

Publikasjoner fra  
DET NORSKE INSTITUTT FOR KOSMISK FYSIKK  
Nr. 3

THE AURORAL OBSERVATORY AT TROMSÖ  
( $\varphi = 69^{\circ} 39'.8$  N,  $\lambda = 18^{\circ} 56'.9$  E Gr.)  
RESULTS OF MAGNETIC OBSERVATIONS  
FOR THE YEAR 1931

By

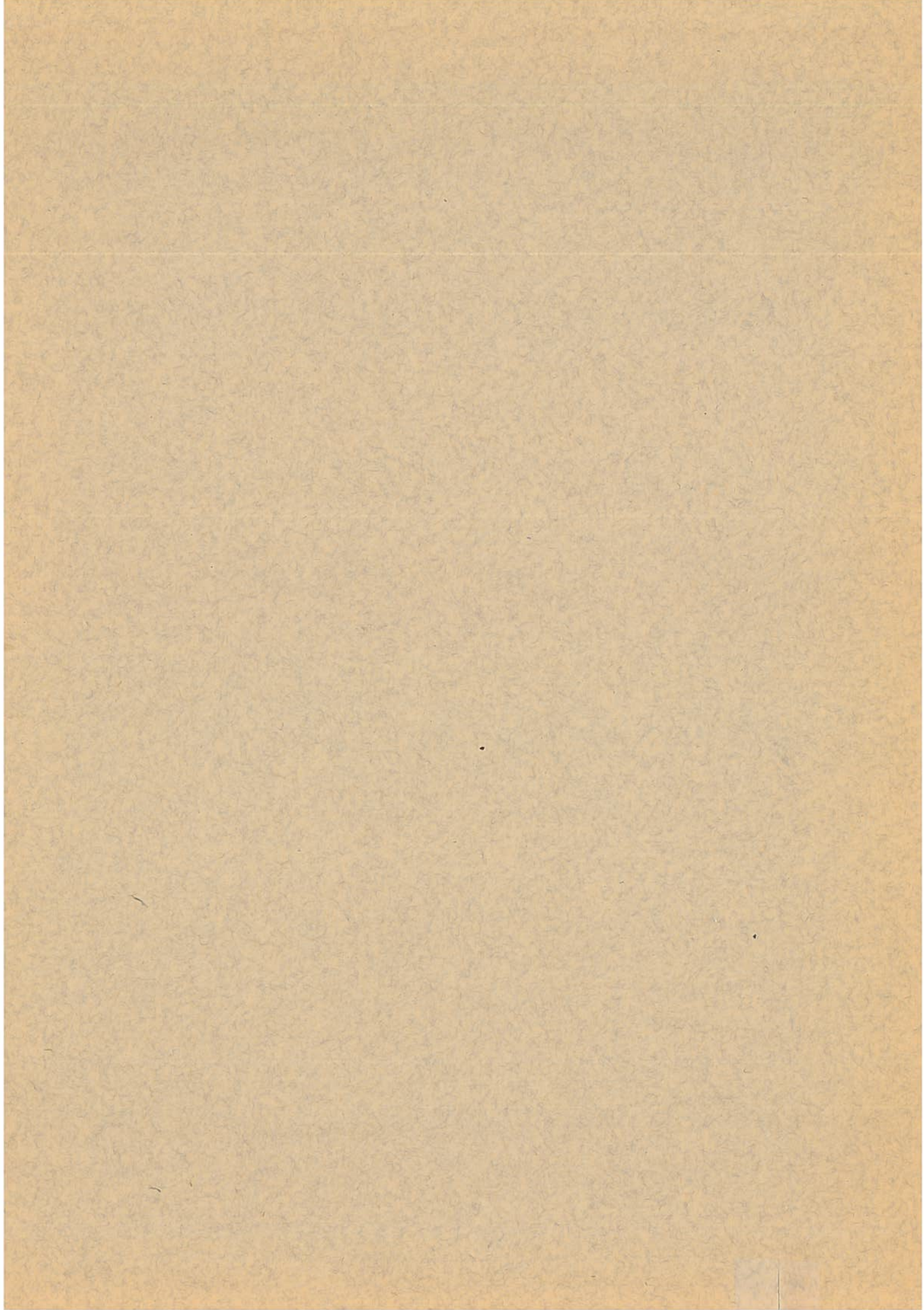
LEIV HARANG and E. TÖNSBERG

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### General Remarks.

In No. 1 of the present publication series a general description of the arrangements for the magnetic measurements and the instrumental equipment at the Auroral Observatory at Tromsø have been given. Regarding details in the method of determining the scale-values and the absolute values and the tabulation, we refer to No. 1 and No. 2 of the same publication series. The present paper contains the results of the magnetic registrations for the year 1931.

### Scale Values.

The scale-values of the  $D$ ,  $H$  and  $V$  variometers were determined several times during the year. The following scale-values have been used:

$D$ -variometer	1.45	per mm, —	which corresponds to
	4.89 $\gamma$	" "	
$H$ -variometer	4.89 $\gamma$	" "	in the time-interval 1, I—27, I
	5.07 $\gamma$	" "	— " — 27, I—31, XII
$V$ -variometer	6.75 $\gamma$	" "	

### The Absolute Measurements.

In the following Table 1, the observed and adopted values of the base-lines of the  $D$ - and  $H$ -variometers are given.

*Observed and Adopted Values for the Base-Line for D and H.*

Date	D observed	D adopted	Date	H observed	H adopted
				$\gamma$	$\gamma$
I 14 .....	4° 8'9	4° 9'0	I 14 .....	11 420	11 419
23 .....	9.0	9.0	23 .....	18	19
II 4 .....	8.9	9.0	II 4 .....	58	58
5 .....	9.1	9.0	13 .....	57	57
13 .....	9.3	9.0	23 .....	54	55
23 .....	8.8	9.0	III 6 .....	51	51
III 6 .....	9.1	9.0	16 .....	79	79
20 .....	8.9	9.0	27 .....	79	79
21 .....	9.0	9.0	IV 8 .....	77	77
27 .....	9.0	9.0	18 .....	70	70
IV 8 .....	8.5	8.4	27 .....	67	68
18 .....	8.4	8.4	V 9 .....	68	68
27 .....	8.3	8.3	14 .....	74	74
V 9 .....	7.9	8.3	23 .....	70	70
14 .....	8.5	8.3	VI 5 .....	70	70
VI 5 .....	8.3	8.3	19 .....	71	70
19 .....	7.7	8.3	27 .....	69	69
27 .....	8.3	8.3	VII 3 .....	68	69
VII 3 .....	8.2	8.2	27 .....	66	66
9 .....	8.2	8.2	VIII 12 .....	61	62
28 .....	8.2	8.2	19 .....	62	62
VIII 12 .....	7.3	7.2	29 .....	61	62
19 .....	7.2	7.2	IX 3 .....	62	62
29 .....	7.0	7.2	19 .....	61	62
IX 3 .....	7.4	7.4	26 .....	62	62
19 .....	7.4	7.4	X 8 .....	62	62
26 .....	7.5	7.5	15 .....	62	62
X 8 .....	7.5	7.5	23 .....	63	62
15 .....	7.2	7.5	XI 4 .....	62	62
23 .....	7.5	7.5	12 .....	62	62
XI 4 .....	7.5	7.5	23 .....	61	62
12 .....	7.6	7.5	XII 8 .....	63	63
23 .....	7.5	7.5	18 .....	63	63
XII 8 .....	8.0	8.0			
18 .....	8.0	8.0			

*Vertical Intensity.*

On account of the great value of the inclination, it is difficult to measure the vertical intensity with the same degree of accuracy as the horizontal intensity. An inaccuracy of 1' in the inclination corresponds to 67  $\gamma$  in the vertical intensity. The vertical intensity was measured with an inclinorium, an earth-inductor and a la Cour-intensimeter. The three instruments gave the following values of the base-line of the vertical variometer (a "Balance of Godhavn"):



*Inclinatorium:*

X 22	Needle I . . . . .	$V = 50200$	Needle II	$V = 50226$	
23		192			
26		158		194	
27		160		190	
		50178		50206	Mean: $V = 50192 \gamma$

*Earth-inductor:*

IV 23	.....	$V = 50159$
28	.....	195
V 11	.....	214
15	.....	224
VII 3	.....	197
		Mean: $V = 50198 \gamma$

*la Cour-intensiometer:*

X 12	.....	$V = 50192$
13	.....	170
14	.....	196
XI 14	.....	220
		Mean: $V = 50195 \gamma$

Mean for base line during the year:  $V = 50195 \gamma$ .

The mean value for the inclination during the year is, according to the quiet values of  $H$  and  $V$  given in the Resuming Tables, p. 26:  $I = 77^\circ 1', 7$ .

**Explanation to the Tables.**

Regarding details, we refer to publication No. 2 in the present publication series. In the tables the following quantities are tabulated: The first tables contain the hourly mean value of the magnetic elements  $D$ ,  $H$  and  $V$ , centered at half hours, *Gr. M T*. The values of  $D$  are expressed in minutes, the values of  $H$  and  $V$  are expressed in gammas. In these tables  $M$  designates the ordinary mean values,  $R$  designates the range, *i. e.* the difference between the maximum and minimum values measured on the magnetograms.  $QM$  designates the "quiet mean", *i. e.* the value of the "normal line" defined by Birkeland,  $QR$  is the range of the "normal lines", *i. e.* the difference between the maximum and minimum of the hourly mean values of the "normal lines".

The five international quiet and disturbed days are marked by the letters  $Q$  and  $D$ .

The second table contains the storminess according to the simplified definition given in the preceding publication. All quantities are here expressed in gamma.

In  $D$  the Storminess is reckoned positive towards magnetic West, in  $H$  positive towards the magnetic North and in  $V$  positive downwards.  $M$  designates the hourly mean of the hourly values.  $PS$  designates the positive,  $NS$  the negative and  $AS$  the absolute Storminess, all in the "simplified" system.

For practical reasons we have, instead of ordinary mean values for each day, given the "diurnal sum" of  $PS$ ,  $NS$  and  $AS$ . If we wish to have the mean values of these quantities we have to divide these sums by 24.  $MPS$  and  $MNS$  designate the hourly mean values during one month of the positive, and negative Storminess respectively.

The magnetic character of the day is given in the vertical column  $C$ , — only the strongest perturbed component, the horizontal intensity, is used for characterization.

The following ranges were found to be suitable for the definition of the magnetic character of the day.

Character 0 . . . .	Range of Deflection	0—400 $\gamma$
— 1 . . . .	— " —	400—800 $\gamma$
— 2 . . . .	— " —	800 $\gamma$ or more.

The boundaries 400  $\gamma$  and 800  $\gamma$  have not been used quite strictly in all cases. By the fixation of the character number near the boundary-values, a personal judgment has also been taken into account.

In addition to the main tables, resuming tables containing the values of the quiet diurnal variation and of the Storminess, and the monthly means of the actual and quiet monthly mean values, are given.

Lastly, a table of the different values and groups of the quiet diurnal variation that have been used for the calculation of the Storminess is given.

#### Explanation to the Figures.

Figure 1, represents the diurnal variation of the quiet values according to the corresponding table.

Figure 2, represents the variation of the absolute Storminess during the year.

Figure 3 a, gives a graphical representation in vectordiagram of the mean diurnal variation of the Storminess in the horizontal plane, for the different months.

Figure 3 b, gives a graphic representation of the mean diurnal variation of the Storminess in vertical direction, for the different months.

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UNITED STATES DEPARTMENT OF AGRICULTURE

TABLE 1

State	Year	Number of specimens	Number of skulls	Number of skeletons	Number of skins	Number of bones	Number of teeth	Number of horns	Number of claws	Number of other parts
Alabama	1930	10	5	3	2	1	1	0	0	0
Alabama	1931	15	8	4	3	2	2	0	0	0
Arizona	1930	20	10	5	4	3	3	0	0	0
Arizona	1931	25	12	6	5	4	4	0	0	0
Arkansas	1930	12	6	3	2	1	1	0	0	0
Arkansas	1931	18	9	4	3	2	2	0	0	0
California	1930	30	15	7	6	5	5	0	0	0
California	1931	35	18	9	7	6	6	0	0	0
Colorado	1930	18	9	4	3	2	2	0	0	0
Colorado	1931	22	11	5	4	3	3	0	0	0
Connecticut	1930	8	4	2	1	1	1	0	0	0
Connecticut	1931	10	5	2	2	1	1	0	0	0
Delaware	1930	5	2	1	1	1	1	0	0	0
Delaware	1931	7	3	1	1	1	1	0	0	0
Florida	1930	14	7	3	2	1	1	0	0	0
Florida	1931	16	8	3	3	2	2	0	0	0
Georgia	1930	11	5	2	2	1	1	0	0	0
Georgia	1931	13	6	2	2	1	1	0	0	0
Idaho	1930	9	4	2	1	1	1	0	0	0
Idaho	1931	11	5	2	2	1	1	0	0	0
Illinois	1930	7	3	1	1	1	1	0	0	0
Illinois	1931	9	4	1	1	1	1	0	0	0
Indiana	1930	6	3	1	1	1	1	0	0	0
Indiana	1931	8	4	1	1	1	1	0	0	0
Iowa	1930	5	2	1	1	1	1	0	0	0
Iowa	1931	7	3	1	1	1	1	0	0	0
Kansas	1930	10	5	2	2	1	1	0	0	0
Kansas	1931	12	6	2	2	1	1	0	0	0
Kentucky	1930	8	4	1	1	1	1	0	0	0
Kentucky	1931	10	5	1	1	1	1	0	0	0
Louisiana	1930	9	4	2	1	1	1	0	0	0
Louisiana	1931	11	5	2	1	1	1	0	0	0
Maine	1930	4	2	1	1	1	1	0	0	0
Maine	1931	6	3	1	1	1	1	0	0	0
Maryland	1930	6	3	1	1	1	1	0	0	0
Maryland	1931	8	4	1	1	1	1	0	0	0
Massachusetts	1930	5	2	1	1	1	1	0	0	0
Massachusetts	1931	7	3	1	1	1	1	0	0	0
Michigan	1930	7	3	1	1	1	1	0	0	0
Michigan	1931	9	4	1	1	1	1	0	0	0
Minnesota	1930	8	4	1	1	1	1	0	0	0
Minnesota	1931	10	5	1	1	1	1	0	0	0
Mississippi	1930	6	3	1	1	1	1	0	0	0
Mississippi	1931	8	4	1	1	1	1	0	0	0
Missouri	1930	9	4	2	1	1	1	0	0	0
Missouri	1931	11	5	2	1	1	1	0	0	0
Montana	1930	12	6	3	2	1	1	0	0	0
Montana	1931	14	7	3	2	1	1	0	0	0
Nebraska	1930	10	5	2	2	1	1	0	0	0
Nebraska	1931	12	6	2	2	1	1	0	0	0
Nevada	1930	8	4	2	1	1	1	0	0	0
Nevada	1931	10	5	2	1	1	1	0	0	0
New Hampshire	1930	4	2	1	1	1	1	0	0	0
New Hampshire	1931	6	3	1	1	1	1	0	0	0
New Jersey	1930	5	2	1	1	1	1	0	0	0
New Jersey	1931	7	3	1	1	1	1	0	0	0
New Mexico	1930	11	5	2	2	1	1	0	0	0
New Mexico	1931	13	6	2	2	1	1	0	0	0
New York	1930	6	3	1	1	1	1	0	0	0
New York	1931	8	4	1	1	1	1	0	0	0
North Carolina	1930	7	3	1	1	1	1	0	0	0
North Carolina	1931	9	4	1	1	1	1	0	0	0
North Dakota	1930	9	4	2	1	1	1	0	0	0
North Dakota	1931	11	5	2	1	1	1	0	0	0
Ohio	1930	6	3	1	1	1	1	0	0	0
Ohio	1931	8	4	1	1	1	1	0	0	0
Oklahoma	1930	10	5	2	2	1	1	0	0	0
Oklahoma	1931	12	6	2	2	1	1	0	0	0
Oregon	1930	8	4	2	1	1	1	0	0	0
Oregon	1931	10	5	2	1	1	1	0	0	0
Pennsylvania	1930	5	2	1	1	1	1	0	0	0
Pennsylvania	1931	7	3	1	1	1	1	0	0	0
Rhode Island	1930	3	1	1	1	1	1	0	0	0
Rhode Island	1931	5	2	1	1	1	1	0	0	0
South Carolina	1930	6	3	1	1	1	1	0	0	0
South Carolina	1931	8	4	1	1	1	1	0	0	0
South Dakota	1930	7	3	1	1	1	1	0	0	0
South Dakota	1931	9	4	1	1	1	1	0	0	0
Tennessee	1930	8	4	1	1	1	1	0	0	0
Tennessee	1931	10	5	1	1	1	1	0	0	0
Texas	1930	12	6	3	2	1	1	0	0	0
Texas	1931	14	7	3	2	1	1	0	0	0
Utah	1930	9	4	2	1	1	1	0	0	0
Utah	1931	11	5	2	1	1	1	0	0	0
Vermont	1930	4	2	1	1	1	1	0	0	0
Vermont	1931	6	3	1	1	1	1	0	0	0
Virginia	1930	7	3	1	1	1	1	0	0	0
Virginia	1931	9	4	1	1	1	1	0	0	0
Washington	1930	10	5	2	2	1	1	0	0	0
Washington	1931	12	6	2	2	1	1	0	0	0
West Virginia	1930	6	3	1	1	1	1	0	0	0
West Virginia	1931	8	4	1	1	1	1	0	0	0
Wisconsin	1930	8	4	1	1	1	1	0	0	0
Wisconsin	1931	10	5	1	1	1	1	0	0	0
Wyoming	1930	11	5	2	1	1	1	0	0	0
Wyoming	1931	13	6	2	1	1	1	0	0	0

