a)	...	1b	2.4	2b	5.7
10	(0a)	...	1b	2.0	2c	5.4	0a	...	(2b)	4.8	2b	10.4
11	0a	...	0a	...	1b	1.6	(0a)	...	2c	8.1	1a	0.1
12	0a	...	1a	0.2	1b	0.3	(0a)	...	2c	5.8	2c	7.2
13	(1a)	1.0	2c	4.0	(0a)	...	(2b)	6.5	(2b)	4.0	1b	0.4
14	(1a)	0.6	1b	0.7	(2b)	4.9	1a	0.1	(0a)	...	2c	7.5
15	1a	0.2	(1a)	0.5	(2b)	3.6	2c	12.8	(1a)	0.8	0a	...
16	1a	1.1	(1a)	1.5	2c	7.8	1b	3.0	1a	0.1	1b	2.9
17	1a	0.1	2c	6.0	(2b)	3.5	(2c)	4.1	(0a)	...	1b	2.1
18	1a	0.1	2b	6.4	(1a)	0.3	(2c)	(18.0)	(1b)	2.2	2b	6.2
19	0a	...	1a	2.7	2b	5.1	(1a)	(2.0)	1b	1.7	1b	2.5
20	1b	2.8	(1a)	0.3	2b	5.3	(1b)	0.9	1b	0.7	2b	3.2
21	(1a)	0.2	2c	4.3	2b	4.2	2b	3.3	2b	4.2	2c	6.4
22	(0a)	...	2b	4.4	(1a)	0.3	1b	2.5	1b	2.9	2b	6.7
23	(2c)	5.9	1a	0.5	2b	3.8	2c	8.8	(2c)	11.6	1b	1.5
24	(0a)	...	2a	3.9	2c	3.4	2c	4.6	(1b)	0.9	(1a)	6.5
25	0a	...	1a	2.5	(2b)	(2.5)	0a	...	2c	6.2	2b	4.8
26	2c	6.3	0a	...	1b	0.3	2b	4.3	2c	6.1	2c	7.7
27	2c	9.2	(1a)	0.5	1b	1.1	1c	2.9	2c	12.6	1b	1.9
28	2c	8.0	1b	0.7	1b	1.3	(1b)	0.6	2c	9.0	2b	3.4
29	0a	...	1a	1.1	1b	1.3	(0b)	...	2c	5.9	1a	0.1
30	0a	...	(1a)	0.2	2b	3.3	(0a)	...	2c	9.9	1b	1.8
31	1b	0.5	(2b)	4.5			0a	...			0a	...
Total	-	51.9	-	63.1	-	74.3	-	83.7	-	125.0	-	115.8
No. of days used	-	31	-	31	-	30	-	31	-	30	-	31
Mean	-	1.7	-	2.0	-	2.5	-	2.7	-	4.2	-	3.7

Annual values: Character 0 1 2  
No. of days used 87 162 116Duration: Total 893.1  
No. of days 365  
Mean 2.45 hr.



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

93 ESKDALEMUIR (H)

16,000γ (0.16 C.G.S. unit) +

JANUARY

	Hour G.M.T.																								
	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	639	645	642	644	644	645	648	655	652	640	638	641	648	650	650	651	652	650	653	651	645	646	641	637	646
2 d	641	630	641	645	644	643	642	649	653	649	636	626	628	637	608	619	639	629	625	624	637	637	624	637	635
3	641	631	633	634	633	639	644	644	636	632	634	631	637	640	639	637	637	642	642	640	641	638	642	638	638
4 q	637	639	639	639	641	642	644	644	643	641	640	638	641	645	645	646	648	645	645	645	646	645	643	641	643
5	641	640	641	642	645	646	649	647	645	645	647	651	655	654	652	645	650	648	642	637	649	632	625	645	645
6	636	633	633	633	637	648	651	643	644	645	642	639	639	645	647	642	640	644	642	639	641	637	633	635	640
7	639	638	639	640	642	649	650	646	645	643	643	649	649	652	646	638	622	628	627	631	634	639	639	639	639
8	646	652	640	643	648	649	650	653	637	627	635	637	637	640	645	647	645	643	636	643	637	649	643	643	643
9	643	632	636	643	645	648	649	648	646	647	648	645	642	647	646	645	647	647	644	646	648	645	651	645	645
10 q	642	643	644	645	644	643	646	648	645	641	643	645	643	644	652	649	648	645	648	648	649	645	645	644	646
11	644	644	648	648	649	649	653	658	655	653	648	648	648	648	652	648	646	640	640	644	641	643	644	642	647
12	638	646	641	644	650	658	658	657	659	658	645	638	647	648	652	618	629	624	610	614	633	640	637	641	641
13	631	635	629	631	634	643	637	652	648	645	634	635	643	645	646	646	647	642	637	635	639	648	640	645	645
14	642	643	642	643	645	649	653	656	652	651	650	651	652	651	653	655	651	635	639	645	639	635	647	645	645
15	636	643	646	643	645	651	653	646	646	654	650	641	637	641	650	646	649	648	647	642	637	636	661	645	645
16	637	636	642	643	649	648	648	648	647	644	648	646	645	645	650	650	650	649	623	629	639	640	639	641	643
17	641	641	645	647	649	647	649	649	650	649	642	636	641	642	641	631	632	641	639	644	642	642	643	643	643
18	641	642	641	642	647	650	647	651	653	652	651	649	649	639	640	640	646	651	644	637	680	624	645	645	645
19 d	614	619	627	630	635	643	642	642	632	632	634	640	641	641	643	641	636	609	521	596	621	616	615	628	
20 d	615	619	626	630	628	632	634	630	646	632	634	624	637	636	638	631	631	617	629	638	639	631	640	641	632
21 d	642	617	623	629	633	649	648	649	642	636	632	630	622	629	635	635	641	632	630	640	633	644	641	647	636
22	639	637	634	657	643	640	657	637	638	630	636	639	644	648	638	644	638	643	644	636	640	638	642	644	641
23 d	638	636	638	640	641	642	643	632	619	637	632	621	632	635	638	641	634	636	636	637	639	645	636	645	645
24	640	637	639	638	642	646	644	642	647	642	641	635	636	642	645	640	641	642	645	647	645	644	644	642	643
25	642	643	640	643	643	645	647	647	647	644	640	641	642	643	649	649	640	634	642	642	644	641	643	643	643
26 q	641	649	638	637	644	645	650	651	644	640	636	635	640	644	648	648	642	640	642	642	641	640	642	642	642
27	643	648	644	644	650	651	649	648	647	642	642	641	638	640	648	644	637	640	647	644	649	645	642	640	644
28 q	640	640	647	644	649	648	649	652	657	649	649	648	648	647	647	652	652	651	649	648	646	644	646	648	648
29 q	644	643	645	644	646	651	655	655	651	647	643	643	647	651	652	649	640	645	647	651	652	648	648	648	648
30	647	648	647	645	647	646	647	647	649	652	650	644	638	639	644	643	649	648	644	645	643	638	636	645	645
31	641	641	640	640	640	653	656	656	653	646	639	637	639	643	645	645	631	644	645	645	641	636	638	632	643
Mean	639	638	639	641	643	646	648	648	646	644	641	639	641	643	645	643	642	640	639	639	641	641	640	642	

## MAGNETIC DECLINATION (WEST)

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

94 ESKDALEMUIR (D)

11° +

JANUARY

	Hour G.M.T.																								
	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	5.7	5.7	3.8	5.8	7.5	6.7	6.2	6.6	6.9	6.5	7.5	8.7	10.2	9.6	8.5	8.2	7.9	7.7	7.7	7.7	7.2	5.5	5.2	5.8	7.1
2 d	4.9	-0.4	-0.4	5.4	5.8	7.3	6.6	6.4	6.2	7.6	7.8	10.1	12.6	11.1	12.1	10.8	8.4	11.2	9.1	8.8	6.6	6.1	4.4	4.2	7.2
3	5.3	6.1	7.1	7.2	7.8	7.6	7.1	7.0	7.0	6.8	9.1	9.8	10.4	9.5	8.0	7.3	7.0	7.2	6.9	6.7	6.6	6.5	5.8	6.4	7.3
4 q	6.8	7.2	7.2	7.3	7.2	7.0	6.9	6.7	6.8	7.4	8.4	9.1	10.2	9.2	8.8	8.4	8.0	7.7	7.4	6.9	6.6	6.7	6.6	7.6	7.6
5	6.1	6.9	7.9	7.3	7.5	7.5	7.5	7.2	7.2	7.5	7.7	9.1	10.5	10.4	10.2	10.1	9.7	9.8	10.1	12.2	9.6	9.7	6.2	5.3	5.7
6	6.6	6.5	7.6	7.4	8.1	8.3	9.2	7.8	7.6	7.1	7.5	7.7	8.9	9.2	9.3	9.0	8.5	8.8	2.6	5.8	6.2	5.9	5.9	7.5	7.6
7	5.8	7.1	7.4	7.7	7.6	7.2	6.9	7.2	7.2	7.3	7.2	8.2	9.2	9.3	9.0	10.5	11.7	8.5	5.8	2.6	5.8	6.2	5.9	7.5	7.5
8	7.1	6.9	6.1	6.6	7.0	7.6	7.7	8.5	7.8	6.1	6.8	9.0	10.2	10.0	9.8	9.1	8.4	8.1	7.9	6.4	5.5	6.0	2.8	7.4	7.4
9	2.3	5.9	6.3	7.0	6.5	7.7	7.5	7.4	6.9	7.8	8.5	9.3	9.8	9.9	9.6	9.5	8.8	8.0	7.5	6.9					

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

65

95 ESKDALEMUIR (Z)

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

JANUARY

	Hour	G.M.T.	44,000 $\gamma$ (0.44 C.G.S. unit) +																							Mean
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean	
1	1226	1219	1217	1215	1215	1217	1219	1219	1220	1223	1224	1221	1219	1221	1223	1222	1221	1221	1221	1221	1221	1221	1221	1221	1221	1221
2 d	1225	1226	1221	1217	1216	1216	1217	1217	1219	1218	1219	1219	1219	1227	1242	1245	1234	1236	1242	1245	1240	1234	1232	1230	1227	
3	1223	1221	1221	1222	1221	1221	1221	1224	1225	1222	1221	1221	1224	1226	1227	1228	1227	1226	1226	1226	1226	1226	1226	1226	1223	1224
4 q	1222	1223	1224	1222	1222	1221	1221	1223	1225	1225	1224	1224	1224	1222	1223	1223	1224	1223	1223	1223	1223	1223	1223	1223	1223	1223
5	1225	1223	1221	1221	1219	1219	1219	1220	1219	1219	1219	1217	1217	1220	1221	1221	1222	1222	1224	1229	1241	1240	1234	1234	1224	
6	1228	1226	1226	1225	1221	1215	1214	1215	1218	1220	1220	1221	1221	1223	1225	1225	1229	1226	1226	1225	1225	1226	1226	1226	1223	1223
7	1223	1223	1221	1221	1220	1220	1221	1220	1220	1220	1216	1215	1219	1222	1225	1229	1235	1240	1239	1238	1230	1225	1223	1224	1224	
8	1218	1207	1213	1218	1219	1219	1218	1217	1221	1225	1222	1219	1220	1221	1224	1223	1224	1225	1226	1229	1231	1226	1226	1221	1221	
9	1214	1217	1219	1220	1220	1219	1220	1219	1219	1218	1215	1214	1215	1219	1222	1223	1225	1225	1226	1224	1222	1222	1219	1220	1220	
10 q	1220	1221	1221	1222	1221	1221	1221	1221	1218	1218	1215	1219	1223	1224	1224	1221	1223	1225	1225	1225	1225	1225	1221	1221	1222	
11	1220	1220	1219	1219	1218	1218	1217	1215	1219	1220	1220	1215	1215	1217	1219	1221	1223	1226	1228	1227	1227	1231	1224	1221	1221	
12	1220	1217	1218	1219	1220	1219	1219	1218	1214	1218	1217	1217	1215	1217	1221	1228	1234	1236	1249	1256	1247	1238	1236	1231	1226	
13	1229	1225	1223	1219	1220	1221	1220	1217	1220	1220	1219	1218	1219	1221	1225	1226	1226	1227	1230	1231	1226	1218	1223	1223		
14	1219	1220	1220	1221	1221	1220	1220	1221	1220	1218	1217	1219	1221	1223	1221	1221	1221	1221	1230	1229	1227	1227	1227	1222	1222	
15	1225	1220	1219	1220	1220	1219	1218	1221	1221	1220	1220	1220	1221	1221	1221	1225	1226	1230	1231	1231	1226	1226	1226	1226	1222	
16	1218	1219	1219	1220	1220	1219	1219	1219	1220	1219	1219	1221	1221	1223	1222	1221	1221	1221	1230	1237	1230	1227	1226	1225	1222	
17	1224	1222	1221	1219	1219	1219	1219	1219	1217	1217	1216	1217	1217	1220	1223	1225	1229	1233	1232	1230	1227	1225	1223	1223		
18	1227	1226	1220	1221	1220	1217	1218	1215	1215	1217	1219	1218	1223	1227	1229	1226	1224	1226	1226	1231	1231	1223	1222	1222		
19 d	1214	1199	1203	1213	1219	1219	1218	1217	1217	1216	1217	1223	1225	1226	1227	1230	1229	1241	1259	1255	1260	1257	1240	1222	1227	
20 d	1234	1235	1223	1220	1220	1220	1219	1218	1221	1221	1220	1220	1221	1221	1221	1225	1226	1230	1231	1231	1226	1226	1226	1226	1227	
21 d	1214	1204	1218	1221	1221	1214	1214	1217	1220	1223	1225	1226	1226	1231	1232	1233	1237	1231	1233	1231	1231	1220	1220	1214	1223	
22	1214	1217	1220	1213	1210	1218	1215	1219	1221	1221	1222	1221	1219	1221	1226	1230	1232	1234	1233	1230	1227	1225	1223	1223		
23 d	1226	1225	1215	1208	1214	1219	1220	1221	1224	1222	1224	1226	1226	1225	1230	1233	1236	1231	1232	1231	1237	1226	1226	1225		
24	1222	1218	1219	1221	1222	1223	1223	1224	1225	1225	1221	1221	1220	1219	1225	1226	1226	1227	1227	1226	1225	1225	1224	1223		
25	1223	1222	1223	1221	1221	1221	1221	1221	1221	1220	1220	1220	1220	1221	1224	1225	1229	1234	1231	1229	1226	1226	1225	1224		
26 q	1225	1221	1223	1225	1224	1221	1221	1222	1224	1222	1226	1223	1220	1221	1226	1226	1226	1227	1230	1230	1227	1226	1226	1224		
27	1225	1220	1221	1221	1221	1221	1221	1221	1219	1218	1221	1222	1223	1226	1226	1229	1230	1231	1228	1227	1226	1226	1224	1224		
28 q	1225	1224	1220	1219	1219	1219	1219	1217	1217	1218	1219	1217	1217	1220	1223	1223	1223	1224	1224	1222	1221	1221	1221	1221		
29 q	1222	1221	1219	1220	1220	1218	1218	1218	1218	1216	1215	1217	1216	1216	1217	1220	1223	1223	1224	1224	1223	1221	1221	1220		
30	1221	1219	1217	1219	1220	1220	1217	1217	1216	1215	1218	1216	1216	1223	1225	1225	1227	1227	1229	1234	1232	1230	1222	1222		
31	1226	1230	1222	1223	1220	1216	1217	1219	1217	1220	1216	1214	1217	1216	1221	1221	1226	1236	1230	1229	1228	1232	1231	1229	1226	
Mean	1223	1220	1219	1220	1219	1219	1219	1220	1220	1230	1219	1219	1219	1221	1224	1226	1227	1228	1230	1231	1231	1230	1227	1224	1223	

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

96 ESKDALEMUIR

JANUARY

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +			
	Horizontal force			Declination			Vertical force												
	Maximum 16,000 $\gamma$ +	Minimum 16,000 $\gamma$ +	Range	Maximum 11° +	Minimum 11° +	Range	Maximum 44,000 $\gamma$ +	Minimum 44,000 $\gamma$ +	Range	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ		
1	08 16	657	633	00 00	24	12 36	10.4	2.9	02 02	7.5	00 12	1227	1216	03 46	11	2,2,1,0,1,0,1,2	9	0	83-7
2 d	08 46	664	565	14 46	99	15 00	15.8	-3.8	02 16	19.6	15 07	1260	1215	04 00	45	3,2,3,3,4,4,2,3	24	1	83-7
3	00 00	654	625	09 40	29	12 50	10.9	4.2	01 10	6.7	16 50	1229	1220	10 58	9	2,1,1,2,2,1,0,1	10	0	83-7
4 q	16 01	649	636	00 22	13	13 00	10.3	6.4	21 40	3.9	23 18	1225	1221	08 10	4	0,0,0,0,0,0,0,1	1	0	83-7
5	21 29	681	613	22 45	68	19 23	14.2	-9.5	21 59	23.7	21 20	1256	1215	12 07	41	1,0,0,0,1,2,3,4	11	1	83-8
6	13 52	657																	

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

97 ESKDALEMUIR (H)

16,000 $\gamma$  (0.16 C.G.S. unit) +

FEBRUARY

	Hour G.M.T.	16,000 $\gamma$ (0.16 C.G.S. unit) +																							
	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	635	631	633	635	645	634	639	630	635	631	630	624	623	624	625	610	607	608	609	626	622	622	637	649	628
2	636	610	618	625	625	630	631	632	643	634	629	618	624	641	621	632	639	634	638	639	639	631	650	643	632
3	647	622	621	627	630	635	644	658	643	634	639	635	620	620	633	632	635	642	641	635	627	633	652	652	636
4	639	631	635	638	640	646	638	647	651	643	640	640	641	641	645	641	644	643	642	640	641	641	641	641	641
5 q	643	637	638	639	643	643	645	647	647	643	637	633	635	641	641	646	644	639	626	627	654	637	641	639	639
6 q	639	638	635	636	636	643	648	651	648	644	640	639	639	643	647	647	647	647	648	647	646	643	638	638	643
7 q	638	640	640	643	647	651	652	654	652	650	647	643	646	654	657	655	655	656	650	638	639	643	646	631	647
8 q	630	635	634	637	639	643	648	649	650	646	643	642	640	635	643	648	651	653	651	655	637	643	642	646	643
9	642	641	644	649	651	654	650	650	654	653	650	649	643	635	647	643	639	643	643	646	643	647	647	647	647
10	643	643	642	645	643	647	648	643	651	650	646	651	645	637	647	643	641	639	650	643	643	643	643	643	644
11	627	665	614	625	639	642	643	643	648	647	649	650	650	650	651	652	653	631	638	630	639	622	638	642	642
12 q	643	639	635	638	639	641	639	636	639	635	635	639	640	642	646	646	651	649	650	640	638	640	629	640	640
13	643	639	639	640	643	648	650	647	642	640	631	640	642	642	638	643	645	652	650	651	642	646	644	643	643
14	644	644	645	645	643	646	650	653	653	651	646	634	649	646	641	629	625	643	649	640	616	629	628	651	642
15 d	639	636	638	643	650	646	662	651	652	643	646	606	599	641	634	576	622	639	628	613	612	628	627	636	632
16	640	642	643	618	625	622	637	534	635	632	630	631	631	637	628	614	628	628	643	648	628	631	654	632	632
17	667	620	620	623	635	638	643	637	632	613	592	599	610	631	610	603	634	630	635	622	611	653	647	630	626
18	630	631	631	629	639	638	639	641	641	637	633	609	629	642	640	625	631	615	615	656	633	644	646	643	634
19	641	641	643	643	644	639	639	651	650	639	628	623	629	627	640	629	643	641	642	640	667	641	634	644	640
20	652	639	639	638	639	643	650	648	648	644	637	634	641	641	635	637	646	647	648	647	646	647	646	643	643
21	639	641	641	640	646	653	654	656	657	648	631	637	643	647	652	653	629	640	625	595	602	612	582	596	634
22 d	561	589	634	593	626	650	622	635	639	627	615	615	619	619	624	627	633	641	636	627	635	643	619	669	625
23 d	622	611	606	627	634	620	639	641	629	630	633	627	629	631	634	627	594	620	631	631	649	646	630	633	628
24	625	631	635	633	638	640	641	641	631	630	627	610	610	624	631	636	627	633	633	659	640	653	641	633	635
25	638	640	639	638	638	637	646	646	638	630	614	616	622	627	629	643	631	630	642	634	630	635	637	649	635
26 d	643	639	640	639	643	643	653	639	655	641	596	559	623	634	636	641	614	618	636	640	651	595	631	655	632
27 d	630	615	623	627	629	628	635	636	615	595	589	610	622	636	641	603	622	625	624	630	637	647	637	614	624
28	610	626	630	629	631	635	633	635	631	631	635	634	634	641	633	636	639	641	642	639	643	643	660	647	636
Mean	635	633	633	634	639	641	643	644	643	637	631	627	632	637	637	633	634	637	537	637	636	638	638	641	636

## MAGNETIC DECLINATION (WEST)

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

11° +

98 ESKDALEMUIR (D)

FEBRUARY

	Hour G.M.T.	11° +																							
	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	3.8	4.5	4.6	2.7	-0.4	4.7	6.3	6.8	7.4	6.2	7.0	9.8	10.9	13.9	15.2	13.7	11.1	8.9	11.9	9.3	7.1	-1.1	1.3	3.6	7.1
2	-1.1	-2.4	3.7	6.1	3.1	5.3	6.2	7.2	6.6	6.9	8.9	10.4	10.1	11.6	12.3	8.4	9.0	9.1	7.1	6.4	5.9	3.6	2.4	1.4	6.2
3	-0.9	-2.6	3.1	3.6	5.0	5.7	5.0	7.3	8.1	11.2	8.1	10.9	11.8	10.0	10.0	9.8	7.6	7.0	6.0	3.7	5.6	2.6	2.2	6.2	
4	4.0	6.1	2.6	2.6	6.1	4.7	5.7	7.1	6.5	6.2	6.8	7.6	8.2	8.9	9.0	8.7	7.3	7.9	5.3	4.4	7.0	6.2	5.8	4.4	6.2
5 q	5.4	6.2	6.4	6.9	6.9	6.5	6.4	6.8	6.8	6.6	7.6	9.0	9.8	10.1	10.2	7.9	7.0	6.7	4.5	7.7	4.5	2.8	4.9	6.9	
6 q	4.9	5.3	6.7	5.8	7.1	6.1	6.1	6.5	7.0	8.0	9.1	9.5	9.4	8.7	8.1	7.2	7.2	7.4	7.2	7.1	6.4	5.5	5.5	7.1	
7 q	5.4	5.7	5.8	6.4	6.7	6.4	6.4	6.3	6.3	6.9	7.6	8.9	9.9	10.5	9.7	8.7	8.5	8.4	9.6	8.6	5.7	6.3	5.3	3.3	7.2
8 q	1.9	3.7	4.2	6.3	6.3	6.6	6.7	6.8	6.9	6.9	8.2	9.4	10.5	10.7	9.8	9.4	9.4	9.1	9.4	9.2	8.3	3.3	6.9	6.1	7.0
9	4.8	5.3	6.4	6.6	6.6	6.2	6.5	7.0	6.8	7.2	8.9	9.6	10.0	10.0	9.1	9.4	11.8	10.1	8.4	7.1	6.2	6.1	7.6	7.6	
10	6.2	6.1	5.4	6.6	5.1	4.7	5.9	7.2	7.5	7.8	8.3	10.1	10.6	9.8	10.9	10.7	11.9	11.9	10.6	6.4	5.6	7.1	5.4	7.7	
11	1.6	4.2	-3.4	3.6	6.2	6.1	6.8	7.2	7.7	8.1	8.4	9.1	10.8	11.2	11.0	10.7	10.7	11.2	11.4	11.2	6.5	-7.8	0.8	5.7	6.6
12 q	8.9	8.0	7.1	6.8	6.5	6.3	6.2	6.6	6.6																

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

67

99 ESKDALEMUIR (2)

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

FEBRUARY

	Hour	G.M.T.	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	1226	1227	1225	1227	1208	1207	1203	1210	1215	1221	1228	1227	1227	1226	1227	1236	1254	1267	1283	1272	1254	1247	1247	1232	1217	1232	
2	1203	1208	1203	1196	1203	1210	1211	1213	1215	1217	1220	1226	1227	1233	1239	1232	1232	1231	1229	1227	1231	1226	1207	1207	1219	1219	
3	1191	1193	1199	1211	1220	1222	1220	1215	1215	1212	1209	1215	1217	1225	1227	1231	1231	1231	1229	1231	1233	1232	1225	1215	1219	1219	
4	1215	1215	1211	1204	1203	1209	1215	1213	1213	1215	1215	1214	1215	1219	1223	1229	1230	1227	1228	1227	1227	1227	1226	1219	1219	1219	
5 q	1224	1224	1224	1224	1224	1222	1221	1221	1220	1220	1219	1220	1222	1225	1228	1231	1235	1236	1236	1231	1228	1227	1227	1225	1225	1225	
6 q	1226	1226	1226	1225	1221	1222	1220	1219	1215	1213	1214	1216	1219	1220	1223	1225	1226	1226	1226	1226	1225	1226	1228	1228	1222	1222	
7 q	1228	1227	1226	1225	1224	1224	1220	1219	1213	1213	1215	1215	1216	1216	1220	1221	1224	1221	1224	1226	1226	1223	1235	1235	1235	1223	
8 q	1236	1232	1231	1228	1228	1227	1225	1224	1220	1215	1211	1216	1220	1221	1224	1226	1227	1227	1230	1235	1232	1231	1229	1225	1225	1225	
9	1227	1227	1225	1223	1221	1220	1219	1216	1215	1213	1211	1215	1218	1223	1230	1232	1233	1237	1235	1232	1230	1228	1226	1224	1224	1224	
10	1225	1225	1225	1221	1220	1220	1217	1218	1216	1215	1215	1216	1219	1222	1225	1227	1232	1236	1237	1236	1233	1232	1231	1231	1231	1224	
11	1231	1215	1213	1216	1219	1220	1220	1221	1220	1220	1216	1215	1215	1215	1216	1220	1222	1227	1236	1239	1245	1254	1239	1229	1224	1224	
12 q	1222	1225	1226	1226	1225	1224	1224	1220	1219	1213	1213	1215	1218	1222	1224	1226	1227	1226	1226	1229	1233	1234	1232	1232	1225	1225	
13	1225	1225	1226	1226	1224	1223	1222	1224	1221	1220	1217	1220	1224	1225	1229	1227	1227	1228	1228	1230	1231	1226	1225	1225	1225	1225	
14	1225	1225	1224	1224	1224	1222	1221	1219	1218	1220	1221	1225	1233	1236	1233	1231	1233	1249	1243	1232	1228	1228	1228	1228	1228	1228	
15 d	1229	1229	1228	1225	1222	1209	1197	1204	1209	1215	1212	1216	1221	1225	1227	1263	1243	1254	1253	1241	1237	1231	1231	1230	1230	1230	
16	1227	1197	1183	1200	1207	1210	1212	1219	1221	1220	1220	1217	1221	1225	1236	1252	1258	1254	1256	1250	1238	1231	1230	1200	1224	1224	
17	1197	1203	1203	1204	1211	1219	1222	1224	1225	1225	1226	1227	1232	1234	1254	1261	1251	1253	1245	1249	1242	1221	1217	1224	1228	1228	
18	1226	1227	1227	1227	1226	1225	1225	1224	1224	1221	1224	1225	1225	1231	1231	1248	1256	1262	1244	1234	1232	1229	1231	1231	1231	1231	
19	1228	1227	1227	1227	1226	1220	1209	1206	1214	1215	1217	1221	1225	1227	1233	1237	1232	1231	1232	1257	1221	1225	1223	1224	1224	1224	
20	1215	1215	1220	1224	1225	1223	1222	1221	1219	1217	1220	1220	1226	1232	1235	1233	1231	1228	1226	1226	1226	1226	1226	1226	1226	1226	
21	1227	1227	1226	1221	1220	1220	1216	1215	1216	1218	1215	1215	1213	1220	1227	1283	1295	1343	1302	1274	1266	1243	1214	1239	1239	1239	
22 d	1164	1173	1186	1193	1192	1197	1201	1210	1215	1221	1226	1225	1225	1227	1245	1247	1248	1243	1242	1244	1243	1227	1231	1211	1218	1218	
23 d	1202	1203	1184	1184	1200	1205	1208	1213	1217	1219	1218	1223	1225	1231	1233	1252	1282	1272	1261	1248	1237	1213	1212	1213	1223	1223	
24	1216	1221	1225	1228	1229	1228	1227	1225	1226	1225	1227	1227	1230	1227	1240	1241	1239	1241	1238	1227	1224	1215	1219	1228	1228	1228	
25	1221	1223	1225	1225	1223	1224	1224	1225	1226	1227	1227	1227	1226	1225	1235	1243	1245	1243	1244	1239	1227	1227	1227	1227	1227	1227	
26 d	1220	1224	1225	1221	1220	1224	1221	1220	1211	1210	1216	1223	1223	1222	1227	1236	1252	1260	1253	1255	1238	1236	1203	1192	1226	1226	
27 d	1199	1201	1211	1221	1220	1220	1225	1227	1231	1238	1238	1232	1230	1228	1235	1274	1277	1247	1246	1247	1243	1234	1227	1208	1232	1232	
28	1204	1218	1221	1224	1226	1228	1228	1227	1226	1226	1222	1220	1221	1227	1231	1237	1246	1239	1233	1235	1236	1232	1227	1221	1227	1227	
Mean	1217	1217	1217	1218	1219	1219	1219	1219	1219	1219	1219	1219	1221	1223	1228	1238	1243	1242	1239	1240	1238	1234	1228	1221	1226	1226	

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

100	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +				
	Horizontal force			Declination			Vertical force													
	Maximum 16,000 $\gamma$ +	Minimum 16,000 $\gamma$ +	Range	Maximum 11° +	Minimum 11° +	Range	Maximum 44,000 $\gamma$ +	Minimum 44,000 $\gamma$ +	Range	h. m.	h. m.	h. m.								
1	h. m.	$\gamma$	h. m.	h. m.	'	'	h. m.	'	'	h. m.	$\gamma$	$\gamma$	92	2,3,3,3,3,3,3,4	24	1	83.4			
2	13 34	694	581	17 05	113	14 54	17.4	-4.8	21 32	22.2	17 17	1293	1201	06 30	53	1	83.4			
3	22 43	695	600	14 57	95	14 30	14.3	-5.1	01 05	19.4	15 10	1245	1192	24 00	48	1	83.4			
4	23 09	693	607	12 21	86	12 16	14.2	-4.1	01 22	18.3	20 45	1236	1188	00 16	32	0	83.2			
5 q	21 47	690	618	19 20	72	14 05	10.8	0.3	21 32	10.5	20 20	1238	1219	08 11	19	0	83.2			
6 q	07 20	654	632	12 00	22	12 36	10.3	4.4	00 00	5.9	23 53	1229	1214	10 12	15	0	83.2			
7 q	14 15	660	624	23 35	36	12 37	10.4	5.7	23 58	4.7	20 58	1239	1213	09 46	26	0	82.9			
8 q	19 40	670	624	00 44	46	12 29	11.5	5.5	20 17	6.0	20 53	1237	1213	10 11	24	0	83.1			
9	11 46	660	622	15 28	38	17 28	12.3	4.2	00 50	8.1	18 31	1238	1211	11 46	27	0	82.8			
10	19 59	668	622	13 11	46	17 10	12.5	-0.4	23 49	12.9	19 09	1239	1213	11 29	26	0	82.8			
11	01 35	710	606	21 10	104	18 05	13.0	-12.7	21 25	25.7	21 21	1261	1204	01 55	27</					

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

101 ESKDALEMUIR (H)

16,000γ (0.16 C.G.S. unit) +

MARCH

	Hour	G.M.T.	16,000γ (0.16 C.G.S. unit) +																							MARCH	
	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	641	637	633	638	639	641	640	643	643	639	635	633	635	635	636	639	643	643	647	650	652	643	646	651	655	619	640
2	623	641	639	639	624	646	650	645	638	632	620	625	630	635	636	641	640	648	641	652	643	646	651	658	639	639	
3 q	639	643	648	643	635	641	646	647	645	638	635	634	635	641	641	631	631	646	648	646	646	651	643	647	642	642	
4	647	643	643	640	643	647	650	655	638	623	622	620	627	637	646	648	640	643	649	655	651	625	630	633	640	640	
5	635	634	633	635	643	647	651	652	651	640	636	627	622	636	638	640	641	643	649	647	641	643	655	634	634	641	
6	639	639	630	637	642	649	646	647	644	639	637	639	643	648	652	654	660	648	645	652	648	635	637	639	644	644	
7	646	647	640	648	640	637	646	645	643	624	614	623	633	635	625	643	635	649	647	651	644	627	631	638	638	638	
8	639	640	634	630	648	651	650	648	638	633	629	635	646	647	654	654	652	658	651	645	635	651	644	643	643		
9	643	640	639	639	643	646	646	645	643	621	616	627	638	637	627	642	658	621	627	600	624	644	648	647	636		
10	643	639	642	643	642	645	646	648	640	643	642	637	629	633	633	642	648	646	656	630	645	648	640	642	642		
11	645	648	639	633	626	641	642	637	644	646	637	631	626	631	621	624	634	654	639	649	640	667	651	630	639	639	
12	637	644	643	642	640	636	633	651	655	646	641	642	636	628	642	647	637	649	637	639	624	624	638	639	639		
13	640	644	641	636	641	639	642	643	643	639	633	635	632	635	646	642	640	642	635	656	622	631	649	674	641		
14 d	659	634	634	617	629	639	627	619	622	624	622	622	627	629	639	641	631	620	637	633	635	627	633	636	630		
15 d	624	641	634	634	633	644	652	610	627	627	610	629	620	642	639	642	638	660	639	637	635	662	643	636	636		
16	640	635	640	643	629	634	648	637	632	621	624	635	635	622	641	648	646	653	643	639	649	643	649	640	639		
17	648	646	635	638	642	646	647	647	638	635	634	640	651	651	667	647	622	624	639	668	624	629	643	643			
18	643	623	640	632	627	633	637	627	626	614	619	633	638	648	645	643	640	646	627	634	643	650	636				
19	660	641	644	643	643	648	650	646	636	632	631	631	646	651	643	647	635	640	642	654	641	668	651	644			
20 d	642	640	640	640	642	651	646	642	618	611	618	614	626	647	648	651	648	638	635	642	643	650	661	640			
21	653	627	637	640	644	643	643	625	625	611	606	616	627	637	640	654	654	651	655	643	644	648	643	638			
22	652	655	641	643	646	650	648	647	635	618	610	618	631	640	650	649	658	641	666	643	584	627	643	639			
23 d	645	632	629	631	637	647	646	634	638	622	608	600	602	625	629	628	641	655	667	635	629	633	629	633			
24 d	632	631	629	528	623	635	642	614	610	594	610	618	633	637	643	640	648	659	669	624	639	646	648	635			
25	638	608	639	631	644	655	644	636	636	610	618	622	624	622	634	636	642	648	647	653	640	650	649	636			
31	639	642	641	639	650	651	639	625	629	627	621	614	624	633	637	641	640	654	655	657	649	658	648	652	640		
Mean	643	640	640	639	640	645	646	641	636	628	624	626	630	637	641	643	644	645	647	648	644	646	645	640			

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

102 ESKDALEMUIR (D)

11° +

MARCH

	Hour	G.M.T.	11° +																								MARCH
	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	4.4	4.4	4.8	5.6	5.2	5.5	5.6	5.9	6.1	5.8	6.8	8.4	10.0	10.5	9.9	9.5	8.6	7.6	7.6	7.3	7.6	3.8	-6.6	-5.5	5.8		
2	1.7	10.1	4.8	0.1	3.0	6.0	4.3	4.2	4.6	5.3	6.9	7.5	10.1	11.2	11.3	9.4	7.9	7.2	0.6	2.2	6.4	6.6	2.4	3.4	5.7		
3 q	4.4	6.2	9.2	6.3	3.8	5.8	5.3	4.8	4.2	4.7	6.3	9.1	11.7	13.0	12.9	10.8	9.8	8.8	8.0	7.6	5.3	2.6	4.7	5.4	7.1		
4	5.5	6.2	6.0	6.2	6.2	6.3	5.3	4.6	3.7	4.8	7.1	8.6	10.9	12.3	10.9	10.4	9.7	8.7	7.6	7.2	6.1	-2.4	0.0	0.4	6.3		
5	1.6	3.9	7.1	6.3	6.1	4.4	5.9	5.0	4.9	5.3	6.8	8.9	10.3	13.4	13.4	13.3	10.2	7.8	7.1	6.9	6.2	6.2	3.1	-2.0	6.8		
6	5.1	3.1	2.8	4.9	5.3	4.2	5.4	5.6	5.4	5.8	7.3	9.6	10.9	10.6	9.7	9.0	9.4	9.7	9.3	8.2	6.5	0.4	1.6	1.5	6.3		
7	4.3	5.8	5.4	6.6	2.6	4.4	6.6	5.8	4.8	4.4	6.7	7.7	10.0	12.8	11.6	7.9	9.1	6.8	6.1	6.4	-0.1	1.0	0.4	-1.2	5.7		
8	4.7	6.0	6.7	7.2	7.2	4.3	4.4	8.6	7.6	4.0	4.6	7.3	10.0	11.9	11.7	10.8	10.0	9.2	8.6	8.5	7.6	4.0	5.0	0.7	7.1		
9	2.5	4.6	4.8	4.0	5.0	5.7	6.5	5.8	4.1	4.4	5.8	7.0	9.8	11.8	10.2	9.1	9.4	1.3	-4.5	0.3	5.3	6.2	6.1	5.0	5.4		
10	5.0	5.3	6.0	5.4	5.7	5.5	4.5	4.0	3.5	4.2	4.7	6.8	10.7	11.7	11.6	9.0	8.8	7.4	5.3	1.4	4.1	2.6	-0.1	5.7			
11	5.3	8.8	4.8	4.4	0.7	4.6	4.4	5.7	6.4	7.1	8.9	10.8	10.8	12.9	11.2	8.9	7.6	6.1	-1.9	3.4	-2.9	-3.9	-1.0	5.4			
12	2.7	4.9	5.8	4.0	3.2	4.5	4.8	5.6	5.2	4.8	5.8	9.9	11.7	11.8	10.8	10.6	8.9	8.2	8.1	4.6	-0.9	-0.3	-2.3	2.2			
13	2.7	4.6	3.6	2.7	2.8	4.4	4.6	4.1	3.7	3.9	5.4	8.4	11.2	12.9	14.7	14.4	8.6	10.8	8.4	-6.9	-6.3	6.0	4.2	-1.3			
14 d	-0.5	-3.6	-0.9	3.4	7.2	4.8	5.4	2.7	3.4	3.7	5.6	7.7	9.4	11.5	10.6	10.0	9.4	3.0	3.9	1.3	0.4</td						

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

69

103 ESKDALEMUIR (Z)

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

MARCH

	Hour	G.M.T.	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			γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1 q	1220	1221	1225	1225	1226	1226	1225	1224	1224	1224	1224	1222	1220	1220	1224	1224	1226	1229	1232	1231	1231	1230	1231	1231	1237	1234	1232	1227	
2	1232	1216	1217	1220	1220	1211	1214	1220	1224	1226	1226	1226	1221	1221	1219	1220	1224	1228	1231	1232	1239	1232	1229	1229	1228	1217	1224		
3 q	1220	1220	1216	1214	1216	1220	1221	1225	1226	1225	1221	1220	1221	1221	1221	1227	1232	1241	1241	1237	1234	1232	1233	1232	1232	1231	1227		
4	1228	1228	1227	1226	1224	1223	1224	1224	1227	1227	1223	1221	1220	1220	1220	1221	1225	1227	1231	1230	1228	1227	1231	1233	1248	1243	1235	1228	
5	1225	1215	1206	1213	1220	1222	1220	1220	1220	1220	1216	1216	1224	1231	1237	1239	1237	1236	1233	1233	1235	1233	1231	1231	1224	1225			
6	1219	1215	1220	1218	1219	1222	1222	1221	1220	1220	1216	1211	1212	1212	1217	1221	1225	1231	1232	1230	1233	1240	1239	1233	1224	1224			
7	1225	1224	1213	1204	1213	1220	1224	1224	1224	1224	1222	1221	1224	1224	1228	1231	1239	1243	1245	1241	1236	1237	1232	1231	1227	1227			
8	1225	1225	1224	1220	1219	1220	1221	1221	1221	1221	1220	1219	1219	1221	1221	1226	1231	1232	1231	1231	1232	1236	1244	1233	1220	1225			
9	1225	1227	1228	1227	1226	1225	1226	1225	1227	1227	1225	1221	1221	1221	1227	1232	1232	1240	1261	1268	1260	1245	1238	1235	1235	1235			
10	1232	1232	1232	1231	1231	1230	1228	1225	1220	1217	1215	1214	1221	1221	1228	1237	1239	1243	1240	1245	1243	1241	1233	1231	1231	1231			
11	1221	1213	1217	1212	1217	1235	1227	1227	1224	1219	1216	1221	1227	1236	1242	1253	1251	1243	1244	1248	1241	1232	1213	1211	1228	1228			
12	1212	1217	1225	1226	1227	1228	1229	1228	1226	1225	1219	1215	1217	1221	1225	1232	1243	1240	1248	1247	1244	1238	1230	1230	1230				
13	1233	1232	1230	1228	1230	1231	1232	1235	1232	1231	1227	1224	1223	1227	1232	1243	1260	1249	1253	1257	1241	1236	1232	1219	1235				
14 d	1201	1184	1192	1201	1205	1210	1214	1212	1224	1227	1227	1224	1225	1227	1237	1272	1298	1316	1283	1264	1251	1243	1233	1229	1233	1233			
15 d	1204	1184	1213	1220	1205	1215	1218	1222	1225	1219	1225	1221	1221	1229	1237	1245	1244	1248	1245	1245	1246	1236	1206	1219	1225				
16	1226	1225	1222	1224	1222	1220	1221	1224	1226	1225	1224	1223	1224	1237	1247	1244	1246	1248	1248	1252	1239	1228	1224	1225	1231				
17	1223	1220	1226	1227	1225	1221	1223	1222	1221	1220	1219	1220	1225	1227	1244	1270	1262	1252	1247	1234	1232	1232	1217	1230	1230				
18	1215	1176	1165	1195	1205	1204	1211	1221	1224	1222	1221	1219	1222	1227	1239	1244	1249	1253	1252	1262	1253	1241	1237	1232	1225				
19	1223	1226	1225	1229	1232	1232	1235	1235	1227	1223	1219	1220	1225	1244	1248	1249	1248	1251	1244	1243	1239	1225	1220	1233	1233				
20 d	1219	1213	1209	1211	1222	1227	1231	1231	1231	1227	1221	1221	1225	1226	1232	1241	1250	1260	1262	1252	1242	1236	1217	1183	1229				
21	1185	1203	1213	1221	1225	1227	1231	1233	1235	1233	1229	1226	1227	1231	1235	1239	1237	1238	1243	1245	1239	1231	1221	1229	1229				
22	1223	1209	1209	1221	1226	1228	1230	1232	1231	1229	1225	1217	1220	1227	1233	1239	1240	1243	1247	1242	1232	1216	1226	1228	1228				
23 d	1194	1174	1185	1193	1209	1227	1221	1215	1212	1221	1215	1209	1219	1223	1249	1245	1241	1244	1248	1270	1247	1249	1233	1144	1221				
24 d	1183	1184	1187	1208	1216	1226	1227	1232	1232	1230	1225	1224	1226	1227	1231	1237	1240	1253	1255	1251	1238	1232	1232	1208	1225				
25	1206	1208	1197	1203	1205	1210	1220	1225	1231	1231	1227	1221	1225	1229	1232	1243	1243	1240	1243	1243	1242	1237	1232	1231	1232				
26	1231	1227	1224	1220	1221	1223	1224	1225	1225	1227	1226	1222	1225	1231	1231	1238	1251	1249	1244	1239	1223	1222	1226	1228	1229				
27 q	1227	1223	1205	1208	1209	1215	1216	1221	1221	1220	1220	1217	1217	1216	1220	1226	1232	1236	1237	1234	1232	1231	1227	1223	1223				
28 q	1227	1223	1220	1225	1227	1226	1225	1225	1222	1217	1219	1222	1222	1226	1231	1235	1232	1231	1227	1227	1227	1226	1226	1226	1226				
29 q	1220	1221	1225	1226	1227	1228	1231	1231	1229	1224	1220	1219	1220	1225	1235	1236	1236	1240	1238	1237	1236	1227	1229	1229	1229				
30	1223	1209	1198	1212	1218	1221	1225	1226	1221	1219	1216	1213	1215	1215	1215	1215	1221	1227	1231	1232	1236	1248	1253	1239	1199	1224			
31	1216	1225	1225	1224	1226	1226	1228	1230	1228	1225	1217	1215	1219	1219	1223	1232	1236	1240	1241	1243	1244	1245	1240	1232	1232	1230			
Mean	1218	1213	1213	1217	1220	1222	1224	1226	1225	1222	1219	1221	1221	1226	1232	1239	1243	1245	1245	1244	1244	1239	1237	1231	1222	1228			

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +	MARCH		
	Horizontal force			Declination			Vertical force												
	Maximum 16,000 $\gamma$ +	Minimum 16,000 $\gamma$ +	Range	Maximum 11° +	Minimum 11° +	Range	Maximum 44,000 $\gamma$ +	Minimum 44,000 $\gamma$ +	Range										
1 q	h. m.	γ	γ	h. m.	γ	γ	h. m.	γ	γ	h. m.	γ	γ	h. m.	γ	γ	γ	°A.		
2	22 27	691	611	23 28	80	12 54	11.1	-10.3	22 44	21.4	22 11	1245	1219	12 41	26	2,1,1,1,2,0,2,4	13	0	83.3
3 q	22 44	682	612	10 47	70	01 26	15.4	-3.6	18 43	19.0	18 33	1243	1209	05 30	34	4,3,2,2,2,0,3,3	19	1	83.4
4	21 20	660	617	15 17	43	13 44	14.3	0.8	21 16	13.5	15 53	1245	1212	02 49	33	3,2,1,0,2,2,1,2	13	0	83.4
5	19 42	663	607	22 10	56	13 16	13.5	-4.3	21 29	17.8	21 29	1252	1220	12 48	32	1,1,2,1,2,2,3,3	15	0	83.4
6	16 16	671</td																	