TABLES

State	Year	Number of specimens	Number of skulls	Number of skeletons	Number of skins	Number of bones	Number of teeth	Number of horns	Number of claws	Number of other parts
Alabama	1930	10	5	3	2	1	1	0	0	0
Alabama	1931	15	8	4	3	2	2	0	0	0
Arizona	1930	20	10	5	4	3	3	0	0	0
Arizona	1931	25	12	6	5	4	4	0	0	0
Arkansas	1930	12	6	3	2	1	1	0	0	0
Arkansas	1931	18	9	4	3	2	2	0	0	0
California	1930	30	15	7	6	5	5	0	0	0
California	1931	35	18	9	7	6	6	0	0	0
Colorado	1930	18	9	4	3	2	2	0	0	0
Colorado	1931	22	11	5	4	3	3	0	0	0
Connecticut	1930	8	4	2	1	1	1	0	0	0
Connecticut	1931	10	5	2	2	1	1	0	0	0
Delaware	1930	5	2	1	1	1	1	0	0	0
Delaware	1931	7	3	1	1	1	1	0	0	0
Florida	1930	14	7	3	2	1	1	0	0	0
Florida	1931	16	8	3	3	2	2	0	0	0
Georgia	1930	11	5	2	2	1	1	0	0	0
Georgia	1931	13	6	2	2	1	1	0	0	0
Idaho	1930	9	4	2	1	1	1	0	0	0
Idaho	1931	11	5	2	1	1	1	0	0	0
Illinois	1930	7	3	1	1	1	1	0	0	0
Illinois	1931	9	4	1	1	1	1	0	0	0
Indiana	1930	6	3	1	1	1	1	0	0	0
Indiana	1931	8	4	1	1	1	1	0	0	0
Iowa	1930	5	2	1	1	1	1	0	0	0
Iowa	1931	7	3	1	1	1	1	0	0	0
Kansas	1930	10	5	2	2	1	1	0	0	0
Kansas	1931	12	6	2	2	1	1	0	0	0
Kentucky	1930	8	4	1	1	1	1	0	0	0
Kentucky	1931	10	5	1	1	1	1	0	0	0
Louisiana	1930	9	4	2	1	1	1	0	0	0
Louisiana	1931	11	5	2	1	1	1	0	0	0
Maine	1930	4	2	1	1	1	1	0	0	0
Maine	1931	6	3	1	1	1	1	0	0	0
Maryland	1930	6	3	1	1	1	1	0	0	0
Maryland	1931	8	4	1	1	1	1	0	0	0
Massachusetts	1930	5	2	1	1	1	1	0	0	0
Massachusetts	1931	7	3	1	1	1	1	0	0	0
Michigan	1930	7	3	1	1	1	1			

Tromsø.

Declination. D = 4° W + Tabular Quantities expressed in Minutes.

HOURLY MEAN VALUES

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	M	R	QM	QR		
1	3	2	2	-3	4	5	5	5	6	7	7	9	8	9	7	6	8	6	6	6	8	14	9	-15	3	5.4	90	5.2	5
2	3	0	4	-1	4	4	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5.0	21	5.5	3	
3	3	3	4	-4	4	5	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	4	4	4.9	7	5.0	2	
4	3	3	4	-4	4	5	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	4	4	4.7	10	4.7	4	
5	4	3	4	5	5	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5.1	9	5.2	3	
6	4	4	2	0	3	5	6	6	6	7	6	6	6	6	6	6	6	6	6	6	6	6	4	4	5.1	11	5.6	4	
7	4	5	4	0	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	4	4	5.9	4	5.6	3	
8	4	5	4	0	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	4	4	5.2	4	5.3	4	
9	5	4	4	-9	-14	-12	2	6	6	6	11	10	7	8	13	10	1	4	5	5	5	15	6	-24	5	107	5.2	3	
10	-18	-1	1	4	-3	6	5	11	8	7	10	7	8	12	15	11	3	10	1	4	5	6	-9	3	3.0	58	5.2	3	
11	3	3	6	4	4	6	7	7	7	6	6	6	6	4	4	5	6	7	6	4	10	8	1	-4	4.9	51	5.1	4	
12	-5	-1	2	3	4	4	4	4	4	5	6	6	6	6	7	5	7	6	5	9	9	5	6	-2	5.4	26	5.1	3	
13	-2	0	3	4	4	4	4	4	4	5	6	6	6	6	6	6	6	6	6	6	6	6	6	-2	4.7	35	5.3	4	
14	-2	4	4	4	4	4	4	4	4	4	5	6	6	6	6	6	6	6	6	6	6	6	6	-2	4.4	10	4.7	3	
15	-6	-5	-3	3	4	5	7	8	7	7	8	12	9	7	7	5	6	7	5	6	7	7	7	-1	4.1	29	4.6	3	
16	-6	-19	-11	2	9	12	8	8	9	7	3	4	3	6	8	-15	3	-6	-6	0	0	0	-9	0	-0.5	175	4.6	3	
17	-24	0	-7	4	4	6	6	6	7	3	4	3	6	8	5	-15	3	-1	-6	0	0	0	-9	0	0.9	87	4.6	3	
18	-1	-2	-4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	-1	2.0	62	4.6	3	
19	-1	-2	-4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	-1	2.4	60	4.7	3	
20	-9	-3	-2	1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	-1	3.5	20	4.9	3	
21	4	2	0	4	4	6	6	8	9	8	7	3	5	5	4	4	5	3	0	-4	3	2	-2	2	3.5	20	4.9	3	
22	4	1	1	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	3.8	14	4.1	3	
23	8	1	1	2	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	3.5	25	4.1	3	
24	3	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.8	5	4.6	3	
25	3	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.7	113	5.1	4	
26	-24	-12	-4	0	0	6	7	9	15	8	8	8	7	5	5	5	5	4	5	4	-2	4	-3	3	2.7	52	4.4	3	
27	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	-1	2.1	50	4.4	3	
28	0	-15	-4	-5	-4	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1.5	48	4.6	3	
29	-2	1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4.7	43	4.2	3	
30	3	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.7	9	3.6	3	
31	3	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.6	45	4.3	3	
M	-0.8	-0.2	0.8	2.2	3.0	4.6	5.1	6.2	6.5	6.2	6.2	6.6	6.6	6.5	6.6	4.6	5.5	4.1	4.1	2.7	1.9	1.3	-1.7	0.4	3.7	42.7	4.8	3.3	
QM	3.5	3.7	3.7	3.8	4.0	4.4	4.8	5.2	5.5	5.8	5.8	5.8	5.7	5.7	5.7	5.4	5.3	5.2	4.8	4.7	4.3	3.9	3.8	3.5					

FEBRUARY

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	M	R	QM	QR
1	0	-3	-3	0	4	7	7	4	4	6	4	4	5	4	4	4	4	4	4	5	2	-3	1	-3	-12	2.0	64	3.9	2			
2	-8	-42	-9	-3	4	6	6	4	4	5	4	4	4	4	4	4	4	4	4	4	3	3	-1	-6	1.0	97	4.0	4				
3	3	0	-6	-9	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4.2	35	4.4	4				
4	4	4	-12	-7	-3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4.3	110	4.5	4				
5	2	-4	-12	-7	-3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	1.5	32	3.5	3				
6	0	1	1	1	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3.5	19	3.8	5				
7	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4.2	39	4.6	3				
8	-15	-9	-9	-4	-1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2.0	30	4.6	4				
9	-1	-2	-3	-3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.9	25	4.6	4				
10	-2	-4	-3	-2	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4.3	16	4.8	4				
11	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4.6	19	4.7	6				
12	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4.3	17	4.4	4				
13	-4	-4	-4	-5	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1.6	180	4.3	3				
14	-6	-18	-21	-16	-4	12	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	-3.0	106	4.3	3				
15	-3	-5	-3	1	6	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	0.5	110	4.3	3				
16	-19	3	0	1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2.9	60	3.8	4				
17	2	5	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.2	33	3.8	5				
18	2	5	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.5	25	3.9	4				
19	3	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4.0	19	4.1	4				
20	4	2	-6	0	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4.1	20	4.6	6				
21	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4.0	7	3.9	7				
22	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.5	29	3.8	6				
23	-5	1	-1	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3.5	36	4.0	4				
24	-5	-18	-15	-5	-5	-10	18	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	10.3	152	4.0	4				
25	-3	9	-3	-1	-2	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.4	225	4.0	4				
26	-54	-39	-13	-9	1	4	7	3	4	5	8	8	9	6	7	7	7	7	7	7	7	7	7	7	-0.9	160	4.0	4				
27	-6	-6	-2	-2	1	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1.8	32	3.9	4				
28	-1	0	-2	2	1	2	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2.0	25	3.2	3				
M	-3.2	-4.0	-3.0	-1.2	1.3	2.8	4.9	4.3	4.9	5.1	6.0	6.6	7.7	7.5	6.8	7.3	7															





Tromsø.

Declination. D = 4° W + Tabular Quantities expressed in Minutes.  
HOURLY MEAN VALUES

Gr. M. T.

APRIL 1931

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	M	R	QM	QR		
1	2	2	1	1	0	-1	-2	-2	0	3	5	7	9	9	8	8	12	18	18	0	-3	-1	-3	-10	3.0	91	3.2	11	
2	-2	-12	-5	0	-1	-4	-4	1	2	4	6	7	8	8	7	5	5	4	4	0	0	0	-4	-2	4.5	82	2.9	9	
3	0	0	0	0	-1	-2	-3	-1	2	4	6	7	8	8	7	5	5	4	4	0	0	0	-4	-2	-0.4	64	2.2	11	
4	0	0	0	0	-1	-2	-3	-1	2	4	6	7	8	8	7	5	5	4	4	0	0	0	-4	-2	1.5	69	3.0	8	
5	0	-18	-13	-2	0	0	0	0	2	4	7	8	8	7	5	5	4	4	0	0	0	0	-4	-2	2.9	13	2.9	10	
6	2	1	0	0	-1	-1	-1	-1	0	3	4	6	7	8	8	7	4	3	3	4	3	3	2	3	0	2.5	14	2.7	11
7	2	1	0	0	-1	-2	-3	-2	1	4	6	7	8	8	7	4	3	3	4	3	4	3	2	3	0	2.1	36	3.1	11
8	-2	0	-1	-1	-1	-1	-1	-1	1	3	4	6	7	8	8	7	4	3	3	4	3	3	2	3	0	2.5	14	2.7	11
9	-16	-12	-10	-5	-2	-2	-1	1	1	4	6	7	8	8	7	4	3	3	4	3	4	3	2	3	0	3.6	39	3.4	12
10	-12	-12	-22	-24	-10	-6	-3	1	-1	3	7	10	13	12	12	13	5	5	7	10	9	7	6	-2	-1.2	85	2.6	11	
11	3	0	-1	-2	-3	-2	-2	-1	2	7	9	10	7	15	7	4	5	5	6	2	2	0	4	3	3.3	38	2.4	11	
12	3	0	-1	-2	-3	-2	-2	-1	2	7	9	10	7	15	7	4	5	5	6	2	2	0	4	3	3.3	110	1.7	8	
13	3	0	-1	-2	-3	-2	-2	-1	2	7	9	10	7	15	7	4	5	5	6	2	2	0	4	3	3.3	10	1.7	8	
14	2	1	0	-1	-2	-3	-2	-1	2	7	9	10	7	15	7	4	5	5	6	2	2	0	4	3	2.3	20	2.3	12	
15	0	-2	-1	-3	-3	0	0	0	2	5	7	8	9	8	5	5	6	6	7	7	7	7	7	-1	2.5	38	3.1	12	
16	1	1	-4	-2	-2	-3	-3	-1	1	3	4	6	7	6	5	4	5	5	6	6	4	4	4	2	2.5	17	2.5	10	
17	1	1	-4	-2	-2	-3	-3	-1	1	3	4	6	7	6	5	4	5	5	6	6	4	4	4	2	2.5	17	2.5	10	
18	1	1	-4	-2	-2	-3	-3	-1	1	3	4	6	7	6	5	4	5	5	6	6	4	4	4	2	2.5	17	2.5	10	
19	3	2	-2	-2	-3	-4	-3	-1	1	3	4	6	7	6	5	4	5	5	6	6	4	4	4	2	2.2	27	2.2	11	
20	-75	-39	-10	-27	-12	-9	-6	-1	1	3	4	6	7	6	5	4	5	5	6	6	4	4	4	2	2.2	27	2.2	11	
21	0	0	-1	-2	-3	-3	-3	-1	1	2	4	7	8	8	7	6	5	5	6	6	3	3	0	0	2.2	27	2.2	11	
22	0	0	-1	-2	-3	-3	-3	-1	1	2	4	7	8	8	7	6	5	5	6	6	3	3	0	0	2.2	27	2.2	11	
23	-1	-2	-5	-6	-3	-5	-5	-2	0	2	4	7	8	7	6	5	4	5	5	6	3	3	1	-2	2.2	27	2.2	11	
24	-5	-8	-12	-8	-7	-4	-2	0	2	4	7	8	7	6	5	4	5	5	6	6	3	3	1	-2	2.2	27	2.2	11	
25	-2	-3	-4	-4	-3	-3	-3	-1	1	4	7	11	12	10	9	12	13	17	9	1	0	-1	-1	3.8	39	2.0	12		
26	0	-1	-2	-3	-4	-3	-2	3	7	9	9	8	7	5	4	4	4	4	3	3	2	1	1	2	2.4	13	1.5	11	
27	-1	-3	-4	-4	-3	-2	3	7	9	9	8	7	5	4	4	4	4	3	3	2	1	1	1	2	2.4	13	1.5	11	
28	1	1	-1	-2	-3	-2	-1	1	1	4	6	8	8	7	6	5	4	4	3	3	3	3	2	2	3.3	14	2.4	12	
29	1	1	-1	-2	-3	-2	-1	1	1	4	6	8	8	7	6	5	4	4	3	3	3	3	2	2	3.3	14	2.4	12	
30	2	2	-3	-2	-3	-2	-1	1	4	6	9	9	8	7	6	5	4	4	3	3	3	3	2	2	3.3	14	2.4	12	
M	-4.0	-3.4	-3.7	-3.7	-3.3	-3.3	-2.2	-0.6	1.1	3.5	5.8	7.8	8.4	8.1	6.9	5.8	5.7	5.8	6.4	5.1	1.5	0.3	-2.2	-3.2	1.8	41.6	2.5	10.6	
QM	1.2	0.3	-0.7	-1.5	-2.1	-2.3	-2.0	-0.8	1.0	3.4	5.4	7.1	7.8	7.2	5.9	4.4	3.9	3.6	3.7	3.6	3.1	2.9	2.5	1.9					

MAY

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	M	R	QM	QR	
1	1	0	-3	-5	-4	-2	-1	2	5	7	7	7	6	6	6	7	7	7	6	5	4	3	2	2.8	17	2.8	12	
2	1	0	-2	-5	-4	-2	-1	2	5	7	7	7	6	6	6	7	7	7	6	5	4	3	2	2.8	17	2.8	12	
3	1	0	-1	-5	-4	-1	-1	2	5	7	7	7	6	6	6	7	7	7	6	5	4	3	2	2.8	17	2.8	12	
4	-1	-3	-4	-5	-2	-3	-1	1	4	7	10	13	15	14	12	10	12	11	8	4	-5	-14	-6	3.1	48	3.0	13	
5	-1	-3	-4	-5	-2	-3	-1	1	4	7	10	13	15	14	12	10	12	11	8	4	-5	-14	-6	3.1	48	3.0	13	
6	-2	-1	-1	-7	-7	-5	-6	-3	9	10	6	12	14	17	12	12	10	9	7	7	3	-1	-1	4.3	32	2.7	12	
7	-2	-1	-1	-7	-7	-5	-6	-3	9	10	6	12	14	17	12	12	10	9	7	7	3	-1	-1	4.3	32	2.7	12	
8	-4	-8	-3	-4	-4	-4	-3	0	2	5	7	8	8	8	6	5	4	4	4	4	3	3	2	2.2	19	2.6	12	
9	3	0	-2	-3	-4	-3	-3	-1	2	5	7	8	8	7	5	5	6	6	6	5	3	2	1	2.0	13	1.9	12	
10	3	0	-2	-3	-4	-3	-3	-1	2	5	7	8	8	7	5	5	6	6	6	5	3	2	1	2.0	13	1.9	12	
11	1	0	-1	-2	-4	-6	-4	-3	2	7	10	12	12	11	11	9	8	15	27	29	9	-9	-30	-1.8	3.6	127	2.5	14
12	-27	-22	-25	-21	-6	-10	-3	4	5	7	10	11	9	7	4	4	5	5	7	9	9	13	-8	-6	-0.7	103	2.7	12
13	-6	-4	-6	-7	-6	-6	-5	-2	1	2	6	7	9	11	9	7	6	10	12	13	6	0	-16	3	-1.5	108	2.7	12
14	-39	-36	-29	-12	-8	-9	-8	-1	2	6	8	12	14	12	9	8	7	9	18	2	2	-1	-6	-2.6	150	2.7	12	
15	-54	-45	-36	-6	-13	-9	-1	-5	-1	4	7	11	12	12	11	11	14	16	18	12	6	-2	-4	-24	3.0	74	1.9	14
16	-15	-4	-9	-7	-4	-4	-6	3	5	6	5	5	9	7	12	5	5	7	8	3	4	4	-3	-7	1.2	38	2.7	12
17	-9	-20	-8	-4	-4	-1	0	1	2	4	6	6	6	6	6	6	7	7	9	5	4	4	2	-2	1.4	43	2.7	10
18	-2	-9	-8	-4	-4	-7	-4	-1	3	5	8	10	15	15	13	10	10	10	7	6	1	-5	-10	3.0	49	2.9	14	
19	-15	-17	-14	-12	-6	-2	-1	0	2	6	9	10	9	8	6	4	4	4	4	4	2	1	0	0.7	38	3.2	14	
20	-1	-3	-4	-6	-6	-6	-5	-3	1	4	7	11	12	12	11	11	14	16	18	12	6	-2	-4	-24	3.0	74	1.9	14
21	-21	-16	-5	-2	-3	-4	-2	1	3	5	6	8	10	9	8	6	5	4	4	2	2	0	1	1	0.9	40	2.6	14
22	1	0	-1	-3	-4	-4	-4	-3	-1	1	4	7	9	8	7	6	6	6	6	6	6	5	3	2	1.6	16	2.6	14
23	2	0	-4	-5	-5	-5	-4	-3	-1	1	3	5	6	7	7	6	6	6	6	6	6	5	4	3	3.3	14	3.2	14
24	4	-1	-2	-3	-4	-3	-2	-1	4	6	7	8	8	7	6	6	6	6	6	6	5	3	-7	3.9	60	2.4	14	
25	1	0	-3	-5	-6	-5	-4	-1	2	4	7	8	8	7	6	6	6	6	6	6	5	3	-7	3.9	60	2.4	14	
26	-5	-3	-3	0	4	10	8	7	9	9	8	8	8	7	6	9	12	16	11	9	9	6	0	-1	6.1	36	2.5	12
27	-2	-2	-7	-3	-4	-1	1	2	3	4	5	7	9	8	7	6	6	6	6	6	6	4	1	0	3.1	26	2.9	12
28	-1	-1	-7	-3	-4	-1	1	2	3	4	5	7	9	8	7	6	6	6	6	6	6	4	1	0	3.1	26	2.9	12
29	2	1	-2	-4	-4	-3	-2	-1	4	6	7	8	8	7	6	6	6	6	6	6	6	4	3	1	1.5	14	1.7	11
30	0	-1	-2	-4	-3	-3	-2	-1	0	3	6	7	8															





Tromsø.

Declination. D = 4° W + Tabular Quantities expressed in Minutes.

Gr. M. T.

HOURLY MEAN VALUES

JULY 1931	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	M	R	QM	QR			
1	-2	-3	-4	-5	-6	-6	-6	-3	-1	2	6	9	10	9	7	6	5	4	5	5	4	-2	-2	-3	1.4	20	1.8	16		
2	-1	-7	-12	-12	-8	-8	-8	-4	-3	4	10	13	13	13	9	7	4	4	5	5	4	-2	-2	-18	-0.8	70	1.3	15		
3	-13	-5	-6	-7	-8	-8	-7	-5	-4	0	6	9	12	11	11	8	7	10	10	9	7	-12	-9	-4	1.0	29	1.3	15		
4	-3	-5	-5	-7	-8	-8	-7	-4	0	6	6	8	9	8	7	7	6	9	11	11	3	4	-4	0.7	46	1.5	17			
5	-6	-6	-6	-7	-7	-6	-5	-3	0	4	8	10	10	10	8	7	6	4	3	4	5	7	-4	0.0	22	1.1	17			
6	-4	-7	-11	-9	-9	-8	-6	-4	1	5	7	8	10	7	7	7	6	6	6	7	4	3	0	0.5	26	1.3	16			
7	-1	-3	-5	-7	-7	-7	-6	-4	-1	4	6	9	9	7	5	4	4	5	6	6	10	2	-6	0.5	26	0.9	17			
8	-12	-8	-7	-6	-7	-8	-9	-7	-3	2	7	7	7	7	4	4	5	6	6	3	3	0	-4	-0.6	25	0.6	14			
9	-6	-5	-6	-7	-7	-7	-6	-4	0	4	7	7	7	7	5	5	6	6	6	6	6	4	-4	-0.1	32	0.9	14			
10	-5	-5	-9	-7	-6	-5	-4	-1	1	4	7	8	7	6	4	3	4	4	7	6	7	6	-10	-0.2	29	1.0	14			
11	-8	-7	-6	-6	-6	-6	-7	1	4	4	8	11	14	15	14	12	11	15	23	16	12	3	-12	-18	3.6	46	1.3	15		
12	-16	-14	-13	-10	-9	-7	-7	-5	-1	0	2	6	7	9	7	7	7	8	11	9	6	4	1	0	0	0	2.7	39	1.1	15
13	0	0	-3	-7	-7	-8	-5	-4	-1	0	-6	-4	3	15	13	7	7	9	12	7	8	5	-4	-4	1.8	29	0.5	14		
14	-4	-4	-5	-7	-7	-7	-6	-3	-3	4	6	9	7	8	7	6	4	3	4	4	5	2	-1	-4	1.1	25	1.2	14		
15	-4	-3	-4	-6	-3	-3	-3	-6	-3	4	6	9	7	8	7	6	4	3	4	4	5	2	-1	-4	0.1	62	1.2	14		
16	-10	-12	-22	-9	-5	-2	-3	-3	0	2	3	5	5	4	3	3	3	3	4	4	4	3	3	0	0	1.7	19	1.1	14	
17	-4	-7	-6	-7	-7	-7	-5	-5	-2	1	4	3	5	4	3	3	3	4	4	4	4	0	-4	-3	1.6	20	0.3	13		
18	-2	-3	-4	-3	-5	-4	-3	-3	-3	4	11	7	8	7	5	5	6	4	3	3	3	3	3	3	1	1.3	14	1.5	12	
19	-4	-3	-4	-4	-4	-4	-4	-4	-4	1	7	8	7	5	5	5	6	6	8	7	7	7	3	3	1	2.0	13	1.2	14	
20	-1	-2	-4	-4	-5	-4	-2	-1	2	5	7	8	6	5	5	4	7	9	9	4	4	0	0	0	0	0.4	17	0.3	13	
21	-3	-4	-4	-8	-4	-4	-2	-2	-1	2	5	7	8	6	5	4	7	9	9	4	4	1	0	0	0	0.4	19	0.3	13	
22	-3	-5	-4	-5	-4	-5	-6	-5	-3	0	0	3	4	3	3	3	3	3	3	3	2	3	3	0	0	6.2	116	1.0	12	
23	0	-1	-1	-3	-6	-4	-5	-4	-1	-6	5	6	12	12	12	27	33	38	24	10	-3	-3	-9	-9	-2.1	84	0.5	12		
24	-24	-15	-18	-4	-3	-10	-7	-1	-6	1	-2	-1	3	12	5	16	15	15	21	18	3	-4	-9	-9	0.4	88	0.8	13		
25	-7	-15	-13	-7	-9	-10	-7	-4	-2	1	3	7	4	2	5	6	7	6	9	4	0	-2	-5	-9	-3.3	106	0.8	13		
26	-36	-39	-27	-10	-8	-1	-1	-3	-1	3	7	4	4	6	5	4	3	2	4	6	5	-4	-1	-3	-0.5	23	0.4	13		
27	-6	-7	-7	-6	-6	-5	-4	-3	-1	1	5	5	6	5	4	3	2	4	6	7	5	-12	-15	-15	1.6	61	0.8	13		
28	-5	-7	-14	-9	-14	-3	-4	0	0	3	12	10	18	12	10	11	10	13	6	7	4	4	-4	-18	1.0	65	0.8	13		
29	-12	-13	-9	-10	-7	-3	-6	-2	-1	1	4	4	4	5	3	2	0	1	2	4	2	-7	-4	-12	1.3	138	0.8	13		
30	-27	-24	-21	-14	-9	-6	-4	-3	3	4	4	4	4	5	3	2	0	1	2	4	2	0	-2	-3	-1.0	40	0.0	14		
31	-15	-16	-7	-5	-4	-5	-5	-5	-3	1	5	7	9	8	6	3	1	1	1	2	2	0	-2	-3	-1.0	40	0.0	14		
M	-7.9	-8.4	-8.6	-7.0	-6.9	-6.1	-5.4	-3.5	-1.6	1.2	4.5	7.3	8.3	8.7	6.7	6.6	6.4	6.7	7.4	6.2	4.0	0.6	-3.1	-5.4	0.4	44.3	1.0	14.1		
QM	-1.9	-3.3	-4.7	-5.8	-6.0	-5.8	-5.2	-3.6	-1.7	1.1	4.1	6.4	7.6	7.3	6.1	5.1	4.4	4.1	4.0	3.8	3.5	2.8	1.4	-0.1						

AUGUST

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	M	R	QM	QR
1	-3	-4	-6	-7	-8	-7	-6	-4	-2	1	4	6	8	8	8	8	5	4	3	4	5	7	0	-5	-7	-4	-0.3	45	0.1	16				
2	-4	-5	-6	-6	-6	-6	-5	-3	-1	2	6	8	7	6	7	6	5	4	3	4	6	2	1	0	-1	0	0.5	16	0.4	14				
3	-7	-9	-9	-6	-9	-9	-10	-5	4	9	8	10	8	9	8	7	6	5	4	4	6	1	0	-1	-2	-0.3	33	0.6	14					
4	-6	-7	-8	-5	-9	-11	-9	-6	1	4	8	8	8	8	7	6	5	4	4	4	6	-2	-1	-1	-4	-0.6	26	0.6	14					
5	-3	-4	-8	-9	-6	-6	-5	-4	-1	2	4	6	7	7	7	4	3	3	4	9	12	6	1	-12	-9	0.9	55	0.4	13					
6																																		
7																																		
8																																		
9																																		
10																																		
11	-6	-4	-4	-4	-5	-6	-7	-4	-1	4	4	5	6	6	4	4	3	4	5	5	10	10	6	2	-3	-4	0.6	23	0.7	12				
12	-13	-18	-11	-8	-7	-5	-4	-2	0	2	3	4	4	5	4	3	3	4	4	5	5	2	1	2	0	2.0	16	0.3	11					
13	-3	-2	-2	-3	-3	-1	0	2	0	2	4	7	8	7	6	5	4	4	5	5	6	-4	-10	-13	-18	-0.2	55	1.6	13					
14	-2	-2	-2	-3	-4	-5	-4	-1	0	0	3	4	3	4	3	2	2	3	4	4	4	6	-2	-1	-4	-0.6	26	0.6	14					
15																																		
16	-22	-18	-12	-15	-4	1	0	-3	0	3	4	3	14	18	15	15	14	15	7	9	4	-20	-18	0.4	84	0.6	14							
17	-10	-9	-6	-6	-4	-7	-5	-3	0	2	6	7	8	7	7	4	4	4	4	7	4	1	-1	-1	1.1	17	0.8	12						
18	-5	-3	-3	-4	-4	-4	-3	-3	-1	2	4	6	7	7	5	4	4	4	4	4	7	3	3	-10	-10	-1.4	97	0.6	14					
19	-5	-3	-3	-4	-4	-4	-3	-3	-1	1	5	8	12	8	7	7	6	6	6	9	8	-3	-10	-10	-0.2	78	0.6	14						
20	-24	-24	-18	-4	-1	-12	6	6	3	2	6	10	12	4	4	9	9	9	8	6	9	-3	-10	-10	-0.2	78	0.6	14						
21	-15	-8	-7	-4	-3	0	6	3	3	3	4	-1	3	9	15	7	7	0	3	4	0	-12	-30	-24	-1.5	110	0.6	14						
22	-11	-6	-4	0	0	-2	-5	-3	0	3	4	6	8	5	4	6	6	3	4	3	1	-3	1	0	-4	1.0	23	0.8	14					
23	-2	-3	-4	-3	-4	-4	-3	-2	0	1	4	6	8	8	7	7	6	6	6	9	5	14	-3	-9	2.3	68	1.4	13						
24	-8	-5	-2	-5	-4	-4	-3	-2	0	3	6	8	8	7	7	7	6	6	6	9	3	8	-4	-6	-1.6	125	0.6	14						
25	-7	-7	-42	-39	-30	-1	-3	-3	1	3	3	-6	9	12	16	9	12	15	24	3	15	-4	-6	-9	-2.2	97	0.6	14						
26	-4	-6	-7	-12	-8	-5	-4	-2	-3	2	6	8	7	7	4	5	7	7	7	8	0	-12	-24	-30	-2.2	97	0.6	14						
27	-25	-20	-12	-8	-5	-4	-4	-3	-1	0	4	5	8	7	7	3	14	8	1	6	7	-18	0	-6	-1.5	135	0.6	13						
28	-50	-72	-27	-6	-6	-7	-6	-8	-5	4	6	7	6	13	7	6	1	2	1	2	1	-2	1	-4	-5.7	150	0.6	14						
29	-3	-5	-3	-4	-5	-6	-6	-1	0	0	3	6	8	8	6	1	0	0	1	-3	-6	-12	-4	-3	-0.8	40	0.4	14						
30	-1	-3	-4	-5	-6	-6	-																											



Tromsö.