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

105 ESKDALEMUIR (H)

16,000 $\gamma$  (0.16 C.G.S. unit) +

APRIL

	Hour	G.M.T.	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			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	652	647	647	647	647	650	649	646	649	635	626	618	618	626	625	635	649	654	645	648	652	657	659	648	664	641	644	
2	652	647	646	647	650	649	646	641	635	622	610	623	636	644	656	641	658	659	659	653	654	619	609	635	641	641	641	641
3	641	642	640	640	636	643	639	639	622	610	608	614	622	627	631	638	648	658	661	649	645	635	680	642	638	638	638	638
4	643	647	643	654	654	635	655	651	639	619	615	624	629	630	639	647	652	650	655	660	648	655	644	648	643	643	643	643
5	650	646	647	647	654	660	655	648	620	631	622	621	626	635	641	651	653	656	658	659	658	656	657	660	646	646	646	646
6	667	653	650	648	655	659	662	656	644	634	616	614	628	630	652	657	655	663	667	660	656	658	655	665	650	650	650	650
7 q	658	653	651	654	657	659	656	658	650	641	634	627	626	635	652	662	663	666	656	670	656	658	660	664	653	653	653	653
8	659	658	658	654	656	655	656	652	643	637	627	616	613	624	639	656	661	661	668	663	660	642	627	639	647	647	647	647
9	649	643	647	643	648	656	660	656	642	641	635	636	632	627	629	635	636	643	667	661	656	655	664	652	646	646	646	646
10	651	650	641	645	653	652	655	648	639	633	627	616	626	640	650	654	657	631	646	651	656	651	657	644	645	645	645	645
11 d	651	651	647	646	651	654	655	653	649	642	636	633	640	648	651	655	655	660	651	656	623	637	624	535	535	535	535	535
12 d	635	520	513	511	579	635	612	609	629	627	606	608	599	633	645	646	651	648	654	653	634	643	631	616	616	616	616	616
13	622	634	629	631	630	631	633	631	626	617	618	622	626	631	624	645	647	636	639	650	652	661	646	638	634	634	634	
14	639	646	637	634	635	631	641	640	634	607	613	610	609	627	637	644	645	653	655	656	659	656	659	658	638	638	638	
15 d	648	653	640	640	635	639	639	632	625	619	622	635	627	623	648	635	639	664	662	647	661	641	647	640	640	640	640	
16	644	644	640	644	646	643	644	637	630	629	631	644	646	641	645	648	655	662	643	645	646	643	646	643	643	643	643	
17	647	642	646	643	647	642	648	647	637	629	623	622	624	635	645	651	651	665	651	645	658	655	658	665	645	645	645	
18	661	651	647	646	647	647	647	636	641	627	621	614	636	656	652	649	650	671	662	651	659	649	647	652	646	646	646	
19	654	652	646	648	649	645	650	651	640	616	614	621	629	629	640	645	662	650	655	667	659	660	664	658	646	646	646	
20 d	664	661	641	640	636	647	642	636	633	621	611	614	622	617	632	655	656	672	652	639	648	656	648	648	648	648	648	
21	657	653	647	643	635	638	626	637	643	630	622	616	594	628	638	647	651	665	658	657	656	655	656	662	642	642	642	
22	653	647	646	648	642	638	647	652	646	632	624	621	620	638	654	656	663	662	660	660	660	660	664	648	648	648		
23 d	673	662	644	650	654	660	667	653	641	633	618	608	621	633	644	646	650	677	664	654	671	651	646	650	650	650	650	
24	646	646	636	644	649	652	651	646	636	620	618	620	622	631	644	663	644	658	667	681	655	652	674	646	646	646		
25 q	650	646	648	644	643	651	647	639	639	632	631	632	632	643	652	653	653	664	667	671	656	667	665	650	650	650		
26	663	644	649	642	645	651	646	646	640	633	626	627	632	645	638	655	651	666	675	667	661	660	654	629	648	648		
27	621	633	623	652	647	637	618	615	624	623	616	613	625	632	641	648	654	666	663	661	658	653	657	639	639	639		
28 q	652	653	649	650	648	648	648	643	643	638	632	633	635	644	656	654	665	668	677	673	672	668	663	653	653	653		
29 q	673	651	651	650	649	650	650	646	637	633	633	637	647	651	656	653	662	666	673	664	662	663	659	654	654	654		
30	659	659	653	651	652	658	659	647	642	642	627	518	615	636	640	651	651	665	659	660	652	647	652	655	648	648	648	
Mean			651	645	640	641	644	647	646	643	633	628	622	621	625	635	544	650	652	658	660	659	655	653	648	644	644	

## MAGNETIC DECLINATION (WEST)

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

106 ESKDALEMUIR (D)

11° +

APRIL

	Hour	G.M.T.	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			4.3	3.6	3.5	3.6	2.6	1.9	2.0	1.9	2.3	3.7	5.5	7.4	9.3	10.7	10.7	8.9	7.1	5.3	6.3	6.9	6.4	3.7	-0.5	2.0	5.0
2			4.8	4.7	4.6	4.7	3.5	3.5	2.6	1.9	1.8	3.6	6.6	10.7	14.4	17.6	18.8	13.2	10.3	7.6	6.6	5.6	2.7	-7.1	-8.7	-4.5	5.4
3			3.3	4.9	4.4	2.9	4.2	4.7	3.0	0.6	1.3	4.6	6.3	7.9	12.1	13.6	11.9	9.5	7.2	6.4	6.3	4.5	0.1	1.3	-2.5	4.9	
4			-1.0	2.2	-1.3	-0.3	-3.2	2.9	6.1	2.2	1.5	2.5	5.9	7.9	9.5	10.6	10.1	8.9	7.9	5.7	5.1	4.9	1.4	-0.6	-0.4	3.5	
5			-0.6	0.8	2.2	2.3	6.3	3.9	2.8	2.1	2.2	4.0	4.9	9.2	11.8	13.1	11.5	10.0	8.0	6.7	5.7	5.1	5.1	4.8	4.7	5.5	
6			3.0	3.1	2.4	3.4	4.8	4.2	3.5	2.5	1.7	1.3	3.6	6.8	11.1	12.2	11.0	9.5	7.7	6.5	5.8	5.1	3.7	4.7	5.7	5.3	
7 q			5.5	6.7	5.1	5.6	4.6	4.0	3.9	5.2	4.3	4.3	5.9	8.8	11.6	12.6	13.2	11.5	10.2	8.3	4.0	1.7	4.8	4.3	3.5	5.7	6.5
8			4.7	5.0	5.0	4.0	3.9	3.1	2.1	0.6	0.7	2.5	5.5	8.4	11.3	12.1	10.7	9.6	8.6	7.4	6.7	0.7	-5.1	-5.3	-0.4	5.0	
9			1.1	6.6	4.0	2.0	2.1	1.0	0.5	-0.1	1.3	2.9	4.8	6.8	9.4	12.1	12.7	12.3	11.0</								

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

71

107 ESKDALEMUIR (2)

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

APRIL

	Hour	G.M.T.	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	1231	1232	1232	1231	1231	1231	1231	1230	1227	1227	1224	1221	1215	1213	1216	1224	1231	1238	1243	1237	1233	1233	1232	1225	1225	1228	
2	1225	1226	1227	1228	1228	1229	1231	1231	1227	1225	1221	1215	1215	1215	1219	1224	1227	1232	1236	1232	1232	1235	1237	1222	1220	1227	
3	1224	1231	1232	1231	1231	1225	1223	1224	1221	1219	1215	1216	1216	1221	1223	1234	1233	1233	1236	1244	1247	1242	1209	1199	1227	1227	
4	1210	1216	1217	1202	1200	1205	1204	1213	1214	1212	1214	1209	1209	1209	1215	1223	1227	1232	1232	1237	1233	1227	1224	1218	1218	1222	
5	1220	1220	1221	1223	1219	1214	1219	1220	1223	1215	1214	1208	1212	1216	1223	1225	1228	1231	1232	1231	1229	1228	1229	1228	1228	1222	
6	1216	1220	1223	1226	1226	1226	1227	1228	1229	1226	1224	1216	1209	1215	1220	1227	1231	1232	1232	1232	1232	1228	1227	1223	1223	1225	
7 q	1215	1216	1221	1224	1226	1227	1227	1224	1224	1223	1220	1215	1216	1218	1223	1228	1235	1241	1248	1247	1249	1237	1235	1226	1227	1227	
8	1225	1226	1226	1227	1228	1229	1229	1227	1225	1220	1215	1215	1220	1220	1223	1227	1230	1232	1238	1234	1223	1223	1204	1225	1225	1225	
9	1213	1208	1206	1219	1224	1224	1223	1221	1220	1215	1214	1209	1209	1215	1225	1232	1237	1241	1243	1236	1233	1232	1227	1225	1223	1223	
10	1225	1224	1226	1225	1223	1225	1226	1224	1221	1220	1217	1216	1215	1217	1221	1227	1236	1255	1251	1242	1237	1238	1232	1227	1228	1228	
11 d	1214	1213	1221	1225	1226	1227	1225	1223	1220	1218	1216	1216	1215	1215	1220	1226	1236	1244	1270	1272	1248	1231	1192	1089	1221	1221	
12 d	1070	1015	1000	1061	1149	1192	109	1219	1209	1220	1220	1224	1226	1228	1229	1231	1232	1242	1244	1243	1244	1240	1224	1227	1183	1183	
13	1224	1230	1221	1225	1232	1235	1237	1237	1236	1232	1230	1231	1231	1237	1260	1252	1258	1257	1246	1243	1237	1228	1227	1237	1237	1237	
14	1232	1228	1215	1209	1190	1207	1220	1227	1230	1228	1226	1225	1225	1233	1243	1241	1237	1236	1235	1234	1233	1233	1231	1227	1227	1227	
15 d	1217	1199	1209	1215	1224	1225	1226	1229	1221	1218	1217	1220	1220	1227	1241	1245	1243	1238	1249	1251	1241	1226	1229	1229	1228	1228	
16	1231	1228	1231	1231	1230	1228	1227	1231	1228	1223	1217	1215	1215	1222	1228	1230	1231	1232	1236	1244	1248	1240	1235	1232	1230	1230	
17	1231	1232	1231	1227	1227	1225	1226	1225	1225	1221	1219	1215	1216	1220	1228	1232	1239	1253	1248	1240	1237	1236	1234	1230	1230	1230	
18	1220	1211	1219	1223	1227	1227	1230	1229	1227	1225	1219	1216	1214	1216	1224	1229	1233	1237	1245	1242	1238	1237	1232	1227	1227	1227	
19	1232	1223	1231	1228	1228	1230	1231	1229	1226	1221	1218	1215	1215	1219	1225	1231	1237	1248	1250	1246	1239	1235	1232	1231	1231	1231	
20 d	1227	1224	1227	1214	1211	1210	1217	1223	1225	1226	1222	1217	1218	1228	1232	1230	1237	1251	1271	1248	1249	1240	1233	1231	1231	1230	
21	1221	1221	1227	1231	1232	1231	1225	1219	1218	1215	1214	1215	1220	1221	1227	1232	1238	1248	1246	1240	1235	1234	1232	1229	1228	1228	
22	1225	1223	1210	1209	1221	1224	1225	1226	1225	1225	1224	1218	1214	1215	1221	1225	1230	1232	1232	1232	1232	1230	1228	1228	1224	1224	
23 d	1220	1212	1211	1212	1220	1222	1220	1220	1220	1214	1213	1213	1208	1215	1225	1231	1244	1260	1261	1253	1232	1224	1219	1225	1225		
24	1221	1225	1215	1204	1217	1224	1226	1221	1221	1220	1214	1214	1220	1220	1227	1232	1237	1240	1244	1235	1232	1227	1224	1224	1224		
25 q	1205	1211	1219	1224	1225	1223	1225	1227	1227	1223	1219	1215	1214	1217	1225	1231	1235	1236	1235	1237	1232	1225	1221	1225	1225		
26	1218	1212	1197	1193	1203	1209	1215	1219	1219	1220	1216	1213	1212	1216	1232	1238	1236	1233	1232	1241	1243	1235	1227	1205	1220	1220	
27	1188	1187	1177	1204	1219	1227	1230	1221	1215	1216	1219	1220	1219	1223	1230	1232	1237	1239	1241	1243	1237	1231	1231	1222	1222	1222	
28 q	1222	1220	1226	1227	1228	1226	1226	1224	1224	1219	1215	1216	1219	1220	1224	1229	1230	1232	1233	1231	1229	1230	1231	1231	1226	1226	
29 q	1215	1219	1222	1225	1227	1227	1225	1224	1224	1224	1220	1213	1204	1203	1222	1227	1231	1232	1233	1232	1231	1231	1231	1231	1223	1223	
30	1230	1229	1230	1228	1221	1216	1215	1217	1216	1215	1216	1220	1220	1220	1222	1227	1231	1232	1236	1239	1239	1236	1231	1227	1227	1227	
Mean	1216	1213	1212	1213	1217	1221	1223	1224	1224	1221	1219	1216	1216	1216	1220	1227	1231	1235	1239	1242	1242	1239	1234	1228	1220	1225	

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

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +			
	Horizontal force			Declination			Vertical force			Horizontal force									
	Maximum 16,000 $\gamma$ +	Minimum 16,000 $\gamma$ +	Range	Maximum 11° +	Minimum 11° +	Range	Maximum 44,000 $\gamma$ +	Minimum 44,000 $\gamma$ +	Range	Maximum 16,000 $\gamma$ +	Minimum 16,000 $\gamma$ +	Range	Maximum 11° +	Minimum 11° +	Range	Maximum 44,000 $\gamma$ +	Minimum 44,000 $\gamma$ +	Range	
1 q	h. m.	$\gamma$	h. m.	$\gamma$	h. m.	'	h. m.	$\gamma$	h. m.	h. m.	$\gamma$	'	h. m.	$\gamma$	h. m.	$\gamma$	h. m.	$\gamma$	
2	122	68	613	11 05	68	14 12	11 8	-4 9	22 00	16 7	17 24	1247	1212	12 42	35	1,0,1,1,1,3,2,3	12	0	83-1
3	14 21	681	588	22 02	93	14 24	20 4	-13 2	22 12	33 6	21 21	1243	1211	11 57	32	2,0,0,2,3,3,3,4	17	1	83-1
4	22 49	702	603	10 46	99	13 38	14 3	-6 0	22 34	20 3	20 22	1248	1195	23 33	53	2,2,2,2,2,2,3,4	19	1	-
5	24 00	677	617	11 20	60	13 51	13 4	-1 1	00 25	14 5	17 50	1232	1206	11 41	26	1,2,3,2,0,0,0,2	10	0	83-2
6	00 12	686	610	10 54	76	13 20	13 0	0 6	00 49	12 4	17 32	1233	1209	12 31	24	3,2,1,2,3,2,2,3	18</		

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

109 ESKDALEMUIR (H)

16,000γ (0.16 C.G.S. unit) +

MAY

	Hour	G.M.T.	16,000γ (0.16 C.G.S. unit) +																							MAY
	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	646	656	649	645	646	647	645	641	640	634	634	635	635	638	647	651	653	656	659	659	660	659	658	664	648	
2	668	657	655	649	649	652	666	656	646	632	628	632	638	642	651	655	661	665	668	666	665	665	663	657	653	
3	662	654	649	649	644	653	645	642	635	630	630	637	645	653	659	660	662	659	666	665	668	679	678	672	654	
4 d	672	666	662	661	661	651	655	650	648	642	631	628	642	653	657	655	652	696	666	659	664	659	650	647	655	
5	651	650	653	648	647	648	642	638	642	636	634	628	634	645	645	653	661	665	668	669	664	660	660	660	650	
6	663	663	663	547	644	648	642	645	635	626	622	627	635	644	652	663	669	670	667	665	663	661	663	651	651	
7 q	661	661	661	658	661	661	657	651	645	637	632	633	642	546	650	658	666	682	682	676	674	671	670	666	658	
8	668	668	661	659	657	654	656	650	646	646	638	637	629	640	660	662	644	653	586	574	553	654	644	629	653	
9 d	634	647	636	642	645	647	642	623	625	512	607	615	629	630	637	646	655	673	676	656	657	663	655	642	642	
10	655	654	652	650	653	655	642	645	638	631	628	625	633	646	657	663	669	675	687	678	661	667	663	661	654	
11 d	569	665	660	654	656	653	637	641	633	612	620	626	635	642	650	656	667	669	672	665	667	661	658	651	651	
12	656	648	652	654	657	558	653	648	640	533	623	623	631	546	649	665	656	677	681	665	662	667	661	658	653	
13	663	662	653	552	649	649	652	649	642	633	629	525	527	624	625	648	659	676	673	675	661	660	666	660	651	
14	674	654	658	657	656	656	647	645	640	528	615	624	635	644	648	650	652	662	670	670	662	659	661	663	651	
15	665	669	657	558	652	657	648	647	645	640	639	545	549	663	690	652	554	666	677	671	664	661	656	658	658	
16	660	654	650	657	644	641	548	648	644	636	632	636	642	650	558	657	663	668	667	673	672	673	671	655	655	
17 q	567	665	665	665	664	665	650	555	651	642	633	634	642	648	659	665	673	677	572	675	677	684	683	662	662	
18 d	677	657	657	650	574	666	659	657	649	637	622	615	620	636	640	659	669	677	675	664	662	556	661	655	655	
19	641	552	653	654	645	644	648	646	641	627	634	637	640	645	659	650	566	668	671	674	673	679	692	669	655	
20	654	661	662	659	660	559	548	641	629	625	627	639	641	658	665	676	681	680	689	677	673	671	667	660	660	
21 d	659	666	541	648	557	657	650	647	534	626	621	620	635	644	541	652	668	680	685	654	661	664	666	653	653	
22	654	651	647	647	649	654	650	643	639	634	628	630	536	543	645	659	664	670	676	672	666	671	676	657	653	
23	654	661	661	564	661	656	643	629	628	631	632	632	638	544	650	661	672	675	678	667	674	664	664	655	655	
24	665	664	664	661	663	660	647	644	631	632	538	643	642	555	660	659	664	679	678	668	670	672	668	668	658	
25 q	664	664	657	556	658	663	557	651	650	541	636	636	639	545	658	668	673	678	681	677	672	671	667	660	660	
31	673	668	671	665	664	662	664	661	553	649	649	659	659	555	676	659	676	691	696	682	671	673	668	674	667	
Mean	661	660	656	655	655	655	651	646	641	633	631	632	639	646	553	658	654	673	675	672	668	667	666	653	655	

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

110 ESKDALEMUIR (D)

11° +

MAY

	Hour	G.M.T.	11° +																							MAY
	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	4.5	6.6	3.2	2.5	1.0	-0.3	-0.8	-1.4	-1.6	0.0	3.5	5.8	7.7	9.1	8.5	7.5	6.5	5.5	4.5	4.1	4.3	4.5	4.6	4.8	3.9	
2	2.9	-0.4	0.8	-2.2	-2.9	1.6	-2.9	-2.6	-1.8	1.6	4.2	6.6	8.9	10.0	10.1	9.4	8.4	7.1	6.5	6.2	5.8	5.5	4.7	2.5	3.7	
3	1.1	1.2	0.7	2.2	2.6	2.5	1.0	0.9	0.8	2.3	5.4	8.5	11.2	12.7	12.1	10.5	8.9	7.8	7.4	7.3	6.8	5.6	5.1	3.6	5.3	
4 d	3.9	2.0	3.0	2.8	1.7	1.6	2.1	1.3	2.2	5.1	7.2	8.8	11.9	12.3	11.3	11.0	8.5	9.7	7.0	4.9	5.2	0.7	-1.5	-0.5	5.1	
5	2.6	2.7	2.5	1.7	2.6	2.8	2.1	3.2	2.7	3.3	6.1	8.9	10.2	10.1	9.3	7.7	7.1	6.7	6.2	5.4	5.2	4.5	3.6	4.1	5.1	
6	6.2	5.4	3.5	0.9	2.9	2.4	2.1	2.2	2.1	1.6	2.3	5.7	8.0	9.3	9.2	7.6	6.7	5.9	5.4	5.3	5.0	4.8	4.5	4.0	4.7	
7 q	3.9	3.8	3.5	3.4	3.3	1.7	1.1	0.6	0.6	1.0	2.5	4.9	8.4	10.5	10.2	9.3	8.3	8.3	7.3	6.7	5.9	5.7	5.1	4.1	5.0	
8	3.2	3.5	2.6	3.0	2.0	1.2	1.2	2.0	2.2	4.2	8.1	9.7	10.8	12.3	12.8	11.1	9.3	8.5	8.4	6.4	-2.0	0.6	0.7	-2.3	4.7	
9 d	1.8	-0.2	-1.2	-0.7	2.4	1.8	0.3	1.1	2.3	3.8	6.2	8.2	8.9	9.1	8.0	7.5	7.2	6.2	5.4	4.7	2.3	5.3	4.7	5.1	4.2	
10	4.8	4.0	4.3	3.7	2.6	0.4	0.2	2.1	2.8	3.3	5.3	7.7	9.3	9.6	8.9	8.0	7.8	8.1	8.2	6.2	3.5	4.9	2.7	3.4	5.1	
11 d	2.6	4.6	-1.5	-1.9	-1.1	-2.4	-1.0	0.6	2.9	5.5	8.0	10.0	10.6	8.6	7.4	6.7	6.5	6.1	4.8	1.6	4.7	4.7	4.2	4.5	4.0	
12	1.3	2.6	2.8	2.4	1.5	0.7	0.7	0.6	1.9	4.0	6.7	8.8	9.5	8.3	7.8	7.9	6.0	6.2	6.0	5.9	5.9	5.1	4.2	4.5	4.5	
13	4.1	2.2	3.0	1.2	-0.3	-0.8	-2.3	-2.0	0.3	3.1	5.0	7.6	9.8	8.5	7.8	7.0	6.5	5.5	5.8	5.0	5.0	4.9	4.1	3.8	3.8	
14	7.6	6.0	3.0	0.9	-0.6	-0.4	1.5	1.5	1.2	2.9	4.3	6.4	8.1	9.1	8.8	7.7	7.1	6.9	6.5	5						

## TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT

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

73

111 ESKDALEMUIR (2)

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

MAY

	Hour	G.M.T.	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	1228	1217	1220	1225	1230	1231	1232	1227	1221	1219	1216	1215	1219	1221	1225	1226	1228	1231	1231	1231	1231	1230	1229	1227	1227	1225	
2	1224	1221	1220	1218	1221	1216	1212	1216	1215	1215	1216	1211	1212	1217	1221	1225	1228	1230	1231	1229	1229	1228	1228	1231	1221	1221	
3	1226	1223	1225	1225	1227	1226	1227	1225	1221	1216	1211	1208	1214	1220	1225	1228	1231	1232	1232	1232	1231	1227	1222	1223	1224	1224	
4 d	1224	1225	1227	1228	1228	1227	1225	1224	1216	1210	1207	1207	1208	1216	1227	1232	1233	1252	1255	1243	1234	1214	1217	1225	1225	1225	
5	1221	1225	1226	1231	1231	1231	1225	1217	1215	1212	1209	1215	1221	1225	1231	1231	1233	1233	1234	1232	1231	1231	1230	1226	1226	1226	
6	1225	1213	1214	1218	1221	1221	1220	1221	1218	1214	1208	1213	1216	1223	1229	1232	1231	1228	1229	1228	1227	1227	1227	1227	1222	1222	
7 q	1226	1226	1227	1228	1228	1230	1227	1222	1216	1214	1212	1211	1214	1216	1220	1224	1226	1228	1227	1226	1226	1226	1226	1226	1223	1223	
8	1225	1221	1216	1220	1217	1224	1225	1220	1215	1214	1208	1209	1213	1215	1224	1226	1236	1236	1232	1240	1247	1240	1232	1214	1223	1223	
9 d	1209	1199	1197	1211	1209	1219	1223	1226	1220	1213	1215	1215	1215	1223	1230	1232	1233	1236	1242	1244	1243	1226	1226	1227	1222	1222	
10	1228	1227	1226	1226	1226	1221	1220	1213	1205	1203	1209	1216	1223	1224	1225	1225	1224	1230	1241	1234	1232	1231	1231	1223	1223	1223	
11 d	1221	1198	1187	1195	1197	1202	1208	1209	1209	1209	1203	1208	1220	1221	1226	1227	1232	1238	1247	1237	1232	1230	1220	1216	1216	1216	
12	1216	1223	1226	1230	1231	1231	1227	1225	1220	1216	1215	1211	1211	1220	1229	1236	1239	1241	1239	1236	1231	1231	1229	1227	1227		
13	1226	1217	1217	1223	1226	1227	1229	1228	1223	1219	1216	1215	1218	1223	1226	1227	1229	1231	1237	1243	1245	1241	1232	1232	1227	1227	
14	1217	1212	1204	1209	1216	1219	1220	1221	1221	1220	1216	1215	1215	1218	1221	1225	1231	1232	1232	1233	1232	1229	1227	1222	1222		
15	1226	1221	1224	1226	1226	1226	1223	1220	1215	1208	1209	1209	1214	1221	1227	1232	1231	1230	1230	1231	1232	1227	1224	1224	1224		
16	1215	1215	1214	1217	1221	1219	1219	1220	1215	1213	1213	1210	1211	1215	1220	1221	1227	1232	1231	1228	1227	1227	1227	1220	1220		
17 q	1227	1225	1225	1225	1226	1226	1224	1218	1216	1214	1206	1207	1215	1219	1225	1228	1232	1232	1231	1227	1227	1226	1226	1223	1223		
18 d	1221	1220	1218	1200	1198	1204	1213	1217	1217	1214	1209	1207	1212	1220	1224	1226	1231	1232	1240	1245	1243	1237	1230	1221	1221		
19	1218	1220	1221	1224	1228	1227	1226	1225	1225	1215	1213	1213	1213	1214	1221	1236	1236	1236	1236	1234	1236	1227	1215	1205	1224		
20	1201	1199	1207	1214	1219	1220	1221	1217	1212	1205	1204	1203	1209	1215	1220	1225	1230	1231	1231	1221	1220	1223	1223	1223	1223		
21 d	1215	1199	1204	1209	1215	1216	1220	1215	1211	1212	1209	1206	1210	1219	1231	1237	1239	1244	1237	1232	1231	1227	1221	1220	1220		
22	1219	1217	1220	1222	1221	1219	1219	1217	1212	1211	1208	1208	1210	1217	1224	1226	1228	1231	1232	1231	1227	1223	1217	1220	1220		
23	1215	1218	1221	1225	1227	1228	1230	1227	1223	1217	1213	1209	1219	1225	1227	1229	1232	1236	1235	1232	1232	1226	1225	1224	1224		
24	1224	1224	1225	1228	1229	1228	1227	1221	1219	1215	1205	1203	1204	1207	1216	1224	1227	1234	1239	1233	1230	1226	1223	1223	1223		
25 q	1225	1225	1226	1226	1222	1221	1219	1215	1216	1209	1204	1210	1214	1212	1219	1225	1232	1232	1231	1228	1227	1227	1227	1222	1222		
26	1227	1225	1225	1227	1231	1231	1226	1224	1216	1213	1208	1207	1208	1212	1223	1226	1233	1234	1232	1230	1227	1224	1223	1223	1223		
27	1219	1219	1219	1221	1220	1219	1219	1216	1215	1209	1208	1210	1215	1221	1229	1230	1232	1235	1233	1234	1232	1232	1232	1222	1222		
28	1231	1231	1231	1236	1238	1235	1233	1228	1220	1216	1212	1213	1219	1223	1227	1232	1235	1237	1237	1239	1236	1232	1229	1229	1229		
29	1226	1218	1213	1213	1215	1220	1219	1216	1212	1204	1203	1199	1207	1213	1221	1227	1231	1237	1239	1241	1239	1235	1228	1221	1221		
30 q	1227	1228	1228	1226	1226	1227	1226	1224	1220	1214	1212	1207	1208	1216	1222	1227	1231	1232	1231	1231	1229	1229	1228	1224	1224		
31	1227	1227	1227	1226	1227	1225	1222	1220	1215	1208	1204	1194	1200	1209	1212	1224	1227	1230	1232	1237	1234	1228	1227	1221	1221		
Mean	1222	1219	1219	1221	1223	1223	1223	1219	1215	1212	1208		1210	1216	1221	1226	1229	1232	1235	1236	1235	1231	1227	1225	1223	1223	

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

112 ESKDALEMUIR

MAY

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +			
	Horizontal force			Declination			Vertical force												
	Maximum 16,000 $\gamma$ +	Minimum 16,000 $\gamma$ +	Range	Maximum 11° +	Minimum 11° +	Range	Maximum 44,000 $\gamma$ +	Minimum 44,000 $\gamma$ +	Range	h. m.	γ	h. m.	γ	h. m.	γ				
1 q	23 27	670	628	12 43	42	01 01	10.8	-2.1	07 29	12.9	18 33	1232	1215	11 31	17	3,0,1,1,2,2,0,2	11	0	83.4
2	18 06	677	617	04 54	60	13 59	10.7	-3.9	04 22	14.6	18 28	1232	1209	06 09	23	2,3,2,1,1,2,2,1	14	0	83.5
3	21 57	696	627	09 20	69	13 50	13.4	0.3	00 45	13.1	18 50	1233	1207	11 22	26	2,2,0,0,2,2,1,3	12	0	83.4
4 d	17 28	705	622	10 45	83	13 51	13.2	-6.7	22 06	19.9	18 55	1257	1206	10 39	51	2,2,2,2,3,3,4	21	1	83.4
5	19 19	676	621	11 48	55	12 51	10.8	0.2	03 00	10.6	17 06	1232	1207	11 23	29	2,2,2,2,3,2,2,2	17	0	83.4
6	18 40	677	619	10 55	58	00 56	11.6	-0.1	03 29	11.7	16 23	1232	1207</						

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

113 ESKDALEMUIR (H)

16,000 $\gamma$  (0.16 C.G.S. unit) +

JUNE

	Hour G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
1	γ	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
2	671	670	681	673	670	657	652	645	637	626	615	617	632	647	648	657	672	676	678	676	674	675	674	670	658	
3	668	666	664	657	667	666	667	660	658	653	633	636	637	643	642	650	665	668	676	674	668	665	673	667	659	
4	661	661	659	661	662	660	653	649	648	648	640	640	649	652	657	659	668	679	686	684	683	674	673	668	661	
5 q	664	674	671	677	666	668	651	636	624	633	633	633	638	643	652	661	664	680	684	676	674	667	664	659	658	
6	659	660	660	661	662	660	653	647	644	640	638	637	645	656	664	672	678	682	683	678	676	672	672	668	661	
7	667	667	661	660	657	655	653	651	648	643	638	636	643	644	656	657	668	678	678	684	680	678	674	672	660	
8 q	668	669	663	659	661	658	659	655	649	643	637	635	640	659	651	653	666	671	675	674	664	667	659	658	658	
9	667	663	661	660	660	657	655	649	648	647	648	648	652	657	662	666	672	678	684	684	680	675	672	670	663	
10 d	675	666	661	659	660	659	660	657	649	644	638	638	655	666	670	678	674	672	675	681	683	686	697	683	666	
11 q	685	683	676	669	671	668	651	668	658	642	638	632	643	650	657	660	661	680	680	668	666	657	656	662	661	
12 d	653	652	654	656	656	653	647	640	638	632	625	630	644	651	659	660	666	666	671	670	672	670	668	666	654	
13 d	666	664	664	662	660	657	651	647	640	640	640	648	650	647	668	670	674	674	666	662	660	660	662	660	660	
14 d	662	660	659	658	656	656	647	643	636	626	628	633	647	650	661	671	673	696	677	685	682	684	676	674	660	
15	674	672	664	663	668	663	657	647	638	630	634	635	626	649	670	670	672	676	673	664	666	669	671	669	659	
16 q	667	664	664	670	665	659	653	647	639	628	630	638	649	658	660	660	664	668	674	675	676	669	668	666	658	
17	660	662	664	664	662	660	657	651	647	640	640	648	650	647	668	670	674	656	693	674	662	661	664	662	660	
18	667	662	667	672	670	668	663	659	651	639	628	632	643	649	659	667	670	686	706	695	680	668	667	665	664	
19	673	673	674	673	668	660	653	651	647	638	628	632	643	651	663	671	675	679	684	687	678	671	668	673	661	
20	663	662	661	663	663	660	655	650	650	639	628	627	638	642	647	656	660	672	682	681	678	680	674	665	661	
21	668	677	672	665	668	666	655	655	650	639	628	627	638	642	647	656	660	672	682	681	678	674	665	661	661	
22	666	663	663	663	664	664	655	658	652	648	640	635	634	634	636	649	648	654	672	680	682	681	673	672	661	
23	664	661	657	663	664	665	662	660	653	643	638	636	639	641	652	659	664	668	695	693	679	668	666	661	661	
24 q	668	664	662	666	660	663	664	653	644	632	628	636	636	643	655	664	669	680	680	675	674	676	675	668	661	
25	669	668	668	670	670	668	668	664	659	655	649	643	640	621	640	652	671	676	678	680	674	672	673	671	662	
Mean	667	666	664	664	664	661	656	652	647	640	635	635	642	649	657	663	669	675	680	679	677	673	673	670	661	

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

114 ESKDALEMUIR (D)

11° +

JUNE

	Hour G.M.T.	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	3.4	2.5	4.0	1.0	-0.5	-1.2	-1.2	-0.9	-0.7	0.4	1.5	4.8	8.2	9.8	10.1	7.8	7.1	4.5	3.7	3.8	4.7	4.6	2.9	3.8	3.5	
2	3.8	3.7	3.0	4.1	4.8	1.2	-0.6	-1.2	-0.1	0.5	3.5	6.4	8.4	9.0	8.5	7.3	5.6	4.6	3.6	3.7	3.7	3.8	2.5	3.9		
3	2.0	2.4	2.2	1.6	-0.6	-2.1	-2.9	-2.6	-2.2	0.0	3.5	5.6	7.5	9.0	9.4	8.9	7.5	6.6	6.0	4.8	3.0	1.7	2.8	3.0	3.2	
4	3.0	4.4	2.3	1.5	-2.0	-1.6	-1.3	-0.7	-1.4	3.0	5.1	7.5	10.0	9.9	9.1	7.9	6.5	6.7	7.1	4.6	3.4	4.0	4.0	3.4		
5 q	2.7	2.6	2.5	1.8	0.8	-0.5	-0.9	-0.9	-1.0	-0.4	2.2	5.7	7.0	7.8	8.4	8.1	6.6	5.9	6.3	5.6	5.9	5.0	5.1	3.6	3.7	
6	2.1	1.8	2.1	1.8	1.0	0.1	-1.0	-1.9	-1.1	0.8	2.7	6.4	9.6	10.5	9.8	8.5	6.6	5.9	6.2	5.6	3.5	3.1	3.7	3.9		
7	1.9	3.8	1.8	2.5	2.0	1.0	-0.1	-1.2	-0.5	0.9	2.8	5.3	7.6	9.7	10.3	9.3	7.5	5.8	5.3	5.2	4.7	4.3	2.3	2.9	4.0	
8 q	3.1	2.5	2.8	2.5	1.0	-0.8	-1.4	-1.3	0.0	1.5	3.6	5.4	7.1	8.3	8.0	7.3	7.1	6.2	5.6	5.9	5.4	4.6	3.9	3.3	3.8	
9	3.6	3.2	3.3	2.9	0.6	-1.0	-2.4	-2.6	-2.1	-1.5	1.7	4.9	7.7	9.2	8.4	7.1	6.1	4.9	4.9	5.2	5.3	4.8	2.9	1.9	3.3	
10 d	2.1	4.6	0.5	-1.2	-1.6	-1.9	4.9	1.9	-0.5	1.6	3.6	6.3	8.4	7.7	7.8	7.3	6.2	4.2	1.4	3.4	4.6	4.1	3.6	3.1	3.4	
11 q	3.6	4.3	2.6	1.7	0.6	-1.1	-1.7	-1.0	-0.3	1.0	2.2	3.8	5.5	6.3	6.7	6.6	5.6	4.7	4.6	4.0	4.2	4.7	4.5	3.7	3.2	
12 d	3.4	2.5	2.4	1.7	0.8	-0.2	-0.6	-0.1	0.0	0.9	2.7	5.7	9.3	10.0	10.6	10.6	10.2	8.2	7.1	1.9	-1.5	3.1	4.3	4.0	4.0	
13 d	2.6	2.7	4.0	3.0	1.5	-0.8	-1.9	-1.4	-0.4	1.9	4.5	6.4	9.3	10.2	9.9	10.3	8.7	8.8	4.8	5.3	5.1	4.5	3.9	4.4		
14 d	3.0	3.2	1.8	1.4	0.4	-0.9	-2.2	-1.7	0.3	1.9	3.5	6.2	9.6	9.0	9.2	9.3	7.3	5.4	5.0	3.9	4.0	4.1	3.9	3.8		
15	3.5	2.6	1.8	0.8	0.6	-1.5	-2.3	-1.3	-0.5	1.3	3.4	6.2	7.9	8.2	7.5	6.2	4.9	4.2	4.1	4.4	4.4	3.1	3.1	3.6		
16 q	3.0	2.7	3.2	3.3	0.1	-0.9	-1.3	-1.1	-1.3	1.6	4.8	6.1	7.9	8.2	8.7	8.3	6.9	5.9	5.6	5.1	5.2	4.6	3.7	3.6	3.9	
17	3.9	4.6	3.6	2.4	0.9	0.0	-0.4	-0.2	0.5	2.8	5.0	7.2	9.9	11.0	10.9	9.8	8.1	6.4	6.1	5.1	4.7	4.8	3.5	4.8		
18	0.8	1.5	1.5	1.3	0.4	-0.5	-1.3	-0.8	-0.7	1.3	4.0	7.2	10.0	11.0	9.8	8.5										

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

75

115 ESKDALEMUIR (2)

44,000y (0.44 C.G.S. unit) +

JUNE

	Hour G.M.T.	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	1226	1225	1219	1217	1220	1223	1223	1223	1221	1215	1209	1203	1203	1208	1216	1221	1227	1237	1236	1229	1226	1224	1225	1225	1221	
2	1225	1226	1225	1220	1220	1219	1216	1215	1212	1209	1215	1219	1219	1222	1225	1230	1237	1237	1232	1229	1225	1225	1224	1223	1223	
3	1226	1226	1227	1226	1227	1225	1225	1226	1224	1218	1212	1209	1209	1208	1209	1209	1217	1224	1227	1228	1229	1231	1227	1225	1222	
4	1225	1219	1218	1216	1217	1219	1219	1219	1219	1211	1200	1199	1203	1207	1213	1220	1226	1221	1232	1235	1234	1231	1229	1227	1219	
5 q	1227	1226	1226	1228	1228	1227	1225	1225	1220	1211	1201	1194	1201	1210	1215	1217	1221	1231	1234	1232	1228	1225	1225	1220	1221	
6	1221	1221	1224	1225	1226	1226	1221	1222	1221	1215	1208	1208	1210	1216	1220	1224	1226	1227	1227	1226	1226	1225	1225	1223	1221	
7	1220	1219	1220	1223	1223	1223	1222	1223	1222	1220	1213	1208	1209	1213	1216	1220	1225	1226	1227	1227	1228	1226	1226	1221	1221	
8 q	1224	1224	1224	1225	1226	1225	1221	1221	1220	1215	1212	1211	1211	1213	1215	1215	1221	1224	1225	1225	1226	1225	1225	1221	1221	
9	1223	1222	1218	1220	1221	1224	1222	1221	1221	1216	1209	1203	1207	1209	1213	1219	1221	1223	1225	1223	1223	1223	1217	1216	1218	
10 d	1215	1200	1196	1209	1216	1221	1217	1207	1211	1208	1204	1208	1211	1217	1221	1227	1231	1238	1243	1239	1232	1229	1226	1225	1219	
11 q	1221	1220	1224	1227	1228	1229	1229	1227	1221	1216	1214	1214	1215	1220	1221	1224	1227	1228	1231	1231	1229	1229	1228	1228	1225	
12 d	1227	1227	1227	1227	1226	1225	1224	1223	1220	1211	1202	1203	1204	1210	1211	1228	1231	1244	1248	1234	1230	1227	1223	1223	1223	
13 d	1226	1226	1225	1224	1224	1225	1225	1225	1216	1207	1208	1209	1213	1215	1217	1220	1227	1239	1241	1239	1233	1231	1230	1224	1224	
14 d	1226	1225	1226	1227	1226	1225	1227	1224	1213	1206	1209	1216	1219	1220	1223	1227	1232	1232	1230	1228	1227	1227	1224	1224	1224	
15	1227	1227	1228	1230	1230	1227	1225	1218	1213	1215	1218	1223	1225	1225	1227	1227	1226	1227	1227	1231	1229	1227	1227	1225	1225	
16 q	1226	1224	1224	1219	1221	1224	1224	1221	1220	1216	1208	1209	1216	1223	1227	1228	1230	1230	1228	1227	1227	1227	1227	1227	1223	
17	1226	1224	1221	1220	1222	1225	1225	1224	1221	1220	1219	1212	1209	1215	1217	1215	1220	1225	1227	1227	1226	1226	1225	1217	1221	
18	1221	1224	1225	1225	1227	1226	1224	1220	1217	1213	1210	1210	1210	1215	1219	1221	1225	1226	1232	1239	1238	1231	1228	1224	1224	
19	1227	1227	1228	1228	1229	1226	1225	1225	1221	1223	1223	1220	1218	1219	1220	1224	1229	1232	1233	1232	1231	1228	1224	1226	1226	
20	1225	1219	1215	1218	1220	1221	1222	1225	1227	1226	1222	1220	1220	1221	1224	1226	1227	1227	1226	1231	1232	1231	1224	1221	1224	
21	1221	1224	1225	1227	1228	1228	1227	1227	1225	1219	1214	1215	1212	1214	1217	1221	1227	1231	1231	1226	1225	1228	1230	1225	1223	
22	1213	1209	1205	1202	1210	1214	1224	1228	1224	1221	1220	1218	1218	1217	1220	1225	1227	1230	1232	1232	1231	1227	1221	1221	1221	
23	1226	1226	1225	1225	1225	1226	1226	1227	1224	1217	1211	1215	1216	1215	1219	1223	1225	1226	1236	1237	1232	1228	1225	1225	1225	
24 q	1227	1226	1225	1221	1219	1217	1220	1217	1215	1219	1216	1212	1212	1215	1220	1223	1226	1228	1229	1227	1226	1225	1225	1225	1221	
25	1225	1225	1225	1226	1227	1227	1226	1223	1220	1218	1215	1215	1215	1219	1219	1220	1224	1227	1231	1230	1228	1227	1226	1226	1223	
26	1225	1225	1224	1226	1225	1224	1224	1220	1218	1215	1211	1208	1208	1210	1214	1220	1225	1227	1230	1227	1227	1225	1221	1221	1221	
27	1217	1219	1221	1225	1226	1224	1221	1220	1218	1215	1214	1215	1215	1220	1221	1224	1227	1232	1232	1232	1232	1232	1232	1232	1221	
28 d	1219	1211	1201	1209	1216	1225	1225	1216	1219	1216	1216	1216	1223	1225	1228	1233	1241	1243	1239	1237	1238	1232	1232	1225	1225	1225
29	1231	1230	1228	1228	1230	1227	1223	1224	1219	1213	1209	1207	1210	1219	1220	1224	1227	1233	1233	1231	1228	1226	1221	1221	1225	
30	1223	1223	1225	1227	1228	1228	1227	1227	1223	1213	1208	1207	1212	1217	1220	1223	1232	1234	1233	1231	1227	1229	1227	1227	1213	
Mean		1224	1222	1221	1222	1224	1225	1224	1223	1222	1217	1213	1210		1212	1215	1217	1221	1225	1227	1231	1231	1229	1227	1224	1222

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

JUNE

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +			
	Horizontal force			Declination			Vertical force												
	Maximum 16,000y +	Minimum 16,000y +	Range	Maximum 11° +	Minimum 11° +	Range	Maximum 44,000y +	Minimum 44,000y +	Range	h. m.	γ	h. m.	γ	h. m.	γ				
1	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	
1	02 41	684	607	10 59	77	14 10	10 9	-2.1	05 03	13.0	18 10	1237	1201	11 57	36	2,2,0,2,2,2,1,1	12	0	83.4
2	18 37	677	622	10 28	55	13 55	9.4	-2.3	07 20	11.7	18 46	1239	1209	11 41	30	1,2,1,3,2,2,1,2	14	0	83.4
3	18 47	693	633	10 46	60	14 13	9.9	-3.8	07 25	13.7	20 30	1231	1205	13 54	26	0,1,2,2,2,1,2,1	11	0	83.4
4	18 50	691	617	08 30	74	12 48	10 8	-3.3	06 18	14.1	19 56	1237	1197	11 09	40	2,2,2,2,1,2,2,1	14	0	83.4
5 q	18 23	691	634	11 10	57	14 24	8.9	-1.4	06 08	10.3	19 35	1235	1194	11 48	41	0,0,0,1,2,2,2,2	7	0	83.4
6	19 16	695	629	13 39	66	13 23	11.2	-2.0	07 39	13.2	18 48	1228	1205	10 39	23	1,1,0,1,2,2,2,1	10	0	83.4
7	18 10	708	625	14 54	83	14 25	11.1	-1.6	07 52	12.7	22 25	1230	1206	12 21	24	1,1,0,1,4,2,3,2	14	0	83.4
8 q	18 55	689	641	10 55	48	14 16	9.0	-2.5	06										

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

117 ESKDALEMUIR (H)

16,000γ (0-16 C.G.S. unit) +

JULY

	Hour	G.M.T.	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		γ	664	666	668	666	664	642	657	651	638	625	618	624	629	645	657	661	666	671	674	670	669	664	663	661	661	655
2 q		658	658	659	657	657	654	647	637	632	629	626	626	638	641	654	662	672	679	677	678	664	666	661	661	654	654	
3 q		664	663	664	668	666	660	652	648	645	640	639	640	646	648	652	668	671	683	682	679	679	675	675	667	661	661	661
4 q		662	659	663	664	665	664	653	650	649	644	637	632	632	633	655	665	674	680	680	673	667	665	664	662	658	658	
5		664	662	661	661	659	659	658	656	653	644	633	626	635	645	659	666	690	684	692	681	684	675	672	673	662	662	
6		681	674	671	672	673	680	674	652	652	654	650	653	647	651	657	663	668	684	690	681	661	666	665	670	666	666	
7		676	667	659	656	659	659	651	643	638	628	613	623	643	653	657	657	659	670	678	676	672	665	662	659	655	655	
8		660	662	663	661	660	655	651	647	637	628	623	620	628	648	657	659	665	680	679	666	666	664	664	664	664	655	
9 q		659	656	651	664	666	664	656	651	644	639	638	638	640	644	651	659	667	672	675	681	680	678	672	670	659	659	
10 q		668	666	668	670	666	664	660	652	637	632	634	643	643	647	667	674	670	675	679	675	673	672	672	672	662		
11		672	668	664	668	671	656	648	649	645	644	649	645	646	652	660	666	670	676	678	681	688	685	681	682	664		
12		674	660	655	660	668	672	675	671	659	649	638	633	642	659	691	680	651	666	680	684	678	678	672	693	666		
13		658	659	660	664	667	663	653	645	638	636	629	628	634	646	660	674	674	676	679	678	671	676	679	659	659		
14 d		670	663	659	672	666	657	672	665	661	645	632	634	639	652	665	659	662	664	683	681	674	676	669	672	662		
15		662	664	660	664	662	659	653	638	640	639	630	610	641	659	642	656	658	665	672	674	672	668	667	668	655		
16		666	663	660	657	659	659	656	649	638	637	640	640	631	644	647	659	659	662	678	696	661	660	658	660	655		
17		655	651	657	654	668	664	645	644	646	643	640	635	640	644	652	660	668	670	674	671	665	670	673	679	657		
18		714	678	646	654	662	658	655	644	640	632	630	632	634	647	659	666	674	664	665	672	673	671	670	674	659		
19		664	664	654	661	665	664	659	653	647	636	630	625	630	652	661	677	678	687	700	677	678	665	670	661			
20		672	666	654	655	658	649	654	645	640	629	632	634	638	640	648	668	668	666	672	673	670	665	666	654			
21		664	661	661	658	660	670	664	652	642	630	628	636	636	648	653	657	655	684	674	687	682	674	672	669	659		
22		660	656	661	666	665	664	654	643	634	633	635	637	645	649	649	649	654	661	677	677	675	667	668	665	656		
23		664	663	661	662	664	665	661	651	643	635	630	621	639	648	660	658	660	670	674	673	673	675	658				
24		676	668	653	664	661	658	664	668	652	638	636	636	646	653	651	650	653	666	674	667	665	668	664	658			
25 d		661	670	672	672	663	672	658	642	647	633	632	613	629	641	659	657	661	672	672	676	671	664	665	677	657		
26		658	657	653	649	650	651	646	641	640	638	638	637	628	647	657	674	668	677	665	664	670	672	673	671	655		
27 d		671	674	665	656	650	653	647	646	642	633	638	645	647	646	656	666	666	670	674	679	673	674	678	675	659		
28 d		656	663	668	668	663	672	655	644	638	638	620	621	636	663	686	666	645	656	653	663	664	676	680	665	657		
29		659	649	644	644	654	655	642	636	637	638	631	629	620	644	645	663	669	666	661	678	671	664	665	667	652		
30		680	668	660	657	658	657	650	644	640	639	643	653	647	661	676	676	672	669	669	670	671	673	678	662			
31		673	663	656	656	653	659	656	638	626	632	636	642	645	640	654	651	652	662	664	666	670	665	672	654			
Mean		667	660	660	661	662	660	655	648	643	637	633	632	639	648	658	662	665	671	676	675	672	670	669	670	658		

## MAGNETIC DECLINATION (WEST)

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

118 ESKDALEMUIR (D)

11° +

JULY

	Hour	G.M.T.	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		-0.8	2.1	3.8	2.7	0.8	4.8	3.8	0.6	-1.8	0.2	2.6	6.3	9.2	11.1	10.5	8.6	6.1	3.9	3.0	2.7	3.0	2.9	3.1	3.1	3.8	
2 q		3.2	3.3	3.5	3.1	1.4	-1.2	-2.4	-2.6	-1.9	0.2	2.7	5.5	8.2	9.5	8.8	7.3	5.4	4.4	3.5	3.6	2.5	1.3	2.8	3.6	3.2	
3 q		3.5	3.2	2.5	1.6	0.4	-1.3	-1.9	-2.7	-1.2	2.1	6.0	9.0	10.1	9.0	8.8	9.2	7.0	5.6	5.2	4.6	4.5	4.3	3.2	2.5	4.0	
4 q		2.6	2.6	1.8	1.6	0.7	-1.5	-2.3	-1.5	-0.1	1.0	3.1	5.9	8.1	7.4	6.7	5.5	5.3	4.9	4.3	3.6	3.5	3.3	3.0	3.0		
5		2.9	2.7	1.7	0.9	0.3	0.4	-1.8	-2.4	-2.0	0.0	2.5	3.4	4.5	4.6	6.7	8.8	9.5	10.3	9.3	7.4	6.1	4.5	3.6	3.4	3.9	
6		3.5	1.5	1.5	0.3	-0.5	-1.0	-1.5	0.8	3.9	3.3	3.6	5.0	3.7	3.7	6.3	6.7	6.0	5.4	5.4	5.7	2.5	3.1	3.1	3.1		
7		1.8	1.5	-0.1	0.1	-1.2	-2.7	-3.2	-2.8	-2.2	-0.5	2.6	4.9	5.4	7.9	7.3	5.4	4.9	5.3	5.3	4.5	4.0	3.6	2.1	2.8		
8		2.2	1.7	1.7	1.4	0.8	-0.4	-1.1	-1.1	-1.4	-1.2	1.4	4.9	7.4	6.8	6.3	7.4	7.3	6.7	6.0	3.1	3.9	3.7	3.6	3.1		
9 q		2.1	1.7	3.3	3.4	1.0	0.0	-0.9	-0.7	-0.8	0.0	1.5	3.9	6.6	7.7	7.7	6.3	6.0	4.6	4.1	4.8	3.8	2.9	2.7	3.2		
10 q		2.5	2.0	2.4	1.8	-0.7	-1.4	-1.6	-0.9	-1.3	-0.7	3.1	7.1	9.9	10.9	9.6	7.3	5.2	3.9	3.7	3.4	3.1	3.5	3.5	3.5		
11		1.2	1.4	1.3	0.8	-0.5	-1.8	-1.6	-1.3	0.9	0.0	2.0	4.9														

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

77

119 ESKDALEMUIR (Z)

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

JULY

	Hour	G.M.T.	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	1207	1208	1208	1219	1223	1223	1212	1215	1221	1221	1219	1215	1220	1220	1221	1226	1233	1242	1242	1239	1234	1231	1230	1228	1227	1223	
2 q	1227	1228	1229	1230	1230	1230	1227	1224	1218	1215	1213	1215	1215	1221	1226	1231	1237	1240	1241	1238	1237	1234	1230	1227	1228	1223	
3 q	1227	1227	1233	1229	1230	1228	1226	1221	1219	1214	1209	1209	1207	1212	1217	1225	1229	1228	1226	1228	1226	1225	1225	1225	1223	1223	
4 q	1226	1226	1226	1229	1230	1230	1227	1224	1222	1215	1212	1213	1213	1218	1220	1225	1228	1226	1227	1228	1226	1225	1225	1224	1224	1223	
5	1224	1224	1225	1225	1225	1222	1220	1216	1215	1207	1204	1201	1203	1209	1215	1219	1220	1227	1232	1233	1230	1228	1226	1225	1225	1220	
6	1222	1217	1219	1219	1220	1213	1213	1215	1212	1210	1209	1207	1215	1223	1228	1233	1236	1235	1238	1243	1243	1239	1231	1227	1227	1224	
7	1220	1211	1215	1221	1229	1232	1232	1224	1216	1216	1219	1220	1220	1224	1227	1232	1231	1232	1233	1231	1231	1229	1227	1225	1225	1225	
8	1227	1227	1226	1227	1229	1231	1228	1225	1220	1219	1215	1215	1214	1209	1216	1225	1226	1227	1232	1239	1238	1232	1229	1226	1225	1225	
9 q	1225	1226	1225	1222	1224	1227	1230	1227	1217	1210	1207	1210	1210	1219	1223	1225	1226	1226	1224	1227	1228	1226	1227	1227	1223	1223	
10 q	1226	1226	1226	1224	1224	1220	1221	1223	1218	1218	1209	1208	1208	1212	1220	1226	1230	1231	1227	1226	1226	1225	1225	1225	1223	1223	
11	1220	1219	1220	1224	1226	1230	1224	1221	1216	1212	1211	1211	1209	1215	1221	1226	1226	1227	1227	1226	1225	1225	1224	1224	1221	1221	
12	1219	1217	1220	1221	1220	1219	1216	1217	1215	1216	1212	1206	1203	1203	1212	1226	1236	1238	1239	1237	1232	1231	1228	1229	1221	1221	
13	1211	1217	1222	1226	1227	1229	1229	1220	1215	1214	1204	1209	1209	1217	1225	1228	1228	1230	1231	1227	1226	1224	1224	1223	1223	1223	
14 d	1225	1221	1221	1211	1203	1207	1208	1213	1217	1216	1209	1210	1213	1220	1224	1232	1241	1244	1236	1233	1231	1230	1225	1225	1222	1222	
15	1225	1226	1227	1225	1223	1221	1220	1216	1215	1208	1205	1211	1220	1229	1231	1231	1231	1228	1228	1227	1226	1226	1225	1225	1223	1223	
16	1226	1227	1226	1227	1228	1227	1227	1225	1225	1219	1211	1208	1209	1217	1220	1225	1231	1229	1228	1233	1243	1240	1236	1232	1226	1226	
17	1231	1228	1229	1215	1211	1209	1215	1215	1215	1219	1220	1217	1219	1220	1225	1227	1231	1232	1232	1231	1227	1226	1226	1223	1223	1223	
18	1188	1195	1211	1202	1207	1216	1206	1220	1220	1219	1216	1214	1216	1215	1215	1221	1229	1234	1234	1232	1229	1228	1222	1218	1218	1218	
19	1220	1214	1220	1221	1225	1227	1227	1225	1224	1221	1214	1213	1215	1220	1220	1225	1225	1229	1237	1237	1236	1229	1226	1224	1224	1224	
20	1223	1216	1221	1225	1228	1228	1221	1219	1215	1216	1217	1215	1215	1215	1219	1221	1225	1227	1230	1232	1232	1229	1227	1226	1226	1223	
21	1225	1225	1226	1226	1228	1227	1227	1230	1227	1227	1219	1214	1214	1222	1229	1235	1235	1236	1232	1232	1232	1232	1226	1226	1226	1226	
22	1226	1227	1228	1228	1230	1231	1231	1230	1229	1224	1219	1216	1216	1218	1221	1225	1227	1227	1229	1231	1229	1227	1226	1226	1225	1225	
23	1226	1226	1226	1227	1229	1228	1227	1227	1225	1222	1216	1215	1216	1216	1223	1227	1227	1227	1226	1226	1226	1226	1225	1225	1225	1225	
24	1225	1205	1213	1217	1221	1222	1212	1212	1213	1216	1214	1213	1212	1216	1219	1221	1229	1233	1238	1235	1230	1229	1228	1221	1221	1221	
25 d	1227	1225	1225	1219	1225	1218	1220	1220	1224	1219	1219	1219	1223	1233	1241	1241	1235	1233	1231	1231	1231	1232	1227	1227	1226	1226	
26	1226	1221	1221	1226	1228	1230	1231	1228	1223	1221	1217	1214	1220	1224	1232	1236	1232	1232	1230	1231	1229	1229	1228	1228	1227	1227	
27 d	1227	1225	1214	1203	1214	1220	1220	1220	1214	1209	1209	1214	1214	1227	1235	1237	1237	1236	1228	1228	1229	1229	1225	1223	1223	1223	
28 d	1215	1219	1222	1224	1216	1204	1210	1217	1216	1209	1209	1217	1220	1225	1233	1245	1255	1260	1245	1237	1232	1230	1221	1219	1225	1225	
29	1219	1210	1206	1216	1225	1228	1227	1228	1226	1226	1230	1228	1228	1231	1231	1237	1241	1241	1235	1235	1231	1231	1230	1228	1228	1227	
30	1225	1220	1218	1224	1228	1231	1228	1224	1222	1219	1214	1214	1218	1223	1236	1238	1237	1233	1230	1229	1228	1226	1226	1225	1225	1224	
31	1221	1220	1221	1221	1225	1226	1226	1227	1225	1220	1219	1213	1215	1215	1224	1231	1235	1238	1233	1232	1232	1225	1225	1224	1224	1223	
Mean	1222	1220	1221	1222	1224	1223	1224	1221	1218	1215	1213	1214	1214	1219	1225	1232	1233	1233	1232	1231	1230	1228	1225	1224	1224	1223	

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

120 ESKDALEMUIR

JULY

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +			
	Horizontal force			Declination			Vertical force												
	Maximum 16,000 $\gamma$ +	Minimum 16,000 $\gamma$ +	Range	Maximum 11° +	Minimum 11° +	Range	Maximum 44,000 $\gamma$ +	Minimum 44,000 $\gamma$ +	Range	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ		
1 d	h. m.	γ	h. m.	γ	h. m.	'	h. m.	'	h. m.	γ	h. m.	'	h. m.	γ	h. m.	'	h. m.	'	
1 d	00 00	700	613	10 05	87	13 54	12.4	-3.0	00 14	15.4	16 50	1244	1203	00 10	41	3, 3, 3, 2, 3, 2, 2, 1	19	1	83.5
2 q	17 40	683	625	11 17	58	12 52	9.9	-2.8	08 00	12.7	18 01	1243	1212	11 32	31	0, 1, 0, 0, 2, 2, 2, 2	9	0	83.5
3 q	18 02	685	636	10 21	49	12 45	10.4	-3.5	07 41	13.9	16 15	1231	1207	12 16	24	1, 2, 2, 1, 2, 2, 1, 1	12	0	83.5
4 q	18 26	681	625	13 04	56	12 52	8.5	-2.5	06 11	11.0	04 52	1231	1211	10 37	20	1, 0, 1, 2, 2, 0, 1, 0	7	0	

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

121 ESKDALEMUIR (H)

16,000γ (0-16 C.G.S. unit) +

AUGUST

	Hour	G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
1		γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	653
2		663	659	655	655	658	659	660	660	649	624	625	636	618	622	641	648	662	673	670	663	669	667	669	666	666	653
3 q		659	657	660	655	665	652	640	640	633	625	621	623	625	636	646	645	656	674	671	663	666	667	667	668	651	651
4 q		659	657	656	659	660	652	651	647	642	643	625	626	639	642	655	661	668	668	670	678	671	664	667	674	656	656
5 q		675	678	675	671	668	664	659	641	640	638	636	634	635	637	648	652	655	667	678	674	674	668	667	664	658	658
6 d		663	663	661	663	662	660	655	648	639	635	635	637	640	643	654	656	674	673	674	670	667	668	664	650	656	656
7		648	649	656	668	674	662	656	654	624	626	625	625	627	617	635	652	663	662	663	683	668	686	656	660	652	652
8 q		660	646	648	654	655	653	647	643	638	622	598	615	630	647	639	658	663	676	676	674	658	659	660	650	650	650
9		658	656	659	659	660	656	653	648	644	642	630	627	633	647	650	654	656	670	673	672	669	668	664	664	655	655
10		669	664	663	660	658	658	647	647	646	642	639	638	648	655	638	660	665	675	676	667	664	676	657	657	657	
11		672	657	658	663	658	658	651	636	632	630	633	631	635	642	648	660	660	659	667	672	675	672	674	664	654	654
12		656	652	664	664	663	661	655	646	639	629	627	631	635	650	656	664	670	654	663	663	663	663	663	655	655	655
13 q		668	672	660	654	654	654	659	648	638	632	637	652	648	656	660	658	659	656	664	665	668	673	675	676	659	659
14		660	657	658	659	658	653	652	648	638	635	643	649	657	661	658	663	655	655	676	678	672	673	675	675	659	659
15		685	665	652	655	654	650	647	638	637	639	643	648	649	649	654	660	654	663	670	665	671	667	678	657	657	
16		666	656	668	668	666	662	651	644	634	623	626	626	652	646	635	646	663	661	668	668	663	667	666	653	653	
17		660	659	656	656	657	649	634	618	612	618	633	633	642	649	652	655	665	660	670	668	667	665	665	651	651	
18		658	664	657	656	650	655	650	648	636	628	635	637	651	642	642	650	654	659	666	677	673	675	665	663	654	
19		650	663	657	648	651	658	652	645	629	620	632	632	649	658	662	667	658	668	659	670	671	677	686	655	655	
20		670	671	660	658	656	648	648	651	646	643	635	634	635	650	643	660	668	665	675	677	682	683	683	655	655	
21		663	666	664	669	671	669	659	654	640	631	616	635	649	650	649	652	656	659	666	677	671	668	665	662	657	657
22 d		669	681	658	649	650	644	647	652	644	636	628	631	639	637	645	644	659	660	668	672	671	663	656	649	652	652
23		656	673	659	650	653	654	648	642	634	632	632	631	642	646	656	643	643	661	653	662	665	664	661	673	651	651
24 d		679	677	663	654	660	659	653	645	664	648	636	632	649	646	624	643	663	663	667	656	666	661	657	676	656	656
25		665	651	653	657	653	648	643	637	629	630	639	645	649	649	650	652	655	660	662	664	667	672	663	652	652	
26 d		660	660	658	663	667	643	661	655	642	632	636	639	645	634	642	652	650	664	669	666	667	660	661	671	654	654
27		673	665	647	654	658	655	648	645	637	627	621	633	640	647	647	652	665	661	666	647	654	663	667	673	652	652
28		671	671	662	669	671	647	651	640	631	625	619	620	643	663	669	677	671	667	662	669	668	671	663	667	657	657
29 d		673	652	650	634	663	661	643	643	630	611	610	626	642	653	649	656	660	655	658	651	659	667	665	650	650	
30		661	663	656	656	656	650	640	627	641	631	636	646	646	658	658	651	647	654	659	669	666	663	663	669	653	653
31		660	661	651	656	658	655	653	642	637	631	628	636	650	659	660	655	659	651	644	669	667	683	684	665	655	655
Mean		665	662	658	658	660	656	651	645	636	631	629	634	642	646	649	654	658	663	667	669	668	667	667	654	654	654

## MAGNETIC DECLINATION (WEST)

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

11° +

AUGUST

	Hour	G.M.T.	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
1		2.0	1.0	1.5	3.3	2.0	-0.7	-1.8	-2.5	-1.8	-0.3	3.3	6.2	8.5	9.4	10.6	8.5	6.5	4.9	3.3	0.4	2.8	3.2	3.0	2.7	3.2	
2		1.8	1.9	3.6	6.0	3.9	-0.8	-2.0	-1.6	-1.8	-0.8	2.3	4.1	5.4	6.8	7.3	7.1	6.0	6.0	3.7	2.1	2.7	2.3	1.4	0.7	2.8	
3 q		0.5	0.5	0.8	0.9	0.0	-1.6	-2.2	-2.6	-3.3	-1.8	1.5	5.5	7.5	7.9	7.5	6.4	5.1	4.2	4.2	4.2	1.4	2.8	2.3	2.0	2.2	
4 q		1.6	1.4	1.9	1.0	0.2	-1.7	-2.2	-1.8	-0.8	1.4	3.5	6.7	9.9	11.5	10.3	8.3	7.1	5.0	4.3	2.8	2.5	3.5	2.7	3.5	3.5	
5 q		2.2	2.6	3.9	3.6	0.3	-1.1	-1.8	-0.9	0.0	1.4	3.3	6.0	9.0	9.4	8.1	8.1	7.3	6.0	5.4	4.9	4.9	3.2	3.6	-1.3	2.1	
6 d		-3.3	-1.7	-3.8	-5.5	-6.3	-3.6	-3.6	-3.4	-1.6	1.0	1.7	4.8	9.6	12.0	9.9	7.8	7.1	5.5	5.5	5.8	-3.5	-3.4	1.0	0.8	1.4	
7		0.6	2.3	2.4	0.8	-0.9	-1.4	-2.0	-1.9	0.8	4.6	7.5	7.3	7.2	9.5	5.4	6.8	6.0	2.4	-2.4	-1.2	3.4	3.5	2.6	2.7	2.7	
8 q		4.8	4.0	1.8	1.2	0.2	-0.8	-0.8	0.6	1.2	2.4	4.1	6.4	8.2	7.9	7.4	6.6	4.8	5.1	4.4	3.7	3.4	3.3	2.8	2.6	3.6	
9		2.2	1.7	2.7	0.7	-0.8	-1.7	-2.2	-2.4	-1.8	-0.1	2.3	4.5	7.5	8.3	6.3	3.8	4.4	4.1	4.3	1.8	1.0	1.2	0.9	1.5	2.1	
10		1.9	-0.2	-0.6	-0.2	0.0	-0.1	-0.6	-0.9	-1.0	-0.4	1.9	5.3	7.3	7.1	5.5	4.5	2.8	3.1	3.7	3.7	1.8	0.4	0.9	2.0	2.0	

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

79

123 ESKDALEMUIR (z)

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

AUGUST

	Hour	G.M.T.	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			$\gamma$																										
1	1221	1224	1227	1227	1227	1227	1229	1230	1226	1225	1225	1219	1216	1219	1222	1227	1235	1241	1243	1243	1241	1237	1232	1229	1227	1229			
2	1228	1230	1227	1213	1204	1212	1223	1226	1230	1229	1224	1215	1214	1224	1230	1234	1241	1242	1245	1247	1243	1236	1232	1229	1228	1228			
3 q	1226	1225	1225	1227	1231	1233	1230	1225	1220	1215	1216	1214	1220	1225	1228	1231	1232	1231	1229	1232	1233	1231	1228	1227	1227	1227			
4 q	1226	1225	1225	1227	1227	1226	1225	1226	1226	1224	1219	1215	1211	1216	1222	1235	1239	1240	1237	1240	1236	1231	1231	1230	1230	1227			
5 q	1230	1229	1226	1222	1224	1225	1226	1227	1227	1225	1222	1221	1220	1221	1225	1225	1232	1242	1246	1243	1239	1236	1228	1228	1228	1229			
6 d	1222	1219	1215	1209	1208	1214	1220	1220	1219	1220	1220	1220	1220	1227	1229	1235	1242	1244	1244	1243	1252	1237	1231	1227	1227	1227			
7	1219	1220	1224	1227	1231	1232	1233	1232	1231	1227	1220	1215	1219	1224	1231	1237	1240	1243	1247	1243	1237	1232	1231	1230	1230	1230			
8 q	1227	1223	1224	1226	1227	1229	1229	1229	1222	1219	1216	1216	1220	1221	1236	1235	1234	1233	1232	1231	1229	1228	1228	1228	1228	1228			
9	1228	1227	1225	1226	1225	1227	1226	1226	1223	1218	1213	1214	1229	1237	1233	1236	1236	1236	1236	1236	1229	1229	1227	1227	1227	1227			
10	1205	1219	1226	1226	1227	1229	1233	1237	1235	1231	1229	1225	1221	1227	1236	1239	1243	1231	1230	1232	1233	1231	1228	1230	1230	1230			
11	1223	1219	1209	1209	1213	1219	1225	1227	1225	1222	1216	1215	1215	1220	1225	1233	1233	1233	1233	1231	1231	1231	1231	1231	1224				
12	1225	1215	1213	1219	1221	1225	1225	1230	1230	1225	1218	1215	1216	1225	1231	1238	1237	1237	1234	1232	1231	1231	1231	1231	1226	1226			
13 q	1230	1229	1231	1231	1232	1232	1227	1231	1231	1226	1216	1209	1207	1215	1221	1232	1234	1231	1228	1226	1227	1225	1225	1226	1226	1226			
14	1213	1203	1210	1219	1225	1226	1226	1226	1221	1216	1212	1214	1220	1221	1231	1233	1235	1237	1233	1229	1221	1215	1223	1223	1223	1223			
15	1211	1218	1221	1225	1225	1225	1225	1225	1225	1220	1216	1215	1212	1220	1226	1236	1237	1247	1238	1231	1227	1215	1215	1215	1215	1224			
16	1216	1224	1226	1227	1229	1230	1231	1231	1228	1220	1217	1217	1217	1223	1232	1241	1248	1249	1244	1244	1237	1235	1233	1231	1227	1231			
17	1227	1228	1231	1232	1232	1232	1230	1231	1226	1218	1216	1218	1218	1225	1229	1234	1237	1241	1240	1237	1232	1232	1229	1229	1229	1229			
18	1227	1223	1224	1225	1228	1227	1226	1224	1224	1221	1219	1218	1224	1237	1234	1236	1234	1232	1231	1230	1227	1223	1223	1223	1223	1223			
19	1217	1203	1216	1215	1226	1228	1229	1231	1231	1221	1214	1215	1217	1220	1226	1233	1237	1237	1235	1230	1227	1226	1226	1225	1225	1225			
20	1208	1208	1219	1224	1226	1226	1223	1220	1216	1214	1215	1216	1220	1224	1231	1239	1243	1237	1233	1229	1228	1228	1228	1228	1227	1227			
21	1226	1225	1226	1225	1227	1217	1216	1216	1212	1214	1219	1214	1217	1219	1228	1231	1232	1232	1232	1234	1232	1231	1231	1230	1230	1224			
22 d	1224	1195	1172	1186	1199	1189	1195	1204	1216	1217	1215	1215	1218	1225	1230	1231	1231	1232	1234	1232	1232	1226	1226	1215	1215	1215	1215		
23	1225	1213	1212	1216	1221	1226	1231	1231	1229	1223	1216	1214	1215	1220	1229	1235	1239	1241	1242	1240	1238	1230	1228	1226	1226	1226			
24 d	1222	1210	1211	1216	1219	1220	1223	1224	1219	1219	1216	1215	1214	1224	1248	1245	1240	1235	1232	1241	1233	1229	1228	1218	1225	1225	1225		
25	1200	1212	1221	1225	1227	1227	1227	1231	1228	1221	1218	1220	1220	1221	1226	1232	1232	1232	1232	1232	1232	1232	1232	1232	1232	1226			
26 d	1226	1227	1227	1227	1224	1217	1204	1204	1205	1201	1202	1207	1217	1225	1232	1235	1238	1241	1243	1236	1235	1235	1231	1227	1225	1227	1227		
27	1214	1169	1191	1207	1217	1221	1224	1224	1220	1217	1215	1215	1218	1225	1230	1231	1231	1232	1234	1231	1227	1227	1220	1220	1220	1220	1220	1220	
28	1202	1199	1198	1195	1203	1213	1213	1214	1215	1214	1216	1219	1219	1223	1227	1229	1229	1228	1227	1227	1227	1227	1227	1227	1227	1227	1227	1227	
29 d	1199	1204	1212	1214	1210	1216	1221	1225	1227	1224	1221	1219	1220	1228	1236	1237	1236	1235	1240	1240	1235	1233	1222	1219	1224	1224	1224		
30	1221	1214	1216	1224	1225	1227	1230	1232	1233	1227	1225	1220	1221	1227	1235	1244	1253	1251	1250	1242	1235	1233	1232	1232	1232	1231	1231	1231	
31	1225	1220	1226	1230	1231	1231	1232	1232	1227	1224	1216	1212	1215	1224	1234	1241	1245	1253	1254	1244	1237	1232	1220	1224	1230	1230	1230	1230	
Mean																													1226

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

124 ESKDALEMUIR

AUGUST

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +				
	Horizontal force			Declination			Vertical force													
	Maximum 16,000 $\gamma$ +	Minimum 16,000 $\gamma$ +	Range	Maximum 11° +	Minimum 11° +	Range	Maximum 44,000 $\gamma$ +	Minimum 44,000 $\gamma$ +	Range	h. m.	h. m.	h. m.								
1	h. m.	$\gamma$	$\gamma$	h. m.	$\gamma$	'	h. m.	$\gamma$	$\gamma$	h. m.	$\gamma$	$\gamma$	29	1,1,1,3,3,2,1	15	0	84.3			
2	17 55	681	597	13 05	84	14 27	11 5	-2.7	07 48	14 2	17 20	1244	1215	11 54	29	2,3,2,2,2,2,1	16	0	84.3	
3 q	17 47	683	614	10 15	69	14 32	7.9	-3.7	08 09	11 6	19 00	1250	1203	04 30	47	1,1,1,3,2,2,2	14	0	84.3	
4 q	19 04	694	626	12 50	68	13 29	12.1	-3.0	07 08	15 1	19 43	1243	1209	12 20	34	1,2,2,1,2,2,3,1	1			

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

125 ESKDALEMUIR (H)

16,000 $\gamma$  (0.16 C.G.S. unit) +

SEPTEMBER

	Hour	G.M.T.	16,000 $\gamma$ (0.16 C.G.S. unit) +																						
	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	653	659	665	662	651	652	661	644	637	628	623	636	645	650	625	655	652	655	660	660	666	650	620	650	649
2	632	647	658	630	659	660	632	636	635	629	606	629	639	645	656	653	643	656	652	663	665	659	655	653	645
3	644	653	654	656	655	656	648	639	636	614	613	599	637	658	650	651	636	646	661	647	650	648	650	662	644
4	652	645	652	650	648	652	654	644	635	631	631	619	612	632	635	673	630	658	660	663	662	660	672	661	647
5	673	671	641	644	638	652	635	629	627	627	609	623	631	639	638	652	659	655	663	661	662	660	664	646	
6	667	650	646	646	651	642	639	641	636	630	631	633	648	656	665	658	644	659	654	692	649	630	652	648	649
7	658	646	648	647	632	644	640	624	618	624	630	629	631	650	652	664	661	659	655	658	666	656	651	656	646
8 q	663	653	649	653	652	653	649	644	637	630	628	635	646	651	650	651	646	649	643	653	661	660	656	655	649
9	656	658	659	643	648	659	644	630	635	632	630	631	636	652	633	630	652	656	646	656	667	660	654	647	
10	656	651	654	650	652	651	644	642	631	623	640	649	653	645	637	652	649	651	658	659	656	663	671	650	
11	655	656	654	655	665	657	658	639	637	638	638	628	613	629	640	638	641	642	648	643	647	664	658	650	646
12 q	652	653	651	650	651	652	651	650	643	642	632	637	644	651	663	664	661	663	664	665	663	667	673	654	
13 q	667	663	659	660	662	661	658	651	647	639	638	638	652	655	658	654	663	673	675	677	686	693	632	659	
14 d	624	641	652	629	641	698	652	650	623	636	636	625	597	605	655	636	644	657	656	658	657	678	652	644	
15	654	655	658	655	658	661	659	649	630	588	591	607	624	650	643	651	647	648	658	661	663	661	658	645	
16	671	688	655	632	665	665	650	649	635	615	631	621	640	639	633	658	650	654	651	658	660	672	657	654	
17	654	669	659	660	665	659	652	650	646	630	639	639	644	651	658	658	660	667	662	648	639	653	659	653	
18	673	660	658	659	658	663	665	650	635	632	613	618	635	639	647	642	655	647	645	660	666	682	659	650	
19 q	654	656	659	658	659	661	661	650	637	626	621	623	633	637	639	650	657	652	654	655	654	667	649		
20 d	667	666	660	669	663	677	664	645	635	629	617	622	631	644	653	688	656	650	631	636	648	605	617	645	
21 d	627	638	641	624	635	626	638	645	629	609	613	611	625	631	649	631	664	647	677	631	639	644	652	668	
22	643	648	651	647	649	648	651	647	640	636	635	623	634	636	633	634	641	651	660	660	656	664	660	645	
23 q	656	654	651	650	650	649	649	648	631	630	636	627	632	631	631	637	644	650	651	655	656	657	645		
24	652	653	655	655	654	654	655	650	644	635	627	629	640	649	657	658	645	663	667	670	670	660	650	652	
25	654	659	650	657	662	665	651	642	629	630	633	634	626	639	648	634	652	652	555	639	652	658	647		
26	660	654	654	663	658	652	647	641	625	632	634	631	639	651	645	653	655	658	661	660	659	659	665	662	
27	660	653	656	650	658	655	656	648	643	641	639	641	648	654	651	656	653	648	653	644	633	658	671	651	
28	675	625	651	659	648	655	644	644	626	624	634	628	628	639	625	651	657	660	663	664	660	657	660	647	
29 d	652	642	660	655	638	663	665	660	658	644	625	620	626	627	631	643	646	672	658	652	646	570	613	637	
30	644	647	649	655	659	656	660	660	648	636	632	638	630	631	639	649	654	651	662	663	657	656	659	673	
Mean	655	654	654	651	653	657	651	645	636	629	626	627	634	643	645	650	650	653	656	658	657	551	656	656	

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

126 ESKDALEMUIR (D)

11° +

SEPTEMBER

	Hour	G.M.T.	11° +																						
	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	-0.3	3.1	2.5	0.4	-1.7	1.6	-0.7	-2.1	-2.4	0.0	1.8	4.4	8.2	11.4	11.8	9.7	1.5	3.4	2.9	-3.7	-4.2	-9.1	-6.8	-2.9	1.2
2	-8.6	-4.5	-1.7	3.4	0.2	-2.7	-2.0	-2.2	-1.2	0.7	2.8	4.6	7.0	7.5	6.7	5.3	1.8	1.2	2.4	2.7	2.5	-4.2	-3.7	-1.1	0.7
3	-0.6	0.6	-0.3	0.0	-0.5	-0.4	-0.1	0.9	0.4	2.0	5.7	8.1	8.3	10.6	11.2	6.2	7.2	5.0	3.1	-7.4	-4.9	-0.3	-3.3	3.0	2.3
4	-0.7	-2.1	-0.6	-0.8	0.8	3.5	-0.1	-1.6	-1.8	-0.1	3.2	7.1	8.5	10.2	8.2	8.1	3.8	3.0	2.6	2.5	1.8	1.9	0.1	1.1	2.4
5	-0.5	1.6	-1.9	2.0	3.5	0.8	0.0	0.8	-0.9	0.6	3.9	8.0	10.4	9.0	6.4	3.6	3.3	2.2	0.9	1.3	2.4	2.3	1.3	0.3	2.6
6	1.6	1.0	-0.1	1.0	-0.4	1.5	-0.2	-0.7	0.7	3.7	6.7	8.2	8.0	6.0	5.7	6.4	5.0	7.7	3.7	-17.6	-1.4	-6.0	-5.9	-3.9	1.1
7	-1.0	-2.2	1.3	4.0	1.2	-0.2	-2.5	-2.0	-1.4	-1.4	1.7	3.8	5.8	6.5	5.2	3.8	1.4	-5.8	-4.3	2.4	-1.9	-2.3	-1.3	2.0	0.5
8 q	5.2	1.2	2.8	0.8	-0.5	-0.9	-1.6	-2.3	-2.3	-0.7	2.1	5.3	7.5	7.0	5.3	3.8	1.3	0.6	-4.2	1.3	2.5	2.1	1.7	2.0	1.7
9	2.1	2.1	1.7	5.3	4.5	-0.5	-1.3	0.5	1.2	1.5	3.4	6.7	8.7	9.7	7.1	4.8	4.3	3.1	1.9	1.1	1.2	-1.1	1.0	0.4	2.9
10	1.5	1.4	0.0	-1.5	0.6	0.9	0.7	-0.4	-1.6	0.7	3.0	6.0	7.2	8.1	6.6	4.9	3.5	2.7	2.3	2.1	2.0	-0.8	-0.1	0.7	2.2
11	0.7	-0.1	-0.8	1.7	2.5	-0.3	-1.0	-0.3	2.6	6.4	8.2	7.7	7.5	5.8	4.8	-0.3	0.2	-0.3	0.3	-4.8	-1.4	0.4	1.6	1.6	
12 q	1.7	1.6	1.3	0.8	0.4	0.0	0.2	0.7	0.4	2.2	4.7	7.3	8.5	7.0	6.4	4.8	2.8	2.1</td							

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

81

127 ESKDALEMUIR (z)

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

SEPTEMBER

	Hour	G.M.T.	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		$\gamma$																									
1226	1226	1224	1224	1226	1228	1228	1227	1230	1227	1224	1223	1220	1221	1229	1239	1259	1283	1271	1267	1263	1234	1215	1220	1161	1231		
1130	1187	1203	1197	1203	1213	1221	1227	1226	1223	1224	1225	1221	1225	1233	1243	1253	1256	1251	1243	1237	1223	1209	1221	1223	1209	1221	
3	1217	1225	1231	1231	1231	1232	1232	1231	1228	1227	1221	1221	1229	1227	1241	1264	1272	1263	1260	1267	1251	1240	1227	1200	1236		
4	1188	1213	1221	1226	1227	1220	1224	1229	1231	1227	1223	1220	1229	1237	1239	1247	1268	1256	1242	1237	1236	1230	1227	1231	1231		
5	1220	1208	1212	1216	1216	1217	1225	1225	1227	1224	1220	1221	1226	1231	1239	1243	1243	1240	1241	1239	1236	1236	1236	1232	1228		
6	1224	1221	1226	1230	1231	1232	1232	1234	1233	1227	1221	1221	1219	1220	1231	1245	1264	1273	1282	1274	1212	1221	1219	1210	1233		
7	1215	1217	1220	1212	1216	1226	1231	1233	1229	1228	1225	1225	1226	1228	1232	1235	1243	1255	1251	1239	1239	1228	1223	1229	1229		
8 q	1213	1215	1216	1220	1227	1231	1233	1233	1231	1225	1220	1213	1212	1220	1227	1233	1240	1245	1255	1243	1236	1234	1233	1233	1229		
9	1232	1232	1231	1224	1211	1215	1222	1225	1220	1223	1222	1224	1224	1233	1247	1260	1255	1253	1254	1253	1246	1234	1227	1231	1233		
10	1229	1228	1227	1226	1223	1225	1226	1232	1231	1227	1223	1223	1223	1227	1236	1243	1244	1245	1243	1241	1238	1234	1224	1232	1232		
11	1222	1227	1229	1227	1221	1225	1227	1231	1232	1230	1227	1228	1236	1243	1244	1245	1248	1256	1254	1251	1248	1238	1231	1231	1235		
12 q	1232	1232	1233	1233	1233	1233	1233	1232	1228	1226	1225	1226	1226	1229	1232	1236	1237	1237	1237	1237	1229	1221	1227	1233	1233		
13 q	1231	1231	1232	1234	1233	1233	1236	1236	1235	1230	1229	1225	1223	1229	1236	1237	1238	1236	1232	1232	1227	1218	1232	1232	1232		
14 d	1194	1209	1220	1221	1200	1171	1198	1212	1220	1221	1220	1224	1233	1249	1258	1266	1260	1256	1250	1246	1243	1243	1213	1209	1227		
15	1220	1227	1232	1231	1231	1232	1232	1231	1228	1222	1225	1226	1228	1242	1250	1248	1248	1246	1243	1239	1238	1236	1232	1234			
16	1205	1183	1202	1208	1198	1205	1209	1209	1215	1216	1211	1215	1221	1233	1239	1244	1248	1254	1244	1240	1233	1226	1216	1222			
17	1205	1188	1197	1204	1204	1210	1219	1223	1227	1225	1218	1217	1219	1221	1226	1231	1232	1232	1236	1245	1241	1228	1221	1221			
18	1203	1194	1207	1214	1220	1223	1225	1227	1227	1223	1221	1223	1220	1223	1228	1235	1239	1248	1259	1251	1243	1237	1216	1226			
19 q	1224	1227	1231	1231	1231	1231	1233	1233	1232	1229	1225	1219	1215	1219	1225	1232	1237	1243	1250	1240	1237	1232	1230	1231			
20 d	1231	1231	1226	1203	1201	1209	1215	1224	1225	1222	1225	1226	1228	1249	1255	1300	1374	1324	1332	1289	1209	1214	1228	1208	1244		
21 d	1212	1223	1225	1215	1221	1217	1220	1231	1232	1237	1238	1240	1254	1249	1262	1278	1278	1263	1262	1253	1245	1241	1228	1240			
22	1224	1225	1229	1232	1234	1237	1240	1241	1240	1236	1234	1235	1244	1254	1249	1249	1249	1247	1241	1240	1237	1235	1239				
23 q	1231	1231	1233	1235	1236	1237	1237	1235	1233	1234	1236	1235	1237	1239	1239	1240	1243	1245	1244	1241	1240	1238	1238	1238			
24	1238	1237	1232	1234	1236	1233	1235	1236	1231	1227	1226	1227	1228	1229	1231	1237	1237	1235	1236	1237	1243	1231	1223	1223			
25	1227	1227	1227	1224	1218	1213	1211	1217	1224	1222	1223	1227	1231	1235	1251	1257	1249	1242	1243	1245	1237	1236	1235	1231			
26	1224	1224	1226	1225	1225	1228	1231	1232	1228	1225	1223	1225	1228	1233	1238	1238	1237	1239	1236	1236	1236	1233	1227	1230			
27	1227	1230	1230	1231	1229	1231	1231	1231	1229	1228	1226	1227	1229	1232	1234	1238	1246	1255	1263	1248	1244	1241	1233	1236			
28	1205	1207	1198	1212	1220	1220	1221	1223	1223	1226	1225	1227	1232	1233	1238	1242	1241	1237	1236	1237	1241	1232	1227				
29 d	1228	1231	1215	1211	1216	1215	1220	1220	1224	1226	1230	1232	1231	1243	1243	1256	1270	1270	1251	1252	1223	1207	1220	1229			
30	1232	1237	1235	1226	1214	1207	1209	1213	1220	1226	1232	1236	1236	1241	1242	1247	1246	1247	1240	1240	1238	1237	1223	1232			
Mean		1217	1220	1222	1222	1221	1222	1225	1228	1228	1227	1224	1225	1227	1232	1238	1246	1254	1253	1252	1247	1238	1235	1229	1222		
																										1231	

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

128 ESKDALEMUIR

SEPTEMBER

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +				
	Horizontal force			Declination			Vertical force													
	Maximum 16,000 $\gamma$ +	Minimum 16,000 $\gamma$ +	Range	Maximum 11° +	Minimum 11° +	Range	Maximum 44,000 $\gamma$ +	Minimum 44,000 $\gamma$ +	Range											
1 d	h. m.	$\gamma$	h. m.	'	'	'	h. m.	$\gamma$	'	h. m.	$\gamma$	'	h. m.	$\gamma$	2,2,2,3,4,3,5,5	26	1	84.4		
20 34	726	590	14 08	136	13 50	13-2	-11.2	21 35	24.4	16 27	1288	1119	24 00	169	5,3,3,3,1,3,2,3	23	1	84.4		
22 09	698	591	00 06	107	13 15	7.9	-15.4	00 40	23.3	17 59	1259	1106	00 10	153	2,2,2,3,4,4,4	25	1	84.4		
3 23 39	714	574	11 51	140	13 44	12.5	-15.4	19 46	27.9	16 53	1275	1175	23 55	100	3,2,2,3,3,4,1,3	21	1	84.4		
4 22 32	693	592	16 23	101	13 49	10.8	-4.1	01 07	14.9	16 35	1272	1175	00 00	97	3,2,2,3,3,2,2,2	19	-	84.4		
5 01 01	682	599	10 45	83	12 30	10.9	-4.6	02 06	15.5	16 09	1245	1205	01 50	40	3,2,2,3,3,2,2,2	19	1	84.4		
6 19 26	806	602	20 56	204	17 43	9.9	-34.5	19 20	44.4	19 17	1238	1203	20 44	35	2,2,2,2,2,4,6,3	23	1	84.4		
7 20 48	698	6																		

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

129 ESKDALEMUIR (H)

16,000 $\gamma$  (0.16 C.G.S. unit) +

OCTOBER

	Hour	G.M.T.	16,000 $\gamma$ (0.16 C.G.S. unit) +																						
	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	652	647	637	620	629	656	649	623	603	597	616	631	629	633	645	641	657	671	621	632	643	662	644	643	637
2	643	642	639	658	650	650	653	646	640	631	623	622	626	633	643	648	650	652	654	656	658	675	664	636	645
3 d	637	659	652	656	671	666	641	639	634	628	622	622	622	630	632	635	647	642	646	651	644	691	602	608	641
4	604	639	658	637	650	635	652	648	643	640	631	622	636	647	652	653	631	648	651	650	644	648	655	663	643
5	653	651	650	650	648	654	657	658	648	640	634	633	635	642	646	654	644	651	656	663	679	644	656	675	651
6	658	656	658	652	652	653	675	662	642	616	614	623	639	610	643	635	633	655	641	647	652	651	655	651	645
7	650	650	648	647	656	654	651	648	647	637	627	617	625	633	645	638	635	644	643	650	652	657	652	643	645
8	654	651	655	655	646	650	654	647	647	643	641	631	616	635	627	650	650	648	656	651	659	675	667	648	648
9 q	658	650	652	653	656	651	658	662	648	642	635	637	643	647	648	654	657	660	661	660	656	656	655	651	651
10 q	656	659	657	661	665	663	661	658	647	639	639	645	648	650	651	653	655	652	658	657	659	659	659	654	654
11	661	659	656	657	660	665	657	661	654	644	641	635	633	643	647	648	652	652	658	658	659	660	659	659	653
12 q	658	658	658	660	661	662	660	656	650	643	639	638	639	643	650	655	658	661	664	663	664	666	666	664	656
13 q	663	661	660	661	662	663	661	660	650	636	629	631	639	645	651	655	656	659	663	660	666	667	665	672	656
14	669	663	663	663	665	667	667	663	658	642	625	630	635	641	651	654	652	643	648	651	637	648	655	651	651
15 q	657	655	656	659	667	670	663	666	654	631	631	634	635	645	655	656	658	661	661	665	664	663	662	659	655
16	669	665	662	664	665	665	667	663	654	650	643	639	639	646	656	631	641	645	647	654	656	651	656	660	654
17	660	662	659	658	668	667	663	660	655	644	631	626	631	643	653	659	663	663	659	646	636	640	661	653	653
18 d	645	662	653	670	673	670	651	660	646	647	636	592	616	648	591	629	640	631	643	649	654	653	659	661	645
19	656	648	651	647	652	653	651	653	637	632	629	604	621	636	646	631	632	637	653	646	651	657	668	659	644
20	659	656	646	656	658	657	658	629	627	620	610	614	614	629	635	641	635	637	634	634	635	649	661	658	639
21	654	652	650	650	655	658	658	652	648	641	626	632	639	648	647	646	647	648	650	659	652	652	654	655	649
22	655	654	655	655	659	658	661	662	656	643	639	642	645	646	652	646	654	632	622	617	618	610	616	610	642
23 d	629	637	649	643	644	653	651	658	662	625	625	650	644	650	656	633	631	648	642	583	590	584	584	593	632
24 d	602	609	625	640	691	673	629	618	636	618	606	597	609	612	629	652	659	625	606	608	620	627	643	642	628
25	679	637	663	634	646	647	647	647	630	630	627	607	606	604	629	627	644	649	643	644	655	649	651	648	640
26	648	642	650	654	658	666	660	656	641	640	638	642	641	643	651	650	633	644	625	638	643	665	651	648	647
27	648	647	648	649	654	652	659	658	661	609	606	635	646	640	639	612	646	655	656	652	653	649	645	645	645
28	655	650	647	654	654	652	655	650	646	630	625	631	638	646	651	649	652	659	656	658	656	660	658	656	649
29	655	655	658	660	663	665	667	667	660	642	636	618	638	653	659	660	663	665	667	669	666	662	646	652	656
30	636	641	635	631	679	651	653	655	649	643	638	637	639	639	630	642	650	653	650	648	646	646	646	646	646
31	648	648	651	655	659	667	659	668	657	647	630	635	631	626	629	624	628	625	623	627	627	640	636	649	641
Mean	651	651	652	652	659	659	656	653	647	635	629	628	632	638	643	644	647	649	646	647	649	651	650	651	646

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

130 ESKDALEMUIR (D)

11° +

OCTOBER

	Hour	G.M.T.	11° +																						
	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	-7.3	-8.2	-6.0	4.1	7.1	1.6	-1.4	6.3	5.9	6.2	4.8	3.0	4.9	5.9	5.5	4.9	4.3	-11.7	-2.7	0.4	-0.8	1.8	0.4	-0.6	1.2
2	0.9	3.1	5.1	1.0	0.0	4.3	-0.5	-1.6	-2.4	-2.0	-0.7	1.4	3.6	4.9	5.6	4.9	3.7	2.6	2.0	1.2	-0.6	-1.0	-9.5	-8.4	0.7
3 d	-4.7	3.9	-7.3	-8.0	-1.4	2.5	2.2	5.4	4.0	0.5	-0.1	1.5	4.1	6.4	6.7	3.5	3.0	1.6	3.6	0.8	-1.4	-11.2	-12.1	-8.5	-0.2
4	-16.3	-3.3	-7.6	-0.1	-0.5	0.3	2.6	2.0	-0.8	-0.2	1.2	3.4	5.6	6.5	6.2	5.4	1.0	2.1	1.0	0.1	-3.5	-0.4	-0.7	0.9	0.2
5	-0.1	0.2	0.0	0.4	1.7	1.6	0.6	-0.5	-1.8	-1.4	-0.8	1.9	4.7	6.2	6.0	4.6	2.5	0.7	2.2	1.6	-7.5	-2.6	-1.5	0.1	0.8
6	-0.1	0.8	0.3	1.2	4.0	5.8	2.6	1.1	0.8	3.0	5.3	5.8	7.7	6.5	8.9	7.5	5.2	-4.2	3.5	2.2	2.1	-1.2	-0.1	-0.1	2.8
7	-0.4	0.4	0.8	2.7	1.5	1.1	0.5	-0.5	-0.5	0.1	1.7	4.4	6.1	5.8	4.8	1.7	4.0	-3.8	1.5	0.8	0.8	0.8	-0.5	-0.8	1.4
8	1.8	2.4	-1.4	-1.0	0.2	1.3	2.1	1.3	0.0	-0.1	0.7	2.8	5.1	5.8	6.9	6.7	5.1	3.7	0.6	-1.7	0.3	-0.1	1.8	-0.4	1.8
9 q	-2.5	-1.4	-1.1	-0.8	-0.1	1.6	2.0	2.2	0.2	-0.2	-0.1	1.6	3.1	3.6	3.5	2.9	2.5	2.4	1.9	1.7	1.6	0.0	-0.1	1.2	1.1
10 q	0.7	-0.1	0.3	3.4	0.8	0.6	0.3	-0.1	-1.3	-2.0	-1.2	1.1	4.9	6.6	6.6	5.4									