Declination. Storminess (+ W). Unit Gamma.

Gr. M. T.

JULY 1931

HOURLY MEAN VALUES.

Table for July 1931 showing hourly mean values for declination and storminess. Columns include Day (1-31), hours (1-24), and summary statistics (M, PS, NS, AS, MPS, MNS).

AUGUST

Table for August 1931 showing hourly mean values for declination and storminess. Columns include Day (1-31), hours (1-24), and summary statistics (M, PS, NS, AS, MPS, MNS).

SEPTEMBER

Table for September 1931 showing hourly mean values for declination and storminess. Columns include Day (1-30), hours (1-24), and summary statistics (M, PS, NS, AS, MPS, MNS).

Tromsø.

Declination. D = 4° W + Tabular Quantities expressed in Minutes.

Gr. M. T.

OCTOBER 1931

HOURLY MEAN VALUES

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	M	R	QM	QR			
1	-70	-60	-18	-8	-4	-1	0	-3	7	7	4	6	6	5	9	-1	-18	-18	3	6	9	-14	-3	-3	-12	-3	-6.3	152	-1.5	6
2	-70	-57	-27	-15	-5	-2	0	-4	-3	3	3	2	3	3	2	0	0	0	27	-3	9	-1	-2	-1	-15	-3	-5.0	245	-1.5	6
3	-30	-30	-54	-7	-4	-2	0	0	-1	0	3	3	2	3	2	0	0	-7	18	16	-1	-2	-2	-9	-2	-15	-3.4	135	-1.5	6
4	-18	-21	-6	-6	-3	0	0	-1	0	-1	1	5	0	5	4	0	3	18	16	9	-16	-6	-12	-15	-3	-3.4	135	-1.5	6	
5	-15	-12	-27	-39	-6	-9	3	0	0	-6	-3	2	3	-4	6	4	0	3	18	16	9	-16	-6	-12	-15	-3	-3.4	135	-1.5	6
6	-40	-18	-21	-12	-4	-2	-3	-2	0	0	0	2	2	1	0	0	-6	-15	-6	-4	-3	-8	-15	-6	-4	-6.4	74	-1.5	6	
7	-12	-12	-15	-8	-3	-2	-1	0	0	0	0	0	0	0	0	-1	-5	-9	-1	-2	-3	-3	-4	-4	-4	-3.4	30	-1.1	5	
8	-4	-4	-4	-4	-2	-1	-3	-4	-5	-4	-2	2	6	3	3	0	-1	-1	-2	-2	-3	-3	-3	-3	-3	-2.2	22	-1.9	6	
9	-4	-4	-4	-4	-4	-3	-4	-3	-4	-3	-4	3	2	1	0	0	0	0	0	0	-1	-1	-10	-20	-9	-2.4	43	-1.5	6	
10	-3	-3	-4	-4	-3	-4	-3	-4	-3	-4	-3	2	1	0	0	0	0	0	0	0	-1	-1	-2	-3	-15	-1.5	30	-0.9	6	
11	-6	-5	-3	-3	-3	-4	-3	-2	-1	0	0	1	3	4	4	2	0	0	0	0	-1	-1	-2	-3	-15	-3.5	195	-1.5	6	
12	-15	-5	-6	-6	-5	-4	-4	0	0	0	0	0	0	0	0	0	0	0	0	0	-6	-3	-4	-4	-9	-7.7	240	-1.5	6	
13	-48	-36	-33	-27	-15	-8	-4	0	0	0	0	0	0	0	0	0	0	0	0	0	-6	-3	-4	-4	-9	-4.5	46	-1.5	6	
14	-3	-7	-8	-5	-3	-1	-1	-4	-2	-1	-1	-3	2	0	0	-18	-3	-2	0	0	-9	-12	-1	-12	-12	-2.6	90	-1.5	6	
15	-6	-4	-6	-6	-1	-1	-1	-2	-3	-3	1	2	9	6	9	3	3	-24	-5	-2	-1	-9	-1	-12	-12	-2.6	90	-1.5	6	
16	-15	-9	-7	-4	-3	-2	1	0	-1	-1	0	1	4	0	4	5	7	0	0	0	-2	-3	-5	-5	-4	-6	-1.9	45	-1.3	6
17	-6	-6	-5	-4	-2	-4	-3	0	-1	0	0	0	0	0	0	0	0	0	0	0	-3	-15	-24	-9	-9	-3.5	100	-1.5	6	
18	-12	-15	-15	-9	-6	-4	-3	-4	-2	0	0	0	0	0	0	0	0	0	0	0	-7	-6	0	0	-6	-1.4	40	-1.5	6	
19	-9	-10	-24	-8	-3	0	-4	-2	0	0	0	0	0	0	0	0	0	0	0	0	-5	-6	-3	-2	-15	-30	-4.8	87	-1.5	6
20	-3	-8	-3	-3	-4	-4	-3	-4	-3	-2	0	0	0	0	0	-1	-1	-2	-2	-10	-6	-12	-17	-6	-6	-4.3	45	-1.5	6	
21	-9	-5	-7	-8	-7	-6	-6	-6	-3	0	-1	0	0	7	3	1	-5	0	-1	-9	-12	-5	-7	-7	-6	-3.6	50	-1.5	6	
22	-27	-27	-12	-15	-12	-6	-3	0	0	-3	0	-3	-1	0	0	-1	-7	-18	-6	-6	-9	-15	-9	-50	-50	-6.1	117	-1.9	6	
23	-7	-6	-5	-4	-4	-3	-2	0	-1	0	0	0	0	0	0	0	0	0	0	0	-6	-7	-3	-6	-4	-3.4	45	-2.3	6	
24	-18	-21	-15	-6	-1	-7	-1	3	1	0	0	0	0	0	0	-1	-1	-4	-3	-7	-3	-3	-6	-6	-9	-3.9	72	-3.0	6	
25	-8	-6	-5	-5	-5	-5	-4	-4	-3	-2	-1	0	0	0	0	-1	-4	-3	-7	-3	-3	-6	-6	-6	-9	-3.9	72	-3.0	6	
26	-11	-5	-5	-4	-4	-4	-4	-3	-2	-1	1	2	1	1	1	1	1	1	1	1	5	-33	-15	-7	-7	-4.1	107	-1.8	7	
27	-12	-9	-15	-9	-6	-5	-4	-3	-2	0	0	0	0	0	0	0	0	0	0	0	-3	-6	-6	-7	-9	-0.2	113	-2.4	6	
28	-7	-8	-24	-9	-6	-3	-3	-3	-3	-3	-5	0	0	0	0	0	0	0	0	0	-3	-15	-6	-7	-7	-2.5	120	-2.4	6	
29	-6	-3	-4	-4	-4	0	0	-1	0	-3	-1	0	0	0	0	0	0	0	0	0	-3	-12	0	-40	-33	-0.9	280	-2.2	6	
30	-30	-48	-45	-27	-42	0	0	-1	0	-1	0	0	0	0	0	0	0	0	0	0	-9	-33	-9	-24	-24	-15	-16.4	195	-2.4	6
31	-7	-6	-8	-7	0	-3	-1	0	-3	-1	-3	-3	-4	0	-9	-3	-6	-7	-12	-8	-11	-9	-12	-9	-9	-5.2	80	-2.4	6	
M	-17.1	-15.2	-14.6	-9.0	-5.5	-2.9	-2.2	-1.5	-1.3	-0.6	0.1	2.0	1.5	2.7	1.9	2.3	0.7	-0.4	2.8	-4.8	-5.5	-10.2	-10.6	-15.0	-4.3	103.0	-1.7	6.1		
QM	-3.9	-3.0	-4.0	-4.0	-3.7	-3.5	-3.4	-2.7	-2.1	-0.7	0.6	1.6	1.4	1.9	1.0	0.4	-0.3	-0.8	-1.3	-2.1	-2.4	-2.7	-3.4	-3.5						

NOVEMBER

1	-8	-9	-4	-9	-6	-6	-5	-4	-4	-3	-3	-2	-1	-1	0	0	-1	-15	-7	-2	-4	-7	-7	-12	-5.2	50	-4.1	5	
2	-8	-4	-4	-6	-6	-5	-4	-4	-3	-3	-2	-1	0	0	0	0	0	-3	-3	-6	-7	-7	-10	-12	-4.0	33	-3.8	5	
3	-9	-7	-7	-7	-8	-1	-1	0	-1	-1	1	4	7	6	9	4	0	-18	-3	-6	-21	-40	-30	-18	-6.0	105	-3.7	5	
4	-12	-12	-21	-7	-4	0	0	-3	0	-3	0	3	4	8	7	0	0	-3	-1	-1	-6	-7	-6	-5	-6	-3.6	48	-3.7	5
5	-4	-5	-6	-9	-9	-2	3	0	-8	-3	0	3	1	3	0	0	-33	7	-12	-13	-22	-11	-14	-14	-5.6	255	-3.6	5	
6	-11	-33	-18	-7	-5	9	8	0	0	-4	0	-3	3	3	-8	0	-21	-30	-4	-4	-2	-6	-15	-21	-7.0	100	-3.7	5	
7	-20	-7	-15	-12	-6	-2	0	3	-2	-3	-4	-1	-9	0	-1	-5	-9	-3	-5	-9	-6	-9	-20	-12	-6.6	175	-3.7	5	
8	-15	-14	-9	-7	6	-6	3	0	-6	-3	-3	-1	-9	-6	-4	-6	-5	0	0	-20	-12	-9	-18	-33	-6.6	150	-3.7	5	
9	-30	-24	-24	-9	-6	0	-1	-4	-6	-6	-2	-2	-6	-1	-1	-5	-12	-7	-6	-7	-6	-12	-45	-27	-10.4	102	-3.7	5	
10	-55	-16	-7	-8	3	0	6	-1	-4	-4	-4	-1	-2	-1	-1	-12	-12	-6	-9	-3	-4	-9	-10	-10	-7.2	123	-3.7	5	
11	-6	-6	-7	-6	-5	-4	-3	-3	-1	-3	-5	-2	-3	-5	0	-7	-10	-5	-4	-9	-8	-9	-8	-9	-8	-5.3	45	-3.7	6
12	-6	-6	-5	-4	-4	-3	-3	-4	-4	-3	-2	-1	-1	-1	-1	-1	-2	-3	-3	-4	-4	-5	-5	-6	-6	-3.5	7	-3.6	6
13	-7	-7	-6	-4	-3	-4	-4	-4	-3	-2	3	5	2	0	0	-1	-2	-1	-1	-4	-8	-8	-8	-6	-3.0	80	-3.7	4	
14	-15	-18	-3	-1	-3	-2	-2	-3	0	1	3	7	0	1	1	1	1	1	1	1	1	1	1	1	1	-3.2	130	-3.7	4
15	-6	-5	-4	-5	-4	-4	-3	-3	-3	-3	-2	0	0	2	1	-20	-15	-6	0	-4	-9	-18	-6	-7	-8.7	157	-3.7	4	
16	-22	-12	-15	-15	-8	-4	-3	0	-1	-1	0	1	0	4	-6	-1	-2	-9	-6	-15	-6	-12	-30	-20	-6.3	98	-3.7	4	
17	-15	-9	-9	-8	-5	-3	-1	0	-3	-7	2	-3	3	3	-6	-4	-12	-5	-15	-24	-4	-7	-30	-6.0	102	-3.7	4		
18	-15	-12	-12	-9	-7	1	-2	-1	-2	-2	-4	0	-3	4	-10	0	-1	-3	-6	-6	-4	-4	-12	-15	-6.3	64	-3.7	4	
19	-8	-20	-6	-4	-6	-6	-4	-2	-4	-5	-4	-3	0	-2	-8	-1	-2	-22	-6	-4	-4	-4	-12	-15	-6.3	64	-3.7	4	
20	-7	-17	-6	-4	-4	-4	-4	-4	-4	-4	-4	-3	-3	-4	-8	-1	-1	-9	-4	-4	-6	-7	-5	-5	-4.9	35	-4.3	4	
21	-7	-5	-6	-7	-7	-4	-4	-5	-4	-4	-4	-3	-3	-4	-8	-1	-1	-9	-4	-4	-6	-7	-5	-5	-4.9	25	-4.3	4	
22	-6	-5	-5	-5	-5	-4	-3	-2	-2	-2	-2	-2	-2	-2	-1	-1	-4	-4	-12	-1	-1	-15	-7	-6	-3.8	29	-4.3	4	
23	-5	-5	-5	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-3.3	33	-3.7	4
24	-7	-9	-7	-9	-6	-4	-3	-2	-1	-2	-1	0	0	2	3	1	1	1	1	1	1	1	1	1	1	-2.8	20	-3.7	4
25	-5	-5	-4	-1	-1	-2	-4	-5	-4	-4	-3	-1	-1	0	0	0	0	0	0	0	-2	-6	-9	-9	-9	-3.5	50	-3.5	4
26	-9	-12	-15	-15	-11	-4	-3	-4	-2	-3	-4	-3	-4	-3	-4	-3	-4	-3	-4	-3	-4	-4	-4	-4	-4	-7.4	155	-3.6	4
27	-27	-50	-40	-36	-7	0	0	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-4	-9.8	128	-3.8	4
28	-11	-7	-6	-4	-4	-1	-1	-4	-5	-6																			



Tromsø.

Declination. Storminess (+ W). Unit Gamma.

Gr. M. T.

OCTOBER 1931

HOURLY MEAN VALUES.

Table for October 1931 showing hourly mean values for declination, storminess, and unit gamma. Includes columns for Day, Hourly values (1-25), M, Diurnal Sum (PS, NS, AS), and monthly totals (MPS, MNS).

Table for November 1931 showing hourly mean values for declination, storminess, and unit gamma. Includes columns for Day, Hourly values (1-25), M, Diurnal Sum (PS, NS, AS), and monthly totals (MPS, MNS).