## 131 ESKDALEMUIR (Z)

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

OCTOBER

	Hour	G.M.T.	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	1215	1211	1196	1172	1166	1176	1192	1209	1211	1219	1223	1230	1233	1235	1237	1248	1269	1295	1282	1266	1255	1233	1230	1235	1227		
2	1237	1231	1223	1225	1226	1224	1231	1237	1237	1240	1239	1237	1236	1237	1237	1237	1239	1238	1238	1239	1241	1231	1216	1209	1233		
3 d	1203	1171	1163	1188	1193	1195	1206	1213	1216	1224	1224	1225	1226	1232	1243	1266	1267	1272	1273	1260	1258	1224	1215	1177	1222		
4	1150	1108	1136	1188	1205	1220	1221	1225	1228	1231	1229	1230	1229	1229	1235	1252	1260	1251	1245	1245	1248	1243	1237	1229	1220		
5	1231	1231	1232	1232	1232	1233	1237	1237	1240	1239	1237	1232	1232	1232	1230	1232	1237	1244	1247	1241	1240	1237	1231	1236	1235		
6	1225	1231	1232	1232	1227	1224	1221	1227	1231	1234	1234	1235	1238	1251	1255	1273	1284	1286	1255	1253	1249	1251	1243	1240	1243		
7	1238	1237	1237	1235	1235	1235	1237	1241	1240	1241	1237	1235	1237	1238	1244	1253	1253	1263	1253	1251	1249	1245	1243	1238	1242		
8	1229	1224	1231	1232	1235	1235	1237	1238	1238	1237	1237	1239	1247	1249	1251	1247	1249	1251	1248	1245	1233	1231	1216	1239	1239		
9 q	1221	1227	1231	1231	1230	1232	1231	1233	1236	1233	1232	1231	1232	1236	1237	1237	1237	1237	1238	1241	1240	1240	1239	1234	1234		
10 q	1236	1233	1235	1227	1226	1223	1226	1229	1232	1231	1226	1225	1224	1226	1231	1236	1238	1238	1238	1238	1238	1238	1237	1232	1232		
11	1232	1232	1232	1231	1228	1227	1227	1228	1232	1232	1231	1228	1230	1231	1237	1239	1239	1237	1237	1237	1237	1237	1237	1237	1233		
12 q	1237	1237	1236	1233	1232	1232	1236	1237	1237	1232	1231	1227	1228	1232	1235	1236	1233	1233	1234	1234	1235	1235	1234	1234	1234		
13 q	1236	1236	1235	1234	1233	1234	1237	1238	1238	1237	1230	1226	1226	1231	1234	1237	1236	1236	1235	1236	1237	1237	1234	1234	1234		
14	1226	1227	1230	1231	1231	1231	1232	1235	1235	1236	1232	1232	1232	1236	1242	1245	1252	1251	1248	1243	1243	1240	1237	1237	1237		
15 q	1235	1233	1234	1234	1233	1233	1232	1233	1236	1232	1232	1232	1232	1231	1232	1234	1236	1237	1236	1236	1236	1236	1236	1234	1234		
16	1229	1228	1232	1232	1233	1233	1236	1237	1234	1231	1226	1226	1226	1227	1235	1251	1249	1249	1258	1249	1246	1245	1239	1234	1237		
17	1232	1230	1228	1229	1226	1226	1229	1232	1233	1232	1232	1232	1234	1235	1232	1237	1238	1237	1237	1239	1244	1249	1240	1223	1234		
18 d	1225	1205	1203	1193	1199	1205	1208	1209	1223	1227	1226	1231	1232	1242	1271	1275	1298	1283	1251	1244	1241	1239	1236	1227	1233		
19	1225	1231	1232	1228	1225	1230	1233	1235	1235	1234	1241	1249	1245	1248	1262	1261	1263	1255	1249	1247	1243	1240	1235	1241	1241		
20	1227	1220	1217	1221	1226	1232	1232	1235	1231	1233	1236	1245	1251	1249	1253	1254	1254	1255	1255	1245	1245	1247	1247	1245	1238		
21	1228	1228	1231	1232	1234	1236	1237	1237	1235	1232	1231	1232	1235	1237	1241	1244	1245	1245	1244	1243	1241	1242	1239	1239	1237		
22	1238	1237	1237	1237	1237	1234	1233	1232	1233	1231	1231	1233	1238	1237	1240	1245	1254	1282	1283	1277	1275	1256	1241	1245	1245		
23 d	1237	1237	1233	1237	1237	1238	1241	1240	1233	1236	1232	1236	1238	1241	1248	1261	1275	1263	1274	1283	1275	1264	1251	1213	1247		
24 d	1180	1156	1165	1179	1150	1147	1160	1184	1197	1218	1227	1241	1244	1255	1267	1268	1311	1301	1302	1308	1278	1248	1243	1245	1228		
25	1226	1205	1183	1164	1192	1202	1229	1236	1243	1251	1256	1259	1258	1264	1269	1256	1255	1252	1248	1245	1247	1247	1245	1235	1235		
26	1240	1238	1238	1237	1238	1237	1237	1237	1239	1237	1237	1236	1239	1245	1245	1253	1260	1258	1271	1269	1256	1245	1242	1243	1245		
27	1242	1242	1243	1241	1239	1241	1243	1244	1238	1243	1240	1241	1240	1246	1256	1274	1263	1249	1249	1247	1246	1246	1246	1246	1246		
28	1240	1237	1237	1233	1235	1238	1240	1244	1245	1246	1247	1244	1244	1249	1251	1252	1251	1244	1244	1243	1243	1241	1241	1243	1243		
29	1239	1241	1240	1239	1237	1237	1237	1238	1239	1243	1238	1237	1236	1237	1241	1240	1237	1237	1237	1238	1243	1239	1239	1239			
30	1231	1222	1219	1231	1220	1211	1224	1233	1239	1237	1237	1236	1236	1236	1240	1249	1248	1248	1249	1249	1253	1240	1239	1236	1236		
31	1236	1235	1236	1237	1237	1236	1237	1237	1241	1238	1238	1237	1238	1247	1255	1268	1280	1288	1287	1284	1280	1251	1239	1240	1250		
Mean	1227	1221	1221	1223	1223	1224	1227	1231	1233	1235	1234	1234	1235	1235	1239	1244	1251	1255	1253	1252	1249	1243	1238	1232	1237		

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

## 132 ESKDALEMUIR

OCTOBER

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200+			
	Horizontal force			Declination			Vertical force												
	Maximum 16,000 $\gamma$ +	Minimum 16,000 $\gamma$ +	Range	Maximum 11° +	Minimum 11° +	Range	Maximum 44,000 $\gamma$ +	Minimum 44,000 $\gamma$ +	Range	h. m.	γ	h. m.	γ	h. m.	γ				
1 d	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ	°A.	84.4	
2	17 23	735	582 09 03	153	04 28	9.2	-23.9	17 20	33.1	17 17	1316	1161 04 01	155	3,4,4,4,3,5,3,3	29	1	84.4		
3 d	21 18	696	599 23 24	97	14 17	6.9	-14.4	22 55	21.3	21 04	1241	1195 23 56	46	3,3,2,0,2,0,2,4	16	1	84.4		
4	21 16	720	578 22 53	142	01 23	8.0	-17.3	21 16	25.3	18 00	1283	1156 24 00	127	4,4,3,2,3,3,3,5	27	1	84.4		
5	20 20	718	625 16 49	93	14 05	6.4	-11.0	20 14	17.4	17 11	1249	1220 23 56	29	5,3,2,3,2,4,2,3	24	1	84.4		
6	17 27	703	575 13 20	128	14 54	12.2	-16.9	17 20	29.1	17 16	1312	1219 06 04	93	1,3,3,2,4,5,2,3	23	1	84.4		
7	22 50	663	606 12 40	57	14 16	7.5	-7.3	17 22	14.8	17 31	1266	1232 10 56	34	1,2,2,3,2,3,2,2					

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

133 ESKDALEMUIR (H)

16,000 $\gamma$  (0.16 C.G.S. unit) +

NOVEMBER

	Hour G.M.T.												16,000 $\gamma$ (0.16 C.G.S. unit) +												
	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	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
2 d	652	645	642	655	654	647	646	659	657	642	629	629	631	633	624	625	632	640	615	599	619	620	642	675	638
3 d	615	625	660	659	639	642	652	655	649	643	631	638	631	630	626	642	650	642	642	651	659	652	658	639	642
4	650	633	646	658	645	642	653	649	636	644	638	631	635	635	644	626	642	650	642	651	659	652	658	639	642
5	654	653	648	652	655	653	660	659	656	643	626	626	643	649	652	651	648	650	653	659	660	663	661	658	651
6	671	657	654	660	660	656	658	663	640	635	637	637	635	650	649	649	654	654	643	650	659	659	657	657	652
7	670	658	655	657	657	659	660	667	658	647	644	640	644	644	651	657	649	647	658	639	648	644	652	658	653
8	659	663	653	660	659	663	668	662	661	651	650	650	651	653	657	660	663	663	661	661	659	658	659	659	659
9 q	656	662	663	662	663	666	670	666	657	650	647	646	648	650	653	654	649	652	641	648	667	654	657	659	656
10 q	658	658	657	659	665	664	668	665	662	658	651	652	656	658	660	655	658	660	660	659	661	660	658	659	659
11	660	660	.659	661	664	664	663	663	659	652	647	650	651	656	659	659	659	660	662	662	663	665	665	665	661
12	665	668	667	660	654	676	676	672	662	655	647	649	647	649	658	659	662	665	660	647	649	650	659	663	659
13	663	659	660	662	652	665	668	669	662	652	648	648	650	656	663	663	668	672	667	662	661	673	667	662	662
14	660	654	654	658	667	668	671	671	665	654	653	648	651	655	658	654	648	646	643	647	653	659	671	657	657
15 q	657	659	659	662	663	664	664	662	658	654	651	651	651	658	662	663	666	667	666	661	662	663	660	660	660
16 q	659	663	659	660	663	665	666	664	660	658	655	655	660	667	667	668	670	669	671	671	669	667	665	664	664
17 q	666	665	667	666	665	669	671	674	678	670	668	667	664	666	671	668	669	670	670	659	667	665	665	660	668
18	660	665	666	667	667	667	669	665	664	670	673	676	675	667	664	669	681	682	680	675	674	664	659	669	669
19	658	656	660	659	684	573	669	670	663	661	651	652	549	652	651	657	540	643	642	625	631	644	636	647	653
20 d	650	647	654	648	655	659	665	655	642	644	643	651	654	629	532	633	629	640	633	525	638	648	652	648	645
21	650	649	658	656	654	656	659	658	654	649	654	654	652	638	646	652	661	665	667	662	554	548	644	654	654
22	656	655	656	656	659	670	665	663	642	658	656	655	655	656	658	661	659	660	656	658	657	663	659	658	
23	659	663	663	664	667	667	669	666	664	656	650	654	659	667	667	635	604	640	628	636	629	633	644	646	651
24	649	648	650	651	659	662	655	652	656	650	646	646	646	647	649	647	558	557	659	658	659	656	659	653	653
25	659	659	662	663	664	673	674	664	665	661	658	649	655	667	664	665	667	667	664	558	655	655	669	663	663
26	656	655	661	667	668	669	668	667	659	656	658	648	648	656	660	666	654	663	667	665	656	647	646	658	660
27	652	655	655	656	666	673	673	671	672	673	675	664	667	667	666	666	662	663	667	670	668	665	665	665	
28	664	663	661	664	667	668	669	668	666	665	666	665	642	641	655	661	660	556	651	647	646	647	656	658	658
29	654	656	659	659	661	664	664	668	667	664	664	662	654	654	659	639	631	655	660	663	647	655	656	671	658
30 d	667	652	658	654	648	674	671	661	660	659	657	655	647	654	658	659	557	643	646	656	656	656	659	683	658
Mean	657	656	658	659	661	663	665	664	659	654	651	650	650	652	654	654	653	657	655	656	657	660	656	656	

## MAGNETIC DECLINATION (WEST)

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

134 ESKDALEMUIR (D)

11° +

NOVEMBER

	Hour G.M.T.												11° +												
	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	0.0	0.1	3.0	5.1	1.6	1.7	2.2	0.3	-0.6	-0.3	2.1	4.7	6.7	8.9	7.6	-1.2	6.7	6.1	-4.4	-5.4	-17.7	-5.9	-2.8	-2.9	0.7
2 d	-6.0	-1.5	-4.6	-2.2	3.3	6.6	1.3	0.6	4.3	0.0	0.2	2.5	6.4	3.0	4.8	4.5	3.3	2.4	-7.0	-4.8	-3.7	-6.6	-6.9	-7.7	-0.3
3 d	-3.5	1.8	2.3	1.7	3.0	6.7	4.3	2.3	1.1	1.2	3.1	4.4	5.3	4.7	3.6	-2.1	-1.4	1.9	1.7	1.1	-2.4	-0.7	-1.0	-0.1	1.6
4	0.7	1.1	0.0	0.3	0.4	0.9	-0.1	-0.5	-0.7	-0.2	0.8	1.9	3.5	4.3	2.5	1.3	-2.5	-2.3	0.5	0.9	0.5	0.3	0.7	-1.4	0.5
5	-4.1	-2.1	-0.9	-1.4	-1.3	-0.5	-0.5	-0.2	-0.8	0.2	1.8	4.1	4.2	4.3	2.6	0.8	0.3	-1.0	-1.5	0.3	0.2	0.3	-0.1	-0.1	0.2
6	0.9	-1.5	-1.3	-2.1	-1.0	0.5	3.1	1.6	0.3	-0.2	1.7	2.9	3.9	3.3	2.6	2.3	1.3	-9.1	-1.7	-2.7	-3.9	-2.2	-1.5	0.0	0.0
7	-0.5	2.2	1.3	1.7	0.2	0.3	0.4	0.8	-0.6	-0.7	1.1	2.9	4.0	4.5	3.1	2.2	1.6	1.8	1.5	0.8	0.2	0.0	-0.1	0.0	1.2
8	0.2	2.3	0.7	0.9	0.7	0.8	0.2	0.0	-0.9	-0.9	0.9	3.5	5.3	5.2	4.6	3.7	3.9	3.1	2.3	1.6	-4.1	-1.3	-1.0	-0.7	1.3
9 q	-0.1	0.0	-0.4	0.7	0.9	0.3	-0.1	-0.2	-0.9	-0.3	1.3	3.3	4.3	4.3	3.3	2.4	1.8	1.7	1.6	0.2	0.2	-0.2	-0.1	-0.8	0.9
10 q	-0.5	-2.0	-0.3	0.3	0.3	0.2	0.2	-0.1	-0.5	-0.5	0.7	2.5	3.2	3.3	2.4	1.7	1.5	1.0	0.4	0.1	-0.3	-0.1	-0.5	-0.6	0.7
11	0.3	0																							

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

85

135 ESKDALEMUIR (Z)

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

NOVEMBER

	Hour	G.M.T.	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	1239	1240	1237	1225	1227	1231	1233	1234	1236	1237	1237	1235	1236	1241	1253	1294	1270	1263	1288	1301	1275	1265	1251	1227	1249	1249	
2 d	1205	1169	1185	1208	1215	1209	1223	1232	1236	1237	1237	1235	1241	1255	1268	1254	1251	1255	1260	1253	1243	1241	1234	1225	1232	1232	
3 d	1216	1209	1215	1223	1223	1223	1226	1231	1237	1236	1232	1232	1237	1246	1253	1263	1264	1255	1253	1249	1245	1241	1241	1242	1237	1237	
4	1237	1236	1238	1239	1239	1239	1240	1241	1243	1239	1238	1240	1243	1243	1245	1249	1249	1244	1243	1243	1243	1241	1241	1241	1241	1241	
5	1231	1226	1225	1223	1226	1226	1235	1237	1241	1241	1241	1243	1243	1247	1249	1248	1247	1249	1249	1244	1243	1243	1243	1240	1239	1239	
6	1234	1231	1231	1232	1233	1233	1232	1233	1239	1241	1238	1243	1245	1249	1249	1249	1253	1260	1253	1252	1249	1243	1234	1234	1241	1241	
7	1231	1228	1232	1233	1235	1236	1236	1238	1237	1238	1235	1233	1237	1238	1244	1244	1243	1242	1241	1243	1243	1242	1238	1238	1238	1238	
8	1240	1236	1232	1233	1224	1235	1236	1237	1240	1238	1233	1233	1233	1238	1244	1244	1247	1248	1254	1254	1249	1245	1244	1243	1240	1240	
9 q	1242	1240	1239	1237	1233	1235	1235	1236	1234	1232	1232	1232	1236	1244	1244	1243	1239	1239	1244	1243	1243	1240	1240	1238	1238	1238	
10 d	1238	1233	1233	1233	1233	1235	1235	1236	1237	1237	1237	1237	1237	1241	1243	1247	1249	1249	1239	1239	1239	1239	1239	1239	1238	1237	
11	1237	1237	1237	1237	1232	1233	1232	1235	1237	1233	1232	1232	1237	1241	1244	1245	1247	1252	1245	1243	1240	1238	1238	1238	1238	1238	
12	1237	1236	1235	1233	1232	1228	1231	1234	1233	1231	1231	1233	1236	1238	1241	1243	1243	1249	1251	1250	1248	1243	1238	1238	1238	1238	
13	1238	1237	1234	1237	1237	1237	1236	1236	1234	1232	1231	1233	1236	1237	1239	1239	1238	1237	1237	1238	1240	1236	1236	1236	1236		
14	1231	1232	1233	1234	1232	1233	1233	1233	1235	1232	1232	1233	1233	1241	1243	1247	1249	1254	1254	1254	1248	1244	1228	1239	1239		
15 q	1231	1232	1236	1237	1237	1237	1236	1235	1237	1237	1237	1237	1237	1241	1243	1247	1249	1249	1239	1239	1239	1239	1239	1239	1238	1236	
16 q	1237	1237	1237	1236	1236	1236	1236	1236	1236	1232	1228	1231	1232	1236	1236	1236	1237	1237	1237	1236	1236	1236	1235	1235	1235		
17 q	1234	1233	1233	1233	1233	1234	1232	1231	1229	1231	1231	1231	1232	1233	1235	1235	1235	1235	1235	1234	1236	1236	1235	1235	1235		
18	1235	1232	1231	1231	1232	1232	1232	1232	1233	1231	1227	1229	1232	1235	1233	1232	1232	1232	1233	1235	1236	1238	1241	1233	1233		
19	1238	1237	1232	1225	1215	1222	1225	1227	1231	1233	1234	1236	1237	1237	1241	1243	1247	1249	1252	1263	1267	1255	1253	1246	1239		
20 d	1243	1238	1232	1232	1231	1232	1232	1235	1237	1238	1239	1242	1242	1252	1256	1261	1262	1263	1266	1261	1255	1249	1247	1246	1246	1246	
21	1243	1240	1231	1230	1233	1236	1237	1237	1238	1237	1235	1237	1237	1245	1248	1245	1242	1239	1238	1239	1243	1244	1241	1239	1239	1239	
22	1229	1232	1233	1232	1232	1232	1232	1237	1237	1237	1235	1233	1237	1239	1241	1241	1241	1243	1243	1244	1244	1243	1239	1237	1237		
23	1237	1237	1236	1232	1232	1232	1236	1237	1237	1236	1232	1232	1232	1241	1251	1286	1274	1274	1272	1262	1259	1252	1248	1246	1246		
24	1242	1237	1236	1236	1236	1237	1237	1238	1239	1237	1237	1237	1237	1244	1247	1248	1249	1245	1244	1247	1242	1241	1240	1241	1241		
25	1240	1239	1238	1237	1236	1232	1233	1233	1232	1232	1232	1236	1237	1241	1240	1239	1239	1240	1243	1243	1243	1243	1243	1243	1237		
26	1232	1235	1236	1236	1235	1235	1236	1236	1237	1232	1230	1231	1235	1237	1238	1240	1240	1239	1237	1239	1244	1245	1243	1237	1237		
27	1242	1237	1237	1233	1227	1227	1229	1228	1226	1222	1226	1230	1232	1235	1238	1241	1241	1241	1240	1245	1239	1237	1237	1234	1234		
28	1237	1237	1236	1235	1233	1233	1232	1232	1232	1227	1227	1234	1239	1238	1242	1241	1241	1241	1244	1244	1244	1244	1244	1244	1237		
29	1237	1238	1238	1237	1237	1237	1234	1234	1233	1231	1228	1230	1232	1235	1244	1247	1244	1243	1243	1245	1245	1243	1243	1243	1239		
30 d	1224	1227	1230	1232	1222	1207	1219	1227	1230	1230	1229	1230	1232	1235	1238	1240	1243	1248	1251	1244	1239	1238	1229	1229	1233		
Mean	- -	682	627	- -	54	- -	5.7	-6.7	- -	12.4	- -	1255	1224	- -	31	-	-	-	-	-	0.30	84.3					

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

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +			
	Horizontal force			Declination			Vertical force												
	Maximum 16,000 $\gamma$ +	Minimum 16,000 $\gamma$ +	Range	Maximum 11° +	Minimum 11° +	Range	Maximum 44,000 $\gamma$ +	Minimum 44,000 $\gamma$ +	Range	h. m.	γ	h. m.	γ	h. m.	γ	h. m.	γ		
1 d	23 09	698	574	19 54	124	14 21	10.7	-27.5	19 59	38.2	19 58	1316	1221	24 00	95	3,3,2,2,3,4,5,4	26	1	84.2
2 d	01 54	714	552	00 20	162	05 07	9.1	-14.8	00 14	23.9	14 16	1272	1163	01 50	109	5,3,2,2,3,3,4,3	25	1	84.2
3 d	20 48	692	610	15 34	82	05 21	8.2	-8.6	15 51	16.8	15 49	1271	1208	01 53	63	3,3,2,2,2,3,3,2	20	1	84.2
4	23 13	667	620	10 50	47	13 40	4.4	-5.1	17 21	9.5	16 53	1253	1236	01 31	17	1,0,0,2,2,2,1,2,1	10	0	84.2
5	00 16	694	623	12 09	71	11 20	4.6	-7.9	00 20	12.5	19 03	1251	1222	03 10	29	3,1,3,2,2,1,2,0	14	0	84.2
6	18 28	690	614	18 09	76	12 54	4.4	-16.4	18 20	20.8	18 14	1267	1228	00 53	39	3,2,1,1,1,3,4,3	18	1	84.2
7	01 22	676	644	10 59	32	01 22	5.5	-2.2	00 10	7.7	15 30	1244	1226	01 33	18	3,1,1,1,1,0,0,1	8	0	84.2
8	20 46	680	633	18 20	47	12 39	5.6	-5.7	20 22	11.3	19 14	1256	1232	02 00	24	2,1,1,1,1,1,3,2	12	0	84.2
9 q	06 23	671																	

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

137 ESKDALEMUIR (H)

16,000γ (0.16 C.G.S. unit) +

DECEMBER

	Hour G.M.T.	16,000γ (0.16 C.G.S. unit) +																							
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
1	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
2	668	649	653	653	656	663	663	669	664	660	663	660	663	665	665	666	663	663	664	668	666	660	662	663	660
3	660	661	663	666	667	669	668	666	657	661	660	656	656	664	663	663	657	663	663	664	662	660	672	663	663
4	669	655	653	657	662	664	665	673	673	665	663	668	668	672	672	671	669	669	668	663	662	663	665	659	665
5	661	663	664	668	672	676	676	672	675	670	657	654	664	668	665	668	668	663	667	666	660	661	658	659	666
6	658	659	661	661	664	667	668	668	669	669	668	668	668	670	668	658	643	640	651	663	661	660	669	660	662
7 d	661	663	664	664	668	672	676	673	668	664	664	663	667	668	667	664	667	668	666	667	666	667	663	654	666
8	664	668	668	670	672	674	680	685	673	668	665	664	666	669	671	672	673	668	661	648	644	654	661	653	666
9	657	653	654	654	655	664	667	666	664	664	662	661	664	665	670	672	669	668	664	664	659	657	659	662	665
10 q	659	664	666	670	676	682	684	680	678	677	667	667	668	672	671	669	672	673	666	665	664	663	662	670	670
11 q	661	662	664	664	666	668	668	669	670	668	665	664	663	666	668	668	668	663	664	665	661	666	666	666	666
12	663	663	665	667	671	672	669	666	663	667	671	666	663	666	668	670	670	659	652	642	662	654	663	632	663
13	646	652	651	663	666	674	668	665	663	665	667	664	668	670	667	666	668	671	659	648	640	651	650	652	661
14 q	651	652	656	661	661	665	665	662	661	662	661	652	663	663	661	660	664	666	666	664	663	660	662	662	662
15 q	659	658	660	662	663	664	664	664	664	667	668	669	671	671	670	669	669	670	668	666	666	666	661	666	666
16 q	663	664	666	667	672	676	676	673	669	672	670	670	674	676	675	672	672	675	672	671	671	669	668	668	666
17 d	672	668	672	671	673	676	655	643	655	668	670	661	638	639	641	644	553	661	654	661	660	659	658	649	658
18 d	668	635	652	647	659	666	668	670	663	656	653	664	665	661	655	655	654	648	654	651	644	675	650	657	657
19	652	656	655	656	659	668	669	670	672	673	670	663	662	663	646	650	660	661	655	648	649	656	659	659	659
20 d	656	659	657	660	664	669	670	674	677	673	670	659	648	662	671	670	668	661	651	655	658	699	659	664	664
21	661	663	668	668	670	672	678	681	679	676	673	670	670	672	669	668	666	664	667	668	668	666	659	670	670
22	672	673	663	665	668	675	674	676	675	670	663	664	568	668	663	660	660	658	660	661	662	661	660	661	666
23	664	663	665	669	670	671	673	673	670	670	665	668	671	670	673	671	668	661	661	660	662	661	661	667	
24	661	661	663	665	666	668	670	673	673	676	677	683	685	679	672	668	669	671	670	668	670	668	666	670	
25	669	665	666	668	671	672	674	672	668	671	671	673	675	671	662	663	670	659	660	658	656	658	657	666	
31	652	659	662	663	663	664	666	666	664	663	664	671	683	682	677	672	671	667	666	665	669	666	663	663	667
Mean	661	660	661	663	666	670	670	670	669	668	665	666	667	666	665	664	665	665	663	662	661	661	665	659	665

661 at 0-1h. January 1, 1955

## MAGNETIC DECLINATION (WEST)

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

DECEMBER

	Hour G.M.T.	11° +																							
	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	-1.5	-0.5	-0.7	-0.1	0.8	0.0	-0.2	-0.1	-0.7	-0.4	1.3	1.9	2.5	1.8	1.4	0.8	0.9	0.8	0.6	0.5	-0.1	-0.9	-1.0	0.1	0.3
2	0.5	0.7	0.3	-0.2	0.7	0.3	0.3	0.3	-0.3	0.5	1.7	2.4	3.1	2.6	1.8	1.3	0.9	-0.5	0.3	-0.1	-0.7	-1.0	-1.6	0.7	0.6
3	0.2	-1.1	0.0	0.3	0.2	0.0	0.0	0.3	0.4	0.9	1.7	3.0	3.0	2.6	1.8	1.6	1.1	0.8	0.8	0.4	-0.9	0.2	-2.4	-1.0	0.6
4	0.3	0.4	0.6	0.8	0.9	0.8	0.8	0.6	0.5	0.8	0.9	2.7	3.1	4.4	3.9	2.5	1.9	1.7	2.5	1.8	1.0	-0.1	-0.5	-0.5	1.3
5	-0.5	-1.2	-0.1	-0.3	0.2	0.9	0.8	0.6	0.3	0.1	0.9	1.3	1.7	1.1	1.3	0.6	0.4	-0.6	0.6	0.4	-0.2	-0.8	-2.4	-1.4	0.2
6	-0.7	0.0	-0.3	-0.1	0.3	0.0	0.1	0.5	0.0	0.5	1.9	2.7	3.1	3.1	2.4	1.6	1.3	0.8	0.9	0.8	-1.1	-0.4	-1.5	-1.1	0.6
7 d	1.6	0.4	-0.2	0.4	0.7	-0.1	0.9	1.4	0.6	-0.3	0.1	1.7	2.2	2.0	1.6	1.7	1.5	0.5	-2.8	-1.7	-3.9	-1.9	-1.2	0.3	
8	-0.3	0.1	0.3	1.0	1.1	0.9	0.1	-0.5	-0.7	-0.2	1.2	2.7	3.9	3.7	3.9	2.0	1.5	1.5	1.0	0.3	0.1	-0.6	-1.1	-1.0	0.9
9	0.0	-0.5	1.0	0.2	-0.4	0.1	0.6	0.6	0.7	1.3	1.4	1.8	2.9	2.9	2.5	1.7	1.2	1.1	0.8	-0.1	-0.4	-0.2	-0.8	-0.7	0.7
10 q	-0.3	-0.1	0.1	0.2	0.0	-0.1	-0.7	-0.3	-0.4	-0.2	0.7	0.8	2.1	2.5	1.8	1.1	0.9	1.3	0.7	-0.4	-1.2	-0.1	-0.9	-0.1	0.3
11 q	0.3	0.5	0.2	0.3	0.2	0.0	-0.1	0.0	0.5	1.3	2.1	2.6	2.2	2.2	1.7	1.5	1.3	1.2	0.6	0.1	0.3	0.1	-0.1	0.8	0.8
12	-0.2	0.2	0.6	0.7	1.1	0.6	0.1	-0.1	0.3	0.4	1.6	2.1	2.9	4.0	3.4	2.7	3.5	5.7	5.1	-0.3	-1.0	-2.4	-3.5	-6.8	0.9
13	-2.5	-2.0	-1.5	-0.1	0.1	0.9	0.5	0.2	0.0	0.0	1.1	0.6	1.1	1.1	1.0	0.9	1.1	0.6	-0.8	-1.0	-4.4	-3.7	-4.2	-0.4	
14 q	-2.4	-1.9	-1.4	-1.4	-0.4	0.0	-0.5	-0.6	-0.5	0.3	0.9	1.2	1.4	1.8	1.6	1.1	0.7	0.5	-0.2	-0.6	-0.8	-0.7	-1.1	-1.1	-0.2
15 q	-0.8	-0.9	-1.3	-1.1	-0.8	-0.5	-0.3	-0.5	-0.2	0.2	1.5	2.3	1.8	1.2	0.5	0.2	0.3	0.0	-0.2	-0.6	-0.7	-1.0	-0.6	-0.9	-0.1
16 q	-0.8	0.0	0.0	0.4	0.3	0.4	0.2	-0.3																	

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

87

139 ESKDALEMUIR (z)

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

DECEMBER

	Hour	G.M.T.	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	1221	1227	1232	1234	1235	1237	1238	1237	1236	1233	1235	1237	1239	1239	1240	1239	1240	1239	1239	1239	1239	1239	1239	1239	1235	1236	
2	1233	1233	1233	1233	1233	1236	1236	1235	1232	1232	1233	1235	1238	1238	1238	1239	1243	1241	1239	1239	1238	1238	1232	1236	1236	1236	
3	1221	1228	1232	1233	1233	1234	1233	1230	1228	1228	1230	1232	1232	1233	1233	1234	1234	1235	1237	1237	1238	1236	1237	1235	1232	1232	
4	1233	1233	1233	1233	1233	1232	1232	1231	1229	1230	1228	1226	1228	1232	1233	1233	1234	1233	1238	1244	1244	1244	1241	1239	1234	1234	
5	1238	1237	1234	1233	1233	1233	1233	1233	1233	1233	1233	1234	1236	1238	1240	1245	1250	1249	1244	1244	1241	1239	1239	1239	1238	1238	
6	1239	1238	1238	1237	1234	1233	1233	1234	1233	1232	1232	1233	1236	1238	1238	1238	1238	1238	1241	1239	1239	1243	1236	1236	1236	1236	
7 d	1237	1234	1235	1234	1233	1232	1229	1228	1230	1233	1232	1228	1232	1233	1233	1235	1237	1239	1248	1251	1250	1240	1237	1236	1236	1236	
8	1238	1238	1237	1235	1233	1236	1236	1237	1236	1234	1233	1233	1233	1236	1238	1238	1238	1239	1241	1244	1244	1244	1237	1237	1237	1237	
9	1244	1239	1236	1233	1232	1229	1228	1229	1228	1227	1226	1225	1227	1229	1234	1234	1236	1238	1238	1238	1238	1238	1238	1238	1238	1238	
10 q	1238	1236	1234	1234	1233	1233	1233	1233	1232	1228	1229	1233	1234	1234	1234	1234	1234	1237	1237	1238	1235	1237	1237	1238	1238	1234	
11 q	1237	1235	1235	1234	1233	1233	1233	1232	1232	1229	1228	1228	1229	1232	1233	1234	1234	1234	1235	1236	1236	1236	1236	1236	1233	1233	
12	1236	1236	1234	1233	1233	1233	1232	1232	1232	1232	1233	1233	1236	1236	1238	1240	1245	1253	1256	1256	1252	1247	1251	1240	1240	1240	
13	1242	1241	1243	1240	1239	1238	1238	1236	1236	1233	1233	1233	1236	1239	1241	1243	1240	1244	1250	1253	1251	1251	1250	1239	1239	1239	
14 q	1249	1246	1245	1243	1240	1240	1239	1238	1233	1232	1232	1236	1236	1238	1241	1240	1239	1240	1239	1238	1238	1238	1238	1238	1238	1238	
15 q	1239	1239	1238	1238	1238	1238	1238	1238	1237	1233	1232	1233	1235	1237	1238	1238	1238	1238	1238	1238	1238	1238	1238	1238	1238	1237	
16 q	1238	1237	1236	1236	1234	1233	1233	1234	1234	1233	1234	1234	1233	1233	1232	1233	1236	1235	1234	1233	1233	1233	1233	1233	1233	1233	
17 d	1233	1233	1232	1232	1232	1233	1233	1232	1225	1227	1232	1232	1238	1249	1249	1249	1249	1244	1244	1242	1242	1238	1238	1238	1238	1238	
18 d	1220	1208	1216	1221	1214	1217	1226	1228	1233	1234	1236	1236	1236	1236	1238	1240	1244	1244	1244	1248	1248	1250	1237	1233	1233	1233	
19	1236	1236	1233	1234	1232	1237	1237	1236	1236	1232	1230	1232	1233	1238	1241	1241	1240	1242	1244	1245	1244	1244	1244	1239	1239	1238	
20 d	1238	1234	1233	1234	1233	1233	1233	1233	1233	1234	1233	1236	1236	1238	1239	1239	1241	1245	1248	1247	1249	1223	1226	1227	1227		
21	1232	1233	1233	1234	1233	1233	1233	1234	1233	1234	1233	1234	1234	1237	1237	1238	1238	1239	1241	1240	1239	1239	1243	1243	1244	1236	
22	1237	1228	1233	1233	1233	1233	1233	1232	1232	1232	1232	1233	1237	1238	1238	1238	1238	1238	1239	1239	1238	1238	1238	1238	1238	1235	
23	1238	1237	1234	1233	1233	1232	1232	1233	1233	1232	1232	1234	1234	1238	1238	1239	1241	1243	1244	1244	1244	1243	1241	1241	1241	1237	
24	1241	1240	1238	1237	1237	1236	1236	1235	1234	1233	1233	1232	1236	1236	1236	1238	1238	1238	1237	1237	1237	1237	1237	1236	1236	1236	
25	1234	1236	1237	1234	1233	1233	1233	1233	1233	1233	1233	1230	1232	1232	1236	1238	1237	1237	1240	1238	1239	1242	1239	1239	1238	1236	
Mean	1236	1234	1235	1234	1234	1233	1234	1234	1234	1232	1232	1231	1233	1236	1238	1239	1239	1240	1241	1241	1241	1239	1238	1236	1236	1236	

1237 at 0-1h, January 1, 1955

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

140 ESKDALEMUIR

DECEMBER

	TERRESTRIAL MAGNETIC ELEMENTS												3-hr. range indices K	Sum of K indices	Magnetic character of day (0-2)	Temperature in magnet house 200 +				
	Horizontal force			Declination			Vertical force													
	Maximum 16,000 $\gamma$ +	Minimum 16,000 $\gamma$ +	Range	Maximum 11° +	Minimum 11° +	Range	Maximum 44,000 $\gamma$ +	Minimum 44,000 $\gamma$ +	Range											
1	h. m.	$\gamma$	h. m.	h. m.	$\gamma$	'	h. m.	$\gamma$	'	h. m.	$\gamma$	'	h. m.	$\gamma$	h. m.	$\gamma$				
1	00 00	687	644	01 36	43	12 40	2.6	-2.5	01 03	5.1	17 23	1241	1221	00 20	20	3,1,2,1,0,1,1,1	10	0	84.4	
2	23 47	699	648	12 07	51	00 02	6.1	-2.7	22 59	8.8	17 30	1243	1222	24 00	21	1,1,0,1,1,2,0,3	9	0	84.4	
3	00 00	685	651	02 10	34	11 44	3.4	-2.9	23 00	6.3	20 40	1238	1221	00 14	17	3,0,1,0,0,1,1,1	7	0	84.4	
4	18 05	681	649	11 12	32	13 44	5.5	-1.0	22 12	6.5	19 45	1	1244	1216	12 16	17	0,0,0,2,2,1,1,0	6	0	84.4
5	22 35	683	631	17 31	52	12 50	2.0	-4.0	22 57	6.0	17 39	1251	1231	10 10	20	1,0,0,0,1,3,2,2	9	0	84.4	
6	06 49	679	650	23 20	29	12 20	3.9	-2.5	20 24	6.4	23 29	1244	1232	10 35	12	1,1,1,1,1,0,1,2	8	0	84.4	
7 d	07 29	690	629	21 00	61	00 21	3.1	-5.4	21 28	8.5	21 06	1256	1226	11 30	30	2,1,2,0,2,2,3,3	15	0	84.4	
8	16 41	675	648	04 22	27	14 14	4.8	-2.2	22 09	7.0	23 20	1246	1232	12 38	14	1,1,1,0,1,0,0,1	5	0	84.4	
9	06 20	688	654	06 06	34	13 33	3.9	-1.6	20 01	5.5	00 08	1245	1225	11 00	20	2,1,1,2,2,0,1,0	9	0	84.4	
10 q	16 49	672	660	12 16	12	13 14	2.9	-2.1	20 20	5.0	23 21	1238	1228	10 55	10	0,0,0,1,1,0,1,1	4	0	84.4	
11 q	13 09	679	660	00 25	19	12 44	2.6	-0.4	00 13	3.0	00 03	1238	1227	10 04	11	1,0,0,1,1,1,0,0	4	0	84.4	
12	22 20	681	624	23 28	57	18 00	7.0	-9.6	23 15	16.6	19 50	1267	1230	10 15	37	0,0,2,1,1,2,3,3	12	1	84.4	
13	05 40</																			

## 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)

141 ESKDALEMUIR

	Hour G. M. T.												NORTH COMPONENT											
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
NORTH COMPONENT																								
Jan.	-2.0	-2.1	-1.8	-0.2	+1.7	+4.9	+6.4	+6.0	+4.2	+1.7	-1.1	-3.8	-3.2	-0.9	+0.6	-0.8	-1.4	-2.9	-3.1	-2.5	-1.8	+0.9	+1.0	+0.1
Feb.	+1.5	-1.7	-1.6	-1.8	+3.0	+4.5	+7.6	+7.2	+6.3	+0.7	-6.5	-12.5	-8.2	-3.4	-3.5	-7.1	-4.6	-1.1	+0.1	+1.9	+3.0	+4.4	+4.4	+7.5
Mar.	+4.7	+1.1	+0.8	+0.7	+1.7	+6.2	+6.9	+2.6	-2.4	-11.3	-16.5	-16.3	-14.4	-9.1	-4.6	-0.9	+1.3	+3.9	+7.4	+10.5	+7.6	+3.3	+8.7	+8.3
Apr.	+8.8	+2.4	-1.8	-0.8	+2.5	+5.4	+4.9	+2.3	-7.7	-13.6	-22.3	-25.3	-23.8	-15.2	-5.8	+1.3	+4.8	+12.0	+15.0	+16.1	+12.5	+11.1	+10.9	+6.3
May	+7.4	+6.2	+3.6	+3.1	+2.9	+3.4	-0.3	-5.3	-10.9	-19.4	-24.3	-24.8	+20.5	-14.1	-6.5	-1.1	+6.1	+14.8	+17.8	+16.2	+12.7	+12.4	+11.7	+9.1
June	+7.0	+5.9	+4.1	+4.8	+6.0	+4.5	-0.7	-4.3	-9.9	-17.6	-24.5	-26.7	-22.0	-16.6	-8.3	-1.7	+4.6	+11.8	+17.1	+16.7	+15.0	+12.5	+11.9	+10.4
July	+10.1	+3.5	+3.2	+4.9	+6.4	+5.5	+1.3	-5.8	-11.9	-18.7	-24.1	-27.6	-23.5	-14.6	-4.6	+0.3	+4.0	+11.1	+16.1	+16.1	+13.0	+11.5	+10.9	+12.7
Aug.	+10.9	+8.8	+5.7	+5.8	+7.9	+3.7	-0.1	-6.4	-14.7	-21.3	-25.6	-22.9	-17.2	-13.7	-9.4	-3.7	+1.7	+7.7	+11.7	+15.4	+15.3	+13.8	+13.1	+13.5
Sept.	+9.0	+7.5	+6.7	+3.7	+5.6	+10.0	+4.8	-1.0	-9.8	-17.8	-22.8	-24.2	-19.3	-11.0	-8.2	-0.9	+0.4	+5.6	+9.7	+12.5	+11.3	+6.7	+11.7	+9.9
Oct.	+7.3	+5.8	+7.4	+6.1	+11.9	+11.8	+9.6	+6.6	+4.2	-10.9	-18.1	+21.1	-18.5	-13.3	-8.1	-6.2	-0.9	+2.4	0.0	+1.3	+4.3	+7.7	+6.4	+7.3
Nov.	+2.3	-0.2	+1.8	+3.1	+4.4	+6.8	+9.1	+8.2	+3.1	-1.6	-6.2	-8.5	-9.0	-7.9	-4.6	-3.8	-4.2	-0.6	-1.0	-1.6	+1.4	+1.0	+2.6	+5.3
Dec.	-2.4	-3.5	-2.7	-0.7	+1.6	+5.2	+5.5	+5.3	+4.3	+2.7	-0.2	-0.4	0.0	-0.6	-0.9	-1.5	0.0	-0.7	-1.7	-2.1	-2.3	-2.5	+1.7	-4.0
Year	+5.3	+2.8	+2.1	+2.4	+4.6	+6.0	+4.6	+1.3	-4.1	-10.6	-16.0	-17.9	-15.0	-10.0	-5.3	-2.2	+0.9	+5.4	+7.4	+8.4	+7.6	+6.9	+7.9	+7.3
Winter Equinox	-0.2	-1.9	-1.1	+0.1	+2.7	+5.4	+7.1	+6.7	+4.5	+0.9	-3.5	-6.3	-5.1	-3.2	-2.1	-3.3	-2.5	-1.3	-1.4	-1.1	0.0	+0.9	+2.5	+2.2
Summer	+8.9	+7.1	+4.1	+4.6	+5.8	+4.2	+0.1	-5.5	-11.9	-19.2	-24.6	-25.5	-20.7	-14.8	-7.2	-1.6	+4.1	+11.4	+15.1	+16.1	+14.0	+12.6	+11.9	+11.5
WEST COMPONENT																								
Jan.	-6.6	-7.6	-6.6	-3.8	-2.8	-1.5	-0.6	-0.1	-0.1	+0.7	+3.7	+7.1	+2.6	+13.0	+10.8	+8.4	+6.2	+5.4	+0.7	-1.3	-4.3	-9.9	-12.5	-10.9
Feb.	-14.1	-10.9	-7.7	-5.4	-4.2	-2.3	-1.7	+2.2	+2.8	+1.6	+4.5	+12.9	+16.8	+21.0	+21.8	+17.1	+10.5	+8.2	+0.7	-8.9	-16.6	-16.5	-16.7	-15.3
Mar.	-9.4	-3.3	-4.0	-8.9	-5.8	-5.2	-4.8	-6.5	-8.2	-6.3	+1.7	+13.1	+23.7	+28.7	+26.9	+21.5	+13.9	+7.2	+0.7	-11.4	-17.9	-15.2	-15.0	-15.4
Apr.	-7.8	-9.1	-11.1	-10.4	-10.4	-11.0	-13.1	-15.4	-16.1	-11.1	-1.7	+11.6	+24.7	+31.7	+29.2	+24.6	+19.3	+13.3	+6.5	-2.9	-6.7	-11.5	-11.4	-11.0
May	-4.5	-6.5	-10.9	-14.4	-16.4	-17.7	-21.3	-20.8	-18.7	-13.2	-2.7	+9.7	+19.6	+24.7	+24.5	+20.5	+17.6	+15.4	+12.3	+6.9	+2.9	+1.1	-2.4	-6.0
June	-5.1	-3.9	-5.7	-8.6	-14.7	-19.9	-22.6	-24.1	-23.4	-17.4	-7.7	+4.7	+17.3	+23.6	+25.4	+22.9	+17.5	+14.1	+12.2	+9.0	+5.9	+2.2	+1.2	-3.0
July	-4.4	-8.3	-8.5	-8.7	-12.6	-17.6	-20.1	-21.3	-20.7	-16.8	-7.4	+6.7	+18.0	+22.7	+23.7	+20.3	+15.4	+11.5	+10.6	+8.1	+5.0	+3.1	+1.9	-0.6
Aug.	-2.8	-4.0	-10.0	-10.9	-12.6	-12.5	-14.6	-17.1	-17.8	-13.3	-2.1	+11.3	+23.5	+27.1	+22.7	+16.7	+10.6	+7.1	+4.2	-0.1	-0.9	+0.2	-2.6	-2.1
Sept.	-6.8	-6.8	-4.1	-3.3	-2.7	-5.2	-6.2	-9.4	-11.0	-7.0	+4.5	+16.4	+25.6	+28.7	+26.2	+18.4	+9.5	+0.5	-6.7	-11.4	-9.8	-16.3	-15.1	-7.7
Oct.	-14.8	-8.8	-10.8	-2.8	+2.1	+2.5	+2.5	+1.6	-3.6	-6.2	0.0	+9.8	+19.5	+23.4	+22.2	+16.6	+6.3	-0.2	-0.9	-4.4	-10.0	-14.0	-14.8	-15.5
Nov.	-7.2	-3.3	-2.3	-0.4	+1.5	+1.5	+0.3	-1.4	-3.6	-4.3	+1.5	+9.1	+14.4	+15.1	+12.2	+6.4	+6.1	+4.2	-3.8	-7.9	-9.6	-9.9	-9.8	-8.9
Dec.	-6.5	-6.8	-6.3	-2.6	+0.6	+0.4	+0.7	+1.3	+0.5	+2.4	+4.8	+8.4	+11.1	+9.7	+6.4	+4.6	+4.2	+2.5	+0.7	-3.0	-5.7	-8.0	-9.5	-10.1
Year	-7.5	-6.6	-7.3	-6.7	-6.5	-7.4	-8.4	-9.2	-10.0	-7.6	-0.1	+10.1	+18.9	+22.5	+21.0	+16.5	+11.4	+7.4	+3.1	-2.3	-5.7	-7.9	-8.9	-8.9
Winter Equinox	-8.6	-7.1	-5.7	-3.1	-1.2	-0.5	-0.3	+0.5	-0.1	+0.1	+3.6	+9.4	+13.7	+14.7	+12.8	+9.1	+6.7	+5.1	-0.4	-5.3	-9.1	-11.0	-12.1	-11.3
Summer	-9.7	-7.0	-7.5	-6.3	-4.2	-4.7	-5.4	-7.4	-9.7	-7.7	+1.1	+12.7	+23.4	+28.1	+26.1	+20.2	+12.3	+5.2	-0.1	-7.5	-11.1	-14.2	-14.1	-12.5
VERTICAL COMPONENT																								
Jan.	-0.6	-2.8	-3.6	-3.4	-3.8	-4.1	-4.4	-4.3	-3.8	-3.2	-3.4	-3.7	-3.8	-2.1	+0.8	+2.8	+3.8	+4.9	+7.3	+7.7	+7.8	+6.8	+4.2	+0.9
Feb.	-8.6	-8.5	-8.7	-7.8	-7.0	-6.3	-7.0	-6.8	-6.5	-6.4	-6.7	-6.3	-4.5	-2.8	+2.6	+12.1	+16.8	+16.0	+13.6	+14.7	+12.0	+7.9	+2.5	-4.3
Mar.	-9.6	-14.3	-14.2	-10.6	-8.0	-5.4	-4.0	-2.5	-2.1	-3.3	-6.1	-8.2	-6.6	-1.9	+4.3	+10.7	+15.4	+16.9	+16.1	+15.8	+11.8	+8.9	+3.1	-6.2
Apr.	-9.0	-11.6	-12.2	-11.5	-7.8	-3.6	-1.1	-0.5	-0.8	-3.4	-5.9	-8.8	-8.9	-4.7	+2.9	+6.5	+10.0	+14.3	+17.5	+17.2	+14.0	+9.2	+3.1	-4.9
May	-0.8	-4.1	-4.0	-2.1	-0.1	+0.4	+0.7	-0.3	-4.1	-8.0	-11.1	-14.7	-12.6	-7.1	-2.2	+3.0	+6.6	+9.4	+11.7	+13.0	+11.9	+7.8	+4.7	+2.0
June	+1.3	-0.1	-1.0	-0.1	+1.2	+2.3	+1.6	+0.6	-0.7	-5.0	-9.7	-12.1	-10.8	-7.3	-4.9	-1.5	+2.9	+4.6	+8.3	+9.0	+8.2	+6.7	+4.5	+2.0
July	-2.0	-3.6	-2.5	-2.2	-0.3	0.0	-1.1	-1.6	-3.4	-6.1	-9.5	-11.4	-9.8	-4.8	+0.7	+5.0	+8.4	+9.3	+8.8	+8.2	+7.5	+6.1	+3.7	+0.6
Aug.	-6.3	-9.8	-8.1	-5.8	-4.4	-3.0	-1.4	+0.1	-0.3	-3.3	-7.5	-9.8	-9.3	-4.1	+3.2	+8.1	+11.2	+12.0	+11.6	+10.9	+8.6	+5.6	+2.9	-1.1
Sept.	-14.4	-11.6	-9.1	-9.1	-9.9	-9.6	-6.4	-3.6	-3.3	-4.8	-7.0	-7.0	-4.9	+0.8	+6.6	+14.7	+22.2	+21.4	+20.6	+16.1	+6.6	+3.7	-2.3	-9.7
Oct.	-10.0	-15.2	-15.3	-14.1	-14.1	-12.7	-9.5	-5.8	-3.9	-1.7	-2.8	-2.3	-1.1	+2.4	+7.2	+14.1	+18.4	+18.3	+16.7	+15.3	+12.3	+6.3	+3.8	-4.3
Nov.	-3.6	-6.2	-6.4	-6.0	-6.7	-7.0	-5.6	-4.4	-3.0	-3.2	-5.1	-5.1	-2.8	+0.6	+4.5	+7.9	+8.5	+7.6	+9.2	+9.8	+7.5	+5.9	+4.0	-0.4
Dec.	-0.3	-2.0	-1.6	-2.2	-2.6	-2.7	-2.4	-2.5	-2.6	-3.9	-4.2	-4.7	-3.3	0.0	+1.6	+3.0	+2.8	+3.5	+4.3	+5.2	+5.1	+2.7	+1.6	+1.6
Year	-5.3	-7.5	-7.2	-6.2	-5.3	-4.3	-3.4	-2.6	-2.9	-4.4	-6.6	-7.8	-6.5	-2.6	+2.3	+7.2	+10.6	+11.5	+12.1	+11.9	+9.5	+6.6	+2.9	-2.0
Winter Equinox	-3.3	-4.9	-5.1	-4.9	-5.0	-4.9	-4.5	-4.0	-4.2	-4.9	-4.9	-4.9	-3.6	-1.1	+2.4	+6.5	+8.0	+8.0	+8.6	+9.3	+8.1	+6.4		

## ALL DAYS

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

142 ESKDALEMUR

	Hour G.M.T.																							
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
DECLINATION (measured positive towards the west)																								
Jan.	-1.25	-1.45	-1.26	-0.76	-0.64	-0.50	-0.38	-0.25	-0.17	+0.06	+0.80	+1.58	+2.67	+2.67	+2.16	+1.74	+1.31	+1.20	+0.27	-0.17	-0.80	-2.04	-2.58	-2.21
Feb.	-2.91	-2.14	-1.50	-1.03	-0.97	-0.65	-0.64	+0.15	+0.32	+0.29	+1.18	+3.11	+3.74	+4.40	+4.55	+3.75	+2.31	+1.70	+0.13	-1.88	-3.48	-3.47	-3.55	-3.41
Mar.	-2.09	-0.72	-0.84	-1.83	-1.25	-1.30	-1.25	-1.41	-1.56	-0.84	+0.99	+3.31	+5.37	+6.18	+5.64	+4.39	+2.76	+1.31	-0.15	-2.73	-3.93	-3.21	-3.38	-3.46
Apr.	-1.93	-1.95	-2.19	-2.07	-2.21	-2.45	-2.85	-3.22	-2.96	-1.71	+0.55	+3.36	+5.95	+7.03	+6.15	+4.93	+3.73	+2.22	+0.73	+1.23	-1.86	-2.77	-2.74	-2.51
May	-1.21	-1.56	-2.35	-3.05	-3.37	-3.73	-4.30	-4.01	-3.35	-1.91	+0.42	+2.94	+4.79	+5.57	+5.23	+4.20	+3.33	+2.53	+1.79	+0.75	+0.08	-0.26	-0.95	-1.58
June	-1.31	-1.02	-1.31	-1.94	-3.21	-4.20	-4.54	-4.34	-2.82	-0.59	+2.00	+4.37	+5.44	+5.49	+3.36	+2.38	+1.79	+1.14	+0.60	-0.05	-0.23	-1.01		
July	-1.30	-1.81	-1.85	-1.95	-2.80	-3.78	-4.11	-4.08	-3.71	-2.66	-0.55	+2.44	+4.57	+5.18	+4.98	+4.09	+2.95	+1.89	+1.50	+1.01	+0.50	+0.17	-0.05	-0.63
Aug.	-1.00	-1.16	-2.26	-2.45	-2.86	-2.69	-2.96	-3.22	-3.02	-1.84	+0.58	+3.21	+5.45	+6.03	+4.97	+3.54	+2.09	+1.14	+0.38	-0.63	-0.78	-0.50	-1.05	-0.97
Sept.	-1.73	-1.68	-1.10	-0.81	-0.76	-1.44	-1.45	-1.86	-1.85	-0.72	+1.81	+4.28	+5.95	+6.25	+5.63	+3.76	+1.91	-0.13	-1.75	-2.81	-2.44	-3.57	-3.53	-1.96
Oct.	-3.28	-2.02	-2.49	-0.81	-0.05	+0.04	+0.13	+0.07	-0.78	-0.83	+0.71	+0.82	+4.68	+5.27	+4.83	+3.61	+1.32	-0.14	-0.17	-0.91	-2.19	-3.14	-3.25	-3.42
Nov.	-1.55	-0.67	-0.53	-0.20	+0.14	+0.04	-0.29	-0.61	-0.85	-0.81	+0.54	+2.18	+3.27	+3.38	+2.65	+1.45	+1.39	+0.87	-0.74	-1.53	-2.00	-2.04	-2.08	-2.01
Dec.	-1.21	-1.24	-1.16	-0.49	+0.06	-0.12	-0.08	+0.05	-0.07	+0.38	+0.98	+1.72	+2.25	+1.99	+1.33	+0.99	+0.86	+0.54	+0.21	-0.52	-1.07	-1.53	-1.99	-1.88
Year	-1.73	-1.45	-1.57	-1.45	-1.49	-1.73	-1.89	-1.92	-1.86	-1.12	+0.62	+2.75	+4.42	+4.95	+4.47	+3.43	+2.28	+1.29	+0.33	-0.79	-1.45	-1.78	-2.11	-2.09
Winter	-1.73	-1.37	-1.11	-0.62	-0.35	-0.31	-0.35	-0.17	-0.19	-0.02	+0.87	+2.15	+2.98	+3.11	+2.67	+1.98	+1.47	+1.08	-0.03	-1.03	-1.84	-2.27	-2.55	-2.38
Equinox	-2.26	-1.59	-1.65	-1.38	-1.07	-1.29	-1.35	-1.61	-1.79	-1.03	+1.01	+3.44	+5.49	+6.18	+5.56	+4.17	+2.43	+0.81	-0.33	-1.92	-2.61	-3.17	-3.23	-2.84
Summer	-1.21	-1.39	-1.94	-2.35	-3.06	-3.60	-3.98	-4.01	-3.61	-2.31	-0.03	+2.65	+4.79	+5.55	+5.17	+4.13	+2.93	+1.99	+1.37	+0.57	+0.10	+0.16	-0.57	-1.05
INCLINATION																								
Jan.	+0.20	+0.17	+0.11	-0.02	-0.17	-0.40	-0.52	-0.50	-0.37	-0.20	-0.06	+0.07	-0.05	-0.16	-0.16	+0.01	+0.11	+0.24	+0.37	+0.37	+0.37	+0.23	+0.20	+0.16
Feb.	-0.13	+0.05	-0.01	0.00	-0.31	-0.42	-0.65	-0.67	-0.61	+0.22	+0.20	+0.50	+0.21	-0.12	+0.01	+0.55	+0.58	+0.36	+0.32	+0.35	+0.31	+0.11	-0.01	-0.40
Mar.	-0.42	-0.38	-0.35	-0.19	-0.23	-0.47	-0.49	-0.15	+0.21	+0.74	+0.91	+0.70	+0.48	+0.18	+0.06	+0.05	+0.12	+0.07	-0.10	-0.16	+0.02	+0.20	-0.31	-0.50
Apr.	-0.70	-0.33	-0.05	-0.10	-0.22	-0.30	-0.18	+0.03	+0.70	+0.95	+1.34	+1.30	+1.03	+0.47	+0.08	-0.24	-0.32	-0.61	-0.64	-0.60	-0.39	-0.36	-0.49	-0.39
May	-0.45	-0.42	-0.19	-0.07	+0.01	+0.02	+0.31	+0.61	+0.86	+1.25	+1.36	+1.14	+0.79	+0.43	+0.06	-0.12	-0.47	-0.94	-1.04	-0.83	-0.58	-0.64	-0.62	-0.47
June	-0.36	-0.34	-0.22	-0.21	-0.18	+0.02	+0.37	+0.61	+0.93	+1.25	+1.47	+1.39	+1.96	+0.61	+0.09	-0.22	-0.46	-0.84	-1.07	-0.99	-0.86	-0.69	-0.69	-0.59
July	-0.66	-0.22	-0.16	-0.27	-0.13	+0.15	+0.62	+0.96	+1.29	+1.44	+1.44	+1.07	+0.55	+0.01	-0.16	-0.25	-0.65	-0.97	-0.96	-0.73	-0.64	-0.65	-0.81	
Aug.	-0.84	-0.77	-0.45	-0.38	-0.46	-0.15	+0.16	+0.64	+1.19	+1.49	+1.52	+1.12	+0.60	+0.45	+0.41	+0.23	+0.03	-0.30	-0.54	-0.74	-0.78	-0.77	-0.76	-0.89
Sept.	-0.86	-0.69	-0.61	-0.43	-0.58	-0.83	-0.39	+0.10	+0.70	+1.14	+1.27	+1.21	+0.82	+0.37	+0.36	+0.19	+0.40	+0.15	-0.04	-0.28	-0.45	-0.14	-0.63	-0.79
Oct.	-0.53	-0.64	-0.72	-0.71	-1.16	-1.12	-0.90	-0.60	-0.13	+0.75	+1.12	+1.20	+0.94	+0.63	+0.43	+0.54	+0.43	+0.30	+0.42	+0.34	+0.15	-0.17	-0.18	-0.39
Nov.	-0.15	-0.09	-0.24	-0.35	-0.47	-0.64	-0.74	-0.63	-0.23	+0.08	+0.26	+0.32	+0.34	+0.34	+0.26	+0.36	+0.41	+0.17	+0.34	+0.45	+0.22	+0.21	+0.05	-0.24
Dec.	+0.23	+0.27	+0.22	+0.03	-0.18	-0.41	-0.43	-0.43	-0.35	-0.30	-0.15	-0.20	-0.22	-0.09	+0.02	+0.11	+0.01	+0.10	+0.21	+0.30	+0.35	+0.39	+0.07	+0.43
Year	-0.38	-0.29	-0.22	-0.23	-0.35	-0.41	-0.28	-0.03	+0.32	+0.69	+0.89	+0.85	+0.58	+0.30	+0.14	+0.11	+0.05	-0.17	-0.23	-0.23	-0.19	-0.19	-0.34	-0.41
Winter	+0.04	+0.09	+0.02	-0.09	-0.28	-0.47	-0.58	-0.56	-0.39	-0.16	+0.06	+0.17	+0.07	-0.01	+0.03	+0.26	+0.28	+0.22	+0.31	+0.37	+0.31	+0.23	+0.07	-0.01
Equinox	-0.62	-0.51	-0.43	-0.35	-0.55	-0.69	-0.49	-0.15	+0.37	+0.90	+1.16	+1.10	+0.81	+0.41	+0.23	+0.14	+0.16	-0.03	-0.09	-0.17	-0.17	-0.12	-0.40	-0.52
Summer	-0.58	-0.44	-0.26	-0.23	-0.06	+0.25	+0.62	+0.99	+1.32	+1.44	+1.28	+0.85	+0.51	+0.14	-0.06	-0.29	-0.69	-0.87	-0.88	-0.74	-0.69	-0.68	-0.69	
HORIZONTAL FORCE																								
Jan.	-3.2	-3.5	-3.0	-0.9	+1.1	+4.5	+6.2	+5.9	+4.1	+1.8	-0.4	-2.4	-0.7	+1.6	+2.7	+0.8	-0.2	-1.8	-2.9	-2.7	-2.6	-1.0	-1.4	-2.0
Feb.	-1.2	-3.8	-3.1	-2.8	+2.1	+4.0	+7.1	+7.5	+6.7	+1.0	-5.5	-9.8	-4.8	+0.7	+0.8	-3.7	-2.5	+0.5	+0.2	+0.1	-0.2	+1.2	+1.1	+4.4
Mar.	+2.8	+0.4	0.0	-1.0	+0.5	+5.1	+5.8	+1.3	-3.9	-12.3	-15.9	-13.5	-9.6	-3.4	+0.7	+3.2	+3.9	+5.2	+7.4	+8.1	+4.0	+0.3	+5.7	+5.2
Apr.	+7.1	+0.6	-3.9	-2.8	+0.4	+3.2	+2.3	-0.7	-10.7	-15.5	-22.2	-22.6	-18.6	-8.8	-0.1	+6.0	+8.4	+14.3	+16.0	+15.3	+11.0	+8.7	+8.5	+4.1
May	+6.4	+4.8	+1.4	+0.3	-0.2	-0.1	-4.4	-9.2	-14.4	-21.6	-24.4	-22.5	-16.4	-9.1	-1.7	+2.9	+9.4	+17.5	+19.8	+17.2	+13.1	+12.4	+11.0	+7.8
June	+5.9	+5.0	+2.9	+3.1	+3.1	+0.6	-5.0	-8.9	-14.2	-20.6	-25.5	-25.3	-18.3	-11.8	-3.2	+2.7	+7.9	+14.3	+19.1	+18.1	+15.9	+12.7	+11.9	+9.6
July	+9.1	+1.9	+1.5	+3.2	+3.9	+2.0	-2.6	-9.8	-15.6	-21.6	-25.1	-25.8	-19.6	-10.0	+0.1	+4.2	+6.9	+13.1	+17.8	+17.4	+13.7	+11.9	+11.1	+12.3
Aug.	+10.2	+7.9	+3.7	+3.6	+5.3	+1.2	-2.9	-9.6	-17.9	-23.5	-25.5	-20.3	-12.4	-8.2	-4.9	-0.4	+3.7	+8.9	+12.3	+15.1	+14.8	+13.6	+12.4	+12.9
Sept.	+7.5	+6.0	+5.8	+3.0	+5.0	+8.8	+3.5	-2.8	-11.7	-18.8	-21.5	-20.6	-14.0	-5.3	-3.0	+2.6	+2.2	+5.6	+8.2	+10.1	+9.2	+3.4	+8.6	+8.2
Oct.	+4																							

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)

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	Hour G.M.T.												NORTH COMPONENT											
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
NORTH COMPONENT																								
Jan.	-3.6	-1.6	-1.8	-2.5	+0.7	+1.2	+4.0	+5.3	+3.3	0.0	-3.5	-4.2	-3.3	-0.9	+2.0	+1.2	-0.3	+0.1	-0.6	+0.9	+1.9	+2.1	+0.5	-0.7
Feb.	-2.3	-3.6	-5.1	-3.4	-1.5	+2.2	+4.3	+5.1	+4.9	+1.7	-2.9	-6.2	-5.5	-3.0	+1.1	+4.3	+4.9	+5.9	+1.3	-0.2	-3.4	+3.1	+1.2	-3.1
Mar.	+3.2	+1.9	+1.7	+3.0	+3.7	+4.2	+6.7	+4.2	-1.4	-9.5	-16.7	-18.0	-14.9	-10.1	-4.5	-3.3	-2.0	+4.2	+6.8	+8.9	+8.7	+10.1	+9.8	+3.5
Apr.	+7.9	+1.1	+0.5	+0.2	+0.7	+2.9	+1.7	-1.0	-7.3	-13.7	-21.0	-23.8	-21.9	-14.1	-2.8	+0.8	+3.8	+8.8	+11.6	+18.0	+13.9	+9.4	+15.1	+9.2
May	+4.0	+4.6	+2.7	+0.6	+2.2	+4.6	-0.1	-5.5	-9.5	-16.8	-23.9	-24.9	-20.9	-15.2	-6.7	+1.5	+7.7	+13.2	+14.5	+16.2	+13.7	+12.4	+12.7	+12.7
June	+2.2	+1.1	+1.3	+4.0	+3.7	+3.0	-0.2	-5.0	-10.6	-18.1	-24.2	-24.3	-17.1	-10.4	-3.9	+0.9	+7.3	+13.0	+16.7	+15.1	+14.4	+11.8	+10.8	+8.5
July	+3.9	+2.3	+2.8	+6.6	+7.3	+6.4	-0.3	-6.2	-13.0	-19.2	-23.5	-25.3	-23.5	-21.0	-7.5	+3.2	+9.5	+17.4	+18.7	+17.4	+13.1	+12.2	+10.0	+8.7
Aug.	+6.8	+6.2	+6.0	+6.7	+7.3	+3.7	+1.3	-6.4	-12.7	-15.8	-22.7	-24.6	-20.9	-16.0	-8.2	-2.9	+2.9	+8.5	+16.2	+17.2	+15.0	+10.9	+11.3	+10.1
Sept.	+6.8	+5.2	+2.9	+4.1	+5.0	+5.3	+4.3	-0.2	-10.2	-17.0	-21.3	+21.9	-14.6	-10.4	-7.1	-1.2	+0.4	+4.1	+8.2	+10.9	+12.3	+11.2	+16.2	+7.1
Oct.	+5.6	+3.5	+3.2	+4.7	+8.5	+8.0	+7.1	+7.4	-1.8	-13.3	-18.7	-20.8	-18.6	-13.1	-6.7	-3.4	+0.3	+3.5	+6.0	+6.1	+8.1	+8.0	+8.1	+8.3
Nov.	-0.7	0.0	-1.2	-0.2	+2.0	+3.2	+4.6	+4.0	+2.1	-2.7	-7.7	-8.4	-7.6	-3.3	+0.2	-0.4	+1.5	+2.3	+3.1	+1.7	+2.3	+2.2	+0.6	
Dec.	-6.4	-6.1	-4.2	-2.2	-0.7	+1.6	+1.9	+1.3	+0.7	-0.9	-1.3	-1.0	+0.5	+1.8	+1.3	+0.7	+3.1	+3.3	+3.1	+2.5	+2.3	+0.7	+0.5	-2.6
Year	+2.3	+1.2	+0.8	+1.8	+3.3	+3.0	+3.0	+0.2	-4.7	-10.5	-15.6	-16.9	-14.1	-9.6	-3.6	+0.1	+3.2	+7.0	+8.9	+9.5	+8.5	+7.8	+8.2	+5.2
Winter	-3.2	-2.9	-3.0	-2.1	+0.1	+2.0	+3.7	+3.9	+2.8	-0.5	-3.8	-5.0	-3.9	-1.4	+1.1	+1.4	+2.3	+2.9	+1.8	+1.3	+0.8	+2.1	+1.1	-1.5
Equinox	+5.9	+3.0	+2.1	+3.0	+4.5	+5.1	+4.9	+2.5	-5.2	-13.4	-19.4	-21.2	-17.5	-11.9	-5.3	-1.8	+0.6	+5.2	+8.1	+10.9	+10.7	+9.7	+12.3	+7.2
Summer	+4.2	+3.5	+3.2	+4.5	+5.1	+4.5	+0.2	-5.8	-11.4	-17.5	-23.5	-24.7	-20.6	-15.6	-6.5	+0.6	+6.9	+13.1	+16.5	+16.4	+14.1	+11.8	+11.2	+9.9
WEST COMPONENT																								
Jan.	-5.7	-4.7	-4.7	-5.8	-6.2	-3.6	-2.8	-2.4	-2.5	-0.9	+1.6	+5.3	+8.3	+9.5	+8.2	+6.3	+5.2	+4.2	+4.2	+1.0	-3.0	-3.4	-4.1	-4.3
Feb.	-9.2	-7.1	-6.1	-3.8	-2.1	-3.0	-2.7	-1.7	-1.3	+0.1	+3.5	+9.1	+13.5	+14.6	+12.0	+7.8	+5.5	+5.5	+3.0	+0.4	-6.7	-5.1	-11.3	-13.7
Mar.	-6.0	-3.5	+0.8	-5.9	-9.2	-6.4	-5.9	-8.9	-11.4	-9.6	-0.8	+10.6	+20.8	+24.5	+23.2	+17.1	+11.4	+8.0	+6.8	+2.2	-2.6	-10.0	-19.3	-25.1
Apr.	-7.7	-9.6	-10.9	-9.9	-10.6	-11.8	-15.6	-14.8	-14.7	-9.8	-1.9	+9.1	+20.1	+24.4	+25.9	+19.5	+15.8	+11.2	+4.6	+3.8	+0.7	-3.8	-6.5	-7.6
May	-1.7	-0.1	-7.3	-9.5	-12.5	-18.9	-22.5	-22.9	-22.2	-17.6	-5.1	+6.8	+18.0	+22.9	+20.6	+16.4	+12.9	+11.0	+9.1	+6.7	+5.8	+4.9	+3.9	+1.6
June	-2.0	-2.6	-3.5	-4.7	-13.7	-20.9	-25.9	-25.6	-23.9	-17.7	-7.7	+2.6	+12.6	+21.9	+21.9	+20.3	+15.9	+12.7	+10.2	+9.9	+6.4	+3.9	+0.3	
July	-2.2	-3.5	-2.8	-3.4	-10.0	-20.0	-25.5	-26.9	-24.1	-16.5	-5.0	+9.4	+21.1	+23.2	+23.0	+19.2	+13.8	+9.9	+7.4	+6.8	+4.7	+2.1	+0.7	-1.6
Aug.	-2.3	-3.5	-4.0	-6.0	-12.5	-18.7	-21.3	-21.4	-19.0	-13.9	-3.7	+10.2	+23.6	+25.6	+22.6	+16.9	+10.2	+7.5	+7.8	+4.7	+1.9	+3.6	-2.5	-5.8
Sept.	+2.7	-2.1	-1.5	-4.7	-6.8	-5.8	-9.3	-11.9	-11.6	-5.4	+3.5	+13.4	+23.6	+21.6	+17.5	+10.9	+4.4	+1.4	-11.9	-6.2	-5.5	-3.7	-5.9	-6.9
Oct.	-7.2	-6.0	-4.0	-0.4	-2.4	-2.4	-3.4	-6.2	-14.1	-15.7	-7.3	+6.7	+15.4	+17.5	+15.1	+10.5	+6.2	+4.2	+2.4	+0.6	+0.7	-1.6	-3.2	-3.6
Nov.	-7.3	-6.1	-4.0	-1.7	-0.2	-0.6	-1.2	-2.1	-4.2	-5.7	-0.8	+5.7	+9.1	+10.6	+7.8	+4.5	+4.4	+3.9	+3.3	-0.8	-1.9	-3.5	-3.6	-5.7
Dec.	-6.5	-5.1	-4.5	-3.7	-1.9	-1.1	-2.0	-2.3	-2.5	+0.1	+4.6	+6.3	+8.2	+8.4	+6.1	+4.0	+3.9	+3.1	+1.1	-3.4	-2.8	-3.7	-4.5	
Year	-4.6	-4.5	-4.4	-4.9	-7.3	-9.4	-11.5	-12.3	-12.7	-9.4	-1.6	+7.9	+16.2	+18.5	+17.0	+12.8	+9.1	+6.8	+4.2	+2.2	0.0	-1.4	-4.4	-6.4
Winter	-7.1	-5.7	-4.8	-3.7	-2.6	-2.1	-2.1	-2.2	-2.7	-1.6	+2.2	+6.6	+9.8	+10.7	+8.5	+5.7	+4.7	+3.9	+2.9	-0.3	-3.7	-5.7	-7.1	
Equinox	-4.6	-5.3	-4.0	-5.3	-7.3	-6.6	-8.6	-10.5	-13.0	-10.2	-1.7	+10.0	+20.0	+22.0	+20.5	+14.5	+9.5	+6.3	+0.5	-0.3	-1.7	-4.8	-8.9	-10.8
Summer	-2.1	-2.4	-4.4	-5.9	-12.1	-19.6	-23.8	-24.2	-22.3	-16.4	-5.4	+7.3	+18.9	+22.7	+22.1	+18.2	+13.2	+10.3	+9.1	+7.1	+5.6	+4.2	+1.5	-1.4
VERTICAL COMPONENT																								
Jan.	+0.9	+0.2	-0.4	+0.1	-0.6	-1.4	-1.9	-1.6	-2.1	-1.4	-2.0	-2.7	-2.2	-0.6	+1.1	+1.2	+2.2	+2.3	+2.8	+3.2	+2.3	+1.0	+1.2	
Feb.	+3.0	+1.7	+2.2	+1.7	+1.4	+0.1	-0.4	-2.3	-3.6	-7.5	-9.0	-8.7	-7.4	-5.1	-3.6	-1.5	+1.0	+2.1	+3.4	+5.5	+8.2	+6.9	+6.0	+5.9
Mar.	-3.5	-4.7	-8.1	-6.7	-5.3	-3.1	-2.5	-1.1	-1.3	-3.1	-6.3	-6.7	-6.3	-3.5	+0.9	+6.3	+8.5	+7.7	+7.5	+7.7	+7.1	+5.9	+3.3	
Apr.	-8.0	-6.1	-1.7	+0.6	+1.7	+1.1	+1.0	-0.1	-0.5	-3.8	-8.1	-12.7	-12.6	-9.1	-2.7	+2.2	+6.7	+10.3	+11.2	+10.3	+8.5	+7.0	+3.7	+1.1
May	+3.1	+1.2	+1.6	+2.5	+3.6	+3.4	+3.5	+0.8	-4.2	-7.3	-10.4	-14.6	-12.5	-7.4	-4.8	-1.1	+3.0	+7.0	+7.5	+7.0	+6.0	+5.1	+4.2	+2.8
June	+2.8	+1.7	+2.4	+1.5	+1.9	+2.6	+2.7	+0.9	-1.2	-4.9	-8.8	-13.5	-12.6	-7.5	-4.4	-1.7	+1.7	+4.8	+6.7	+7.1	+6.2	+4.9	+4.0	+2.7
July	+2.0	+2.3	+3.4	+3.0	+3.8	+3.9	+3.2	+0.2	-1.6	-6.9	-11.4	-14.0	-13.6	-7.9	-3.0	+2.2	+5.8	+5.9	+5.4	+4.8	+4.8	+3.5	+2.6	+1.6
Aug.	+0.4	-1.2	-1.2	-1.0	+0.8	+1.7	+0.7	+1.4	+0.2	-4.0	-9.2	-12.0	-13.8	-9.0	-2.6	+3.8	+6.2	+7.3	+7.8	+8.0	+6.6	+5.0	+3.6	+0.6
Sept.	-6.2	-5.1	-3.4	-1.7	-0.4	+0.7	+1.6	+1.9	+0.4	-3.3	-5.6	-8.7	-10.2	-5.5	-0.6	+3.1	+5.8	+8.3	+11.4	+8.1	+5.8	+5.1	+1.6	-3.1
Oct.	-0.6	-0.4	+0.9	-1.0	-2.2	-3.0	-2.4	-0.6	+0.9	+1.8	-3.0	-4.4	-5.6	-4.0	-1.5	+2.0	+3.2	+2.6	+3.2	+3.2	+2.5	+3.6	+2.2	
Nov.	+0.5	-0.9	-0.3	-0.7	-1.5	-1.2	-0.9	-1.1	-1.5	-2.5	-3.9	-3.7	-2.5	-1.5	+1.3	+3.3	+3.1	+1.8	+1.7	+2.5	+2.3	+1.9	+1.5	
Dec.	+4.6	+3.4	+2.7	+1.6	+0.8	-0.2	-0.2	-0.4	-0.7	-3.4	-5.0	-4.8	-3.6	-1.6	-0.3	+1.4	+0.6	+0.2	+0.4	+0.8	+1.1	+0.4	+1.2	
Year	-0.1	-0.7	-0.2	0.0	+0.3	+0.4	+0.4	-0.2	-1.2	-3.9	-6.8	-8.8	-8.6	-5.4	-1.8									

## INTERNATIONAL QUIET DAYS

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

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	Hour G.M.T.																							
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
DECLINATION (measured positive towards the west)																								
Jan.	-1.02	-0.89	-0.88	-1.07	-1.28	-0.77	-0.72	-0.69	-0.64	-0.17	+0.46	+1.25	+1.82	+1.97	+1.58	+1.23	+1.06	+0.85	+0.88	+0.17	-0.68	-0.77	-0.84	-0.85
Feb.	-1.77	-1.29	-1.04	-0.63	-0.37	-0.69	-0.71	-0.55	-0.46	-0.05	+0.83	+2.09	+2.95	+3.07	+2.38	+1.41	+0.91	+0.67	+0.55	+0.09	-1.22	-1.17	-2.35	-2.65
Mar.	-1.35	-0.78	+0.10	-1.31	-2.02	-1.46	-1.47	-1.98	-2.28	-1.57	+0.50	+2.86	+4.81	+5.36	+4.88	+3.59	+2.40	+1.46	+1.11	+0.10	-0.88	-2.43	-4.42	-5.22
Apr.	-1.88	-1.99	-2.22	-2.02	-2.18	-2.51	-3.24	-2.96	-2.68	-1.45	+0.44	+2.80	+4.94	+5.51	+5.36	+3.92	+3.06	+1.93	+0.48	+0.06	-0.40	-1.15	-1.92	-1.90
May	-0.50	-0.20	-1.59	-1.96	-2.62	-4.02	-4.56	-4.42	-4.13	-2.90	-1.10	+2.36	+4.48	+5.24	+4.45	+3.26	+2.30	+1.70	+1.26	+0.72	+0.63	+0.50	+0.28	-0.18
June	-0.49	-0.58	-0.75	-1.11	-2.91	-4.34	-5.23	-4.99	-4.41	-2.86	-0.59	+1.49	+3.23	+4.24	+4.59	+4.07	+2.93	+2.06	+1.83	+1.47	+1.43	+0.82	+0.37	-0.27
July	-0.59	-0.81	-0.67	-0.95	-2.31	-4.30	-5.15	-5.19	-4.35	-2.57	-0.09	+2.91	+5.21	+5.53	+4.95	+3.75	+2.41	+1.32	+0.75	+0.69	+0.43	-0.05	-0.25	-0.67
Aug.	-0.74	-0.95	-1.05	-1.48	-2.81	-3.93	-4.36	-4.07	-3.35	-2.18	+0.15	+3.03	+5.60	+5.81	+4.89	+3.54	+4.95	+1.17	+0.94	+0.27	-0.21	+0.30	-0.95	-1.57
Sept.	+0.27	-0.63	-0.41	-1.11	-1.57	-1.38	-2.05	-2.39	-1.95	-0.43	+1.55	+3.59	+5.35	+4.79	+3.83	+2.25	+0.87	+0.12	-2.73	-1.69	-1.59	-1.19	-1.83	-1.67
Oct.	-1.67	-1.36	-1.01	-0.27	-0.83	-0.80	-0.97	-1.55	-2.79	-2.66	-0.75	+2.17	+3.85	+4.06	+3.31	+2.25	+1.25	+0.72	+0.25	-0.37	-0.17	-0.64	-0.97	-1.05
Nov.	-1.44	-1.23	-0.76	-0.33	-0.12	-0.25	-0.42	-0.59	-0.94	-1.05	+0.14	+1.49	+2.14	+2.27	+1.58	+0.93	+0.84	+0.71	+0.54	-0.23	-0.48	-0.81	-0.82	-1.17
Dec.	-1.06	-0.80	-0.74	-0.66	-0.36	-0.28	-0.48	-0.52	-0.54	+0.06	+0.98	+1.32	+1.64	+1.62	+1.18	+0.78	+0.66	+0.50	+0.10	-0.42	-0.78	-0.60	-0.78	-0.82
Year	-1.02	-0.96	-0.92	-1.07	-1.61	-2.06	-2.45	-2.49	-2.38	-1.49	+0.29	+2.28	+3.83	+4.12	+3.58	+2.58	+1.72	+1.10	+0.50	+0.07	-0.33	-0.60	-1.21	-1.50
Winter	-1.32	-1.05	-0.85	-0.67	-0.53	-0.50	-0.58	-0.59	-0.65	-0.30	+0.60	+1.54	+2.14	+2.23	+1.68	+1.09	+0.87	+0.68	+0.52	-0.10	-0.79	-0.84	-1.20	-1.37
Equinox	-1.16	-1.19	-0.89	-1.18	-1.65	-1.54	-1.94	-2.22	-2.43	-1.53	+0.43	+2.85	+4.74	+4.93	+4.35	+3.00	+1.89	+1.06	-0.22	-0.47	-0.76	-1.35	-2.29	-2.46
Summer	-0.58	-0.63	-1.01	-1.37	-2.66	-4.15	-4.83	-4.67	-4.06	-2.63	-0.16	+2.45	+4.63	+5.21	+4.72	+3.65	+2.40	+1.56	+1.19	+0.79	+0.57	+0.39	-0.14	-0.67
INCLINATION																								
Jan.	+0.33	+0.17	+0.17	+0.24	+0.02	-0.07	-0.27	-0.35	-0.22	-0.04	+0.17	+0.16	+0.04	-0.11	-0.25	-0.13	-0.02	-0.01	+0.04	-0.01	-0.01	-0.04	+0.05	+0.13
Feb.	+0.34	+0.37	+0.47	+0.32	+0.16	-0.11	-0.26	-0.37	-0.40	-0.30	-0.07	+0.07	+0.01	-0.12	-0.32	-0.42	-0.37	-0.39	-0.04	+0.14	+0.51	+0.03	+0.21	+0.53
Mar.	-0.22	-0.20	-0.32	-0.29	-0.25	-0.27	-0.42	-0.19	+0.21	+0.67	+0.96	+0.88	+0.55	+0.26	+0.02	+0.15	+0.20	+0.19	-0.35	-0.43	-0.35	-0.36	-0.24	+0.17
Apr.	-0.62	-0.10	+0.07	+0.13	+0.14	-0.01	+0.11	+0.25	+0.66	+0.93	+1.21	+1.13	+0.83	+0.52	+0.05	-0.33	-0.60	-0.84	-0.89	-0.98	-0.83	-0.75	-0.78	-0.79
May	-0.16	-0.27	-0.04	+0.14	+0.10	+0.02	+0.38	+0.68	+0.81	+1.15	+1.37	+1.19	+0.83	+0.52	+0.05	-0.33	-0.60	-0.84	-0.89	-0.98	-0.83	-0.75	-0.78	-0.79
June	-0.05	0.00	+0.02	-0.16	-0.02	+0.14	+0.42	+0.68	+0.97	+1.30	+1.47	+1.23	+0.65	+0.26	-0.14	-0.36	-0.64	-0.91	-1.09	-0.95	-0.92	-0.73	-0.66	-0.49
July	-0.18	-0.05	-0.06	-0.31	-0.25	-0.07	+0.43	+0.75	+1.14	+1.30	+1.32	+1.19	+0.93	+0.89	+0.13	-0.40	-0.66	-1.13	-1.19	-1.11	-0.80	-0.75	-0.61	-0.51
Aug.	-0.41	-0.39	-0.37	-0.39	-0.30	+0.03	+0.20	+0.73	+1.08	+1.12	+1.31	+1.19	+0.73	+0.50	+0.18	+0.07	-0.17	-0.48	-0.97	-0.99	-0.85	-0.64	-0.62	-0.57
Sept.	-0.63	-0.44	-0.26	-0.25	-0.25	-0.26	-0.12	+0.21	+0.83	+1.10	+1.21	+1.06	+0.41	+0.27	+0.23	+0.02	+0.06	-0.08	-0.11	-0.44	-0.59	-0.56	-0.95	-0.46
Oct.	-0.29	-0.16	-0.13	-0.33	-0.58	-0.57	-0.48	-0.42	+0.32	+1.12	+1.24	+1.17	+0.89	+0.54	+0.21	+0.14	-0.02	-0.22	-0.36	-0.32	-0.48	-0.42	-0.40	-0.45
Nov.	+0.15	+0.06	+0.12	+0.02	-0.16	-0.23	-0.31	-0.26	-0.12	+0.19	+0.42	+0.38	+0.32	+0.04	-0.08	+0.05	-0.08	-0.16	-0.21	-0.04	-0.07	-0.05	-0.05	+0.07
Dec.	+0.61	+0.55	+0.40	+0.23	+0.09	-0.10	-0.11	-0.06	-0.03	-0.02	-0.10	-0.13	-0.23	-0.23	-0.17	-0.07	-0.24	-0.25	-0.21	-0.13	-0.09	-0.06	+0.10	+0.26
Year	-0.10	-0.04	0.00	-0.05	-0.11	-0.12	-0.04	+0.13	+0.44	+0.71	+0.88	+0.79	+0.50	+0.29	-0.02	-0.13	-0.23	-0.43	-0.50	-0.52	-0.43	-0.39	-0.40	-0.22
Winter	+0.36	+0.29	+0.29	+0.20	+0.03	-0.12	-0.24	-0.26	-0.19	-0.04	+0.10	+0.12	+0.03	-0.11	-0.20	-0.14	-0.18	-0.20	-0.11	-0.01	+0.08	-0.01	+0.06	+0.25
Equinox	-0.44	-0.23	-0.16	-0.18	-0.24	-0.27	-0.23	-0.03	+0.51	+0.96	+1.16	+1.07	+0.68	+0.37	+0.06	+0.02	-0.01	-0.24	-0.34	-0.54	-0.53	-0.44	-0.61	-0.31
Summer	-0.20	-0.18	-0.12	-0.18	-0.12	+0.03	+0.36	+0.71	+0.99	+1.21	+1.37	+1.20	+0.79	+0.54	+0.05	+0.25	-0.52	-0.83	-1.03	-1.00	-0.85	-0.72	-0.67	-0.59
HORIZONTAL FORCE																								
Jan.	-4.6	-2.5	-2.7	-3.6	-0.5	+0.5	+3.4	+4.7	+2.7	-0.2	-3.1	-3.1	-1.6	+0.9	+3.5	+2.4	+0.7	+0.9	+0.2	+1.1	+1.3	+1.4	-0.3	-1.5
Feb.	-4.0	-4.9	-6.2	-4.1	-1.9	+1.6	+3.7	+4.7	+4.6	+1.7	-2.2	-4.3	-2.8	-0.1	+3.4	+5.7	+5.9	+6.6	+1.9	-0.1	-4.6	+2.1	-1.0	-5.7
Mar.	+2.0	+1.2	+1.8	+1.8	+1.8	+2.9	+5.4	+5.4	+2.4	-3.6	-11.2	-15.6	-10.6	-5.2	+0.2	+0.0	+0.2	+5.7	+8.0	+9.2	+8.0	+8.0	+5.8	-1.4
Apr.	+6.3	-0.8	-1.6	-1.7	-1.4	+0.6	-1.3	-3.8	-10.0	-15.3	-21.0	-21.6	-17.7	-9.2	+2.2	+4.5	+6.8	+10.8	+12.3	+18.4	+13.8	+8.5	+13.6	+7.6
May	+3.6	+4.5	+1.2	-1.2	-0.2	+0.9	-4.4	-9.8	-13.6	-19.9	-24.4	-23.2	-17.0	-10.5	-2.6	+4.6	+10.0	+15.1	+16.0	+17.2	+14.6	+13.1	+13.2	+12.8
June	+1.8	+0.6	+0.6	+3.0	+1.0	-1.1	-5.2	-9.8	-15.0	-21.2	-25.2	-23.4	-14.4	-6.6	+0.4	+4.8	+10.2	+15.3	+18.8	+16.8	+16.0	+11.4	+8.4	
July	+3.4	+1.6	+2.2	+5.8	+5.2	+2.4	-5.2	-11.2	-17.4	-22.0	-23.0	-19.0	-16.2	-3.0	+6.8	+12.0	+19.0	+19.8	+18.4	+13.8	+12.4	+10.0	+8.2	
Aug.	+6.2	+5.4	+5.1	+5.4	+4.8	+0.2	-2.8	+10.4	-16.1	-18.2	-23.0	-22.2	-16.0	-10.8	-3.7	+0.4	+4.8	+9.8	+17.4	+15.1	+11.4	+10.6	+8.8	
Sept.	+7.2	+4.7	+2.6	+3.1	+3.6	+4.1	+2.4	-2.5	-12.2	-17.7	-20.2	-19.1	-9.8	-6.1	-3.6	+0.9	+1.2	+4.3	+5.8	+9.5	+11.0	+10.3	+14.8	+5.7

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)