Table for December 1931 showing hourly mean values for declination, storminess, and unit gamma. Includes columns for Day, Hourly values (1-25), M, Diurnal Sum (PS, NS, AS), and monthly totals (MPS, MNS).

Tromsø.

Horizontal Intensity. H = 11500 + Tabular Quantities expressed in Gamma.

Gr. M. T.

JANUARY 1931

HOURLY MEAN VALUES

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	M	R	QM	QR		
1	71	70	71	80	80	85	83	80	80	78	77	78	90	80	83	88	88	98	89	110	130	110	-50	110	82	390	81	19	
2	92	55	-10	75	87	83	78	88	84	80	78	77	80	81	80	81	80	80	81	82	95	112	80	90	79	235	80	6	
3	80	78	77	74	76	78	79	79	79	78	78	78	80	80	79	80	79	79	79	78	78	79	80	78	79	20	79	4	
4	73	76	76	76	80	80	80	80	80	79	79	78	78	80	80	80	81	81	81	81	81	82	81	82	77	35	77	12	
5	62	76	78	78	80	80	80	79	79	79	79	79	79	80	80	80	81	81	81	81	81	81	81	81	79	30	79	8	
6	72	80	80	85	89	90	89	84	81	80	81	81	81	81	81	81	82	82	81	80	79	79	78	79	82	55	82	12	
7	79	80	80	81	81	82	82	81	80	80	80	80	81	80	80	80	79	79	79	79	80	79	75	73	79	20	80	5	
8	76	75	79	79	80	80	81	80	79	79	79	79	79	78	78	77	78	79	79	80	79	78	78	79	79	15	79	4	
9	78	20	-40	30	40	85	88	88	82	81	81	83	110	93	122	155	148	138	110	92	80	60	65	-140	73	425	80	5	
10	-35	78	100	105	55	120	112	80	68	78	90	90	92	83	90	95	100	110	120	-160	-75	77	80	70	68	550	77	6	
11	70	72	78	77	77	76	75	70	69	72	77	78	78	77	78	81	80	93	135	130	118	105	70	98	60	84	255	76	11
12	-5	72	75	78	79	80	79	77	71	78	82	75	75	80	85	82	110	140	160	165	110	100	108	85	90	290	77	10	
13	68	71	70	70	73	76	77	73	75	80	79	77	75	79	77	75	79	80	88	92	98	97	45	30	77	200	76	9	
14	81	77	73	74	75	75	75	75	76	77	79	82	82	81	80	80	80	80	79	79	78	77	76	60	77	80	77	9	
15	20	42	65	78	75	77	78	71	70	77	90	90	72	83	91	100	85	79	81	98	50	68	-12	8	68	165	77	6	
16	-40	-142	-22	90	85	80	80	85	58	58	107	105	140	85	230	180	200	10	-40	-10	-40	-170	-220	-320	25	840	77	5	
17	-185	90	-20	0	60	70	100	95	90	90	110	190	240	240	195	220	125	75	80	50	82	10	-125	75	75	735	78	5	
18	-45	52	60	75	70																				71	615	77	5	
19	-20	40	95	78	78	77	75	73	88	100	110	125	75	82	93	88	80	78	75	72	70	90	68	-90	81	435	76	7	
20	-150	72	82	82	81	81	81	80	80	79	77	78	75	72	63	185	140	200	230	140	115	60	-20	-55	81	580	79	5	
21	72	70	60	90	88	98	93	80	74	76	75	73	77	79	77	76	85	100	107	128	60	-28	20	58	74	210	78	6	
22	60	68	71	73	80	80	89	83	77	62	70	77	79	73	80	82	79	79	79	78	77	75	72	65	75	65	77	11	
23	8	50	73	80	80	80	82	81	79	75	73	77	78	81	80	79	81	80	81	80	79	78	77	76	79	30	79	9	
24	68	70	77	78	82	84	81	80	81	81	80	79	78	78	79	80	80	85	98	110	0	-160	-240	-230	-175	32	645	79	5
25	76	77	78	79	80	81	81	80	79	76	76	78	79	80	80	80	80	80	88	128	115	90	79	76	70	69	410	79	11
26	-185	-28	60	125	90	75	80	70	58	72	90	88	80	80	78	78	80	88	128	115	90	79	76	70	69	410	79	11	
27	70	70	71	71	73	75	77	75	73	75	76	77	79	80	93	110	148	120	120	100	110	-165	-155	-40	58	430	76	10	
28	75	-20	-110	25	90	95	88	87	90	90	87	95	98	87	80	83	87	102	110	110	108	70	80	-100	67	430	82	11	
29	20	85	83	81	81	80	88	88	90	90	90	97	95	180	200	155	180	120	82	78	70	77	98	77	100	455	81	14	
30	75	78	80	80	81	82	83	78	72	70	72	76	82	83	82	80	83	81	80	80	78	78	77	77	79	30	79	11	
31	79	80	78	76	79	82	84	79	74	72	72	75	75	75	80	85	90	115	120	75	100	80	75	-40	78	370	79	13	
M	27.9	56.0	57.0	75.0	77.5	82.2	83.2	79.8	77.0	77.6	82.1	86.5	89.2	89.7	96.2	102.4	101.7	95.0	93.7	72.4	60.4	42.9	25.7	9.0	72.4	297	78	9	
QM	75.5	76.3	76.9	77.8	79.3	80.4	80.3	78.8	78.1	77.7	77.9	78.4	79.2	80.1	79.7	80.4	80.7	80.5	80.5	79.7	79.9	77.8	76.7	75.7					

FEBRUARY

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	M	R	QM	QR		
1	10	62	80	85	92	90	90	86	83	81	80	73	76	79	80	80	81	86	110	-30	-60	-130	-10	57	440	83	12		
2	-330	-210	100	100	95	100	110	100	83	90	100	93	95	98	95	100	100	95	83	83	79	40	40	90	59	670	86	2	
3	80	45	-50	40	42	28	48	80	103	75	72	78	80	82	95	97	120	115	110	120	110	98	82	79	76	310	80	4	
4	78	80	80	76	72	76	87	65	70	60	80	80	80	85	80	97	98	120	118	118	90	-180	-5	88	71	450	79	18	
5	78	-80	-80	70	85	90	87	84	81	80	79	79	80	82	82	82	83	81	81	84	95	35	70	72	66	280	82	11	
6	80	80	80	82	80	82	85	80	77	76	74	80	81	83	85	86	92	90	97	93	108	130	65	35	83	165	84	19	
7	80	80	80	78	85	91	90	87	80	73	68	73	65	100	93	83	88	89	90	90	92	110	-50	-10	76	285	84	16	
8	-20	35	85	87	100	90	90	83	85	82	87	80	81	81	81	82	82	85	93	90	80	25	38	75	155	84	10		
9	62	20	60	90	88	85	87	80	78	78	81	83	87	91	90	102	97	110	98	83	80	82	70	77	82	115	84	20	
10	58	30	60	78	92	82	81	80	83	82	82	87	78	80	90	90	91	93	95	95	93	87	82	82	81	90	90	85	16
11	82	81	80	80	80	83	87	81	77	75	75	78	80	84	93	92	85	90	110	85	100	88	90	88	85	120	82	15	
12	82	82	82	83	84	86	86	87	83	80	79	80	80	85	85	85	90	90	115	105	110	100	90	60	68	110	84	11	
13	-5	10	60	20	82	92	87	70	77	80	98	105	110	90	110	140	165	50	55	-90	-180	-190	-40	39	710	81	7		
14	5	-150	-190	-60	30	80	70	75	87	90	100	160	150	230	135	130	180	150	100	35	55	-20	-500	-350	23	1220	81	7	
15	15	40	20	30	60	70	90	70	100	90	100	90	130	145	160	120	140	165	90	-40	-210	-310	-170	-80	38	840	81	7	
16	-220	-55	70	78	82	82	90	80	70	80	80	78	80	92	80	80	87	83	81	79	76	80	79	79	62	425	81	7	
17	80	79	78	80	81	82	84	78	75	75	72	72	75	82	80	89	110	140	100	90	88	78	30	0	79	260	79	11	
18	50	80	82	81	81	83	82	78	77	72	70	78	80	81	90	81	88	115	95	88	80	80	79	60	80	125	80	11	
19	67	83	85	83	82	81	80	80	79	77	74	74	80	82	84	87	98	145	170	130	82	80	78	50	88	205	81	11	
20	25	20	55	87	87	85	80	78	73	69	67	70	78	83	81	83	86	88	89	96	80	86	81	77	75	110	81	22	
21	81	81	81	82	82	80	79	76	74	71	73	74	79	82	82	83	85	82	82	85	83	81	81	80	80	80	30	80	14
22	80	80	80	80	80	80	79	78	77	75	73	74	78	83	82</														



Tromsö.

Horizontal Intensity. Storminess (+ N). Unit Gamma.

Gr. M. T.

JANUARY 1931

HOURLY MEAN VALUES.

Table for January 1931 showing hourly mean values for horizontal intensity and storminess. Columns include Day (1-31), hours (1-24), and Diurnal Sum (PS, NS, AS, C). Includes summary rows for M, MPS, and MNS.

FEBRUARY

Table for February 1931 showing hourly mean values for horizontal intensity and storminess. Columns include Day (1-28), hours (1-24), and Diurnal Sum (PS, NS, AS, C). Includes summary rows for M, MPS, and MNS.

MARCH

Table for March 1931 showing hourly mean values for horizontal intensity and storminess. Columns include Day (1-31), hours (1-24), and Diurnal Sum (PS, NS, AS, C). Includes summary rows for M, MPS, and MNS.



Tromsø.

Horizontal Intensity. H = 11500 + Tabular Quantities expressed in Gamma.

Gr. M. T.

APRIL 1931

HOURLY MEAN VALUES

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	M	R	QM	QR		
1	81	81	81	81	81	80	75	65	57	52	50	53	70	90	108	140	175	218	110	-190	45	45	30	-30	69	635	73	33	
2	-95	-3	78	100									53	70	90	85	89	89	98	95	40	80	68	70	82	290	79	35	
3	79	90	90	89	85	80	72	57	48	50	48	53	70	122	220	280	265	150	45	0	-20	-140	60	82	625	74	42		
4	98	89	80	73	80	79	71	63	54	49	47	48	68	87	82	83	100	130	110	112	40	-20	-90	-130	59	390	72	36	
5	-10	-70	-5	80	92	90	80	72	59	54	40	43	53	65	72	79	73	80	81	79	79	79	80	55	255	72	35		
6	80	80	80	79	79	78	74	67	59	48	40	47	65	90	83	88	90	85	87	84	80	79	78	75	75	65	75	43	
7	76	81	83	83	81	79	74	65	54	48	43	45	58	75	73	73	80	85	89	90	90	80	33	48	70	105	72	40	
8	-8	58	83	83	81	79	75	65	59	52	47	50	52	67	80	102	125	105	93	91	88	25	10	-105	61	295	73	33	
9	-65	22	45	80	78	81	77	69	60	55	50	57	58	85	72	110	92	132	125	110	93	72	-20	-95	60	310	74	33	
10	-30	10	-10	-150	-90	45	85	75	58	50	50	58	80	140	150	145	150	137	118	110	67	10	-30	-205	-70	34	540	73	36
11	62	82	84	81	80	74	63	58	67	48	65	90	170	180	250	123	85	78	92	73	50	60	60	78	75	69	85	73	49
12	78	77	75	73	71	68	61	55	49	46	50	50	53	55	60	66	70	78	80	80	79	78	77	76	67	40	67	34	
13	75	72	70	70	70	70	65	54	46	43	48	49	55	60	69	85	70	78	79	80	78	76	75	75	67	50	66	37	
14	75	74	75	76	74	71	66	56	45	40	40	46	57	66	78	90	95	108	103	85	80	-30	-88	38	59	290	68	40	
15	48	80	87	82	79	72	59	52	48	47	42	47	60	75	98	100	127	118	118	82	-20	-25	5	28	63	235	68	38	
16	42	38	50	77	80	79	72	62	50	41	41	47	60	65	70	75	82	89	90	88	88	90	90	85	69	85	73	49	
17	82	78	73	73	78	77	70	59	48	41	43	52	65	82	72	85	89	90	98	95	58	0	-10	52	65	170	69	39	
18	60	40	-15	-120	5	48	70	82	67	63	42	57	72	100	160	145	108	103	108	27	-60	27	67	65	55	435	68	37	
19	62	52	60	68	72	70	62	59	50	50	50	57	92	128	125	125	100	83	73	58	48	60	71	72	35	760	66	38	
20	-360	-330	-135	-40	-30	30	75	35	78	95	180	195	80	95	160	145	100	83	73	58	48	60	71	72	35	760	66	38	
21	74	73	71	70	68	61	57	49	43	48	38	42	55	60	67	71	75	81	89	97	100	80	71	79	68	105	65	43	
22	78	35	38	28	35	42	52	55	50	30	52	42	75	78	70	110	140	128	93	22	-12	40	-35	55	370	67	36		
23	-190	0	70	70	71	70	63	58	51	47	45	48	70	87	108	115	112	112	93	77	70	64	40	-32	55	370	67	36	
24	-100	-2	35	62	73	70	61	51	41	38	35	41	58	73	82	90	105	103	90	80	72	70	55	20	68	310	65	36	
25	40	62	64	65	70	63	57	48	45	42	35	50	70	72	88	168	182	180	75	0	20	37	35	70	68	310	65	36	
26	75	79	77	74	62	52	43	45	43	25	40	52	55	63	63	72	77	80	80	80	70	48	42	-42	57	210	66	37	
27	-40	52	60	78	70	60	54	45	44	42	50	51	55	60	65	75	85	85	82	79	72	70	68	70	60	210	65	38	
28	70	70	70	70	68	65	59	50	48	45	47	50	52	68	70	71	83	82	80	80	80	70	68	70	67	45	66	39	
29	60	32	58	73	71	63	56	51	49	52	38	50	55	62	65	72	78	80	80	81	76	72	69	70	64	85	65	38	
30	60	32	58	73	71	63	56	51	49	52	38	50	55	62	65	72	78	80	80	81	76	72	69	70	64	85	65	38	
M	13.7	38.0	51.8	56.1	61.9	67.7	66.0	58.0	51.9	48.3	50.1	57.4	67.6	78.1	92.9	101.8	108.6	111.7	98.4	65.2	42.2	38.7	20.3	17.7	61.2	299	69	38	
QM	86.4	76.3	76.4	76.0	75.0	72.0	66.1	58.3	50.0	45.4	44.9	48.2	57.0	64.5	70.1	75.1	78.8	81.5	82.2	80.8	78.4	76.6	76.1	76.4	61.2	299	69	38	