145 ESKDALEMUIR

	Hour G.M.T.																							
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
DECLINATION NORTH COMPONENT																								
Jan.	-2.1	-5.1	+0.9	+2.8	+4.3	+8.8	+8.8	+6.9	+4.2	+2.4	+1.7	-7.1	-4.5	-0.7	-3.7	-2.0	+1.6	-10.8	-3.1	-4.5	-3.7	+2.9	+1.1	-4.2
Feb.	-6.8	-7.9	+0.1	-1.8	+8.8	+9.0	+14.9	+11.7	+8.9	-1.6	-14.0	-28.9	-13.8	-1.1	-0.5	-17.3	-12.6	-1.8	+2.7	+2.3	+16.5	+8.6	+6.6	+18.2
Mar.	+7.4	+3.7	-0.3	-2.2	-2.5	+9.6	+8.8	-9.6	-10.5	-19.0	-22.7	-22.2	-19.8	-4.6	-0.3	+0.3	+3.6	+5.5	+19.7	+11.0	+7.6	+4.4	+14.1	+18.1
Apr.	+18.2	-3.2	-13.6	-16.4	-4.7	+11.7	+8.7	+1.8	+0.6	-8.7	-20.4	-22.6	-23.0	-15.1	-0.9	+4.5	+5.7	+18.5	+19.9	+20.1	+7.7	+15.2	+8.8	-12.7
May	+11.4	+14.1	+3.0	+2.5	+10.5	+6.9	+1.1	-3.9	-10.5	-24.3	-32.1	-33.9	-24.1	-16.1	-11.4	-2.3	+7.4	+24.2	+21.9	+16.5	+11.8	+11.2	+8.8	+7.4
June	+12.1	+9.7	+5.1	+4.9	+7.6	+4.9	-5.7	-3.3	-9.9	-20.6	-22.9	-23.2	-21.4	-15.5	-1.5	+2.6	+4.7	+13.0	+18.3	+13.4	+8.3	+9.0	+5.9	+4.5
July	+9.3	+10.9	+9.1	+10.0	+5.4	+3.6	+2.7	-5.5	-8.8	-20.2	-29.5	-33.6	-27.0	-14.1	-0.7	-2.5	+0.2	+8.7	+13.1	+15.7	+12.2	+13.1	+13.3	+13.5
Aug.	+14.3	+11.5	+6.9	+4.3	+13.4	+1.1	+0.5	-3.1	-13.0	-20.7	-22.8	-21.6	-15.6	-22.3	-16.4	-5.6	-2.7	+7.4	+9.8	+14.5	+16.8	+15.1	+10.1	+11.7
Sept.	+5.3	+6.7	+11.5	+4.6	+1.7	+20.5	+13.8	+7.2	-5.3	-13.7	-22.7	-25.3	-25.1	-19.0	-9.1	+0.7	+7.3	+16.0	+16.0	+8.2	+11.5	-10.5	-1.0	+0.8
Oct.	+5.1	+11.9	+14.5	+11.9	+23.7	+24.9	+4.5	-1.7	-2.3	-13.5	-16.8	-21.8	-18.7	-10.3	-12.2	-4.5	+11.3	+9.7	-7.3	-10.7	-3.1	+11.3	-4.7	-1.1
Nov.	+4.5	-4.2	+7.3	+9.6	+0.8	+4.3	+10.8	+10.1	+2.6	+0.9	-7.2	-8.0	-10.5	-17.4	-12.7	-8.7	-6.0	-4.3	-5.4	-4.8	+8.3	+3.6	+10.0	+16.5
Dec.	+8.9	+1.2	+2.9	+2.3	+5.4	+11.1	+7.8	+6.3	+5.2	+3.3	+0.6	-2.2	-9.6	-17.2	-7.3	-5.3	-2.2	-0.9	-6.3	-5.0	-5.7	-5.4	+16.5	-4.3
Year	+7.3	+4.2	+3.9	+2.7	+6.2	+9.7	+6.3	+1.5	-3.2	-11.3	-17.7	-20.9	-17.8	-12.8	-6.4	-3.3	+2.0	+7.1	+8.3	+6.4	+7.3	+6.6	+7.4	+6.5
Winter	+1.1	-4.0	+2.8	+3.2	+4.9	+8.3	+10.5	+8.8	+5.3	+1.2	-5.7	-11.6	-9.6	-9.2	-6.0	-8.3	-4.8	-4.5	-3.0	-3.0	+3.9	+2.4	+8.5	+8.7
Equinox	+9.1	+4.7	+3.0	-0.6	+4.5	+16.6	+8.9	-0.5	-4.4	-13.7	-20.6	-23.0	-21.7	-12.2	-5.7	+0.2	+7.0	+12.4	+12.1	+7.2	+5.9	+5.1	+4.3	+1.3
Summer	+11.8	+11.6	+6.0	+5.4	+9.3	+4.1	-0.5	-3.7	-10.5	-21.4	-26.9	-28.1	-22.0	-16.9	-7.5	-1.9	+3.8	+13.3	+15.8	+15.0	+12.2	+12.4	+9.5	+9.3
WEST COMPONENT																								
Jan.	-6.2	-21.1	-16.3	-6.7	-6.9	-0.1	-0.6	+1.7	+5.0	+8.0	+10.5	+10.0	+15.9	+15.5	+14.1	+10.5	+7.0	+8.1	-10.8	-3.8	-6.9	-9.1	-6.1	-11.8
Feb.	-12.6	-12.3	+0.2	-2.9	-2.0	+2.2	-2.5	+4.0	+6.2	+3.5	+7.6	+19.1	+20.0	+27.2	+32.0	+19.2	+6.7	+11.5	+1.3	-11.1	-39.1	-24.5	-30.0	-23.7
Mar.	+8.6	-15.5	-6.7	-13.8	+2.4	-5.9	-4.4	-8.0	-7.9	-3.6	+5.8	+18.8	+27.4	+29.3	+26.8	+24.4	+19.2	+1.3	-15.4	-23.9	-23.1	-9.5	-6.2	-3.1
Apr.	-7.0	-27.2	-38.1	-22.2	-11.6	-11.2	-17.5	-15.4	-13.8	-4.4	+4.7	+20.7	+34.8	+40.5	+38.6	+35.3	+30.0	+27.7	+10.7	-12.9	-10.5	-13.3	-17.4	-20.4
May	-1.5	-5.2	-15.9	-14.5	-15.5	-17.5	-19.5	-19.9	-16.5	-8.7	+2.3	+14.6	+24.0	+28.9	+25.4	+23.6	+18.7	+20.0	+10.6	-3.7	-2.3	-5.6	-9.2	-12.5
June	-7.9	-1.3	-8.1	-9.2	-15.4	-18.5	-16.7	-18.9	-18.8	-14.2	-5.3	+6.7	+19.8	+21.2	+24.0	+24.1	+18.4	+13.3	+6.3	+1.7	-2.4	+0.9	+0.8	-0.6
July	-13.9	-7.3	-2.3	-4.8	-10.6	-11.5	-14.3	-20.5	-21.1	-17.0	-4.5	+13.0	+23.8	+27.6	+29.1	+22.3	+9.9	+0.8	+2.1	+2.7	+1.9	-0.1	+0.4	-5.7
Aug.	-5.3	-2.0	-13.2	-17.6	-16.5	-1.0	-6.5	-13.1	-16.0	-11.4	-1.2	+11.3	+26.5	+29.0	+19.4	+15.2	+13.1	+6.6	+6.1	+0.8	-7.9	-8.9	-6.9	-0.5
Sept.	-9.8	-3.8	+5.0	-0.1	+3.0	-1.7	-4.2	-8.7	-9.5	-3.5	+8.9	+22.0	+32.0	+34.5	+42.4	+34.5	+9.7	-15.1	-13.7	-21.2	-17.2	-40.5	-33.7	-9.4
Oct.	-45.1	-27.8	-39.5	-12.8	+9.5	+13.8	+16.7	+24.9	+15.6	+4.5	+11.2	+17.1	+30.0	+42.9	+31.7	+30.5	-4.0	-13.4	+0.9	-7.1	-17.0	-22.5	-28.4	-31.4
Nov.	-16.2	-5.1	-3.2	-0.4	+9.9	+16.2	+7.0	+1.9	+4.1	+0.2	+6.2	+16.5	+22.8	+19.8	+19.4	+3.4	+7.0	+2.9	-20.0	-18.8	-28.5	-17.9	-14.3	-13.0
Dec.	-5.8	-12.8	-16.6	-5.4	+4.0	+1.1	+4.0	+10.3	+8.2	+9.2	+5.9	+10.9	+14.8	+14.8	+14.4	+8.9	+9.5	+8.7	+1.9	-1.2	-6.5	-9.0	-17.1	-20.4
Year	-11.7	-11.8	-12.9	-9.2	-4.1	-2.8	-4.9	-5.1	-5.4	-3.1	+4.3	+15.1	+24.3	+27.5	+26.0	+21.0	+12.0	+5.5	-1.9	-8.7	-13.5	-14.0	-12.7	
Winter	-10.2	-12.8	-9.0	-3.9	+1.3	+4.8	+2.0	+4.5	+5.9	+5.2	+7.5	+14.1	+18.4	+19.2	+18.6	+10.7	+7.3	+6.1	-7.7	-10.1	-20.9	-17.1	-16.8	-17.2
Equinox	-17.6	-18.5	-19.8	-12.2	+0.8	-1.2	-2.3	-1.8	-3.9	-1.7	+7.7	+19.6	+31.0	+36.8	+34.8	+31.1	+13.7	+0.1	-4.4	-16.3	-16.9	-21.4	-21.4	-16.1
Summer	-7.1	-3.9	-9.8	-11.5	-14.5	-12.2	-14.2	-18.1	-18.1	-12.8	-2.3	+11.4	+23.6	+26.7	+24.5	+21.3	+15.0	+10.2	+6.3	+0.4	-2.7	-3.4	-3.7	-4.8
VERTICAL COMPONENT																								
Jan.	-3.2	-8.0	-9.7	-10.0	-9.0	-9.0	-9.8	-9.2	-8.3	-6.8	-5.2	-2.6	-2.2	+0.6	+5.9	+9.6	+8.8	+11.4	+16.8	+14.6	+13.3	+10.4	+3.8	-2.2
Feb.	-22.8	-19.8	-19.0	-17.0	-15.0	-14.9	-15.4	-11.0	-9.2	-5.2	-3.8	-2.0	-1.0	0.0	+9.2	+31.4	+38.6	+27.1	+23.2	+23.8	+17.0	+4.4	-3.8	-14.8
Mar.	-26.4	-38.9	-29.4	-20.1	-15.3	-5.6	-4.5	-4.3	-1.8	-1.9	-4.0	-6.9	-3.4	+1.5	+10.6	+21.5	+27.9	+37.8	+32.7	+29.7	+18.0	+13.1	-2.4	-27.9
Apr.	-27.8	-44.9	-43.8	-44.3	-29.2	-10.9	-0.8	+3.1	+5.8	+2.7	+0.8	-0.1	0.0	+5.1	+12.0	+15.1	+19.6	+26.3	+41.4	+39.5	+29.6	+16.3	+3.0	-18.5
May	-3.0	-12.7	-14.4	-12.3	-11.6	-7.3	-3.2	+1.7	-5.6	-9.5	-10.6	-12.7	-11.2	-3.1	+3.2	+8.5	+11.0	+13.5	+22.2	+26.1	+18.6	+11.1	+4.4	+0.3
June	-0.3	-5.1	-7.8	-3.5	-1.1	+1.7	+0.5	-3.1	-2.4	-7.5	-14.1	-14.3	-10.5	-7.3	-5.2	-0.9	+5.1	+10.7	+13.9	+15.7	+14.6	+9.3	+6.3	+5.3
July	-4.0	-4.5	-6.1	-9.0	-7.9	-9.7	-10.0	-7.1	-5.3	-6.2	-10.1	-10.1	-6.2	+1.1	+7.1	+13.6	+19.1	+19.9	+14.0	+8.9	+7.1	+6.0	+1.1	-2.3
Aug.	-5.0	-12.6	-16.2	-13.2	-11.6	-12.3	-11.0	-5.6	-3.2	-2.8	-4.8	-6.4	-4.8	+2.2	+11.0	+13.4	+14.4	+14.1	+13.0	+14.6	+13.8	+9.2	+4.4	-0.6
Sept.	-15.9	-10.2	-12.1	-18.9	-20.9	-26.2	-17.1	-10.7	-10.3	-8.6	-7.9	-6.5	-3.3	+10.2	+14.7	+31.9	+56.1	+45.6	+38.5	+28.3	-1.7	-9.4	+16.7	-28.9
Oct.	-19.4	-35.3	-39.4	-37.5	-42.4	-39.1	-30.0	-20.3	-15.4	-6.5	-5.0	+1.3	+3.2	+9.7	+21.8	+32.3	+52.6	+51.5	+45.0	+40.9	+30.0	+10.3	+3.6	-11.9
Nov.	-14.0	-22.7	-19.6	-15.3	-15.8	-18.9	-12.8	-8.1	-4.6	-3.9	-4.8	-5.1	-1.8	+6.5	+14.2	+23.1	+18.6	+18.1	+23.3	+13.2	+8.9	+3.2	-5.3	
Dec.	-3.9																							

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

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

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	Hour G.M.T.																							
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
DECLINATION (measured positive towards the west)																								
Jan.	-1.17	-4.06	-3.35	-1.47	-1.57	-0.36	-0.47	+0.07	+0.85	+1.52	+2.19	+2.31	+3.39	+3.18	+3.01	+2.21	+1.35	+2.08	-2.07	-0.59	-1.25	-1.96	-1.27	-2.57
Feb.	-2.29	-2.18	+0.03	-0.51	-0.75	+0.08	-1.11	+0.35	+0.91	+0.78	+2.09	+5.03	+4.61	+5.56	+6.51	+4.59	+1.85	+2.40	+0.15	+2.33	-8.59	-5.30	-6.35	-5.53
Mar.	-2.03	-3.28	-1.34	-2.71	+0.58	-1.58	-1.25	-1.24	-1.18	+0.03	+2.08	+4.70	+6.35	+6.12	+5.44	+4.93	+3.76	+0.04	-3.91	-5.28	+4.98	-2.09	-1.82	-1.34
Apr.	-2.15	-5.38	-7.18	-3.85	-2.16	-2.74	-3.89	-3.20	-2.82	-0.55	+1.76	+5.10	+7.97	+8.82	+7.86	+6.97	+5.86	+4.88	+1.37	-3.42	-2.44	-3.29	-3.88	-3.64
May	-0.76	-1.61	-3.34	-3.03	-3.55	-3.82	-3.99	-3.87	-2.92	-0.81	+1.74	+4.31	+5.82	+6.47	+5.60	+4.85	+3.49	+3.10	+1.29	-1.41	-0.94	-1.57	-2.22	-2.83
June	-2.08	-0.66	-1.84	-2.06	-3.42	-3.95	-3.16	-3.70	-3.42	-2.06	-0.15	+2.28	+4.86	+4.92	+4.92	+4.78	+3.54	+2.19	+0.56	-0.18	-0.82	-0.18	-0.06	-0.30
July	-3.18	-1.92	-0.82	-1.38	-2.36	-2.48	-3.00	-3.98	-3.92	-2.64	+0.22	+3.96	+5.90	+6.16	+5.94	+4.62	+2.00	-0.18	-0.08	-0.10	-0.54	-0.44	-1.70	-0.56
Aug.	-1.64	-0.86	-2.94	-3.74	-3.88	-0.25	-1.34	-2.54	-2.74	-1.50	+0.66	+3.14	+6.00	+6.76	+4.58	+3.30	+2.54	+1.05	+0.86	-0.40	-2.26	-2.44	-1.80	-1.93
Sept.	-2.20	-1.03	+0.57	-0.20	+0.55	-1.15	-1.40	-2.05	-1.71	-0.16	+2.69	+5.45	+7.48	+7.75	+8.95	+6.98	+1.67	-3.69	-3.40	-4.63	-3.95	-7.80	-6.79	-1.93
Oct.	-9.33	-6.10	-8.57	-3.06	+1.00	+1.81	+3.20	+5.10	+3.25	+1.44	+2.93	+4.32	+6.81	+9.08	+6.89	+6.34	+1.26	-3.09	+0.46	-1.02	-3.31	-5.00	-5.57	-6.32
Nov.	-3.46	-0.87	-0.94	-0.46	+1.98	+3.11	+1.00	-0.02	+0.72	+0.01	+1.54	+3.66	+5.04	+4.71	+4.44	+1.04	+1.66	+0.77	-3.84	-3.62	-6.11	-3.78	-3.30	-3.28
Dec.	-1.52	-2.63	-3.48	-1.19	+0.59	-0.22	+0.51	+1.83	+1.46	+1.73	+1.16	+2.29	+3.38	+3.59	+2.10	+2.13	+1.85	+0.42	+0.01	-1.11	-1.60	-3.25	-4.10	-3.95
Year	-2.65	-2.55	-2.77	-1.97	-1.08	-0.96	-1.24	-1.10	-0.96	-0.18	+1.57	+3.88	+5.63	+6.09	+5.52	+4.39	+2.36	+0.83	-0.72	-2.01	-3.03	-3.10	-3.13	-2.83
Winter Equinox	-2.11	-2.43	-1.93	-0.91	+0.06	+0.65	-0.02	+0.56	+0.99	+1.01	+1.75	+3.32	+4.11	+4.26	+4.01	+2.49	+1.68	+1.42	-1.44	-1.91	-4.39	-3.57	-3.75	-3.83
Summer	-3.93	-3.95	-4.13	-2.45	-0.01	-0.91	-0.83	-0.35	-0.61	+0.19	+2.37	+4.89	+7.15	+7.94	+7.29	+6.31	+2.51	-0.47	-1.37	-3.59	-3.67	-4.55	-4.51	-3.31
INCLINATION																								
Jan.	+0.14	+0.41	-0.09	-0.35	-0.41	-0.80	-0.81	-0.70	-0.55	-0.43	-0.15	+0.28	+0.03	-0.14	+0.21	+0.23	+0.02	+0.88	+0.75	+0.70	+0.65	+0.18	+0.10	-0.18
Feb.	+0.05	+0.19	-0.47	-0.26	-0.93	-0.98	-1.32	-1.10	-0.89	-0.07	+0.73	+1.61	+0.63	-0.27	-0.16	+1.66	+1.69	+0.64	+0.38	+0.58	-0.17	-0.14	-0.14	-1.25
Mar.	-1.02	-1.00	-0.62	-0.17	-0.24	-0.69	-0.63	+0.63	+0.75	+1.25	+1.32	+1.05	+0.87	-0.04	-0.06	+0.19	+0.20	+0.55	+0.29	+0.32	+0.24	+0.15	-0.90	-1.84
Apr.	-1.79	-0.54	+0.31	+0.28	-0.26	-0.89	-0.37	+0.16	+0.28	+0.70	+1.30	+1.22	+1.07	+0.59	-0.14	-0.38	-0.28	-0.93	-0.43	-0.18	+0.39	-0.43	-0.28	+0.64
May	-0.80	-1.17	-0.35	-0.28	-0.77	-0.41	+0.10	+0.46	+0.77	+1.47	+1.82	+1.73	+1.00	+0.61	+0.50	+0.05	-0.46	-1.51	-1.03	-0.39	-0.29	-0.39	-0.35	-0.32
June	-0.70	-0.75	-0.43	-0.29	-0.33	-0.05	+0.60	+0.39	+0.83	+1.35	+1.23	+1.09	+0.89	+0.56	-0.33	-0.50	-0.42	-0.76	-0.94	-0.52	-0.16	-0.37	-0.24	-0.16
July	-0.53	-0.73	-0.72	-0.82	-0.42	-0.33	-0.24	+0.38	+0.72	+1.39	+1.75	+1.79	+1.31	+0.60	-0.14	-0.21	+0.33	-0.09	-0.54	-0.84	-0.65	-0.71	-0.85	-0.87
Aug.	-0.99	-1.04	-0.68	-0.38	-0.96	-0.36	-0.22	+0.24	+0.98	+1.44	+1.39	+1.14	+0.56	+1.14	+1.10	+0.51	+0.01	-0.22	-0.40	-0.60	-0.66	-0.72	-0.47	-0.78
Sept.	-0.61	-0.64	-1.11	-0.77	-0.66	-1.97	-1.27	-0.62	+0.21	+0.73	+1.18	+1.22	+1.16	+1.05	+0.42	+0.30	+0.78	+0.27	+0.07	+0.43	-0.58	+0.98	+0.08	-0.64
Oct.	-0.24	-1.29	-1.42	-1.54	-2.72	-2.77	-1.25	-0.71	-0.43	+0.67	+0.83	+1.24	+0.92	+0.37	+0.93	+0.70	+0.61	+0.81	+1.57	+1.80	+1.16	-0.20	+0.77	-0.18
Nov.	-0.43	-0.22	-0.92	-1.00	-0.57	-0.95	-1.11	-0.89	-0.33	-0.16	+0.28	+0.19	+0.35	+1.05	+0.93	+1.10	+0.76	+0.69	+1.19	+1.13	+0.14	+0.21	-0.40	-1.05
Dec.	-0.60	-0.21	-0.22	-0.27	-0.60	-0.91	-0.70	-0.67	-0.54	-0.43	-0.19	-0.08	+0.44	+1.11	+0.55	+0.43	+0.22	+0.23	+0.65	+0.66	+0.74	+0.86	-0.89	+0.45
Year	-0.63	-0.59	-0.56	-0.49	-0.74	-0.93	-0.60	-0.20	+0.15	+0.66	+0.95	+1.03	+0.77	+0.56	+0.32	+0.37	+0.29	+0.05	+0.08	+0.26	+0.07	-0.05	-0.30	-0.49
Winter Equinox	-0.21	+0.04	-0.42	-0.47	-0.63	-0.91	-0.98	-0.84	-0.58	-0.27	+0.17	+0.50	+0.36	+0.44	+0.38	+0.85	+0.67	+0.61	+0.74	+0.77	+0.34	+0.28	-0.33	-0.51
Summer	-0.92	-0.87	-0.71	-0.55	-0.97	-1.58	-0.88	-0.14	+0.21	+0.83	+1.16	+1.18	+1.00	+0.49	+0.29	+0.21	+0.33	+0.17	+0.23	+0.59	+0.30	+0.13	-0.08	-0.42
HORIZONTAL FORCE																								
Jan.	-3.3	-9.1	-2.3	+1.5	+2.9	+8.6	+8.5	+7.1	+5.1	+3.9	+0.3	-5.1	-1.3	+2.3	-0.9	+0.1	+2.9	-9.0	-5.1	-5.1	-4.9	+1.1	-0.1	+1.9
Feb.	-9.1	-10.1	+0.1	-2.3	+8.3	+9.2	+14.1	+12.3	+9.9	-0.9	-12.3	-24.7	-9.7	+4.1	+5.7	-13.3	-11.1	+0.4	+2.9	+0.1	+8.7	+3.7	+0.7	+13.3
Mar.	+5.6	+0.7	-1.6	-4.8	-2.0	+8.3	+7.8	-11.0	-11.8	-19.3	-21.2	-18.2	-14.2	+1.1	+4.8	+5.0	+7.2	+5.7	+16.4	+6.2	+3.0	+2.5	+12.6	+17.2
Apr.	+16.5	-8.4	-20.7	-20.4	-6.8	+9.3	+5.2	-1.2	-2.1	-9.4	-19.1	-18.2	-15.9	-7.0	+6.5	+11.2	+11.4	+23.5	+21.6	+17.2	+5.5	+12.4	+5.3	-16.4
May	+10.9	+12.9	-0.1	-0.3	+7.3	+3.4	-2.7	-7.7	-13.5	-25.5	-31.1	-30.5	-19.1	-10.3	-6.3	+2.3	+10.9	+27.6	+23.5	+15.5	+11.1	+9.9	+6.9	+4.9
June	+10.4	+9.3	+3.5	+3.0	+4.5	+1.3	-8.8	-6.9	-13.3	-23.0	-23.5	-21.5	-17.2	-11.1	+3.1	+7.2	+8.1	+15.3	+19.2	+13.5	+7.7	+9.0	+5.9	+4.3
July	+6.5	+9.3	+8.5	+8.9	+3.3	+1.3	-0.1	-8.3	-12.7	-23.1	-29.9	-30.5	-21.9	-8.5	+4.9	+1.9	+2.1	+8.7	+13.3	+15.9	+12.3	+12.9	+13.1	+12.1
Aug.	+13.0	+10.9	+4.2	+0.8	+10.0	+0.9	-0.8	-5.6	-15.8	-22.5	-22.6	-19.0	-10.2	-16.3	-12.4	-2.6	+5.2	+8.5	+10.8	+14.4	+15.0	+14.1	+8.6	+11.4
Sept.	+3.3	+5.8	+12.2	+4.5	+2.2	+19.8	+12.7	+5.4	-7.0	-14.1	-20.6	-20.6	-18.5	-12.0	-0.8	+7.3	+9.0	+12.8	+13.1	+4.0	+8.0	-18.1	-7.4	-1.0
Oct.	-3.6	+6.3	+6.7	+9.2	+25.1	+27.1	+7.6	+3.1	+0.7	-12.4	-14.3	-18.1	-12.6	-1.9	-5.9	+1.4	+10.3	+6.9	-7.0	-11.9	-6.3	+6.8	-10.1	-7.1
Nov.	+1.3	-5.1	+6.5	+9.3	+2.7	+7.3	+11.9	+10.3	+3.3	+0.9	-5.9	-4.7	-5.9	-13.										

**RANGE OF MEAN DIURNAL INEQUALITIES FOR THE MONTHS, YEAR AND SEASONS OF 1954**  
 The ranges are derived from the diurnal inequalities printed in Tables 141 to 146

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	All days			Quiet days			Disturbed days			All days			Quiet days			Disturbed days		
	N	W	Z	N	W	Z	N	W	Z	D	I	H	D	I	H	D	I	H
Jan.	10.2	25.5	12.2	9.5	15.7	5.9	19.6	37.0	26.8	5.25	0.89	9.7	3.25	0.68	9.3	7.45	1.69	17.7
Feb.	20.1	38.5	25.5	11.3	28.3	17.2	47.1	71.1	61.4	8.10	1.25	17.3	5.72	0.95	12.8	15.10	3.01	38.8
Mar.	27.0	46.6	31.2	28.1	49.6	16.6	42.4	53.2	76.7	10.11	1.41	24.0	10.58	1.39	25.8	11.63	3.16	38.4
Apr.	41.4	47.8	29.7	41.8	41.5	23.9	43.1	78.6	86.3	10.25	2.04	38.6	8.75	2.19	40.0	16.00	3.09	44.2
May	42.6	46.0	27.7	41.1	45.8	22.1	58.1	48.8	40.5	9.87	2.40	44.2	9.80	2.35	41.6	10.46	3.33	58.7
June	43.8	49.5	21.1	41.0	47.8	20.6	41.5	43.0	30.0	10.20	2.54	44.6	9.82	2.56	44.0	8.87	2.29	42.7
July	43.7	45.0	20.7	44.0	50.1	19.9	49.3	50.2	30.0	9.29	2.41	43.6	10.72	2.51	43.8	10.14	2.66	46.4
Aug.	41.0	44.9	21.8	41.8	47.0	21.8	39.6	46.6	30.8	9.25	2.41	40.6	10.17	2.30	40.8	10.64	2.48	37.6
Sept.	36.7	45.0	36.6	38.1	35.5	21.6	45.8	82.9	85.0	9.82	2.13	31.6	8.08	2.16	35.0	16.75	3.19	40.4
Oct.	33.0	38.9	33.7	29.3	33.2	9.2	46.7	88.0	95.0	8.69	2.36	30.9	6.85	1.82	27.8	18.51	4.57	45.2
Nov.	18.1	25.0	16.8	13.0	17.9	7.2	33.9	51.3	46.3	5.46	1.19	15.6	3.71	0.73	12.0	11.15	2.30	27.0
Dec.	9.5	21.2	9.9	9.7	14.9	9.6	33.7	35.2	23.8	4.24	0.82	11.4	2.70	0.88	11.3	7.69	2.02	27.0
Year	26.3	32.5	19.9	26.4	31.2	14.4	30.6	41.5	43.4	7.06	1.30	23.6	6.61	1.40	25.4	9.22	1.96	26.6
Winter	13.4	26.8	14.4	8.9	17.8	8.5	22.1	40.1	34.1	5.66	0.95	11.3	3.60	0.62	8.1	8.65	1.83	19.4
Equinox	31.8	42.3	30.9	33.5	35.0	16.8	39.6	58.2	72.6	9.41	1.85	27.8	7.39	1.77	30.1	12.49	2.76	34.9
Summer	41.6	45.4	22.3	41.2	46.9	20.4	44.8	44.8	27.4	9.56	2.32	42.0	10.04	2.40	42.1	9.60	2.47	43.5

## NON-CYCLIC CHANGE

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	All days			Quiet days			Disturbed days		
	H	D	Z	H	D	Z	H	D	Z
Jan.	-0.2	-0.08	0.0	+1.4	+0.07	-0.1	+4.2	+0.38	+0.2
Feb.	+0.4	-0.01	-0.2	-0.5	-0.59	+1.2	+1.9	-1.25	+1.3
Mar.	+0.3	+0.02	+0.4	-6.1	-1.13	+4.0	+1.2	+0.09	-5.2
Apr.	-0.1	0.00	-0.1	+0.2	-0.02	+4.1	-22.0	-1.99	+0.7
May	+0.7	-0.02	-0.1	+6.7	-0.27	-1.6	-7.2	-1.27	+0.4
June	+0.4	-0.20	-0.5	+6.7	+0.03	-1.1	-8.0	-1.07	+3.7
July	-0.5	+0.15	+0.3	+2.8	-0.22	-1.1	-7.2	+0.71	+1.6
Aug.	-0.1	-0.85	+0.2	+2.9	-1.11	-2.8	-0.8	+0.35	-4.3
Sept.	-0.1	-0.14	-0.2	-3.0	-1.45	+0.9	-5.0	-0.36	-15.9
Oct.	-0.4	+0.13	+0.7	+3.5	+0.57	+0.9	-0.7	+2.51	-5.4
Nov.	+0.8	-0.28	-0.5	+0.5	+0.38	+0.2	+1.8	+0.51	-0.7
Dec.	-0.4	0.00	+0.4	+4.5	+0.55	-3.7	-9.0	-1.50	-1.8
Year	+0.1	-0.11	0.0	+1.6	-0.27	+0.1	-4.2	-0.24	-2.1
Winter	+0.1	-0.09	-0.1	+1.5	+0.10	-0.6	-0.5	-0.21	-0.3
Equinox	-0.1	0.00	+0.2	-1.3	-0.51	+2.5	-6.6	+0.06	-6.5
Summer	+0.1	-0.23	0.0	+4.8	-0.39	-1.7	-5.8	-0.32	+0.3

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

## MEAN MONTHLY AND ANNUAL VALUES OF TERRESTRIAL MAGNETIC ELEMENTS

For all, a, quiet, q and disturbed, d, days for H, D and Z 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 +			12° +			44,000γ +						
January	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	◦	γ
February	642	645	633	7.2	7.3	6.5	1223	1222	1226	16329	3210	69	47.8
March	637	643	628	6.6	7.1	5.9	1226	1224	1226	16325	3206	69	48.2
April	640	644	635	5.5	5.6	5.0	1228	1226	1227	16329	3201	69	48.0
May	644	651	638	4.8	5.4	3.8	1225	1226	1217	16334	3199	69	47.7
June	655	658	651	4.3	4.3	4.1	1223	1223	1221	16345	3198	69	46.9
July	658	659	658	3.6	3.6	3.9	1222	1222	1223	16351	3196	69	46.5
August	654	657	653	2.4	3.0	2.1	1226	1227	1224	16346	3189	69	47.0
September	648	651	643	1.3	1.3	0.7	1231	1232	1234	16341	3183	69	47.6
October	647	654	657	1.0	1.5	0.5	1237	1234	1231	16340	3181	69	47.8
November	656	662	645	0.7	0.8	0.6	1238	1236	1239	16350	3181	69	47.2
December	665	667	661	0.3	0.3	0.2	1236	1236	1236	16358	3181	69	46.6
Year	651	654	647	3.4	3.6	3.1	1228	1228	1227	16341	3193	69	47.3

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,  $3^{\circ}12'W$ .

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	North component								West component								Vertical component							
	$a_1$	$b_1$	$a_2$	$b_2$	$a_3$	$b_3$	$a_4$	$b_4$	$a_1$	$b_1$	$a_2$	$b_2$	$a_3$	$b_3$	$a_4$	$b_4$	$a_1$	$b_1$	$a_2$	$b_2$	$a_3$	$b_3$	$a_4$	$b_4$
ALL DAYS																								
Jan.	-0.2	+2.5	-1.6	-1.0	+1.5	-2.0	-0.5	0.0	-9.0	-2.4	-0.6	+3.2	-0.9	-0.3	+0.8	+1.2	+2.0	-5.4	-1.4	-1.5	-0.2	-0.1	-0.6	-0.3
Feb.	+3.9	+2.3	-2.7	-3.2	+2.3	-2.3	-0.1	+1.2	-15.2	-2.5	-0.5	+6.8	+0.8	-0.8	+0.6	+0.9	+0.1	-11.5	-5.5	-1.1	+0.2	+0.2	-0.9	-1.3
Mar.	+8.6	-1.9	-5.7	-0.8	+2.3	-2.2	+1.0	+1.4	-14.4	-5.7	+2.8	+11.1	+0.2	-1.9	+1.7	+1.8	-1.3	-11.3	-7.1	-3.2	+1.1	-0.7	-0.9	-0.9
Apr.	+12.5	-5.7	-9.1	-1.5	+3.3	-1.7	+0.6	+1.1	-13.1	-13.0	+3.0	+10.6	-1.1	-2.5	+2.0	+1.2	+0.2	-9.9	-7.3	-4.6	+0.7	-0.6	-0.7	+0.3
May	+14.3	-7.1	-8.0	+0.7	+1.5	-0.6	+1.0	+0.9	-7.9	-17.6	+4.2	+6.6	-2.0	-1.3	+1.2	+1.1	+5.5	-5.9	-6.5	+1.0	-1.0	-0.5	+0.2	
June	+15.3	-6.1	-8.3	0.0	+1.1	-0.7	+0.2	+0.6	-4.8	-19.0	+4.1	+8.2	-2.5	-1.9	-0.3	+1.0	+5.7	-2.8	-4.7	-1.9	+0.8	-0.5	-0.3	+0.5
July	+15.1	-6.5	-8.1	+0.9	+1.8	-1.8	+0.6	+0.3	-5.1	-16.9	+4.1	+7.1	-2.6	-2.9	+0.5	+0.7	+3.6	-5.3	-5.1	-0.3	+1.3	-0.8	-0.8	-0.5
Aug.	+16.4	-5.3	-5.6	+1.1	-0.1	-2.0	+1.2	+0.9	-7.7	-14.0	+6.2	+6.3	-2.2	-4.1	+2.1	+1.1	+0.7	-7.4	-6.1	-1.9	+2.0	-0.7	-1.1	-0.7
Sept.	+13.9	-2.8	-6.7	+1.1	+1.6	-2.4	+1.1	+1.6	-13.1	-4.6	+5.3	+10.5	-2.0	-3.3	+1.3	+0.9	-3.2	-13.0	-8.0	-0.2	+1.2	+1.7	-1.1	-0.3
Oct.	+11.1	+3.1	-6.4	+2.6	+2.8	-2.6	-0.2	+0.3	-12.9	-2.0	-0.9	+7.5	-2.0	-4.6	+0.9	+2.2	-3.9	-13.9	-4.4	-2.8	+1.2	+0.5	-0.7	-0.8
Nov.	+4.1	+3.9	-3.2	-1.2	+2.0	-1.5	+0.3	+0.3	-8.0	-0.9	+0.8	+5.9	-1.3	-1.7	+1.6	+0.3	+0.2	-8.1	-2.3	-1.2	+0.8	-0.6	-1.1	-0.1
Dec.	-1.5	+2.2	-1.7	-1.1	+0.7	-1.2	+0.4	-0.3	-7.9	-0.4	-0.5	+2.1	-1.3	-0.2	+1.2	+0.2	+1.7	-3.8	-1.2	-0.4	+0.3	-0.7	-0.7	+0.3
Year	+9.5	-1.8	-5.6	-0.3	+1.7	-1.8	+0.5	+0.7	-9.9	-7.9	+2.4	+7.3	-1.4	-2.0	+1.1	+1.1	+0.9	-8.2	-5.0	-1.7	+0.9	-0.3	-0.8	-0.3
Winter Equinox	+1.6	+2.7	-2.3	-1.6	+1.6	-1.8	0.0	+0.2	-10.0	-1.5	-0.2	+4.5	-0.7	-0.8	+1.1	+0.6	+1.0	-7.2	-2.6	-1.0	+0.3	-0.3	-0.8	-0.4
Summer	+11.5	-1.8	-7.0	-0.2	+2.5	-2.3	+0.7	+1.1	-13.4	-6.3	+2.5	+9.9	-1.3	-3.1	+1.4	+1.5	-2.1	-12.0	-6.7	-2.7	+1.1	+0.2	-0.9	-0.5
QUIET DAYS																								
Year	+8.5	-2.8	-5.9	-0.1	+1.4	-1.5	-0.1	+0.5	-6.1	-9.6	+3.0	+5.6	-2.6	-1.7	+0.5	+1.0	+3.7	-2.6	-3.5	-0.7	+1.1	-0.2	-0.7	-0.2
Winter Equinox	+0.1	-0.1	-2.9	-0.7	+1.4	-1.1	-0.4	+0.3	-6.1	-3.0	+0.1	+2.4	-1.4	-0.7	+0.8	+0.5	+2.9	-1.8	-1.0	+0.1	+0.5	-0.4	-0.4	+0.1
Summer	+11.4	-3.0	-6.3	-1.0	+1.9	-2.8	-0.2	+0.9	-8.4	-9.1	+2.9	+7.0	-2.8	-2.8	+0.8	+1.7	+2.3	-3.3	-4.4	-1.4	+1.2	+0.2	-1.0	-0.5
Year	+13.9	-5.3	-8.5	+1.3	+1.0	-0.5	+0.3	+0.2	-3.8	-16.9	+5.9	+7.5	-3.6	-1.7	-0.2	+0.7	+5.9	-2.6	-5.2	-0.6	+1.6	-0.3	-0.5	0.0
DISTURBED DAYS																								
Year	+10.7	-2.2	-6.9	-0.6	+2.4	-1.9	+0.8	+0.2	-15.7	-6.2	+2.3	+7.9	-0.5	-3.8	+1.7	+0.2	-4.2	-18.7	-7.6	-3.4	+0.9	+0.2	-0.7	-0.3
Winter Equinox	+5.2	+4.6	-2.9	-3.3	+2.1	-2.8	-0.3	-0.7	-15.5	+1.3	-0.2	+5.8	+0.3	-1.6	+1.6	-0.2	-3.5	-15.3	-4.9	-1.7	0.0	-0.3	-1.7	-0.8
Summer	+10.3	-4.2	-9.6	+0.5	+3.4	-2.0	+2.0	+0.2	-22.2	-4.9	+2.4	+10.3	-0.3	-6.5	+1.4	0.0	-11.0	-29.4	-12.4	-6.3	+1.3	+1.4	+0.1	-0.7
Year	+16.4	-7.2	-8.2	+0.9	+1.7	-1.0	+0.7	+1.0	-9.3	-14.6	+4.9	+7.8	-1.6	-3.1	+1.9	+0.9	+1.9	-11.3	-5.4	-2.4	+1.6	-0.7	-0.6	+0.4

HARMONIC COMPONENTS OF THE DIURNAL INEQUALITY OF MAGNETIC FORCE  
 Values of  $c_n$ ,  $a_n$  in the series  $\Sigma c_n \sin(15nt + a_n)$ ,  $t$  being mean local time, reckoned in hours from midnight

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	North component								West component								Vertical component							
	$c_1$	$a_1$	$c_2$	$a_2$	$c_3$	$a_3$	$c_4$	$a_4$	$c_1$	$a_1$	$c_2$	$a_2$	$c_3$	$a_3$	$c_4$	$a_4$	$c_1$	$a_1$	$c_2$	$a_2$	$c_3$	$a_3$	$c_4$	$a_4$
ALL DAYS																								
Jan.	2.5	359	1.9	244	2.5	154	0.5	283	9.3	258	3.3	356	1.0	261	1.5	47	5.8	163	2.1	229	0.2	245	0.6	259
Feb.	4.6	63	4.2	227	3.3	145	1.2	9	15.4	264	6.8	3	1.1	146	1.1	47	11.5	183	5.6	265	0.3	56	1.6	229
Mar.	8.8	106	5.8	269	3.2	144	1.7	49	15.5	252	11.5	20	1.9	184	2.5	55	11.3	190	7.8	252	1.3	132	1.3	240
Apr.	13.7	118	9.3	267	3.8	127	1.3	42	18.4	228	11.1	22	2.8	214	2.3	71	9.9	182	8.6	244	0.9	141	0.7	305
May	16.0	120	8.0	281	1.6	121	1.3	61	19.3	207	7.8	39	2.3	247	1.6	61	8.1	140	6.7	261	1.4	146	0.5	310
June	16.4	115	8.3	277	1.3	130	0.6	32	19.6	197	9.2	33	3.2	243	1.1	358	6.3	120	5.1	254	0.9	132	0.6	337
July	16.5	116	8.1	283	2.5	145	0.7	77	17.7	200	8.2	37	3.9	231	0.8	51	6.4	149	5.1	274	1.5	130	0.9	253
Aug.	17.2	111	5.7	287	2.0	194	1.5	65	16.0	212	8.9	51	4.6	218	2.3	75	7.4	177	6.5	259	2.1	119	1.3	253
Sept.	14.2	105	6.8	286	2.9	157	1.9	45	13.9	254	11.7	33	3.8	221	1.5	69	13.4	197	8.0	275	2.1	46	1.2	269
Oct.	11.5	78	6.5	279	3.8	143	0.4	342	13.1	264	7.6	359	5.0	214	2.4	34	14.5	199	5.2	244	1.3	77	1.1	245
Nov.	5.7	50	3.5	256	2.5	136	0.5	55	8.0	267	5.9	14	2.2	227	1.6	93	8.1	182	2.6	248	1.0	137	1.1	277
Dec.	2.7	328	2.1	244	1.4	160	0.5	144	7.9	271	2.1	354	1.4	271	1.2	91	4.1	158	1.3	259	0.8	166	0.7	307
Year	9.6	104	5.6	273	2.5	145	0.8	48	12.7	235	7.7	24	2.5	225	1.6	57	8.3	177	5.3	257	0.9	118	0.9	263
Winter Equinox	3.1	33	2.8	242	2.4	147	0.2	21	10.1	264	4.5	4	1.1	232	1.3	72	7.2	175	2.8	255				



**KEW**



# KEW OBSERVATORY

Latitude . . . . .  $51^{\circ}28'N.$   
 Longitude . . . . .  $0^{\circ}19'N.$   
 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	..
Tilting-siphon rain recorder 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 is mounted in the galvanometer room of the underground seismograph house. It was transferred there on 15 May 1939 from the position in the north room of the basement of the main Observatory which it had occupied since the inception of the record in 1862.

**Temperature.** As from January 1943, Kew adopted the practice, followed by the other Observatories, for the tabulation of hourly readings of temperature from the curves of the photo-thermograph, i.e., by adjusting the glass scale, so that the readings at the control hours on the trace are made to show general agreement with the corresponding eye readings of the standard control thermometers, and then reading off the temperature equivalent from the curves at the requisite times. This supersedes method (a) set out on page 3 of the General Introduction to the *Observatories Year Book* for 1938.

**Rainfall.** On and after 1 October 1944, the hourly readings are from a Meteorological Office tilting-siphon recorder, M.O.80, instead of from the old Beckley self-registering rain gauge No. 1 which had been continuously in operation at Kew Observatory since 1871. The new instrument, whose funnel also has a collecting area of approximately 100 square inches, is set up 8.5 metres south-south-west of the standard check-gauge with the rim at exactly the same height above ground level as was the old Beckley gauge, i.e., 0.53 metres. From 1 January 1945 onwards the hourly readings are adjusted to give totals in agreement with the check-gauge read daily at 9h. and 21h. Prior to 1 August 1944 the check-gauge was read at 7h. and 18h. from 1 August to 31 December 1944 at 6h. and 18h. A special instrument, known as the rainfall chronograph, which in effect is a sensitive drop-counting gauge, is used to help in determining the duration of rainfall of 0.1 mm. per hour or more. This gauge stands on the lawn about 6.5 metres west-north-west of the tilting-siphon recorder. The Jardi rate-of-rainfall recorder has proved to be unreliable at rates below 6 mm. per hour and such values are omitted from Table 160.

**Sunshine.** Details of the change of sunshine recorders are given in the Introduction for 1950.

**Solar Radiation.** The factors by which the printed values 1939 to 1945 should be multiplied are given in the Introduction for the years in question.\* Details of the change of pyrheliographs are given in the Introduction for 1951.

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

**Wind Speed and Direction.** On 5 October 1954 the Mark II Head and Vane M.O.1057 with Recorder M.O.1057 of the Pressure tube anemograph, which has been used as "standard" since 1 January 1931, was replaced by a new instrument, Mark II Head and Vane M.O.1297 and Recorder M.O.1300. The direction rods were also renewed.

#### Identification numbers of instruments in use in 1954

Thermometers Nos. 788 and 738 continued in use as the control dry-bulb and wet-bulb thermometers respectively. Rain Measure No. 1999 was used as the measuring glass for the control rain-gauge throughout the year.

*Thermometer corrections, 1954*

	No. N.P.L.	788 1933	738 1933	M.O. N.P.L.	20430 1948	20428 1949	M.O. N.P.L.	18003 1929
Certified	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.
	2	+0.1	+0.2	22	-0.1	0.0	2	-0.2
	12	+0.1	+0.1	32	-0.1	0.0	22	-0.1
	32	0.0	0.0	42	-0.1	0.0	32	0.0
	52	-0.1	-0.1	52	-0.1	0.0	52	0.0
	72	0.0	-0.1	62	-0.1	-0.1	72	0.0
Applied		0.0	-0.1		72	-0.1	-0.1	.. ..
		0.0	0.0			-0.1	0.0	0.0

#### Notes on meteorological summaries

The mean temperature for the year 1954, 283.1°A. (50.2°F.) was a little above the average of 282.8°A. (49.6°F.) for the period 1871-1915. January and February were cold months as were also June, July and August. July with a mean temperature 3°F. below the average was the coldest since 1922. March was warm but October, November and December were exceptional with mean temperatures of 5.3°F., 3.0°F. and 5.2°F. respectively in excess of the average for 1871-1915. There was only one day, 1 September, when the maximum temperature in the north-wall screen exceeded 300°A. (80.6°F.) and the highest reading of 300.4°A. occurred at 12h.50m. on that day.

There were six "ice days", i.e., a day on which the maximum temperature in the north-wall screen was 273.0°A. (32.0°F.) or less, three each in January and February. The lowest temperature in the north-wall screen was 267.6°A. (22.3°F.) registered on 28 January, 1 and 6 February, whilst the lowest reading of the grass minimum thermometer was 260.1°A. (8.8°F.) on 6 February.

The rainfall for the year, 645 mm. was 6 per cent above the average for the standard period 1881-1915. April with a total of 10 mm., 28 per cent of the average, was the driest April since 1912. January and October each had only about half the normal rainfall whilst September and December were also dry months. In contrast, February, June, August and November were very wet with 128, 185, 140 and 168 per cent respectively of the average. The total of 102 mm. for June has only been exceeded once, i.e., in 1903, since 1866.

The heaviest rainfall in one day was 28 mm. on 6 August.

Despite the fact that the sunshine amounts for each of the four months May to August were 20 per cent below the average for the period 1906-1935, the sunshine total for the year 1954 of 1415 hours was only 44 hours less than normal. This was due to an exceptionally sunny January and December, each with 50 per cent in excess of the average. April and September were also sunny months.

The highest wind speed recorded in a gust was 30 m./sec. (66 m.p.h.) at 05h.10m. on 30 November. The highest on record is 33 m./sec. (73 m.p.h.) on 16 March 1947.