MAY

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	M	R	QM	QR		
1	40	40	60	70	69	63	54	43	41	43	58	42	49	56	68	72	79	92	90	85	81	79	78	78	64	80	66	44	
2	70	20	8	42	67	58	50	53	40	42	43	48	72	53	72	67	78	81	83	79	74	71	71	70	59	135	66	41	
3	71	71	75	70	65	57	44	40	43	45	42	38	50	69	67	80	85	95	112	115	52	32	18	2	60	160	65	41	
4	30	22	18	52	62	60	60	57	52	49	50	48	60	98	82	80	86	90	96	100	85	60	52	67	63	135	67	32	
5	59	68	70	67	63	70	66	57	50	44	45	67	75	120	133	122	133	135	150	110	-50	-40	-102	-22	62	320	66	37	
6	52	65	28	37	65	85	70	42	10	42	80	98	98	105	82	105	160	140	123	85	58	50	48	70	75	180	66	38	
7	70	72	-50	-500	-600	-150	95	80	40	40	110	125	140	98	210	140	125	110	138	60	-90	-10	0	0	11	1030	65	38	
8	7	-8	45	60	60	55	62	57	48	30	40	65	80	80	80	86	90	93	73	70	64	63	63	60	60	150	66	37	
9	67	68	63	59	56	52	48	41	38	37	35	40	45	58	67	88	70	73	78	77	72	71	70	65	80	55	59	41	
10	50	48	61	63	61	59	50	39	35	32	38	47	57	67	73	79	81	80	80	79	79	79	79	62	70	64	70	49	
11	79	78	74	70	69	62	58	53	50	50	45	80	60	80	98	110	137	175	160	50	-55	-210	-330	-160	37	640	67	35	
12	-120	-80	-105	-40	-10	20	52	70	68	50	57	80	60	97	117	130	185	150	140	97	60	-150	-65	-48	27	465	64	40	
13	-20	58	68	63	70	65	52	60	57	40	37	49	65	70	68	70	108	152	185	30	-90	-250	-120	-200	29	730	67	35	
14	-220	-185	-75	70	95	75	70	52	60	52	58	67	62	70	88	75	88	127	140	30	-50	-310	-240	-270	-3	720	66	41	
15	-260	-260	-330	-380	-220	30	60	40	100	70	95	110	145	300	180	70	72	87	122	80	-5	15	-40	-130	-2	870	66	41	
16	-55	62	10	30	62	55	50	38	62	54	68	57	80	92	180	135	113	89	100	102	63	0	-27	-105	55	365	66	39	
17	-100	-90	30	57	33	50	62	60	52	60	57	62	69	85	85	85	90	123	122	100	90	68	52	25	54	295	66	38	
18	15	-70	-105	-10	20	42	47	60	52	60	57	62	69	85	85	95	190	150	140	80	38	35	42	-10	-65	56	420	66	36
19	-62	-55	-10	30	70	76	60	52	57	63	40	60	78	85	98	130	120	82	81	80	77	71	70	72	59	260	66	36	
20	67	46	38	63	80	75	70	58	49	47	60	72	75	130	140	152	178	188	175	112	10	-40	-85	-170	66	480	70	35	
21	-130	-45	78	103	97	83	63	57	55	52	60	51	95	72	80	80	85	81	81	83	79	75	73	71	62	280	69	30	
22	70	70	77	78	78	70	67	59	50	49	60	50	80	95	90	100	102	100	95	87	77	69	69	69	76	70	68	34	
23	66	60	73	75	70	62	58	49																					



Tromsø.

Horizontal Intensity. Storminess (+ N). Unit Gamma.

Gr. M. T.

APRIL 1931

HOURLY MEAN VALUES.

Table for April 1931 showing hourly magnetic observations. Columns include Day (1-30), hours (1-23), M (Magnetic Intensity), Diurnal Sum (PS, NS, AS, C), and MNS (Magnetic Storminess).

Table for May 1931 showing hourly magnetic observations. Columns include Day (1-31), hours (1-23), M, Diurnal Sum, and MNS.

Table for June 1931 showing hourly magnetic observations. Columns include Day (1-30), hours (1-23), M, Diurnal Sum, and MNS.



Tromsø.

Horizontal Intensity. H = 11500 + Tabular Quantities expressed in Gamma.

Gr. M. T.

JULY 1931

HOURLY MEAN VALUES

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	M	R	QM	QR		
1	63	65	68	64	61	57	50	41	33	32	33	45	38	65	80	88	83	79	78	74	70	67	-10	-30	54	200	62	56	
2	32	30	50	72	82	70	60	45	40	30	35	50	100	132	78	112	100	85	72	83	10	-110	-340	-140	33	560	66	55	
3	-10	68	65	62	62	60	53	50	50	52	48	48	65	110	112	130	132	125	70	30	57	48	32	72	250	64	54		
4	47	68	76	71	60	52	47	49	47	48	32	31	52	63	85	110	135	155	148	90	-90	-70	-30	22	54	305	64	55	
5	40	60	73	66	62	60	62	55	40	29	38	35	32	51	63	77	88	88	87	85	80	-30	-50	20	53	165	64	59	
6	53	45	52	69	68	62	52	40	38	35	41	55	62	88	60	62	82	115	130	85	62	50	60	68	64	110	65	52	
7	68	65	62	60	58	53	50	46	39	41	43	55	55	59	62	70	80	90	98	100	65	-18	-10	-28	53	175	64	49	
8	-30	-5	78	80	68	56	46	37	35	39	45	50	67	75	80	76	78	82	87	85	78	61	42	15	55	195	63	54	
9	55	72	70	70	70	66	57	47	42	47	52	55	60	64	70	75	90	91	93	89	82	58	20	-50	60	180	68	48	
10	35	60	70	78	73	67	59	48	46	49	56	60	60	60	61	67	82	92	95	100	87	68	15	-38	61	190	67	38	
11	0	65	80	80	70	57	37	32	47	63	70	70	65	130	140	135	140	147	157	110	80	30	-48	-40	72	260	67	46	
12	8	20	25	80	70	68	59	48	40	42	48	47	60	73	77	85	87	90	98	105	103	90	89	66	135	68	50		
13	88	68	70	52	50	50	60	60	52	48	60	52	48	52	90	98	90	132	148	195	145	105	92	80	72	80	175	67	46
14	76	69	63	50	55	60	49	58	45	62	62	60	40	70	85	108	118	118	110	83	68	40	-90	-80	82	200	67	46	
15	60	70	77	58	60	68	60	32	40	40	70	48	60	90	85	108	118	118	110	83	68	40	-90	-80	59	335	67	45	
16	-30	-70	-260	55	65	53	60	60	70	50	33	47	73	68	83	82	90	95	83	80	75	78	68	-15	41	560	67	44	
17	-90	-65	52	65	78	62	60	49	42	45	48	52	57	62	75	81	92	91	87	84	79	68	62	62	54	275	68	49	
18	18	75	72	76	62	65	60	38	48	42	30	40	80	72	110	105	97	105	115	92	70	37	10	58	65	160	68	45	
19	70	72	76	70	69	62	55	43	35	30	32	50	65	72	103	115	90	65	60	61	68	65	57	59	64	110	60	50	
20	58	59	65	68	68	60	47	35	28	27	30	48	58	72	80	93	101	102	110	107	90	77	62	40	66	95	60	56	
21	38	69	60	72	60	52	53	43	40	32	40	50	62	60	90	100	102	120	115	108	58	20	67	60	66	135	62	51	
22	53	61	68	67	68	70	63	53	45	41	40	47	57	61	78	88	85	80	78	78	75	68	64	65	60	65	60	65	40
23	60	62	58	48	68	75	73	49	48	32	100	60	200	110	105	280	150	170	145	145	-70	-10	30	-130	66	670	62	50	
24	-280	-70	-10	80	65	70	58	50	60	80	53	50	78	60	88	118	120	93	88	80	70	28	22	50	46	550	62	50	
25	-30	-95	22	20	50	20	40	57	40	35	60	120	240	340	260	310	260	200	150	95	-70	-90	-160	-300	66	1110	62	48	
26	-410	-240	-140	-20	60	60	30	30	25	40	40	42	110	170	185	100	68	98	130	100	28	3	-20	-100	18	860	62	46	
27	-100	-20	50	65	70	67	63	43	50	50	51	50	55	72	98	80	68	72	69	82	102	40	-30	-20	40	48	315	61	43
28	70	60	17	65	-65	25	60	50	30	60	125	250	290	160	140	150	135	80	-130	-50	-130	-250	-140	43	740	61	43		
29	-60	25	45	30	70	40	40	50	40	30	37	48	65	95	130	160	125	105	68	70	-30	-80	-70	-140	40	400	61	44	
30	-260	-80	-5	30	10	48	55	45	40	62	47	60	90	93	70	68	60	70	71	78	18	-28	-95	25	490	61	45		
31	-125	-25	52	62	65	65	58	50	38	33	31	47	53	60	68	72	76	77	73	70	64	60	60	66	48	220	60	46	
M	-14.0	20.6	38.5	60.2	59.7	58.1	53.7	46.3	42.6	42.5	47.3	56.2	80.5	97.0	96.6	110.6	106.7	110.6	104.2	76.6	48.7	22.7	-5.6	-13.3	56.1	330	64	48	
QM	65.8	67.7	68.6	69.0	67.1	62.5	55.7	48.0	38.6	37.0	40.4	48.1	55.2	63.5	71.3	77.2	82.8	84.0	83.1	80.7	75.6	70.0	78.1	65.7					

AUGUST

1	62	60	54	42	47	50	49	48	47	49	42	43	50	62	50	58	58	70	90	90	-15	-60	8	42	46	275	58	30
2	54	58	60	59	58	54	49	41	33	31	30	38	43	58	78	90	90	92	78	67	64	61	57	30	57	115	55	39
3	10	48	40	18	30	48	33	28	33	35	50	15	40	58	60	53	60	68	72	70	70	72	60	50	47	95	57	36
4	0	29	46	61	67	65	51	40	37	47	50	60	60	90	78	66	62	75	90	98	78	62	40	55	58	140	57	36
5	65	60	30	40	58	60	53	44	50	40	40	43	78	127	92	140	210	120	115	5	-30	-65	-15	59	340	58	35	
6	38	20	42	48	59	60	57	50	41	38	52	40	100	80	42	45	56	68	90	123	88	65	62	73	60	180	58	35
7	68	68	80	85	80	60	63	52	40	42	80	60	120	250	420	280	300	195	130	70	60	35	40	105	111	470	58	32
8	-150	-240	-60	100	20	50	57	35	43	65	110	140	210	150	300	190	190	138	140	-130	-85	-190	-150	-140	35	770	58	36
9	-290	-310	-250	-170	30	70	48	50	55	65	90	140	180	245	270	190	155	125	60	-20	-30	-180	-40	40	17	980	58	34
10	28	52	55	68	45	58	43	50	50	52	60	65	80	103	62	115	160	140	82	60	38	-230	-210	-240	34	700	58	33
11	-460	-190	0	-45	-130	-120	-30	8	95	110	95	60	150	162	138	160	175	132	105	78	5	-20	-8	28	21	750	58	31
12	280	32	27	80	60	60	63	43	45	42	33	38	78	75	110	108	88	78	87	93	40	12	-10	-28	52	160	59	29
13	-95	-125	17	58	62	56	52	48	44	43	45	57	60	65	110	108	148	120	117	100	70	20	13	45	54	400	60	29
14	60	61	61	58	20	22	48	48	32	35	65	75	80	88	73	75	65	71	85	68	-30	-40	50	58	240	58	36	
15	61	60	60	53	55	60	57	44	39	36	33	47	62	75	110	165	110	72	80	90	50	-110	-130	-125	44	360	58	39
16	-152	-130	-70	-20	28	52	53	63	50	60	57	105	150	120	137	143	190	190	110	25	25	-90	-165	38	540	58	36	
17	-20	40	70	71	60	50	42	48	30	27	32	42	80	100	110	92	110	93	82	68	70	55	38	-45	56	260	55	38
18	2	52	60	63	61	58	49	45	42	30	30	40	48	63	72	80	88	100	102	80	50	-2	3	20	52	150	57	40
19	-100	-210	-50	-15	30	95	57	48	43	50	43	55	72	110	110	90	90	88	120	65	-30	-55	-110	-55	21	610	57	38
20	-180	-60	0	70	68	28	-30	10	20	85	120	170	140	100	230	250	170	125	120	-110	-260	-65	-85	-40	37	760	57	38
21	-80	20	42	50	-20	-5	0	-25	30	68	60	135	190	240	260	180	120	70	100	15	-70	-270	-400	-160	23	920	57	39
22	20	60	63	62	59	58	52	46	37	31	33	45	60	70	62	73	88	93	65	67	55	38	10	30	53	155	57	39



Tromsö.

Horizontal Intensity. Storminess (+ N). Unit Gamma.

Gr. M. T.

JULY 1931

HOURLY MEAN VALUES.

Table for July 1931 showing hourly magnetic observations. Columns include Day (1-31), hours (1-24), and summary statistics (M, PS, NS, AS, C). Values range from -187 to 474.

AUGUST

Table for August 1931 showing hourly magnetic observations. Columns include Day (1-31), hours (1-24), and summary statistics (M, PS, NS, AS, C). Values range from -520 to 139.

SEPTEMBER

Table for September 1931 showing hourly magnetic observations. Columns include Day (1-30), hours (1-24), and summary statistics (M, PS, NS, AS, C). Values range from -43 to 100.



Tromsø.

Horizontal Intensity. H = 11500 + Tabular Quantities expressed in Gamma.

Gr. M. T.

OCTOBER 1931

HOURLY MEAN VALUES

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	M	R	QM	QR	
1	-280	-270	-80	20	80	70	40	-10	40	40	35	90	70	125	175	135	120	115	-160	-80	-20	-90	-330	-390	-23	730	51	21
2	-680	-300	-110	-15	90	62	68	55	53	78	80	110	90	170	260	180	150	30	-150	-180	-50	-210	-280	-315	-30	950	51	21
3	-260	-125	-170	45	0	60	75	50	70	50	45	50	70	65	60	82	80	107	25	62	55	20	6	20	21	595	51	21
4	-110	-360	-30	42	38	50	60	48	40	43	40	72	130	160	92	50	90	70	20	-180	-260	-230	-170	-50	-14	690	51	21
5	-130	-55	-60	-280	-110	-50	85	60	190	60	60	100	190	140	115	100	80	-105	40	-300	-220	-40	-70	-230	-18	820	51	22
6	-370	-140	-45	30	55	55	50	53	52	33	75	62	52	60	58	60	62	60	30	15	55	48	-140	-265	0	640	51	22
7	135	-22	20	28	42	47	50	45	28	48	43	72	62	80	42	75	62	61	58	51	48	45	45	45	40	305	50	22
8	45	45	40	38	32	25	22	35	28	30	43	48	35	40	55	77	62	60	60	53	40	-200	-120	28	26	500	46	24
9	38	43	23	0	30	40	45	48	43	41	39	60	80	52	95	110	64	58	50	47	43	43	45	42	49	190	48	25
10	40	49	48	50	51	53	52	46	39	37	52	43	58	40	52	65	90	140	100	78	40	-55	-125	-80	20	415	49	23
11	-8	40	58	57	55	50	48	40	32	30	38	47	55	62	62	55	58	55	55	55	45	-40	-150	-40	36	295	51	32
12	-130	22	52	55	54	52	48	40	35	38	60	40	130	210	270	110	-110	-80	-70	-145	-180	-320	-450	-8	970	49	25	
13	-580	-340	-60	-95	-100	20	70	80	60	75	150	230	155	180	170	130	95	60	5	40	40	30	-145	7	1060	49	22	
14	-180	-10	20	38	50	58	58	48	42	40	50	53	80	52	72	120	100	85	58	-80	-135	-60	-28	30	24	485	49	24
15	28	40	40	52	58	58	49	37	60	70	90	75	180	250	85	92	120	60	45	60	10	-120	-210	-215	47	610	49	26
16	-110	-5	37	60	53	43	40	32	35	32	43	48	80	150	120	155	138	97	62	53	30	39	38	5	53	355	48	28
17	-100	-105	15	57	48	53	50	45	45	60	40	85	75	70	57	58	57	59	60	40	-160	-130	15	-2	20	510	49	22
18	-20	-70	-30	60	65	65	50	45	42	70	150	175	105	100	60	90	175	160	90	10	-25	35	10	-30	57	510	51	20
19	-7	-25	-80	0	22	30	65	60	45	65	80	85	70	60	65	130	140	115	122	-25	-100	-85	-130	-280	18	610	49	22
20	-100	22	62	60	57	55	48	37	42	42	40	55	48	60	72	62	60	73	83	60	-25	40	-100	-250	25	455	50	23
21	-40	10	30	55	60	58	55	43	40	45	60	80	100	92	68	90	100	85	20	-90	-50	10	-25	-65	36	370	50	22
22	-360	-330	-60	-10	30	60	50	60	60	70	60	95	85	65	60	110	120	100	-90	50	50	15	-75	-35	9	1030	49	22
23	30	52	55	55	55	52	49	45	40	65	53	52	80	55	78	90	60	50	60	-200	-550	-370	-240	-10	1010	49	21	
24	-45	-10	25	-10	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	37	265	49	27
25	30	60	51	52	51	50	48	44	40	36	33	40	50	57	73	63	82	90	57	49	35	-110	-50	12	39	335	49	27
26	10	32	50	53	52	51	49	44	32	32	40	40	44	57	50	68	55	60	87	-140	-50	40	35	10	33	600	47	23
27	-110	-180	-40	45	65	65	60	55	42	38	32	78	95	240	285	260	140	85	-210	-45	0	40	42	12	45	900	51	21
28	30	30	-90	-55	10	70	50	60	42	52	80	65	100	155	72	130	185	-40	-300	-130	-120	-110	10	15	13	690	49	21
29	18	45	50	49	48	33	45	32	110	205	200	-50	-75	-75	-200	180	20	-150	-90	-190	-450	-460	-300	-55	1010	48	21	
30	-240	-195	-260	-300	-330	-100	-80	65	25	60	52	70	50	190	150	100	-190	-100	-350	-530	-120	-150	-15	-97	1250	49	21	
31	-10	20	0	38	-10	50	30	75	60	65	80	100	95	100	55	75	60	50	2	0	-60	-50	-25	36	345	49	21	
M	-115.6	-65.9	13.5	9.2	21.1	38.4	46.3	48.5	49.0	50.4	61.1	75.4	83.8	98.6	93.0	93.8	80.7	56.7	-5.0	-36.8	-43.6	-74.5	-91.6	-105.8	14.7	629	49	23
QM	48.1	49.8	52.1	54.3	53.5	52.2	49.1	44.6	40.2	37.8	38.4	41.6	46.5	52.3	56.2	58.3	59.3	57.9	65.4	48.2	49.3	47.6	46.0	46.2				