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

TABLE 152 *Diurnal variation of barometric pressure Fourier coefficients*  
Values of  $c_n$ ,  $a_n$  in the series  $\sum c_n \sin(15nt + a_n)$ ,  $t$  being local mean time reckoned in hours from midnight

	$c_1$		$a_1$		$c_2$		$a_2$		$c_3$		$a_3$		$c_4$		$a_4$	
	1954	1871-1926	1954	1871-1926	1954	1871-1926	1954	1871-1926	1954	1871-1926	1954	1871-1926	1954	1871-1926	1954	1871-1926
	mb.	mb.	°	°												
January	0.24	0.02	22	315	0.40	0.31	159	151	0.18	0.17	358	346	0.09	0.07	165	202
February	0.60	0.05	114	73	0.34	0.36	142	146	0.13	0.12	342	319	0.04	0.03	76	108
March	0.40	0.11	239	38	0.46	0.40	165	149	0.07	0.07	327	326	0.08	0.04	357	25
April	0.49	0.28	34	31	0.51	0.40	142	151	0.06	0.03	204	143	0.05	0.04	346	353
May	0.17	0.32	32	27	0.28	0.35	338	148	0.06	0.09	352	144	0.01	0.02	271	319
June	0.17	0.30	337	17	0.26	0.32	138	143	0.09	0.09	145	158	0.04	0.01	300	260
July	0.16	0.26	65	16	0.26	0.31	130	140	0.07	0.10	162	144	0.00	0.01	332	281
August	0.37	0.21	55	20	0.31	0.34	140	144	0.04	0.06	173	176	0.03	0.04	284	309
September	0.34	0.12	118	6	0.41	0.40	137	152	0.02	0.01	87	356	0.07	0.04	319	332
October	0.24	0.06	200	76	0.36	0.38	151	160	0.09	0.09	350	350	0.02	0.01	320	22
November	0.74	0.03	332	124	0.39	0.34	165	160	0.15	0.13	1	344	0.03	0.03	240	183
December	0.07	0.08	218	137	0.29	0.31	338	152	0.16	0.15	164	360	0.07	0.07	38	205
Arithmetic mean	0.34	0.15			0.36	0.35			0.09	0.09			0.04	0.03		
Year	0.11	0.14	43	29	0.30	0.35	147	150	0.01	0.03	20	355	0.02	0.01	342	280
Winter	0.16	0.03	24	111	0.21	0.33	150	152	0.07	0.14	360	344	0.02	0.05	115	208
Equinox	0.07	0.14	140	32	0.43	0.39	149	153	0.03	0.04	328	350	0.05	0.03	338	359
Summer	0.19	0.27	39	20	0.27	0.33	141	144	0.07	0.08	160	154	0.02	0.02	293	305

TABLE 153 *Diurnal variation of temperature Fourier coefficients*  
Values of  $c_n$ ,  $a_n$  in the series  $\sum c_n \sin(15nt + a_n)$ ,  $t$  being local mean time reckoned in hours from midnight

	$c_1$		$a_1$		$c_2$		$a_2$		$c_3$		$a_3$		$c_4$		$a_4$	
	1954	1871-1926	1954	1871-1926	1954	1871-1926	1954	1871-1926	1954	1871-1926	1954	1871-1926	1954	1871-1926	1954	1871-1926
	°A.	°A.	°	°												
January	0.98	0.99	226	221	0.44	0.43	37	35	0.22	0.17	212	208	0.03	0.01	42	3
February	1.21	1.53	226	221	0.36	0.57	17	34	0.12	0.12	140	211	0.06	0.06	220	169
March	1.91	2.45	222	222	0.52	0.63	29	40	0.08	0.07	244	334	0.09	0.11	186	197
April	3.54	3.21	220	226	0.37	0.48	45	51	0.26	0.22	31	24	0.07	0.07	234	218
May	2.95	3.72	226	227	0.34	0.15	93	74	0.74	0.31	66	35	1.08	0.04	338	20
June	2.56	3.72	224	226	0.04	0.02	262	84	0.20	0.26	33	35	0.07	0.10	53	33
July	2.39	3.68	225	225	0.12	0.06	89	50	0.14	0.29	21	31	0.05	0.07	306	28
August	2.86	3.54	222	226	0.24	0.34	30	52	0.21	0.30	47	28	0.04	0.03	155	218
September	2.41	3.22	233	228	0.47	0.71	53	49	0.12	0.14	4	24	0.13	0.16	161	213
October	1.50	2.32	234	229	0.53	0.76	46	50	0.04	0.10	225	248	0.08	0.12	221	200
November	1.44	1.39	216	226	0.45	0.57	50	44	0.14	0.18	232	232	0.03	0.02	151	141
December	0.82	0.90	226	226	0.35	0.40	48	41	0.13	0.16	227	215	0.02	0.04	321	38
Arithmetic mean	2.05	2.56			0.35	0.43			0.20	0.19			0.15	0.07		
Year	2.04	2.56	224	226	0.33	0.42	45	45	0.04	0.08	40	17	0.02	0.02	205	195
Winter	1.11	1.20	222	223	0.39	0.49	39	39	0.13	0.15	208	217	0.01	0.01	202	121
Equinox	2.33	2.80	226	226	0.47	0.64	43	47	0.07	0.09	8	8	0.08	0.11	195	207
Summer	2.68	3.67	224	226	0.14	0.14	71	59	0.18	0.29	43	32	0.03	0.04	356	27

*Atmospheric electricity*

The instrumental difficulties mentioned in the introduction to the 1953 yearbook continued, and the records obtained from the Kelvin electrograph were too unreliable to warrant the publication of data in Tables 175-177. The only satisfactory observations obtained were those of potential gradient made in the underground laboratory by the Wilson method. There is some doubt about the accuracy of these measurements, but occasional check observations made by the stretched-wire method\* suggest that errors did not exceed 10 per cent.

*Atmospheric pollution*

From 1 January 1950 the method of tabulation was revised to eliminate the need for interpolation between shade numbers. The Owens pollution recorder was transferred, on 27 July 1953, from the site in the clinical house, which it had occupied since the inception of the record in 1921, to a new site in the large calibration hut. The new location is some 25m. south-west of its former position and the air sampled is drawn into the instrument from a point outside, whose height is about 2m. above that of the adjacent ground. During 1954 for 327 days on which the record of the Owens pollution recorder was available, the highest estimate of pollution was 1.1 mg./m.<sup>3</sup>, this value occurring at 15h. on 2 January, 23h. on 15 November, 24h. on 15 December and 22h. on 17 December. There were eight days on which the pollution reached 0.95 mg./m.<sup>3</sup>. The number of hours credited with at least 0.95 mg./m.<sup>3</sup> was only eighteen.

*Seismology*

The seismological diary and table of microseisms, which were printed in the *Observatories' Year Book* from 1922 to 1939 are now omitted. The distribution of the *Kew Monthly Bulletin* which ceased in May 1940 was resumed in January 1947. Seismological data for 1954 are also published in the *International Seismological Summary*.

Changes in instruments or procedures from those printed in the Introduction for 1938 are given in the Introductions for the years 1938, 1947, 1949 and 1950. The three Galitzin seismographs were adjusted and recalibrated between 11 and 31 August. The short-period vertical instrument was overhauled on 28 April. The total number of shocks measured during the year was 332. The phases of 107 of these were sufficiently well defined to allow an estimate of the epicentral distance to be computed.

No British earthquake was recorded during 1954.

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\*SCRASE, F.J. Observation of atmospheric electricity at Kew Observatory. *Geophys. Mem. London*, 7, No. 60, 1934.

## PRESSURE AT STATION LEVEL

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

154 KEW OBSERVATORY:  $b_b$  (height of barometer cistem above M.S.L.) = 10.4 m.

	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	35.2	32.4	34.3	25.6	22.4	23.6	03.9	01.0	02.7	12.6	97.7	04.7	02.5	91.0	98.0	16.5	14.0	14.9
2	36.2	29.2	34.2	28.0	22.8	24.9	01.0	85.5	96.6	14.1	09.8	11.2	91.0	84.0	87.7	21.4	15.8	18.3
3	29.2	20.5	23.1	30.8	27.8	29.7	85.5	70.2	73.8	15.3	11.4	13.3	99.2	87.4	92.7	22.4	20.2	21.3
4	22.5	20.4	21.4	30.1	24.0	26.9	85.3	72.8	78.6	21.1	10.0	15.1	14.2	99.2	05.9	20.4	15.3	17.5
5	21.6	19.3	20.3	24.0	15.9	19.2	04.3	85.3	95.5	21.2	17.1	19.2	15.7	08.5	12.9	15.9	05.6	10.8
6	19.3	13.0	16.0	15.9	05.9	12.1	04.8	94.5	02.1	28.3	21.2	24.4	19.8	09.1	14.7	05.6	02.7	03.4
7	28.7	13.5	21.7	05.9	92.1	97.2	96.9	90.8	94.2	30.6	28.3	29.5	23.1	19.8	21.4	04.5	98.4	03.2
8	33.4	28.7	31.8	00.5	95.6	98.1	05.4	96.9	01.9	31.7	29.9	30.6	23.3	18.6	21.4	98.4	91.8	94.5
9	31.4	24.4	26.8	00.3	95.3	97.7	07.7	05.3	06.2	31.6	25.3	28.5	18.6	13.4	15.3	95.7	87.7	92.9
10	24.9	22.4	23.3	99.5	89.2	91.7	12.6	07.7	10.7	28.5	26.1	27.4	18.0	14.0	15.8	03.3	90.8	99.2
11	23.3	21.3	22.1	05.9	91.0	97.0	12.7	10.6	11.8	28.3	24.4	26.4	18.6	16.2	17.7	12.2	03.3	07.6
12	21.4	08.6	17.0	06.8	97.8	03.5	14.6	10.8	12.3	27.0	24.0	24.9	19.4	17.2	18.5	12.2	06.5	10.4
13	08.6	88.2	96.7	97.8	90.0	92.6	15.9	13.8	14.9	30.9	27.0	28.2	19.2	18.1	18.8	17.3	05.3	09.3
14	99.6	95.9	97.9	08.7	94.4	01.1	16.0	12.8	14.2	31.0	27.8	29.6	18.5	17.0	17.8	23.6	17.3	21.7
15	07.0	97.0	99.5	21.1	08.7	15.0	21.5	15.7	18.8	33.4	26.1	28.5	18.4	16.6	17.5	23.3	19.6	20.9
16	22.2	07.0	15.7	23.4	21.0	22.4	22.0	17.1	20.0	34.8	32.8	33.7	16.8	13.2	14.8	23.3	18.9	20.5
17	32.0	21.9	25.6	23.4	18.8	21.8	17.1	12.4	14.1	35.2	32.9	34.3	18.8	13.2	15.3	23.2	20.7	22.0
18	34.1	28.3	31.8	18.8	03.3	11.2	13.8	11.3	12.2	35.5	29.9	33.3	25.0	18.7	21.7	21.0	17.1	18.7
19	28.3	15.1	19.9	06.4	99.1	01.0	13.6	99.2	09.2	29.9	18.7	23.2	25.4	23.1	24.3	17.7	15.0	16.5
20	17.0	14.9	15.6	19.0	06.4	13.7	17.2	99.2	07.7	23.7	20.0	21.6	23.7	18.4	21.0	16.0	13.8	15.1
21	23.0	15.4	18.2	22.9	19.0	21.2	19.2	12.9	17.2	24.5	22.5	23.8	18.4	15.2	16.5	15.6	13.3	14.6
22	30.6	23.0	27.1	23.3	17.3	21.3	12.9	95.0	03.4	24.7	21.6	23.5	15.2	10.7	12.3	20.3	15.6	18.6
23	31.1	28.6	29.8	17.3	09.7	11.9	00.9	94.6	96.7	23.3	21.5	22.3	10.8	08.5	09.6	20.1	17.6	18.4
24	28.6	19.2	24.9	10.4	05.5	09.1	19.1	00.9	10.4	22.8	20.6	21.8	12.0	09.7	10.8	20.1	11.3	15.7
25	19.2	06.3	11.4	05.5	92.7	97.6	19.2	07.7	15.4	21.1	18.1	19.7	16.2	11.2	13.4	11.3	04.0	07.4
26	13.7	05.3	08.5	93.0	88.1	90.6	19.2	06.4	14.5	20.2	16.9	18.5	18.9	15.5	17.6	07.6	03.7	05.3
27	16.8	13.0	15.1	99.0	90.6	94.3	19.3	13.7	17.0	24.1	19.9	21.3	18.9	15.0	16.8	11.9	07.5	09.5
28	13.0	01.9	06.2	01.2	98.8	99.7	13.7	08.7	10.8	24.8	23.2	23.9	16.2	14.1	15.1	18.7	11.7	14.5
29	11.1	01.0	03.8				12.5	01.5	09.4	23.3	12.4	18.5	18.3	15.8	16.7	24.6	18.7	22.1
30	24.2	11.1	18.8				03.5	98.6	01.6	12.4	02.5	06.2	18.3	14.6	16.9	24.5	21.4	23.1
31	26.7	23.8	25.4				04.3	98.6	02.4					15.3	13.3	14.3		
Mean	23.03	15.2	18.83	13.02	05.11	08.79	10.18	01.66	06.31	25.53	20.65	22.90	16.38	11.62	13.97	15.62	10.15	12.93

	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	21.5	14.8	18.1	10.8	09.5	10.2	19.2	12.4	14.8	21.4	14.2	18.4	18.3	08.8	14.0	15.8	96.8	08.0
2	14.8	09.6	11.5	12.5	09.3	11.3	18.6	15.2	16.9	21.5	16.8	19.8	19.7	16.5	18.4	22.2	15.2	17.8
3	09.6	99.5	03.4	12.4	07.9	10.3	18.2	15.1	16.6	16.9	07.7	11.2	16.5	14.3	15.3	34.1	21.0	28.7
4	05.0	98.7	00.8	09.3	06.6	08.2	16.3	14.3	15.3	20.7	10.4	18.6	15.8	11.2	13.2	32.0	18.1	23.3
5	08.1	05.0	07.1	09.3	04.6	07.5	15.9	12.8	14.3	19.3	16.5	17.9	11.2	02.3	07.4	24.3	11.0	20.0
6	14.8	05.9	10.1	04.6	99.2	00.9	13.8	10.2	11.2	25.7	14.3	20.3	06.9	01.1	03.5	11.0	93.2	05.6
7	21.3	14.8	18.4	01.8	97.1	00.0	17.0	13.8	15.8	28.7	25.4	27.1	13.2	05.7	09.3	93.4	90.4	92.3
8	21.3	19.3	20.6	01.6	97.2	99.0	15.9	12.1	13.7	28.8	20.6	25.2	12.5	92.7	03.3	90.4	61.0	72.1
9	19.3	13.7	17.0	98.0	89.6	93.2	12.1	04.7	07.5	20.6	18.7	19.6	13.8	93.5	06.5	84.9	61.8	69.0
10	13.7	08.2	10.4	04.6	95.1	99.4	09.3	02.0	05.6	20.4	17.6	18.9	13.5	99.5	07.7	07.6	84.9	98.5
11	08.4	04.9	06.1	09.6	04.6	08.1	06.8	02.7	04.7	25.5	20.3	22.3	13.3	07.8	10.6	10.0	02.7	08.2
12	17.6	08.4	12.4	08.5	98.7	01.7	10.6	05.5	07.1	27.3	24.7	25.9	18.7	05.2	11.0	02.7	87.6	94.0
13	19.6	16.4	18.4	05.7	00.4	02.3	11.9	10.2	11.1	25.4	18.7	22.9	22.2	18.2	19.9	02.0	91.6	97.8
14	18.5	13.0	15.1	06.0	03.7	05.1	14.0	11.2	13.0	18.7	13.1	15.3	30.2	18.9	24.9	10.4	99.1	07.7
15	19.5	17.9	18.7	12.0	05.7	08.9	12.6	08.0	10.5	13.1	08.5	10.9	36.8	30.2	33.8	29.4	10.4	22.3
16	19.1	07.5	15.5	16.3	11.7	13.8	11.7	01.0	05.9	14.0	06.4	10.5	36.5	32.8	34.6	29.2	26.2	28.0
17	07.5	89.9	96.4	17.0	10.5	14.3	12.9	10.4	11.8	18.0	13.6	16.8	34.0	30.4	32.6	31.2	25.0	28.2
18	11.6	91.7	99.5	11.8	08.3	09.7	12.8	11.0	11.8	16.6	04.2	12.0	30.4	25.6	27.4	31.0	26.3	28.4
19	23.1	11.6	19.5	15.1	11.8	14.2	12.7	05.8	10.1	08.0	04.4	02.9	26.2	25.2	25.6	27.2	2	

## PRESSURE AT STATION LEVEL

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

155 KEW OBSERVATORY:  $b_b = 10.4$  m.

	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.	19.25	19.03	18.96	18.90	18.82	18.78	18.83	18.99	19.11	19.45	19.48	19.41	18.93	18.41	18.08	18.12	18.24	18.41	18.60	18.73	18.81	18.88	18.95	19.05	19.03	18.83	
Feb.	10.00	09.76	09.53	09.10	08.80	08.60	08.47	08.43	08.56	08.62	08.63	08.70	08.57	08.27	08.09	08.05	08.17	08.44	08.76	08.98	09.13	09.21	09.21	09.18	09.13	08.79	
Mar.	06.12	05.97	05.73	05.49	05.52	05.61	05.90	06.29	06.63	06.87	06.90	06.88	06.83	06.56	06.37	06.19	06.10	06.19	06.46	06.67	06.73	06.70	06.45	06.20	06.03	06.31	
Apr.	23.42	23.25	23.15	22.95	22.79	22.84	23.06	23.23	23.28	23.30	23.29	23.20	22.96	22.71	22.33	22.09	21.97	21.91	22.11	22.51	23.02	23.37	23.50	23.55	23.55	22.90	
May	14.00	13.82	13.77	13.70	13.71	13.80	14.00	14.13	14.13	14.17	14.16	14.10	13.98	13.89	13.68	13.65	13.66	13.62	13.74	13.93	14.19	14.44	14.47	14.43	14.40	13.97	
June	12.96	12.84	12.78	12.66	12.63	12.76	12.87	13.13	13.24	13.26	13.21	13.19	13.11	13.03	12.95	12.84	12.67	12.57	12.53	12.69	12.84	13.14	13.24	13.21	13.18	12.93	
July	11.90	11.70	11.53	11.37	11.30	11.32	11.39	11.46	11.45	11.40	11.41	11.36	11.27	11.16	11.01	10.86	10.88	10.89	10.97	11.22	11.49	11.55	11.58	11.53	11.32		
Aug.	10.33	10.23	10.12	10.03	09.92	09.91	09.98	10.05	10.09	10.13	10.11	10.03	09.85	09.73	09.61	09.53	09.40	09.46	09.57	09.85	10.20	10.47	10.63	10.63	10.01		
Sept.	12.21	12.01	11.76	11.45	11.16	11.05	11.11	11.26	11.44	11.55	11.62	11.50	11.40	11.37	11.33	11.17	11.13	11.15	11.33	11.69	12.03	12.15	12.18	12.21	12.05		
Oct.	13.07	12.96	12.74	12.49	12.37	12.39	12.43	12.64	13.00	13.23	13.31	13.35	13.17	12.99	12.85	12.82	12.74	12.81	13.07	13.18	13.22	13.27	13.17	13.03	12.90		
Nov.	09.43	09.53	09.62	09.61	09.56	09.72	09.85	10.20	10.50	10.62	10.72	10.45	09.94	09.45	09.03	08.81	08.65	08.59	08.70	08.73	08.78	08.92	08.95	09.02	09.03		
Dec.	11.89	11.83	12.07	11.96	11.81	11.73	11.87	12.07	12.27	12.53	12.79	12.73	12.42	12.11	12.05	12.12	12.22	12.30	12.49	12.69	12.89	12.92	12.91	13.00	12.88		
Annual	12.88	12.75	12.65	12.48	12.38	12.39	12.49	12.67	12.82	12.95	12.99	12.93	12.73	12.50	12.31	12.22	12.16	12.21	12.37	12.57	12.77	12.93	12.95	12.94	12.87		

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.

156 KEW OBSERVATORY:  $b_b = 10.4$  m.

	Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24	Mean
millibars																											
Jan.	20.56	20.34	20.27	20.21	20.13	20.09	20.14	20.30	20.42	20.76	20.79	20.72	20.24	19.71	19.38	19.42	19.54	19.72	19.91	21.04	20.12	20.19	20.26	20.36	20.34	20.14	
Feb.	11.30	11.06	10.83	10.40	10.10	09.90	09.77	09.73	09.86	09.92	09.93	10.00	09.86	09.56	09.38	09.34	09.46	09.73	10.05	10.27	10.42	10.51	10.51	10.48	10.43	10.08	
Mar.	07.40	07.26	07.02	06.78	06.81	06.90	07.19	07.58	07.92	08.15	08.18	08.16	08.10	07.83	07.64	07.46	07.37	07.46	07.73	07.95	08.01	07.98	07.73	07.48	07.31	07.59	
Apr.	24.72	24.55	24.46	24.26	24.10	24.15	24.37	24.54	24.58	24.60	24.58	24.49	24.24	23.99	23.61	23.37	23.19	23.19	23.39	23.80	24.31	24.66	24.80	24.84	24.85	24.20	
May	15.27	15.09	15.05	14.98	14.99	15.08	15.28	15.40	15.40	15.43	15.42	15.36	15.23	15.14	14.93	14.90	14.91	14.87	15.00	15.19	15.45	15.71	15.74	15.70	15.67	15.24	
June	14.22	14.10	14.04	13.92	13.90	14.02	14.13	14.39	14.50	14.51	14.46	14.44	14.36	14.27	14.19	14.08	13.91	13.81	13.77	13.94	14.09	14.39	14.50	14.47	14.44		
July	13.15	12.96	12.79	12.63	12.56	12.58	12.58	12.64	12.71	12.70	12.64	12.65	12.60	12.51	12.40	12.25	12.10	12.12	12.13	12.21	12.47	12.74	12.80	12.83	12.78		
Aug.	11.58	11.48	11.38	11.29	11.18	11.17	11.24	11.30	11.34	11.38	11.35	11.27	11.09	10.97	10.84	10.76	10.63	10.69	10.81	11.09	11.44	11.72	11.88	11.90	11.88		
Sept.	13.48	13.27	13.02	12.71	12.42	12.31	12.37	12.52	12.69	12.80	12.87	12.74	12.64	12.61	12.57	12.41	12.37	12.39	12.58	12.94	13.29	13.41	13.44	13.47	13.31		
Oct.	14.33	14.22	14.01	13.75	13.63	13.65	13.70	13.91	14.26	14.49	14.57	14.61	14.42	14.24	14.10	14.07	13.99	14.07	14.33	14.44	14.48	14.53	14.43	14.29	14.16		
Nov.	10.71	10.81	10.90	10.89	10.84	11.00	11.13	11.48	11.78	11.90	12.00	11.72	11.21	10.72	10.30	10.08	09.92	09.86	09.97	10.00	10.05	10.19	10.23	10.29	10.31		
Dec.	13.17	13.12	13.34	13.23	13.10	13.02	13.16	13.36	13.56	13.82	14.07	14.01	13.70	13.39	13.33	13.40	13.50	13.58	13.77	13.97	14.17	14.20	14.19	14.29	14.17		
Annual	14.16	14.03	13.93	13.76	13.66	13.67	13.71	13.95	14.10	14.22	14.26	14.20	13.99	13.76	13.57	13.48	13.42	13.47	13.64	13.84	14.04	14.20	14.22	14.21	14.15	13.90	

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.

157 KEW OBSERVATORY: North-wall screen:  $b_t = 3.0$  m.

	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.	75.97	75.85	75.82	75.83	75.81	75.79	75.75	75.72	75.75	75.86	76.30	76.97	77.53	77.86	77.99	77.84	77.34	76.92	76.68	76.42	76.24	76.22	76.09	75.94	75.77	76.42	
Feb.	75.56	75.49	75.38	75.34	75.41	75.53	75.57	75.65	76.05	76.52	76.79	77.20	77.59	78.02	78.13	77.94	77.53	76.63	76.26	76.18	75.95	75.88	75.72	76.36			
Mar.	78.46	78.38	78.27	78.16	78.17	78.06	78.08	78.04	78.34	79.08	79.78	80.61	80.35	81.78	81.90	82.15	81.81	81.53	80.93	80.25	79.82	79.67	79.27	78.91	78.67	79.71	
Apr.	79.08	78.67	78.24	77.93	77.58	77.38	77.69	78.42	79.60	80.69	81.70	82.60	83.35	83.97	84.45	84.69											

## TEMPERATURE

105

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  $T(K.) = t(C.) + 273.16$

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

	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	78.9	74.2	76.1	70.6	67.6	68.7	76.2	71.2	73.6	84.6	76.9	80.5	87.0	79.2	82.9	87.2	81.9	84.0
2	77.8	75.0	76.1	72.0	68.1	70.0	75.6	70.2	73.3	86.3	79.8	83.7	81.6	77.7	79.9	86.2	82.2	83.9
3	80.1	76.1	77.7	73.6	70.6	71.7	80.7	72.6	77.6	86.4	82.7	84.3	82.8	78.0	80.1	89.3	81.7	84.7
4	78.7	74.9	76.8	72.5	70.4	71.7	79.9	72.8	76.4	85.3	78.4	83.2	85.6	79.2	81.4	96.2	83.0	89.1
5	77.4	73.7	75.3	74.4	70.2	71.8	80.4	74.9	77.2	82.0	76.0	78.5	84.3	78.5	81.9	94.7	83.9	88.9
6	75.7	72.0	73.8	73.1	67.6	70.4	82.1	74.8	78.9	82.1	74.1	77.9	86.5	79.2	82.0	88.4	84.2	86.4
7	74.9	72.9	74.0	76.8	69.8	74.3	82.2	77.2	80.1	83.7	74.9	79.1	87.0	77.0	82.0	89.2	84.0	85.9
8	75.7	71.4	73.7	78.4	72.5	75.1	83.6	73.2	79.0	86.3	72.7	79.9	91.3	75.0	83.6	91.3	84.6	87.7
9	80.0	74.4	77.2	78.1	73.4	75.2	84.5	78.0	81.3	87.2	74.5	80.9	91.2	81.3	86.5	90.3	84.6	86.9
10	81.3	75.4	78.7	82.8	74.7	78.5	85.2	78.1	82.0	85.6	75.3	80.7	97.8	84.0	90.0	89.2	84.9	86.9
11	81.3	75.6	78.9	79.3	76.2	78.1	89.5	75.3	82.9	86.8	71.8	80.0	96.8	84.0	90.2	88.7	84.6	86.0
12	80.7	78.2	79.2	79.5	75.6	77.4	85.1	78.4	81.2	87.6	75.8	81.8	99.1	84.2	90.9	88.3	82.7	86.2
13	81.5	75.1	79.3	81.9	78.5	80.1	78.4	75.5	76.7	85.9	76.2	81.7	97.2	85.3	91.7	87.1	82.8	84.5
14	81.5	75.1	78.2	80.8	76.6	79.5	79.2	76.0	77.5	87.7	78.0	83.1	90.0	84.6	87.2	91.5	82.5	86.3
15	87.3	80.8	83.7	78.8	76.2	77.3	77.3	75.3	76.3	88.1	79.2	83.8	86.3	82.2	84.4	90.7	81.5	87.0
16	82.4	77.7	80.4	77.8	74.8	76.4	77.8	74.9	76.2	84.8	77.8	80.8	84.3	80.2	82.4	93.1	85.9	88.8
17	81.4	76.1	78.2	78.2	73.7	76.6	79.9	75.7	78.0	83.9	75.6	79.9	85.3	80.4	82.5	92.8	86.3	88.9
18	78.9	71.2	76.0	80.0	77.4	78.9	81.4	74.9	78.0	85.4	75.0	80.8	84.9	79.6	82.1	92.8	87.6	89.1
19	83.5	77.7	81.0	79.7	77.2	78.9	85.4	78.8	81.7	84.8	76.9	80.5	88.6	76.9	83.7	94.0	87.3	89.8
20	85.9	83.1	84.3	81.0	71.8	77.6	84.2	79.7	81.9	83.8	75.4	80.2	87.0	81.6	84.7	94.7	84.7	89.8
21	84.9	79.2	82.7	80.9	71.9	77.6	85.2	79.6	82.4	85.1	75.8	80.7	85.2	81.2	82.8	90.8	84.6	88.2
22	80.6	75.9	78.4	83.2	76.1	80.4	88.6	81.2	84.1	84.9	75.9	79.8	84.0	80.8	82.0	95.6	87.1	90.5
23	76.3	73.5	74.9	82.8	79.3	80.9	85.2	79.8	82.6	82.1	75.6	79.3	87.4	80.0	82.7	95.2	86.0	90.6
24	75.2	71.8	73.2	82.6	74.4	79.1	85.7	78.7	81.2	83.6	78.4	80.8	87.8	80.2	84.2	95.3	84.6	89.9
25	75.2	71.6	73.3	82.4	77.1	79.9	84.7	78.5	81.7	86.0	78.4	80.8	91.8	83.6	87.6	89.4	86.4	87.9
26	74.6	71.6	73.2	81.3	76.3	78.7	84.5	78.3	82.2	86.4	77.5	81.6	95.1	83.1	88.7	91.7	85.2	88.8
27	72.7	69.5	71.3	79.5	75.1	77.5	85.9	75.6	80.8	84.3	75.3	80.3	0.0	87.4	92.9	89.2	83.0	86.0
28	70.5	67.6	69.3	79.0	73.6	75.9	86.3	77.3	81.1	84.0	76.4	80.3	93.5	84.5	89.1	88.5	83.2	85.8
29	76.0	70.5	73.3				84.6	77.1	81.8	88.6	75.6	82.1	88.4	82.1	85.3	88.0	82.4	85.4
30	74.0	69.1	71.5				86.5	81.1	83.0	88.4	78.6	83.1	90.5	79.5	85.9	91.7	80.7	86.7
31	70.6	68.4	69.3				83.9	78.4	81.0				90.8	82.4	86.4			
Mean	78.6	74.2	76.4	78.6	73.8	76.4	82.9	76.6	79.7	85.4	76.5	81.0	89.3	81.1	85.1	91.0	84.1	87.3

	JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER		
	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean
degrees Absolute																		
1	90.2	84.6	87.1	91.4	84.7	88.3	00.4	84.4	92.0	91.2	85.3	88.6	85.8	83.0	84.4	83.7	78.9	81.4
2	91.8	85.0	88.1	92.3	89.0	90.5	93.0	89.3	90.6	91.7	87.2	89.1	84.4	81.7	83.3	86.7	81.9	85.0
3	89.2	83.7	86.6	97.3	87.5	91.9	93.4	87.4	90.3	93.3	86.3	88.7	85.4	80.0	82.7	87.2	81.1	84.8
4	89.6	82.8	85.6	97.8	88.3	93.1	90.5	83.3	87.3	89.5	83.7	86.3	85.3	76.6	82.2	86.3	79.6	83.3
5	89.0	81.9	85.0	93.4	88.2	90.4	91.5	81.2	85.9	89.9	85.8	88.1	86.1	81.8	83.7	81.7	78.6	80.1
6	90.3	81.1	84.5	93.3	86.5	89.0	91.8	84.3	88.5	88.8	80.8	86.4	87.7	82.5	84.8	80.2	75.6	77.9
7	91.4	80.0	86.0	91.0	85.6	88.4	91.8	83.3	87.4	86.1	78.8	82.3	83.1	78.9	82.0	77.7	75.2	76.7
8	88.8	83.8	86.5	91.3	84.6	88.0	92.0	85.9	88.4	85.2	77.5	82.3	84.2	77.2	80.8	81.7	73.8	78.1
9	93.5	85.4	88.8	89.7	85.2	86.9	92.3	86.2	88.8	89.0	83.0	85.7	83.0	75.2	79.5	81.3	77.5	74.3
10	92.2	87.4	89.2	91.8	85.2	87.6	90.2	86.9	88.1	86.7	80.0	84.2	84.0	75.6	80.2	79.1	70.7	76.9
11	94.0	86.7	90.0	91.7	85.1	87.9	91.6	85.2	87.6	87.9	77.0	83.0	86.9	78.4	83.6	76.3	69.5	73.2
12	93.7	86.5	90.2	93.4	85.6	88.6	90.5	83.5	86.0	89.0	80.3	84.9	86.9	79.2	84.3	80.0	75.8	78.5
13	93.5	83.4	88.9	92.8	83.7	88.6	89.2	81.2	85.4	89.2	85.3	87.0	83.7	76.6	80.8	84.1	76.7	79.7
14	95.1	86.4	90.8	93.6	81.8	87.9	89.4	81.6	85.4	88.7	85.9	87.0	83.9	76.7	81.0	84.4	75.5	80.9
15	91.6	84.9	88.1	92.1	84.0	88.0	90.3	85.2	87.6	88.7	86.1	87.3	81.2	74.0	76.7	85.3	72.1	80.6
16	91.1	85.7	88.2	92.7	84.2	88.1	91.2	84.5	88.5	89.4	87.1	88.6	82.4	73.3	79.1	82.5	72.0	79.3
17	89.8	87.2	88.3	93.0	81.3	87.3	89.7	83.8	86.3	91.3	87.2	89.1	81.7	73.3	77.5	83.2	74.1	80.6
18	92.0	86.9	89.1	90.1	85.9	87.9	89.8	82.4	86.0	91.2	87.3	89.3	79.4	72.4	76.4	81.2	73.3	78.1
19	94.3	85.2	89.7	86.8	84.8	85.7	90.3	82.9	86.1	89.5	84.2	87.7	82.8	79.2	80.6			

## 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

159 KEW OBSERVATORY: North-wall screen:  $b_f$  h 3.0 m.

	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	Rel. Vap. hum. press.	hum. press.																						
1	85.0	6.5	67.1	3.0	78.0	5.0	74.5	7.7	74.3	9.1	74.7	9.8	82.5	13.3	83.3	14.5	77.7	17.1	89.0	15.8	94.9	12.8	84.2	9.3
2	96.6	7.4	63.8	3.1	75.3	4.7	92.7	11.8	82.5	8.2	85.0	11.1	73.7	12.6	85.1	17.0	85.7	17.3	89.0	16.3	91.0	11.4	89.9	12.6
3	75.9	6.5	62.7	3.5	91.8	7.8	91.0	12.2	83.0	8.4	81.3	11.2	73.4	11.4	82.3	18.0	80.2	15.8	87.4	15.6	79.9	9.6	84.5	11.7
4	65.6	5.3	63.9	3.6	88.2	6.9	72.3	9.0	78.7	8.7	64.9	11.9	69.5	10.1	79.3	18.7	84.8	13.8	82.0	12.5	86.2	10.0	75.2	9.4
5	80.7	5.8	65.5	3.7	62.9	5.2	70.8	6.4	82.2	9.4	79.7	14.4	72.9	10.2	86.2	17.1	86.5	12.9	92.7	15.9	88.3	11.1	78.4	7.9
6	86.8	5.6	77.0	3.9	82.0	7.6	74.2	6.4	66.2	7.6	83.4	12.8	75.7	10.3	89.8	16.3	90.8	16.0	73.1	11.2	94.1	13.0	86.6	7.5
7	81.1	5.3	84.5	5.7	89.0	9.0	71.0	6.7	71.8	8.2	78.1	11.6	73.8	11.1	82.5	14.4	77.5	12.7	75.6	8.9	88.8	10.2	87.3	7.0
8	76.7	4.9	87.1	6.2	76.6	7.2	72.2	7.2	64.3	8.2	82.7	13.8	83.5	12.9	85.0	14.5	90.5	15.8	91.3	10.7	92.4	9.8	87.0	7.6
9	87.3	7.2	92.0	6.6	87.2	9.5	73.1	7.8	65.9	10.2	82.3	13.1	82.1	14.7	88.3	14.0	79.3	14.2	88.3	13.0	71.2	6.9	81.7	7.8
10	80.8	7.4	91.9	8.3	84.2	9.7	68.3	7.2	66.9	13.0	80.0	12.7	85.0	15.7	77.4	12.9	85.4	14.7	87.1	11.6	85.2	8.7	81.7	6.6
11	81.8	7.6	94.8	8.3	77.6	9.5	68.0	6.8	67.3	13.2	87.6	13.1	72.4	14.0	75.6	12.8	82.3	13.7	81.3	10.0	87.3	11.2	92.3	5.7
12	79.8	7.6	96.5	8.1	71.8	7.8	76.4	8.7	71.7	14.7	90.5	13.7	68.5	13.4	88.4	15.7	83.5	12.5	87.0	12.1	77.1	10.3	82.2	7.4
13	86.8	8.3	92.5	9.3	87.0	6.9	62.0	7.0	66.6	14.4	90.1	12.2	71.5	12.9	79.9	14.2	86.0	12.4	89.5	14.3	79.5	8.4	89.9	8.8
14	84.7	7.5	87.6	8.5	86.0	7.2	67.9	8.4	74.5	12.1	69.3	10.6	70.7	14.4	75.0	12.7	80.9	11.6	83.4	13.3	80.2	8.6	93.6	10.0
15	75.1	9.7	86.8	7.2	88.6	6.9	64.3	8.3	74.5	10.0	73.5	11.7	68.0	11.7	74.6	12.7	78.8	13.1	84.5	13.8	85.6	6.8	88.6	9.2
16	60.2	6.2	80.2	6.3	82.6	6.4	64.1	6.8	74.5	8.8	73.5	13.2	82.2	14.2	73.4	12.6	70.4	12.4	89.7	15.9	92.8	8.7	98.0	9.4
17	74.3	6.6	93.3	7.4	75.5	6.6	66.2	6.6	65.0	7.7	85.6	15.5	90.3	15.7	84.3	13.7	76.2	11.6	87.3	16.0	88.1	7.4	88.3	9.2
18	88.7	6.7	97.0	9.0	90.1	7.9	68.3	7.2	61.0	7.1	85.6	15.7	72.0	13.2	82.9	14.1	85.8	12.9	88.7	16.4	95.7	7.5	90.0	7.9
19	87.7	9.4	95.5	8.9	84.7	9.5	62.0	6.4	64.9	8.4	77.5	14.8	64.3	12.2	79.5	11.7	86.8	13.1	80.7	13.5	97.3	10.2	90.7	10.4
20	91.3	12.2	76.4	6.5	89.7	10.2	64.7	6.6	72.5	10.0	65.5	12.5	73.8	14.8	89.2	14.1	71.5	10.3	84.5	11.8	93.2	9.9	79.2	9.2
21	93.9	11.3	92.6	7.9	84.7	10.0	64.7	6.8	71.7	8.7	81.5	14.1	64.2	13.0	88.1	13.0	71.4	9.7	77.3	11.1	88.0	7.4	72.8	7.8
22	76.2	6.8	88.2	9.1	74.9	9.9	68.8	6.8	69.7	8.0	70.3	14.1	63.4	10.5	85.3	13.5	77.7	9.9	84.2	11.7	90.4	10.5	72.3	8.8
23	71.2	5.0	87.8	9.3	79.8	9.5	68.5	6.5	65.7	9.7	62.8	12.6	79.7	13.9	86.5	13.2	79.4	10.1	81.4	11.4	92.0	9.9	64.9	7.1
24	66.2	4.1	85.2	8.0	80.7	8.8	66.0	7.0	78.8	10.5	65.8	12.7	80.7	16.7	88.7	13.9	88.5	15.1	80.3	11.5	81.0	8.0	75.1	6.0
25	74.7	4.7	81.8	8.1	78.8	8.9	66.7	7.1	66.6	11.1	88.5	15.0	94.2	17.5	78.3	13.3	70.4	10.9	73.3	7.9	87.1	10.7	82.0	8.9
26	72.3	4.5	75.8	6.9	69.2	8.1	48.3	5.4	75.6	13.5	66.3	11.9	87.8	16.2	81.5	13.5	82.4	12.6	87.3	8.3	85.5	9.3	73.0	8.8
27	65.0	3.5	77.4	6.5	71.0	7.5	57.4	5.9	64.6	15.0	66.2	9.9	71.7	11.8	80.4	14.2	74.1	9.9	89.3	14.8	78.4	9.6	81.5	10.3
28	63.0	2.9	83.9	6.3	81.7	8.8	69.1	7.1	84.1	15.4	69.2	10.2	74.4	11.9	73.5	13.8	75.0	9.9	88.4	13.8	84.5	9.4	83.3	10.7
29	70.7	4.4	80.5	8.7	68.7	7.9	86.4	12.4	67.8	9.8	77.6	13.2	78.3	13.6	65.9	7.6	84.0	13.4	90.2	10.1	78.8	9.1		
30	64.8	3.6			73.0	9.0	66.2	8.2	78.1	11.6	69.7	10.9	70.8	11.9	83.5	15.7	90.5	12.3	80.0	10.0	81.4	9.7	70.4	7.8
31	75.0	3.5			80.9	8.7			75.3	11.6			75.0	12.4	75.7	15.1			91.9	11.3			83.9	8.1
Mean*	78.1	6.4	83.2	6.8	80.8	8.0	68.9	7.5	72.9	10.5	76.6	12.6	75.7	13.0	82.0	14.3	80.5	12.5	84.8	12.7	86.8	8.6		

\* Mean of the column.

## RELATIVE HUMIDITY

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

160 KEW OBSERVATORY:  $b_f$  = 3.0 m.

	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*
Jan.	81.1	81.7	82.5	82.8	83.0	82.5	82.1	81.7	81.1	80.3	79.7	76.1	73.5	72.4	70.5	69.8	72.0	74.7	76.0	77.1	77.3	77.7	78.8	79.5	80.9	78.1	
Feb.	86.9	86.4	87.4	87.9	88.1	87.7	87.2	87.0	86.1	85.4	84.1	81.4	80.3	78.7	75.1	73.4	74.7	76.0	79.9	81.8	83.9	84.3	85.6	86.5	87.5	83.2	
Mar.	88.7	90.0	90.9	90.5	90.0	89.9	88.3	88.7	87.5	84.2	81.2	76.2	70.8	67.6	67.7	66.5	67.1	69.7	73.3	77.5	80.3	81.3	84.2	86.6	88.5	80.8	
Apr.	78.9	80.8	83.4	85.7	87.6	88.0	85.5	83.4	77.0	70.5	63.9	59.0	55.7	53.2	51.0	49.9	50.1	51.2	55.2	61.5	65.6	67.9	72.0	77.1	78.9	68.9	
May	83.3	83.9	85.8	86.4	87.7	87.1	83.3	79.2	73.1	68.5	64.7	64.1	61.1	59.5	58.6	58.5	60.3	63.2	65.2	67.9	72.5	75.8	79.4	80.1	82.7	72.9	
June	85.6	86.8	87.9	88.6	88.8	88.7	85.3	82.8	78.3	74.5	72.7	70.2	68.2	65.4	65.0	65.5	64.2	64.6	66.3	68.8	75.7	78.8	81.2	84.6	86.0	76.6	
July	85.4	86.4	87.3	88.1	89.0	88.8	86.4	83.2	78.2	72.0	68.8	65.6	63.8	64.7	63.1	62.8	65.1	66.0	68.5	70.0	73.0	76.2	79.8	83.5	85.5	75.7	
Aug.	89.7	91.0	92.0	93.6	93.8	94.0	92.5	90.7	86.9																		

## RAINFALL

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

162 KEW OBSERVATORY:  $b$  (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.

	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE		
	Amount	Dura-tion	Max. rate	Amount	Dura-tion	Max. rate	Amount	Dura-tion	Max. rate	Amount	Dura-tion	Max. rate	Amount	Dura-tion	Max. rate	Amount	Dura-tion	Max. rate
1	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	...	...	...	...	...	...	3.7	5.0	...	1.4	0.9	14	4.3	1.4	52	...	...	...
2	0.2	0.2	...	...	...	...	0.2	0.2	...	5.1	4.8	4	4.3	4.2	...	...	...	...
3	1.1	1.4	7	...	...	...	10.5	9.4	18	0.9	1.0	...	4.3	3.6	7	...	...	...
4	0.1	0.1	...	...	...	...	1.1	0.6	11	0.9	0.4	6	1.8	1.8	...	...	...	...
5	0.1	0.2	...	...	...	...	...	...	...	1.3	0.4	10	0.1	0.3	...	7.1	2.1	21
6	2.5	3.3	...	...	...	...	0.6	1.4	...	...	...	...	0.2	0.3	8	15.6	7.0	36
7	0.2	...	...	4.9	5.3	6	7.5	5.7	23	...	...	...	...	...	...	5.5	6.3	8
8	...	...	...	1.8	2.0	...	...	...	...	...	...	...	...	...	7.4	5.2	55	
9	...	...	...	...	...	...	0.6	0.6	6	...	...	...	...	...	11.5	5.3	27	
10	0.1	...	...	6.8	5.0	6	0.1	0.1	...	...	...	...	...	...	2.0	1.0	32	
11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13.2	4.4	56	
12	...	...	...	3.1	2.1	10	...	...	...	...	...	0.6	0.6	...	11.8	7.2	21	
13	10.9	4.8	23	1.8	1.9	7	1.6	3.1	...	...	...	...	...	...	19.2	5.0	105	
14	...	...	...	...	...	...	...	...	...	...	...	8.9	7.5	9	...	...	...	
15	0.9	0.9	11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17	...	...	...	2.7	4.8	...	...	...	...	...	...	...	...	...	0.6	0.7	7	
18	...	...	...	11.3	10.0	9	...	...	...	0.1	0.3	...	...	...	...	...	...	...
19	...	...	...	7.4	8.4	6	4.7	5.9	...	...	...	...	...	...	0.2	0.2	...	
20	0.6	0.9	6	0.3	0.7	...	1.8	2.7	...	...	...	...	...	...	...	...	...	...
21	5.4	9.3	6	0.2	0.6	...	0.3	0.4	...	...	...	...	3.0	1.2	38	...	...	...
22	1.0	3.9	...	...	...	...	0.7	1.1	...	...	...	...	...	...	...	...	...	...
23	...	...	...	0.3	0.1	7	...	...	...	...	...	...	...	...	...	...	...	...
24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
25	...	...	...	1.3	0.7	11	1.5	0.8	6	...	...	1.7	0.9	11	5.2	4.3	12	
26	0.2	0.6	...	1.1	0.5	11	0.1	0.1	...	...	...	...	...	...	...	...	...	...
27	...	...	...	0.9	1.4	...	...	...	...	...	...	1.5	0.8	18	2.1	0.6	36	
28	...	...	...	5.7	6.5	9	0.2	0.5	...	...	...	11.5	7.0	22	0.2	0.3	7	
29	0.1	...	...	...	...	...	...	...	...	...	...	2.6	1.2	62	...	...	...	
30	...	...	...	...	...	...	4.1	2.4	24	...	...	0.4	0.4	11	...	...	...	
31	...	...	...	...	...	...	9.7	7.1	16	...	...	...	...	...	...	...	...	...
Total	23.4	25.6		49.6	50.0		49.0	47.1		9.7	7.8		45.2	31.2		101.6	49.6	

	JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER		
	Amount	Dura-tion	Max. rate	Amount	Dura-tion	Max. rate	Amount	Dura-tion	Max. rate	Amount	Dura-tion	Max. rate	Amount	Dura-tion	Max. rate	Amount	Dura-tion	Max. rate
1	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.	mm.	hr.	mm./hr.
1	0.9	3.0	...	...	...	...	...	...	...	0.5	0.8	...	4.9	3.0	22	...	...	...
2	0.2	0.4	8	...	...	...	...	...	...	...	...	...	...	...	0.4	0.5	6	
3	0.1	0.2	11	...	...	...	...	...	...	0.2	0.2	6	...	...	...	...	...	...
4	2.8	1.4	18	...	...	...	7.1	5.0	8	6.0	5.9	7	...	...	...	...	...	...
5	2.8	1.4	12	...	...	...	...	...	...	1.5	1.6	10	0.6	0.8	6	...	...	...
6	4.2	1.4	29	27.8	9.1	109	1.7	1.6	8	0.1	0.2	...	8.2	8.0	11	0.2	0.9	...
7	0.1	0.3	...	1.4	0.8	16	...	...	...	...	...	...	6.6	5.4	7	2.8	3.9	...
8	...	...	...	0.5	0.5	6	0.7	1.2	...	0.3	1.0	...	4.5	4.5	29	22.8	7.2	54
9	0.4	0.7	9	16.6	5.3	17	0.4	0.4	7	0.1	...	...	0.3	0.3	...	11.7	5.9	30
10	0.3	0.5	...	0.8	0.3	23	1.5	1.0	12	1.6	2.7	6	4.8	3.9	8	...	...	...
11	...	...	...	...	...	...	2.7	1.5	43	...	...	...	...	...	...	...	...	...
12	...	...	...	3.6	2.6	15	4.6	0.8	92	...	...	...	2.3	1.4	37	7.4	2.9	30
13	...	...	...	8.4	2.2	38	3.9	1.9	52	...	...	...	...	...	...	2.4	4.4	...
14	2.1	1.7	16	...	...	...	...	...	...	...	...	...	...	...	...	0.6	1.3	...
15	...	...	...	0.9	0.2	14	0.5	1.1	8	...	...	...	...	...	...	...	...	...
16	0.4	0.3	...	...	...	...	2.1	1.4	15	0.5	0.9	8	2.2	3.4	6	0.1	...	...
17	14.2	9.7	15	7.5	3.3	24	0.2	0.1	13	...	...	...	...	...	...	0.1	...	...
18	0.1	0.2	7	...	...	...	0.1	0.3	...	0.2	0.1	9	0.1	0.2	...	...	...	...
19	...	...	...	0.1	0.3	...	...	...	0.4	0.2	8	0.6	0.7	...	...	...	...	...
20	...	...	...	0.1	0.2	...	2.9	1.0	29	...	...	...	...	...	...	...	...	...
21	...	...	...	4.0	1.4	12	0.4	0.2	...	...	...	...	...	...	...	...	...	...
22	...	...	...	0.4	1.0	7	0.6	1.1	7	1.2	1.2	11	5.2	3.1	20	0.3	1.0	...
23	...	...	...	7.6	5.8	12	5.6	2.5	14	10.1	4.4	25	...	...	10.4	6.9	18	0.7
24	...	...	...	0.4	4.3	6	...	...	...	...	...	...	5.4	3.6	34	...	...	...
25	23.1	13.3	12	...	...	...	0.7	0.6	9	4.9	2.8	8	6.4	6.4	15	...	...	...
26	6.0	2.0	20	...	...	...	1.1	1.7	6	3.1	1.8	20	6.1	5.6	...	...	...	...
27	1.2	0.4	36	...	...	...	...	...	...	...	...	...	11.1	2.5	46	...	...	...
28	0.6	0.9	9	...	...	...	0.1	0.1	8	5.8	2.0	16	8.0	4.7	16	...	...	...
29	...	...	...	...	...	...	3.1	4.3	6	...	...	...	6.2	2.3	42	...	...	...
30	...	...	...	...	...	...	...	...	...	7.3	5.1	25	...	...	...	...	...	...
31	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	59.5	37.8	...	79.7	33.0	...	40.4	28.6	...	43.8	30.9	...	93.9	66.7	...	49.6	28.8	...

## RAINFALL

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

163 KEW OBSERVATORY:  $b_r = 5.5 \text{ m.} + 0.53 \text{ m.}$ 

	Hour G.M.T.												millimetres												
	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
Jan.	1.1	1.0	0.7	0.6	0.4	0.4	0.1	...	0.2	0.4	0.9	1.2	1.7	7.0	1.2	...	0.4	0.2	1.2	1.0	1.3	0.5	1.4	0.5	23.4
Feb.	1.5	1.0	1.0	2.1	2.6	5.7	3.0	2.9	4.1	2.3	2.7	3.7	2.4	0.3	1.0	1.1	3.1	1.6	1.6	2.5	1.7	0.8	0.2	0.7	49.6
Mar.	5.7	4.5	2.0	1.1	0.3	0.4	4.2	2.6	0.6	0.1	0.6	1.4	0.3	2.0	0.2	...	0.3	2.3	5.5	1.2	1.2	3.1	4.6	4.8	49.0
Apr.	0.8	1.6	1.9	0.7	...	...	...	...	0.9	0.8	0.5	...	0.5	1.7	0.2	...	...	...	...	...	...	0.1	...	...	9.7
May	0.5	0.7	0.3	1.9	2.6	0.6	2.7	1.1	0.7	2.1	1.0	1.2	1.0	2.9	2.8	2.8	3.7	2.8	2.3	3.0	2.2	0.6	3.9	45.2	
June	10.1	14.4	4.1	1.1	1.4	3.8	1.5	...	1.2	1.1	2.6	4.2	2.4	7.2	8.3	2.5	1.6	0.8	3.0	7.7	3.9	4.1	6.8	7.8	101.6
July	0.5	0.7	1.2	1.5	3.8	3.0	3.7	1.4	0.1	4.9	1.6	0.3	4.6	3.1	1.1	3.6	3.5	4.5	5.6	4.9	1.2	1.2	1.6	1.9	59.5
August	0.2	0.4	1.7	3.7	5.4	8.2	2.1	1.1	2.3	6.9	7.5	4.1	3.4	0.6	2.0	2.7	3.2	4.5	19.1	0.4	0.1	...	0.1	...	79.7
Sept.	3.3	0.2	0.6	1.0	1.2	2.0	3.1	6.7	3.5	0.4	0.5	0.4	1.3	4.3	2.8	3.4	...	0.7	0.6	1.5	1.8	0.1	0.7	0.3	40.4
Oct.	1.0	1.9	2.8	5.6	2.1	6.9	1.2	0.2	0.2	0.7	0.6	0.1	0.4	0.3	0.2	0.7	4.1	2.5	2.9	1.9	3.1	1.8	0.4	2.2	43.8
Nov.	7.4	4.9	5.1	2.4	1.1	1.3	1.1	1.6	1.7	0.1	0.5	2.1	1.2	7.2	2.0	4.3	4.7	9.9	7.4	6.3	4.0	6.2	4.3	7.1	93.9
Dec.	0.6	1.0	0.9	0.9	1.0	1.6	2.0	7.2	1.2	4.2	6.5	4.5	4.8	2.5	0.8	0.3	2.0	1.4	...	5.0	1.0	...	...	0.2	49.6
Annual	32.7	32.3	22.3	22.6	21.9	33.9	24.7	24.8	16.7	24.0	25.5	23.2	24.0	39.1	22.6	21.4	24.7	32.1	49.7	34.7	22.3	20.0	20.8	29.4	645.4

## RAINFALL

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

164 KEW OBSERVATORY:  $b_r = 5.5 \text{ m.} + 0.53 \text{ m.}$ 

	Hour G.M.T.												hours												
	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
Jan.	2.4	1.8	1.4	1.8	0.7	0.3	0.1	0.1	0.2	1.0	1.1	1.6	1.2	1.5	0.7	...	0.6	0.7	1.3	1.9	2.0	1.0	1.0	1.2	25.6
Feb.	1.7	1.0	2.4	3.4	3.1	2.5	2.8	3.1	2.9	2.2	2.8	3.4	1.4	0.4	1.1	0.8	2.4	2.0	2.8	1.8	2.3	1.6	0.8	1.3	50.0
Mar.	5.0	4.1	2.0	1.8	1.0	0.9	2.9	1.8	1.3	0.5	1.6	1.3	0.9	0.6	0.2	...	0.4	2.2	2.0	1.4	1.9	3.6	4.7	5.0	47.1
Apr.	0.7	1.3	1.0	1.0	...	...	...	...	0.6	0.7	0.5	...	0.2	1.2	0.3	...	...	...	...	...	...	0.3	...	...	7.8
May	0.6	0.7	0.3	1.2	1.1	1.2	1.4	1.0	0.4	1.0	1.6	1.9	0.7	1.2	0.8	1.6	1.8	3.2	2.4	2.0	2.2	1.7	0.2	1.0	31.2
June	2.8	5.0	2.5	1.5	1.7	1.8	1.3	...	0.8	0.9	1.1	1.8	2.5	3.5	3.6	1.9	1.5	0.6	1.2	3.0	2.1	2.1	3.1	3.3	49.6
July	1.2	0.8	1.2	2.1	2.9	2.0	1.9	1.4	0.2	1.9	1.7	0.5	2.1	2.1	1.7	1.8	2.5	2.4	2.0	1.4	1.3	1.2	0.5	1.0	37.8
Aug.	0.6	0.5	1.8	2.0	3.4	3.4	1.8	1.5	1.9	2.7	1.8	1.0	1.2	0.7	0.4	1.8	1.5	1.9	1.9	0.8	0.2	...	0.2	...	33.0
Sept.	1.2	0.5	0.6	1.3	1.3	2.8	2.5	3.1	2.9	0.4	0.6	0.6	1.0	1.8	2.5	0.7	...	0.5	0.3	1.2	1.1	0.2	0.9	0.6	28.6
Oct.	1.3	1.1	2.0	1.3	1.6	2.9	1.7	0.9	0.2	0.5	0.7	0.4	0.6	0.3	0.2	1.0	3.0	1.4	1.8	1.7	2.8	1.3	0.6	1.6	30.9
Nov.	3.7	2.4	3.3	2.8	1.3	0.7	1.2	1.3	1.2	0.1	0.4	1.7	1.5	2.0	2.5	4.2	5.5	6.4	6.4	4.3	3.2	3.4	3.1	4.1	66.7
Dec.	1.0	1.0	1.4	1.1	1.2	1.3	2.0	1.4	1.7	2.4	2.6	2.6	2.6	2.4	1.7	0.5	0.6	0.5	...	0.9	0.6	...	...	0.9	28.8
Annual	22.2	20.2	19.5	21.6	19.2	19.7	18.9	16.2	14.0	13.6	16.3	16.8	15.9	17.7	15.7	14.3	19.8	21.8	22.1	20.4	19.7	16.1	15.4	20.0	437.1

## NOTES ON RAINFALL

## 165 KEW OBSERVATORY

## 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": April 6-30

"Partial drought": None

"Dry spell": January 23 - February 6; April 6-30; December 14 - January 3, 1955.

## 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.

There were no "rain spells" or "wet spells" in 1954.

## Rainfall Duration

Hours	0.1-1.0	1.1-2.0	2.1-6.0	6.1-12.0	>12.0
Number of days	74	30	51	16	1

## Continuous or Heavy Falls

The fall of the longest duration occurred on July 25 when 20 mm. fell in 9 hours and 54 minutes.

## Heavy falls in short periods

None occurred in 1954.

## Rate of Rainfall (Jardi Recorder)

The highest instantaneous rate of rainfall recorded by this instrument was 109 mm./hr. on August 6.

The maximum rate exceeded 50 mm./hr. on May 1 and 29; June 8, 11 and 13; August 6; September 12 and 13; December 8.

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

109

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

	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE		
	Total for day	Per cent. of possible	Solar rad.	Total for day	Per cent. of possible	Solar rad.	Total for day	Per cent. of possible	Solar rad.	Total for day	Per cent. of possible	Solar rad.	Total for day	Per cent. of possible	Solar rad.	Total for day	Per cent. of possible	Solar rad.
1	2.9	37	300	3.5	39	290	6.2	57	1050	5.4	42	600	4.7	32	460	0.4	2	20
2	0.8	1	130	0.4	4	30	5.4	50	760	0.1	1	...	1.5	10	160	...	...	...
3	2.5	32	200	6.2	67	740	0.4	4	30	0.7	5	80	3.2	22	300	4.8	29	590
4	4.5	57	500	3.5	38	370	2.4	22	220	2.0	15	290	2.9	19	320	12.1	74	1860
5	2.5	32	260	0.8	9	80	8.6	78	1390	7.9	60	1300	1.6	11	200	7.0	43	920
6	1.2	15	210	2.1	22	300	0.9	8	150	7.2	55	910	11.5	76	1560	5.3	32	590
7	5.4	68	540	0.7	7	50	0.2	2	10	9.5	72	1280	6.5	43	740	5.5	40	720
8	3.6	45	330	0.2	2	10	6.7	59	720	10.0	75	1200	12.4	82	2670	4.3	26	620
9	...	...	...	0.6	6	40	0.5	4	60	8.5	64	1020	9.5	63	1460	4.2	26	500
10	4.5	56	570	2.8	29	300	9.4	82	1810	10.0	74	1340	11.0	72	1370	5.9	36	520
11	2.9	36	280	...	...	...	7.2	63	1090	8.7	64	1130	11.9	78	1630	1.0	6	70
12	0.5	6	40	...	...	...	8.0	69	1200	1.1	8	80	8.2	53	910	0.5	3	70
13	0.1	1	10	2.6	27	260	...	...	...	9.1	67	1790	4.1	27	360	...	...	40
14	1.1	13	150	...	...	...	...	...	...	4.9	36	670	...	...	9.0	54	1080	...
15	0.5	6	30	...	...	...	...	...	...	5.1	37	580	1.7	11	180	11.5	70	1910
16	6.6	79	960	...	...	...	0.1	1	10	11.4	82	1640	2.1	13	130	5.7	34	950
17	5.9	71	750	...	...	...	3.0	25	320	3.0	22	250	2.0	13	140	0.7	4	30
18	...	...	60	...	...	...	...	...	...	6.3	45	810	0.8	5	50	3.5	21	280
19	0.6	7	30	...	...	...	0.2	2	30	10.6	76	1380	9.4	60	1580	5.5	33	750
20	...	...	...	5.6	55	730	...	...	...	3.9	28	330	1.4	9	150	13.1	79	1890
21	...	...	...	0.1	1	...	0.9	7	40	2.0	14	280	1.2	8	90	3.1	19	250
22	5.4	63	690	3.8	37	600	4.0	33	640	7.9	56	1000	1.0	6	100	7.7	46	890
23	...	...	20	0.8	8	70	3.5	29	390	0.2	1	...	2.0	13	230	12.7	77	2360
24	5.7	66	770	7.3	70	1100	2.5	20	230	0.8	6	60	1.1	7	80	13.1	79	2340
25	2.0	23	270	2.1	20	210	...	...	...	4.8	33	560	9.2	58	1920	0.2	1	10
26	...	...	...	5.2	49	700	4.6	37	480	10.8	75	2000	13.3	83	2460	7.7	47	900
27	1.0	11	210	4.2	39	490	8.9	71	1200	13.2	91	2540	5.8	36	690	11.3	68	1940
28	...	...	...	4.2	39	450	3.1	25	350	4.4	30	440	4.4	27	620	...	...	10
29	0.8	9	40	...	...	...	1.2	9	120	9.2	63	1180	3.0	19	410	1.1	7	30
30	3.0	33	340	...	...	...	10.2	80	1450	7.1	48	620	5.0	31	630	5.5	33	760
31	2.4	27	220	...	...	...	5.7	45	720	...	...	...	7.2	44	760	...	...	...
Mean	2.14	260	2.03	240	3.35	470	6.19	840	5.15	720	5.41	760	...	...	...	...	...	...

	JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER		
	Total for day	Per cent. of possible	Solar rad.	Total for day	Per cent. of possible	Solar rad.	Total for day	Per cent. of possible	Solar rad.	Total for day	Per cent. of possible	Solar rad.	Total for day	Per cent. of possible	Solar rad.	Total for day	Per cent. of possible	Solar rad.
1	0.1	1	10	0.9	6	100	11.7	86	2310	2.2	19	170	...	...	...	7.0	86	1150
2	3.7	22	290	1.5	10	70	1.4	10	...	3.5	30	500	...	...	...	...	...	...
3	2.0	12	190	2.3	15	170	5.7	42	850	2.2	19	280	2.6	27	250	6.6	82	1150
4	9.3	57	1530	7.0	46	690	4.2	31	390	6.8	59	1070	1.0	11	60	0.2	2	10
5	5.1	31	780	1.0	7	50	2.2	17	220	0.7	6	50	2.2	23	330	1.2	15	170
6	6.0	37	840	3.3	22	560	1.1	8	70	8.6	76	1090	0.1	1	...	4.8	60	760
7	9.0	55	1620	6.4	42	700	9.4	71	2260	5.8	52	950	...	...	...	...	...	...
8	0.3	2	30	3.5	23	410	2.1	16	220	...	...	20	...	...	...	...	...	...
9	4.5	28	540	2.0	13	160	6.5	50	1060	5.5	49	540	7.5	82	1520	1.0	13	90
10	0.3	2	10	6.5	44	790	0.8	6	30	2.1	19	260	...	...	...	0.2	3	50
11	4.7	29	610	7.4	50	850	8.7	67	1180	8.0	73	1340	0.5	6	40	3.9	50	500
12	2.3	14	210	1.6	11	150	8.1	63	1670	3.8	35	660	3.2	35	430	0.9	9	50
13	9.7	60	1870	10.4	71	1540	7.5	59	1470	1.6	15	110	6.1	68	1160	...	...	...
14	7.7	48	1150	10.0	68	2270	8.7	68	1920	1.2	11	130	6.6	74	1090	...	...	...
15	6.2	38	800	9.8	67	1450	1.5	12	130	0.1	1	...	3.2	36	410	4.8	62	500
16	2.4	15	170	8.0	55	920	8.5	67	1620	...	...	...	...	...	...	...	...	...
17	...	...	...	3.5	24	...	3.3	26	600	3.6	34	340	5.7	65	620	3.0	39	370
18	4.6	29	420	2.2	15	210	...	...	...	0.1	1	...	...	...	10	5.8	75	820
19	13.0	81	1930	...	...	...	5.8	47	1030	0.3	3	20	...	...	...	...	...	...
20	10.8	68	2620	2.2	15	300	10.8	88	2170	1.3	11	160	0.2	2	30	5.2	67	590
21	11.7	74	1720	3.9	27	400	9.7	79	1720	2.9	28	440	...	...	...	...	...	...
22	6.7	42	960	4.8	34	440	6.2	51	670	0.3	3	10	0.2	2	10	0.2	3	10
23	2.3	15	390	3.0	21	360	7.6	63	970	0.2	2	60	1.1	14	110	0.7	9	80
24	2.9	18	180	0.1	1	...	3.7	31	360	3.5	34	500	6.1	72	1180	4.5	58	600
25	0.1	1	...	6.6	47	900	6.3	53	840	8.4	83	1780	0.5	6	60	0.3	4	60
26	3.0	19	390	6.8	49	...	5.3	44	530	1.4	14	160	0.2	2	30	...	...	...
27	10.2	65	1340	11.7	84	2280	8.2	69	1180	6.1	61	610	2.6	31	330	2.9	37	350
28	5.5	35	660	8.2	59	1060	5.1	43	580	4.3	43	550	4.6	56	690	...	...	...
29	3.2	21	380	4.1	30	530	9.6	82	1750	2.8	28	220	...	...	...	...	...	...
30	4.8	31	320	2.3	17	70	...	...	...	8.3	85	1400	2.1	26	280	...	...	...
31	0.3	2	30	11.7	86	3040	...	...	...	0.1	1	20	...	...	...	...	...	...
Mean	4.92	710	4.93	730	5.66	930	3.09	430	1.88	290	1.72	240	...	...	...	...	...	...

**DURATION OF BRIGHT SUNSHINE**  
Monthly and annual totals between exact hours, local apparent time

167 KEW OBSERVATORY:  $b_s$  (height of recorder above ground) = 13.3 m.

	Hour L.A.T. 3-4    4-5    5-6    6-7    7-8    8-9    9-10    10-11    11-12											hours 12-13    13-14    14-15    15-16    16-17    17-18    18-19    19-20    20-21											Total	per cent. of possible
Jan.	-	-	-	-	-	1.3	7.8	11.6	12.9	12.9	10.3	8.1	1.5	-	-	-	-	-	-	-	66.4	26		
Feb.	-	-	-	... 0.1	2.1	3.2	4.9	7.7	10.2	10.8	8.6	6.8	2.3	...	-	-	-	-	-	-	56.7	21		
Mar.	-	-	... 0.3	3.5	7.6	10.5	12.2	13.1	12.5	11.5	12.7	10.9	7.1	1.9	...	-	-	-	-	-	103.8	28		
Apr.	-	... 1.3	6.7	14.2	17.4	17.3	17.5	16.6	16.8	17.3	16.9	15.2	16.3	9.8	2.5	...	-	-	-	-	185.8	45		
May	... 0.1	6.7	14.1	14.7	12.4	14.7	13.3	11.3	14.6	13.5	13.5	10.4	10.7	6.7	2.8	0.1	-	-	-	-	159.6	33		
June	... 1.5	7.0	7.4	10.7	11.8	10.9	13.6	12.2	10.4	13.5	13.4	14.5	13.2	9.6	9.6	3.1	-	-	-	-	162.4	33		
July	... 0.7	8.1	10.6	11.5	13.1	12.2	11.7	11.5	12.6	13.8	11.1	9.4	8.5	8.7	7.5	1.4	...	-	-	-	152.4	30		
Aug.	-	... 1.2	5.6	9.2	10.8	11.2	12.7	13.6	14.4	14.1	14.0	16.4	15.0	9.7	4.8	...	-	-	-	-	152.7	34		
Sept.	-	-	0.1 4.4	10.7	14.3	17.4	17.9	18.3	18.5	17.4	12.9	16.0	12.8	8.5	0.5	...	-	-	-	-	169.7	45		
Oct.	-	-	- 0.2	4.2	11.2	11.6	13.5	10.0	10.9	11.8	11.5	7.2	3.6	...	-	-	-	-	-	-	95.7	29		
Nov.	-	-	-	- 0.1	3.5	7.9	7.6	8.3	9.0	8.6	7.0	4.2	0.1	-	-	-	-	-	-	-	56.3	21		
Dec.	-	-	-	-	... 1.3	6.7	9.5	10.1	8.6	8.5	6.9	1.6	...	-	-	-	-	-	-	-	53.2	22		
Annual	...	2.3	24.4	49.3	78.9	106.8	131.4	146.0	145.6	151.4	151.1	136.6	114.1	89.6	54.9	27.7	4.6	...	-	-	-	1414.7	32	

**SOLAR RADIATION RECEIVED ON A SURFACE PERPENDICULAR TO THE SOLAR BEAM**  
Monthly and annual totals between exact hours, local apparent time

168 KEW OBSERVATORY:  $b_s$  = 13.3 m.

	Hour L.A.T. 3-4    4-5    5-6    6-7    7-8    8-9    9-10    10-11    11-12											joules per square centimetre 12-13    13-14    14-15    15-16    16-17    17-18    18-19    19-20    20-21											Total
Jan.	-	-	-	-	...	340	860	1330	1620	1670	1160	780	160	...	-	-	-	-	-	-	7920		
Feb.	-	-	-	... 60	260	400	710	1050	1220	1240	960	740	180	...	-	-	-	-	-	-	6820		
Mar.	-	-	... 120	510	1050	1390	1740	1850	1980	1630	1640	1410	900	260	...	-	-	-	-	-	14480		
Apr.	-	... 330	1140	1720	2330	2490	2370	2460	2590	2510	2320	1970	1820	1060	230	...	-	-	-	-	25340		
May	... 100	940	1800	2160	1930	2190	2070	1800	2250	1880	1640	1410	1230	600	340	40	...	-	-	-	22380		
June	... 290	970	1060	1410	1820	1570	1950	1930	1410	1920	1890	2090	1810	1290	1120	360	...	-	-	-	22890		
July	... 280	1040	1730	1860	2170	1830	1860	1870	1890	1740	1460	1170	1150	1020	780	150	...	-	-	-	22000		
Aug.	-	20	160	600	1260	1400	1610	1770	2070	1850	1800	2000	2470	1930	1100	410	10	-	-	-	20460		
Sept.	-	-	100	1060	1750	2680	3280	3140	2930	3060	2690	2120	2340	1780	820	50	-	-	-	-	27800		
Oct.	-	-	- 70	750	1860	1740	1840	1390	1350	1780	1350	880	410	20	-	-	-	-	-	-	13440		
Nov.	-	-	-	- 50	560	1130	1350	1490	1520	1380	780	370	30	-	-	-	-	-	-	-	8660		
Dec.	-	-	-	-	... 250	820	1280	1420	1430	1210	750	150	...	-	-	-	-	-	-	-	7310		
Annual	...	690	3540	7580	11530	16650	19310	21410	21880	22220	20940	17690	15160	11240	6170	2930	560	...	-	-	-	199500	

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

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

	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	1.7	9	5.7	15	2.8	9	4.4	17	3.9	17	3.8	10	2.6	11	3.1	15	2.7	11	2.4	9	0.8	6	4.4	11
2	1.5	7	7.4	19	2.1	12	4.1	13	6.6	21	4.2	11	3.1	12	6.1	17	5.2	15	2.8	11	1.2	6	9.3	20
3	5.9	21	6.9	17	3.3	16	5.5	15	4.0	14	4.0	10	5.1	16	1.3	6	4.7	15	3.2	14	3.2	11	6.2	18
4	6.7	21	7.7	21	2.5	13	4.2	15	3.5	14	2.7	10	4.5	17	1.8	7	1.2	5	4.5	15	3.3	12	8.4	26
5	5.0	14	5.9	15	5.1	18	3.1	15	5.2	18	1.9	9	3.9	14	3.6	11	1.3	7	6.0	14	2.2	8	4.2	15
6	2.6	15	1.8	7	5.2	21	3.5	15	6.0	19	4.3	15	2.5	10	2.6	11	3.3	13	4.8	16	3.3	11	2.0	9
7	6.3	15	4.6	19	5.4	21	1.4	5	1.5	7	5.0	14	1.9	12	6.0	19	2.5	10	2.7	15	5.3	14	1.7	7
8	2.5	11	2.9	14	1.4	5	1.2	6	3.0	13	4.1	13	3.8	12	3.3	13	3.5	12	1.6	9	3.2	15	7.0	24
9	2.6	10	1.8	5	2.7	7	1.6	7	4.5	14	6.1	18	2.9	11	3.1	10	5.8	19	1.8	5	4.3	17	8.5	27
10	3.2	10	3.4	13	2.6	11	2.3	9	1.2	7	6.7	19	2.4	9	5.7	18	6.8	19	1.5	9	5.0	24	3.0	14
11	2.4	9	3.4	10	3.0	10	0.9	4	1.8	6	2.9	11	1.8	7	4.3	12	5.1	17	2.2	10	6.4	20	1.0	8
12	3.4	11	2.3	12	5.2	13	1.8	10	1.6	13	2.9	9	3.0	11	3.1	11	3.0	14	4.1	15	6.4	21	5.6	16
13	5.5	22	4.3	13	6.2	15	2.8	13	2.0	9	3.8	17	4.1	12	3.1	13	2.8	17	4.9	13	4.7	13	5.1	19
14	3.8	12	2.0	6	6.3	16	3.9	16	3.2	10	2.7	10	4.9	15	1.6	8	3.3	11	5.1	12	2.5	11	4.3	15
15	7.8	27	4.1	12	4.5	11	5.4	18	5.9	14	5.2	16	4.7	16	2.0	9	5.3	18	6.0	17	1.0	7	2.3	14
16	5.8	19	2.4	9	5.6	14	5.7	16	5.6	14	4.0	12	4.6	14	1.8	7	7.6	22	6.4	16	2.0	11	2.1	9
17	3.6	15	1.4	7	6.3	13	2.6	10	5.4	15	3.3	11	6.3	21	2.9	13	4.8	15	5.1	15	1.3	8	2.5	12
18	1.5	7	2.7	11	2.9	11	2.3	11	4.4	14	4.4	13	5.6	16	1.7	6	7.3	19	0.9	5	3.7	13		
19	5.4	18	2.5	11	2.8	10	3.2	11	3.0	14	1.4	7	2.3	9	3.8	13	2.8	12	6.2	18	0.0	2	4.2	10
20	4.6	14	2.2	11	2.5	11	2.4	8	3.0	13	2.2	8	4.0	12	1.6	6	5.9	20	4.9	14	1.2	7	4.9	15
21	3.3	11	1.6	9	4.0	13	3.1	11	2.4	14	5.0	15	3.4	11	1.1	7	4.8	15	3.7	10	3.3	12	7.4	24
22	3.9	11	3.6	13	5.2	14	3.0	9	2.7	13	2.3	7	3.2	11	1.4	14	2.6	11	5.1	16	5.5	20	7.4	21
23	3.7	12	5.1	16	4.4	15	3.3	9	1.5	6	3.4	11	4.0	11	2.8	12	3.6	19	5.9	17	2.9	12	9.0	27
24	3.1	11	2.9	12	2.8	14	3.2	11	4.4	16	3.9	14	5.1	15	6.4	19	7.3	22	4.3	16	3.6	15		
25	4.4	12	5.6	20	3.8	13	4.9	15	3.9	15	5.2	13	4.2	12	5.1	15	4.8	20	3.3	11	6.0	19	5.1	15
26	7.3	18	6.2	23	4.3	17	6.7	15	2.5	18	5.7	16	4.1	17	1.1	7	4.0	16	2.6	13	7.8	26	6.4	19
27	7.4	18	3.0	12	1.1	7	5.7	14	2.3	12	3.8	14	6.9	20	1.5	9	1.4	7	5.7	16	10.7	28	5.3	15
28	3.9	11	2.4	10	2.3	10	4.2	13	2.7	12	2.4	10	6.8	18	1.7	9	2.9	10	5.5	17	5.3	17	4.5	14
29	7.1	19	3.1	16	1.6	7	3.0	11	3.2	9	3.7	13	3.5	13	3.7	15	6.6	19	5.5	27	1.2	6		
30	6.4	19	5.0	15	2.8	14	1.9	8	1.8	8	4.0	13	4.4	12	3.9	14	4.3	13	8.3	30	2.6	10		
31	5.2	14			4.2	17			4.6	14			2.4	9	2.9	9			2.8	13			4.4	11

## WIND

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

170 KEW OBSERVATORY:  $b_a = 5$  m. + 23 m.

	Hour G.M.T.	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.	4.0	4.0	4.2	4.1	3.9	4.0	4.0	4.0	4.1	4.2	4.7	5.0	5.2	5.4	5.3	5.0	4.7	4.5	4.4	4.5	4.4	4.4	4.2	4.1	4.4	
Feb.	3.1	3.0	3.1	3.3	3.5	3.7	3.9	3.8	4.1	4.2	4.8	4.7	4.6	4.5	4.7	4.4	4.2	3.8	3.7	3.5	3.2	3.1	3.0	2.9	3.8	
Mar.	3.4	3.4	3.5	3.5	3.3	3.5	3.3	3.4	3.6	3.8	4.2	4.5	4.9	4.8	4.7	4.7	4.4	4.2	3.7	3.4	3.5	3.3	3.6	3.8		
Apr.	2.5	2.3	2.2	2.2	2.3	2.3	2.5	2.8	3.4	3.6	4.2	4.2	4.1	4.1	4.1	4.3	4.2	4.4	4.0	3.7	3.8	3.4	3.5	2.5	3.4	
May	2.4	2.2	2.3	2.3	2.5	2.7	2.9	3.4	3.9	4.3	4.2	4.4	4.6	4.6	4.6	4.7	4.6	4.3	4.2	4.2	3.6	3.1	2.9	2.4	3.4	
June	2.9	2.9	2.9	2.9	2.8	3.1	3.6	3.9	4.1	4.3	4.4	4.6	4.7	4.7	4.4	4.4	4.5	4.3	4.0	3.7	3.5	3.2	3.0	2.9	3.7	
July	3.0	3.1	3.1	3.0	2.9	3.1	3.4	3.9	4.2	4.7	4.7	4.9	4.9	5.1	4.9	5.0	5.0	4.7	4.3	3.8	3.3	3.1	3.1	3.1	3.9	
Aug.	2.4	2.4	2.3	2.3	2.4	2.3	2.6	3.0	3.4	3.6	3.7	3.9	4.2	4.3	4.3	4.1	4.0	4.0	3.3	3.1	2.8	2.6	2.4	3.1		
Sept.	3.0	3.0	3.9	3.0	3.2	3.2	3.4	3.6	3.9	4.7	5.0	5.2	5.3	5.2	4.9	4.9	4.6	4.0	3.6	3.4	3.5	3.3	3.2	3.2	3.9	
Oct.	3.8	3.9	3.8	3.8	3.8	4.0	3.8	3.8	4.4	4.8	5.3	5.3	5.6	5.8	5.6	5.2	4.6	4.3	4.1	4.0	3.8	3.8	3.8	4.4		
Nov.	3.8	3.6	3.4	3.4	3.3	3.3	3.4	3.3	3.3	3.5	4.0	4.6	4.7	4.9	4.7	4.6	4.2	4.0	4.0	4.0	3.9	3.8	3.8	3.9		
Dec.	4.8	4.7	4.8	5.1	5.1	4.9	4.5	4.3	4.3	4.7	4.9	5.2	5.2	5.3	5.1	4.7	4.4	4.5	4.5							

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

## 172 KEW OBSERVATORY

	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	30cm.	122cm.	30cm.	122cm.	30cm.	122cm.	30cm.	122cm.	30cm.	122cm.	30cm.	122cm.	30cm.	122cm.	30cm.	122cm.	30cm.	122cm.	30cm.	122cm.	30cm.	122cm.	30cm.	122cm.
degrees Absolute																								
1	77.7	82.1	74.1	79.5	77.2	79.3	81.0	80.8	82.7	81.9	87.3	84.6	88.7	86.9	88.4	87.5	89.7	87.8	85.4	86.7	83.9	85.5	80.6	82.4
2	77.3	81.9	73.9	79.4	76.8	79.3	81.2	80.9	82.7	81.9	86.8	84.7	88.5	86.9	89.3	87.4	90.7	87.8	86.6	86.6	84.3	85.3	80.6	82.5
3	77.6	81.8	73.8	79.2	76.6	79.3	81.9	80.9	81.8	82.0	86.2	84.7	88.7	86.9	89.6	87.5	90.4	87.9	86.9	86.4	83.8	85.3	82.3	82.6
4	77.4	81.7	73.7	79.1	76.8	79.2	82.7	81.0	81.8	82.1	86.8	84.8	88.2	86.9	90.5	87.6	89.9	87.9	86.7	86.6	82.7	85.3	81.9	82.5
5	77.0	81.5	73.7	78.9	76.8	79.2	*	*	81.9	82.1	87.5	84.8	88.0	86.9	91.2	87.6	88.9	88.0	86.9	86.6	83.3	85.4	80.9	82.5
6	76.2	81.3	73.5	78.9	76.6	79.2	*	*	82.1	82.1	87.9	84.9	87.7	86.8	90.6	87.8	88.7	88.1	87.3	86.6	83.4	85.2	80.2	82.6
7	76.2	81.2	73.5	78.7	77.9	79.1	*	*	81.9	82.1	87.4	84.9	87.8	86.8	89.7	87.8	88.7	88.1	85.7	86.7	83.8	84.9	79.4	82.5
8	75.7	81.1	73.6	78.6	77.7	79.3	*	*	82.2	82.2	87.6	85.1	88.5	86.8	89.2	87.9	89.0	88.0	84.6	86.6	82.6	84.8	78.8	82.4
9	75.7	80.9	73.6	78.6	*	*	80.5	81.4	83.6	83.6	87.8	85.2	88.6	86.8	89.3	87.9	88.8	88.0	85.2	86.6	82.4	84.8	78.9	82.3
10	76.1	80.8	73.6	78.4	*	*	80.8	81.4	84.7	82.2	87.5	85.2	89.4	86.8	88.5	87.9	89.6	88.0	85.6	86.5	81.2	84.6	78.3	82.2
11	76.6	80.7	73.8	78.4	79.1	79.3	80.6	81.3	85.9	82.4	87.5	85.3	89.5	86.9	88.5	87.9	88.3	88.0	84.3	86.4	81.2	84.8	77.1	82.0
12	77.1	80.5	74.2	78.2	79.7	79.6	80.7	81.4	86.8	82.5	87.3	85.3	90.2	86.9	88.7	87.8	87.8	87.9	84.3	86.3	82.8	84.9	76.5	81.8
13	77.8	80.5	75.7	78.1	79.3	79.6	80.7	81.4	87.3	82.8	87.2	85.4	89.6	87.0	89.2	87.8	87.3	87.9	85.2	86.2	81.8	84.4	76.8	81.4
14	77.3	80.4	76.4	78.2	78.5	79.7	81.2	81.4	87.7	83.0	86.7	85.6	90.3	87.2	88.9	87.9	87.1	87.8	85.8	86.1	81.5	84.2	78.1	81.6
15	78.3	80.4	76.8	78.2	78.3	79.7	82.3	81.5	86.6	83.3	87.6	85.6	89.9	87.2	89.8	87.9	87.5	87.7	86.0	86.1	80.2	84.7	79.1	81.3
16	78.7	80.4	76.4	78.3	77.7	79.7	81.7	81.5	85.7	83.4	87.9	85.6	89.6	87.3	89.9	87.9	88.0	87.7	86.3	86.0	79.6	84.2	78.4	80.8
17	77.8	80.4	76.2	78.4	77.7	79.7	81.4	81.5	84.9	83.6	88.7	85.6	89.4	87.3	89.7	87.9	87.4	87.7	86.8	86.0	79.6	84.3	79.5	81.3
18	76.8	80.6	76.7	78.4	77.7	79.7	81.4	81.6	84.4	83.6	89.1	85.7	88.9	87.4	89.4	88.0	86.9	87.6	87.1	86.1	79.1	83.7	78.0	80.9
19	76.9	80.3	77.6	78.5	78.3	79.8	82.0	81.7	83.9	83.7	89.1	85.8	89.0	87.3	88.7	88.0	87.1	87.5	87.4	86.1	79.6	83.8	78.4	81.2
20	78.7	80.3	77.6	78.6	79.6	79.7	81.6	81.7	84.9	83.6	89.7	86.1	89.8	87.4	88.0	88.0	87.3	87.5	86.1	86.2	80.3	84.4	79.7	81.2
21	80.1	80.3	76.8	78.7	79.7	79.7	81.3	81.8	84.7	83.6	90.0	86.1	90.9	87.5	87.9	87.9	86.6	87.5	86.0	86.3	79.8	83.1	79.1	81.1
22	79.8	80.3	77.4	78.7	80.5	79.9	81.0	81.8	84.2	83.6	89.7	86.3	90.4	87.5	87.9	87.8	86.0	87.4	85.4	86.2	79.9	83.1	79.3	81.2
23	78.6	80.3	78.6	78.8	81.1	80.0	81.1	81.7	84.1	83.6	90.3	86.4	89.7	87.6	88.2	87.8	85.0	87.3	84.9	86.2	80.4	82.9	80.1	81.2
24	77.4	80.5	78.2	78.9	80.9	80.2	81.2	81.8	84.4	83.6	90.6	86.6	89.9	87.7	87.9	87.8	86.1	87.2	85.6	86.1	80.0	82.9	78.8	81.2
25	76.3	80.5	78.5	78.9	80.8	80.2	81.3	81.7	84.9	83.7	90.6	86.6	90.2	87.6	87.7	87.8	86.7	87.1	84.4	86.1	80.3	82.8	78.2	81.2
26	75.9	80.3	78.2	79.1	81.2	80.4	81.4	81.8	86.2	83.7	89.9	86.8	89.6	87.7	88.7	87.1	86.5	87.1	82.8	86.0	80.3	82.7	79.2	81.2
27	75.4	80.3	77.9	79.2	80.2	80.5	81.5	81.8	87.7	83.7	89.6	86.9	89.1	87.7	88.3	87.7	86.2	87.0	83.8	85.9	80.7	82.7	79.7	81.2
28	74.9	80.2	77.6	79.2	80.6	80.7	81.8	81.7	88.7	83.8	89.1	86.9	88.4	87.7	89.1	87.7	86.1	86.9	84.4	85.7	80.9	82.6	80.3	81.2
29	74.7	80.0			80.2	80.7	81.3	81.9	87.7	84.1	88.6	86.9	88.2	87.7	89.2	87.7	85.3	86.9	85.1	85.6	80.6	82.3	80.7	81.8
30	74.6	79.9			81.1	80.7	82.4	81.9	87.1	84.3	88.1	87.0	88.3	87.6	88.8	87.7	84.5	86.8	84.6	85.5	81.2	82.6	80.3	81.3
31	74.4	79.7			81.4	80.7			87.6	84.5			88.4	87.6	89.3	87.7			83.7	85.4			80.2	81.4
Mean	76.9	80.7	75.8	78.7	79.0	79.8	81.4	81.5	84.9	83.1	88.3	85.7	89.1	87.2	89.0	87.8	87.6	87.6	85.5	86.2	81.4	84.1	79.3	81.7
	Mean 83.3 83.7																							

\*No values. Site submerged by flood water.

## MINIMUM TEMPERATURE "ON THE GRASS" DURING THE INTERVAL 21h. TO 6h., G.M.T.

## 173 KEW OBSERVATORY

	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	January	February	March	April	May	June	July	August	September	October	November	December	January	February	March	April	May	June	July	August	September	October	November	December
degrees Absolute																								
1	68.5	64.7	67.3	74.1	75.0	81.2	81.5	82.8	79.2	80.4	79.6	70.4	70.9	65.8	71.3	74.8	75.3	82.4	82.2	86.9	87.0	86.4	80.3	77.5
2	70.9	65.8	71.3	74.8	75.3	81.8	80.5	81.8	80.5	86.6	84.1	86.6	83.6	83.6	79.9	75.0	72.6	75.4	87.0	87.4	87.8	87.9	87.1	81.8
3	73.9	68.0	71.9	80.1	75.0	81.8	80.5	81.8	80.5	86.9	84.1	86.6	83.6	83.6	79.9	75.0	74.9	75.4	87.1	87.5	87.8	87.9	87.1	81.8
4	72.7	67.9	67.4	81.5	76.9	80.5	80.5	81.1	81.1	87.4	84.7	83.5	83.5	83.5	80.4</									

**ELECTRICAL OBSERVATIONS, UNDERGROUND LABORATORY, WILSON METHOD**  
 Mean value for periods of twenty minutes about 14h. 30m.  
 $F$  = Potential gradient, unit 1 v./cm.

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174 KEW OBSERVATORY

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
	F	F	F	F	F	F	F	F	F	F	F	F
1	...	...	...	...	...	...	...	...	...	...	...	4.45
2	...	...	...	...	...	...	...	...	...	...	...	...
3	...	...	...	...	...	...	...	...	...	...	...	...
4	...	6.98	...	...	...	...	...	...	...	...	...	...
5	...	7.10	...	...	...	...	...	...	...	...	...	...
6	...	...	...	...	...	...	...	...	...	...	...	6.81
7	...	...	...	4.28	...	...	...	...	2.39	...	...	7.60
8	...	...	...	1.97	...	...	...	...	...	...	...	...
9	...	...	...	...	...	...	...	...	...	...	...	...
10	...	5.93	...	...	1.53	...	...	1.70	...	...	...	...
11	...	5.71	...	...	...	...	...	...	...	...	3.42	...
12	...	...	...	...	2.92	...	1.61	...	...	...	...	...
13	...	...	...	...	2.66	...	1.52	...	...	...	...	...
14	2.84	...	...	...	...	...	...	...	...	...	...	...
15	2.84	5.40	...	...	...	2.37	2.22	...	...	...	...	...
16	...	...	6.38	...	...	...	...	2.08	...	...	...	...
17	...	...	7.11	...	2.92	2.48	...	2.28	...	...	...	5.10
18	...	...	1.36	...	3.64	3.34	...	...	...	...	...	...
19	...	...	...	...	...	...	2.51	...	...	...	...	...
20	...	...	...	4.10	...	...	2.10	2.70	...	...	...	3.49
21	...	...	...	4.17	...	...	2.08	...	...	...	...	...
22	...	5.51	3.91	5.03	...	2.30	...	...	...	...	...	...
23	...	...	...	...	...	2.75	...	...	...	...	...	...
24	...	2.70	...	...	2.64	...	...	...	...	...	...	...
25	0.44	...	...	...	...	...	...	...	...	...	...	...
26	7.37	...	2.07	...	...	...	...	...	...	...	...	...
27	6.48	...	...	...	...	...	...	...	...	...	...	...
28	...	...	...	4.52	...	...	...	...	...	...	...	...
29	...	...	2.52	...	...	...	1.90	...	...	...	...	...
30	...	...	...	...	...	...	...	...	...	...	...	3.36
31	...	...	...	...	...	...	...	...	...	...	...	...
Mean	3.99	5.61	3.89	3.85	2.68	2.65	1.99	2.19	...	...	...	5.13
No. of days used	5	7	6	7	5	5	7	4	1	...	1	6

TABLES 175-177. No data are available for 1954. See Note in Introduction.

## AIR POLLUTION: HOURLY MEANS FOR EACH MONTH

178 KEW OBSERVATORY

Complete days only

	Hour G.M.T.												milligrams per cubic metre												Mean	No. of days used
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
Jan.	0.05	0.03	0.03	0.03	0.03	0.05	0.05	0.09	0.16	0.20	0.19	0.17	0.17	0.17	0.18	0.13	0.18	0.22	0.23	0.23	0.19	0.14	0.09	0.06	0.13	23
Feb.	0.11	0.12	0.11	0.09	0.10	0.10	0.07	0.10	0.08	0.10	0.07	0.08	0.09	0.07	0.05	0.09	0.11	0.16	0.21	0.20	0.20	0.14	0.11	0.08	0.11	15
Mar.	0.09	0.08	0.07	0.05	0.07	0.07	0.09	0.14	0.17	0.19	0.14	0.12	0.11	0.11	0.11	0.09	0.14	0.15	0.18	0.21	0.22	0.20	0.19	0.12	0.13	22
Apr.	0.10	0.08	0.08	0.10	0.09	0.11	0.13	0.14	0.14	0.12	0.10	0.10	0.10	0.11	0.10	0.10	0.10	0.10	0.16	0.20	0.18	0.15	0.14	0.12	0.12	25
May	0.06	0.06	0.05	0.03	0.05	0.05	0.07	0.06	0.07	0.04	0.05	0.06	0.04	0.04	0.04	0.06	0.06	0.07	0.10	0.12	0.11	0.09	0.08	0.06	0.06	31
June	0.01	0.01	0.01	0.01	0.01	0.03	0.03	0.01	0.02	0.01	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	30
July	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.02	0.01	0.01	29	
Aug.	0.02	0.02	0.02	0.02	0.02	0.03	0.04	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.02	0.02	31
Sept.	0.03	0.02	0.02	0.02	0.02	0.03	0.04	0.05	0.05	0.03	0.02	0.01	0.01	0.01	0.01	0.02	0.02	0.05	0.06	0.06	0.05	0.05	0.03	0.03	0.03	28
Oct.	0.06	0.04	0.04	0.03	0.03	0.05	0.04	0.05	0.03	0.03	0.03	0.03	0.01	0.01	0.02	0.03	0.07	0.13	0.16	0.16	0.16	0.14	0.10	0.07	0.06	31
Nov.	0.12	0.10	0.07	0.06	0.05	0.05	0.05	0.07	0.11	0.14	0.13	0.09	0.09	0.09	0.09	0.11	0.16	0.21	0.24	0.24	0.25	0.23	0.20	0.17	0.13	30
Dec.	0.09	0.07	0.05	0.04	0.05	0.03	0.04	0.08	0.11	0.11	0.10	0.08	0.08	0.09	0.10	0.12	0.16	0.19	0.19	0.22	0.19	0.19	0.15	0.11	0.11	31
Year	0.06	0.05	0.04	0.05	0.05	0.06	0.07	0.08	0.08	0.07	0.06	0.06	0.06	0.06	0.06	0.08	0.11	0.13	0.14	0.13	0.12	0.10	0.07	0.08	326	
Winter	0.09	0.08	0.07	0.05	0.06	0.06	0.05	0.09	0.11	0.14	0.12	0.11	0.11	0.11	0.11	0.11	0.15	0.19	0.22	0.22	0.21	0.17	0.14	0.11	0.12	99
Spring	0.09	0.08	0.07	0.07	0.08	0.09	0.11	0.14	0.15	0.15	0.12	0.11	0.11	0.11	0.11	0.11	0.15	0.15	0.17	0.21	0.20	0.17	0.17	0.12	0.12	47
Autumn	0.05	0.03	0.03	0.03	0.03	0.05	0.05	0.05	0.05	0.03	0.02	0.02	0.01	0.01	0.01	0.02	0.05	0.07	0.11	0.11	0.11	0.09	0.07	0.05	0.05	59
Summer	0.03	0.03	0.02	0.02	0.03	0.03	0.04	0.03	0.03	0.02	0.02	0.02	0.01	0.01	0.02	0.02	0.02	0.03	0.04	0.04	0.03	0.03	0.03	0.03	0.03	121