NOVEMBER

1	-12	-30	-10	20	52	50	43	45	33	25	27	42	47	33	53	65	120	80	95	60	42	-22	-180	-115	23	480	47	17	
2	20	8	35	55	53	48	35	38	37	37	32	38	62	120	172	148	85	72	30	28	5	-70	-130	42	475	48	18		
3	0	28	0	30	58	50	35	40	30	30	40	50	80	110	210	170	116	20	15	40	-140	-350	-230	-95	14	725	47	17	
4	-170	-240	-75	40	40	-10	-5	55	60	35	70	230	180	170	185	180	60	80	78	30	35	20	20	46	730	47	16		
5	20	25	32	27	-5	52	55	42	50	50	75	75	95	55	80	95	50	-270	-180	-140	-200	-230	-35	-90	-11	710	47	16	
6	-60	-195	-70	20	-10	5	50	60	50	60	120	125	180	125	100	60	45	20	90	0	-40	-250	-310	-105	3	730	47	16	
7	-140	-30	-20	-30	40	50	70	50	40	70	80	95	180	80	45	70	50	55	80	60	-5	-200	-280	-90	-12	830	47	15	
8	10	-25	-10	-10	0	20	60	25	90	155	130	100	180	145	190	105	100	-60	-110	-240	-400	-210	-430	-14	1010	47	15		
9	-410	-240	-180	-60	130	90	75	50	50	42	50	50	90	95	170	130	90	60	65	50	-100	-200	-360	-350	-26	980	47	15	
10	-370	-80	15	25	50	50	75	60	60	60	60	55	52	68	65	120	115	80	-10	-60	-190	-20	-60	-25	9	805	47	14	
11	30	48	48	49	49	45	40	43	40	38	38	60	105	80	72	98	60	88	83	20	-10	-40	-105	-10	40	345	48	14	
12	33	45	47	48	48	49	47	42	40	39	36	40	42	50	50	52	57	57	50	43	45	35	15	44	35	46	13		
13	25	33	48	57	58	55	53	50	47	48	48	42	42	50	60	60	50	60	30	48	40	-42	-165	36	315	48	9		
14	-40	-50	60	80	80	50	57	60	52	48	40	57	70	110	180	270	155	190	150	110	-10	-50	20	10	-15	66	605	46	14
15	20	50	60	60	45	48	50	50	47	42	43	50	65	100	50	60	110	0	60	-40	-30	10	-410	-180	15	860	47	10	
16	-330	-160	10	18	20	58	55	50	50	52	45	60	150	140	145	70	-90	-100	-210	-320	-750	-160	-130	-52	1100	46	14		
17	-150	30	60	60	65	60	52	25	55	45	60	60	60	60	85	100	160	110	90	-70	-10	80	-420	-490	-350	-10	825	46	15
18	-290	50	40	32	40	22	30	80	90	70	70	80	95	160	170	130	120	60	20	-60	-40	50	-150	-100	32	770	46	15	
19	20	-40	-110	0	50	40	40	40	50	40	65	80	80	82	130	75	60	80	-70	-110	-250	-250	-80	-10	1	760	46	16	
20	50	0	60	75	45	60	45	60	45	35	45	60	60	60	63	52	67	70	75	65	62	30	-85	-150	40	420	46	16	
21	20	48	45	40	43	50	48	45	50	40	38	45	48	42	45	52	55	65	68	58	48	42	45	43	47	172	47	17	
22	40																												



Tromsø.

Horizontal Intensity. Storminess (+ N). Unit Gamma.

Gr. M. T.

OCTOBER 1931

HOURLY MEAN VALUES.

Table for October 1931 showing hourly mean values for horizontal intensity and storminess. Columns include Day (1-31), hours (1-24), and Diurnal Sum (PS, NS, AS, C). Includes summary rows for M, MPS, and MNS.

NOVEMBER

Table for November 1931 showing hourly mean values for horizontal intensity and storminess. Columns include Day (1-30), hours (1-24), and Diurnal Sum (PS, NS, AS, C). Includes summary rows for M, MPS, and MNS.

DECEMBER

Table for December 1931 showing hourly mean values for horizontal intensity and storminess. Columns include Day (1-31), hours (1-24), and Diurnal Sum (PS, NS, AS, C). Includes summary rows for M, MPS, and MNS.



Tromsø.

Vertical Intensity. V = 50100 + Tabular Quantities expressed in Gamma.

Gr. M. T.

JANUARY 1931

HOURLY MEAN VALUES

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	M	R	QM	QR		
1	107	103	140	111	107	109	106	100	99	103	103	109	118	110	95	92	115	125	110	105	55	80	-30	20	94	315	104	16	
2	110	108	90	60	78	83	92	100	104	107	102	103	108	108	120	117	110	108	105	107	100	65	70	103	98	100	101	11	
3	112	110	103	102	100	98	99	97	96	97	98	99	100	105	106	105	105	107	105	105	110	111	112	118	104	112	118	101	
4	107	103	105	108	100	100	100	100	100	106	107	107	105	105	105	105	103	105	112	108	105	98	92	93	103	40	103	7	
5	87	92	102	104	105	102	99	99	98	98	98	99	100	103	105	104	103	103	103	105	107	107	107	100	102	101	15	102	9
6	90	92	83	93	92	90	90	93	95	96	97	99	104	105	108	110	108	105	102	100	100	98	95	93	97	27	99	20	
7	93	95	95	96	97	95	94	92	92	91	91	95	98	100	100	100	101	102	104	103	101	100	88	85	96	27	97	13	
8	95	95	93	92	95	97	97	97	95	95	95	97	98	97	95	95	96	97	98	98	97	96	94	96	7	85	6	6	
9	94	85	25	-18	-5	30	65	72	82	90	93	95	110	132	120	123	113	93	80	65	50	50	120	75	77	500	99	11	
10	-18	60	108	127	65	50	90	88	97	95	108	110	125	122	108	127	130	120	90	60	-20	10	92	100	85	305	98	10	
11	98	105	108	103	99	98	95	98	100	100	102	105	105	103	102	103	115	118	90	92	50	105	50	86	97	185	101	13	
12	92	80	100	103	102	98	95	95	100	102	104	105	107	110	112	120	123	130	132	140	138	120	123	60	108	145	102	17	
13	75	95	97	98	97	95	92	93	98	103	103	105	105	107	112	112	120	122	118	117	110	110	60	100	102	100	104	20	
14	110	108	103	100	99	97	92	97	97	98	99	99	102	105	107	103	100	99	98	100	101	102	90	101	101	35	101	13	
15	73	65	60	80	87	92	90	90	93	98	100	106	120	122	120	137	110	100	103	85	42	70	90	88	95	120	100	8	
16	145	140	20	48	52	73	88	100	110	128	150	140	150	115	110	130	120	20	-10	15	70	-15	30	-15	80	390	100	8	
17	15	20	65	50	50	70	80	105	120	122	140	125	150	110	140	120	110	-20	70	90	95	70	60	85	300	100	8		
18	10	45	62	80	87																								
19	40	80	103	102	95	93	93	100	117	130	148	135	135	120	125	118	105	107	117	107	18	52	80	100	190	100	8		
20	12	50	90	95	95	97	100	100	100	100	100	102	100	107	115	135	100	60	50	122	100	107	55	-12	87	230	100	12	
21	82	88	110	100	102	97	102	98	98	102	102	105	105	108	105	105	107	130	120	100	98	60	73	62	98	110	101	11	
22	70	75	82	88	93	83	95	93	100	110	112	107	105	110	120	110	102	99	99	100	108	100	88	60	97	55	100	8	
23	50	50	63	77	90	97	93	97	101	101	102	110	110	110	110	125	125	128	120	107	95	90	55	70	94	120	100	12	
24	87	88	90	92	92	90	80	92	95	95	97	95	92	92	92	92	93	95	108	80	65	100	150	170	290	105	410	93	10
25	91	90	90	89	89	90	90	90	90	90	90	92	90	92	92	92	93	95	108	80	65	100	150	170	290	105	410	93	10
26	235	130	40	60	62	70	78	98	82	92	112	110	113	112	112	107	103	103	78	95	103	110	107	105	102	280	98	8	
27	101	100	98	98	97	97	97	97	99	100	100	100	103	128	130	137	90	78	70	78	70	125	105	80	100	225	99	9	
28	40	112	110	-5	65	72	82	100	108	110	110	115	140	120	108	104	105	110	122	110	105	92	100	60	100	250	99	11	
29	50	87	100	100	98	100	102	110	95	95	110	112	120	140	150	130	110	120	110	100	70	95	105	105	105	195	99	7	
30	99	98	97	97	97	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	12
31	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	12
M	82.2	88.5	87.0	84.6	86.8	88.3	92.7	95.9	98.4	101.5	105.3	105.9	110.8	108.2	110.9	111.5	108.3	104.9	90.7	92.8	83.8	86.2	84.6	83.8	93.5	169	99	11	
QM	96.7	98.0	98.5	98.5	97.6	96.7	96.0	96.2	97.5	98.5	99.5	100.7	102.1	103.2	103.3	102.6	101.9	101.3	100.9	100.6	100.0	99.4	98.3	96.9					

FEBRUARY

1	15	62	78	80	83	90	80	92	87	90	97	98	100	98	96	97	97	97	97	97	90	30	130	230	110	93	380	96	9
2	290	150	20	75	90	75	95	115	100	103	102	102	108	120	170	123	140	137	118	110	103	75	52	92	109	480	98	11	
3	102	90	40	10	38	-12	2	50	80	85	87	92	97	100	102	118	140	115	130	130	115	105	102	100	84	185	98	12	
4	100	99	100	98	97	89	83	90	98	102	108	110	110	108	112	112	120	132	125	100	72	70	43	80	98	190	98	15	
5	100	70	5	30	67	80	92	92	93	95	97	98	98	98	99	99	99	99	99	99	98	100	20	75	80	82	175	97	8
6	82	97	97	93	92	90	88	90	92	92	91	91	93	95	95	95	97	103	117	113	105	80	108	70	94	110	99	12	
7	82	92	90	80	70	80	83	93	95	102	110	103	107	108	105	108	98	97	100	102	102	40	-20	20	85	190	98	10	
8	70	40	38	72	81	85	85	91	95	93	95	98	97	95	94	96	99	100	92	48	40	52	81	135	95	15	15		
9	68	82	63	88	92	93	88	91	93	92	90	100	108	120	100	112	115	120	107	100	72	72	83	93	88	95	12	12	
10	85	70	60	77	83	82	80	80	85	90	92	91	100	95	97	98	100	102	103	110	108	100	95	93	91	52	93	25	
11	95	94	92	90	90	88	85	88	90	90	90	89	92	95	100	113	112	100	100	48	80	92	102	100	82	115	94	15	
12	95	97	97	94	92	91	90	90	91	92	92	92	92	94	98	100	108	100	75	110	110	95	90	87	95	95	99	10	
13	40	5	55	60	42	50	70	72	60	60	67	72	83	112	118	132	100	52	47	90	270	560	30	50	96	875	98	9	
14	90	115	40	25	45	55	70	78	95	105	120	135	120	160	170	120	110	120	110	100	70	20	60	100	88	645	96	9	
15	-45	30	85	60	60	70	72	98	130	145	120	130	128	135	100	100	70	70	20	60	100	40	40	100	79	385	96	9	
16	175	5	42	60	80	93	102	102	100	98	102	108	105	112	122	110	112	112	105	103	101	100	98	97	98	325	97	14	
17	87	98	99	97	97	97	95	92	93	98	108	112	110	113	112	111	120	122	108	95	90	78	77	28	95	155	98	9	
18	60	82	91	92	93	93	93	95	97	100	103	100	98	99	102	107	103	110	112	100	98	94	91	78	96	102	97	13	
19	60	90	92	92	95	95	95	93	92	93	93	94	96	98	102	107	109	112	110	100	105	103	80	87	78	85	82	96	11
20	43	22	30	73	85	88	95	97	95	95	95	95	95	95	100	102	100	98	99	102	110	90	98	97	90	87	95	97	9
21	92	97	97	97	98	98	99	99	97	100	98	96	97																



Tromsö.

Vertical Intensity. Storminess (+ Down). Unit Gamma.

Gr. M. T.

JANUARY 1931

HOURLY MEAN VALUES.

Table for January 1931 showing hourly mean values for vertical intensity and storminess. Columns include Day, hours 1-24, M, Diurnal Sum (PS, NS, AS), and MNS.

FEBRUARY

Table for February 1931 showing hourly mean values for vertical intensity and storminess. Columns include Day, hours 1-24, M, Diurnal Sum (PS, NS, AS), and MNS.

MARCH

Table for March 1931 showing hourly mean values for vertical intensity and storminess. Columns include Day, hours 1-24, M, Diurnal Sum (PS, NS, AS), and MNS.



Tromsø.

Vertical Intensity.  $V = 50100 +$  Tabular Quantities expressed in Gamma.

Gr. M. T.

APRIL 1931

HOURLY MEAN VALUES

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	M	R	QM	QR			
1	99	100	100	99	97	96	97	97	97	97	95	92	102	102	132	135	75	70	150	80	78	78	120	100	300	99	7			
2	110	60	75	102								107	103	103	112	110	105	102	90	80	60	70	80	100	210	(99)	(17)			
3	90	92	93	96	97	97	97	95	98	98	99	100	112	102	118	58	50	78	70	130	250	180	85	104	395	97	(12)			
4	100	115	110	107	107	102	102	107	105	102	102	95	95	97	100	100	100	100	98	97	95	95	95	108	230	101	15			
5	10	5	20	32	90	112	115	110	103	108	112	95	95	97	100	100	100	100	98	97	95	95	95	87	155	98	5			
6	95	97	99	99	100	100	100	105	108	102	98	107	125	132	130	113	105	101	97	93	90	89	90	103	55	99	16			
7	83	93	97	100	100	98	98	97	97	96	96	93	90	102	103	95	93	95	95	80	40	40	40	90	88	97	11			
8	32	43	75	88	90	92	92	95	98	100	102	102	98	102	117	140	117	102	100	95	78	78	20	90	130	97	14			
9	30	40	45	70	82	88	90	92	90	97	100	102	115	107	115	120	120	125	113	107	108	108	110	99	470	99	7			
10	98	120	170	90	-60	0	72	92	100	100	110	103	122	170	140	130	120	110	73	50	70	110	230	60	99	470	99	7		
11	40	82	100	102	98	96	98	103	132	130	122	120	140	138	135	143	125	100	98	100	62	82	90	92	105	175	99	7		
12	98	100	101	101	100	100	101	102	101	100	98	99	102	107	105	105	102	99	98	94	93	92	93	94	99	13	99	15		
13	97	98	100	99	98	95	97	98	98	95	97	100	100	100	108	112	98	96	93	95	95	95	97	98	25	97	7			
14	98	99	100	100	100	100	100	97	100	100	95	91	90	95	100	112	127	120	108	75	88	98	30	50	95	115	99	7		
15	68	75	93	98	98	92	92	97	96	93	98	98	93	97	110	142	127	117	110	92	130	108	88	72	99	140	98	7		
16	70	70	62	82	90	92	96	97	100	100	97	98	92	95	97	97	93	90	89	89	90	90	90	90	90	47	95	11		
17	90	90	77	85	80	80	83	90	93	97	97	105	118	128	112	112	102	100	92	90	88	80	68	94	115	96	12			
18	88	78	57	-20	-43	25	70	93	95	100	100	97	117	142	135	130	127	120	110	82	45	40	83	93	82	238	99	7		
19	93	91	88	88	95	97	97	98	100	99	98	98	108	93	82	102	90	80	80	180	250	210	205	290	121	435	98	7		
20	15	70	-15	12	30	40	87	110	120	140	140	122	132	130	152	155	123	108	97	78	90	98	102	94	360	99	7			
21	100	100	101	103	103	102	101	101	100	105	101	98	95	97	99	100	100	100	99	88	88	90	98	99	60	100	8			
22	104	90	48	73	83	88	80	90	100	105	103	97	108	112	110	115	110	108	108	105	102	101	101	102	98	100	103	13		
23	50	10	52	80	90	100	103	107	107	105	105	98	97	130	135	117	133	128	125	112	102	98	83	60	97	215	101	11		
24	0	15	42	60	80	92	98	103	107	105	105	102	97	112	132	130	123	120	113	110	100	99	90	97	91	170	102	11		
25	50	80	92	92	98	97	95	97	100	103	108	112	100	108	107	118	120	115	80	115	140	95	112	98	101	180	100	10		
26	103	103	105	102	98	98	93	97	101	118	105	105	103	110	112	110	107	100	100	96	98	78	20	98	122	101	10			
27	20	70	95	100	100	100	99	99	100	101	100	103	105	105	103	108	110	112	110	115	110	100	95	95	102	98	108	103	17	
28	105	107	108	107	104	103	103	101	100	100	103	105	105	105	105	105	112	122	108	100	107	100	97	95	95	104	40	103	13	
29																													(15)	17
30	98	80	80	102	105	101	100	99	98	102	112	104	105	110	113	112	111	108	112	107	103	100	90	95	97	102	55	103	17	
M	73.4	78.7	82.6	84.2	81.6	88.2	94.9	98.6	101.9	104.0	103.8	102.2	103.8	111.2	113.7	118.0	113.7	104.4	97.6	100.1	100.1	102.1	97.4	88.7	97.8	166	99	11		
QM	97.6	98.6	100.3	100.3	99.1	98.3	98.1	98.3	99.5	99.7	99.8	99.8	100.7	101.8	103.2	103.6	102.8	101.5	99.6	97.7	96.1	95.4	95.2	96.5						

MAY

1	90	80	90	105	103	102	100	99	99	98	118	112	110	109	109	104	100	100	102	102	101	101	102	102	102	30	103	12
2	104	90	48	73	83	88	80	90	100	105	103	97	108	112	110	115	110	108	108	105	102	101	101	102	98	100	103	13
3	103	106	107	108	105	100	93	90	88	92	95	102	103	110	113	117	108	118	100	110	112	120	118	106	68	104	8	
4	90	85	93	88	85	85	90	90	92	97	102	108	108	113	128	125	122	118	112	118	118	80	68	83	100	130	103	7
5	90	93	98	98	96	95	97	99	99	100	105	125	165	150	165	167	162	140	120	108	120	93	52	52	112	155	101	12
6	67	90	80	68	78	98	100	102	112	103	140	190	157	120	152	138	133	130	120	122	118	113	110	110	115	170	103	9
7	108	100	120	310	45	-50	0	70	90	102	108	170	135	132	135	110	140	108	110	140	105	128	102	110	585	103	7	
8	93	100	100	102	108	110	110	112	115	117	110	120	122	118	108	120	117	120	108	102	104	103	105	105	110	60	106	9
9	107	109	110	112	109	108	103	102	100	100	98	103	101	105	107	110	104	103	103	103	101	95	104	20	104	14	104	14
10	92	90	97	102	102	103	105	102	100	100	99	100	100	100	100	102	105	108	105	105	106	106	105	102	20	103	9	10
11	105	107	108	105	103	100	98	95	87	85	88	90	102	100	130	148	125	90	80	100	185	310	190	130	119	440	103	10
12	90	120	110	70	80	62	90	90	103	108	110	140	118	115	112	118	130	110	112	110	108	98	38	43	99	250	103	7
13	32	70	90	90	83	85	95	105	100	100	100	115	120	122	108	98	98	90	118	270	55	108	88	101	550	102	12	
14	70	40	-55	-20	45	93	102	90	87	93	100	100	100	100	120	120	105	92	80	150	410	310	240	111	660	103	7	
15	245	300	90	40	-80	5	80	103	110	123	108	110	120	88	140	135	115	103	112	-10	35	60	52	70	94	685	103	7
16	30	70	60	43	45	82	95	93	98	103	100	112	108	125	122	172	140	113	112	110	98	83	100	125	98	163	103	7
17	15	-30	35	88	95	93	100	103	102	101	100	105	105	108	120	125	128	118	105	70	70	92	98	85	89	190	105	10
18	62	60	50	-18	10	62	88	90	98	95	93	110	118	140	147	128	140	120	75	82	83	75	92	90	87	200	105	9
19	82	110	62	68	80	102	110	110	112	112	100	90	103	118	130	148	138	130	112	105	103	103	103	106	115	105	9	9
20	103	100	73	77	90	102	102	103	107	108	108	110	130	132	140	155	158	150	125	130	140	132	180	170	122	215	106	10
21	125	40	52	100	118	120	117	112	117	113	110	104	107	128	112	110	108	108	108	112	110	110	108	108	107	175	107	11
22	105	102	100	103	108	110	110	112	110	107																		



Tromsö.

Vertical Intensity. Storminess (+ Down). Unit Gamma.  
HOURLY MEAN VALUES.

Gr. M. T.

APRIL 1931

Table for April 1931 showing hourly mean values for vertical intensity and storminess. Columns include Day (1-30), 25 numbered intensity columns, M (Magnetic), P8, NS, AS (Diurnal Sum), and MPS/MNS (Magnetic Storminess).

Table for May 1931 showing hourly mean values for vertical intensity and storminess. Columns include Day (1-31), 25 numbered intensity columns, M (Magnetic), P8, NS, AS (Diurnal Sum), and MPS/MNS (Magnetic Storminess).

Table for June 1931 showing hourly mean values for vertical intensity and storminess. Columns include Day (1-30), 25 numbered intensity columns, M (Magnetic), P8, NS, AS (Diurnal Sum), and MPS/MNS (Magnetic Storminess).



Tromsø.

Vertical Intensity. V = 50100 + Tabular Quantities expressed in Gamma.

Gr. M. T.

JULY 1931

HOURLY MEAN VALUES

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	M	R	QM	QR			
1	105	107	107	104	101	101	102	102	102	100	99	98	100	93	100	105	113	108	107	103	100	88	40	30	97	115	102	10		
2	58	40	60	73	90	97	90	85	88	88	85	92	120	130	150	122	113	105	100	97	130	190	55	30	95	355	102	4		
3	20	57	80	77	73	90	88	93	98	98	100	103	90	118	122	140	120	120	120	80	52	68	95	97	93	175	101	9		
4	98	95	103	108	108	103	103	88	90	95	100	83	90	93	95	110	122	107	90	95	-40	0	35	62	85	225	103	12		
5	73	78	82	105	103	110	110	112	112	110	107	112	105	100	103	103	103	103	101	95	70	25	40	94	102	105	12	12		
6	78	87	88	90	98	100	108	106	106	104	100	100	120	120	138	117	100	108	90	83	93	88	92	102	101	90	100	21		
7	107	108	105	87	93	95	90	92	92	98	107	106	100	95	95	92	92	90	95	92	140	58	60	96	175	99	16			
8	73	45	75	95	100	100	105	105	108	103	100	107	108	110	110	100	95	95	97	98	95	93	90	70	95	82	100	20		
9	78	90	97	94	98	100	100	100	90	86	86	93	100	103	103	100	102	105	103	102	95	88	90	60	94	85	97	19		
10	58	80	85	90	95	100	102	100	98	93	93	97	97	97	98	100	103	110	105	103	90	70	42	92	95	95	20			
11	25	60	90	95	97	100	110	95	82	100	102	120	108	115	132	150	142	128	80	70	30	40	80	110	94	155	101	9		
12	85	82	52	80	90	100	102	103	105	102	98	100	95	102	103	102	92	100	99	95	100	112	110	103	96	75	102	7		
13	102	102	100	88	70	65	60	85	107	115	120	108	142	125	115	120	148	140	120	112	103	108	100	108	107	102	10	4		
14	110	107	103	95	87	85	98	98	97	120	180	200	140	88	103	120	122	80	100	85	102	102	100	105	110	175	102	4		
15	100	100	102	88	100	110	105	112	148	160	95	102	100	120	137	122	137	152	127	112	97	90	80	40	110	175	102	7		
16	38	20	20	20	72	75	87	105	120	98	100	95	98	110	112	120	118	108	105	95	90	83	70	88	225	102	9			
17	28	-22	30	68	90	95	92	100	102	98	100	97	90	95	98	110	112	120	118	108	105	95	90	83	87	150	102	30		
18	53	75	92	98	98	95	100	110	108	118	117	105	95	90	102	117	123	123	122	118	102	90	68	82	100	75	101	12		
19	92	93	97	98	98	99	100	95	97	98	98	93	100	102	118	130	110	107	104	103	100	100	80	95	100	82	100	18		
20	100	102	102	103	106	109	108	107	103	97	96	90	100	110	125	130	133	120	112	122	117	103	97	80	107	75	102	19		
21	73	90	90	88	95	90	93	105	100	97	97	107	118	122	128	140	130	117	118	115	80	50	88	97	101	110	102	10		
22	95	93	92	93	97	100	108	104	102	102	110	110	107	103	100	106	108	104	102	103	98	93	97	101	101	40	100	16		
23	95	95	95	78	82	72	75	80	83	98	100	165	148	112	30	-120	-70	65	280	220	95	40	350	99	800	101	13			
24	270	-8	-20	42	85	92	100	120	140	140	120	110	118	122	112	145	130	110	108	103	112	118	100	107	735	102	7			
25	130	78	30	63	70	102	90	83	100	120	127	160	140	-70	110	90	100	98	100	130	240	160	190	350	115	750	102	7		
26	210	-20	-130	-85	20	72	82	95	95	100	113	113	122	180	150	128	112	112	100	78	35	65	90	120	82	645	102	7		
27	45	20	57	80	97	101	102	105	105	105	107	108	118	120	110	107	107	103	103	110	65	160	115	260	430	340	130	525	102	7
28	92	93	70	75	72	50	60	90	93	93	90	130	120	90	155	135	130	110	107	108	108	100	40	70	96	190	102	6		
29	40	32	78	90	85	102	108	100	100	99	100	102	107	105	132	112	128	133	118	110	113	100	40	70	96	190	102	6		
30	20	40	20	90	78	75	82	100	115	117	105	110	120	118	112	105	110	108	100	98	92	40	20	47	84	470	102	12		
31	65	58	83	93	102	105	107	110	110	107	107	108	110	105	108	117	115	113	111	107	104	103	103	102	102	23	106	17		
M	84.3	67.0	68.9	79.8	87.9	93.2	95.6	98.8	102.4	105.0	105.5	110.3	111.2	104.8	115.3	112.5	108.0	106.4	103.3	109.5	97.9	97.5	90.7	103.9	98.3	231	102	12		
QM	99.7	100.1	100.4	99.8	100.1	101.1	103.1	102.6	101.6	99.9	99.4	100.4	101.8	102.4	104.0	104.6	105.5	105.8	104.3	102.4	101.2	99.9	99.3	99.8						

AUGUST

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	M	R	QM	QR
1	102	102	107	100	90	83	88	88	89	90	97	95	97	110	120	98	100	100	100	102	92	32	40	60	91	130	97	14							
2	80	97	100	102	102	100	100	100	100	100	100	103	105	105	105	108	110	110	90	103	102	100	98	80	100	90	103	13							
3	35	50	20	-18	0	32	60	75	85	85	100	25	92	93	90	100	103	102	100	98	98	90	97	90	75	163	101	8							
4	80	77	88	90	95	102	102	105	100	90	100	102	108	102	128	107	98	98	103	90	83	88	87	90	96	90	102	15							
5	95	97	95	73	60	80	95	98	100	102	105	105	98	90	112	148	103	80	105	80	115	130	130	80	99	135	102	15							
6	82	88	90	78	82	85	91	92	97	100	102	115	92	135	125	108	98	95	90	105	108	122	97	97	98	82	101	19							
7	100	98	0	85	88	70	82	92	95	105	120	150	158	140	30	90	95	60	100	112	120	120	125	165	104	290	102	12							
8	380	250	0	50	80	100	80	100	110	128	182	180	170	108	120	140	140	122	250	170	300	140	220	152	570	102	12								
9	370	130	310	-10	-35	22	82	120	120	107	115	130	175	125	105	40	110	130	128	120	90	70	47	80	112	750	102	12							
10	90	95	92	103	105	110	108	110	110	117	115	112	128	140	138	128	130	132	120	105	90	100	160	170	117	355	102	12							
11	130	-70	0	0	5	0	12	33	85	120	130	130	150	128	142	140	132	127	120	100	120	102	92	95	84	355	102	12							
12	92	88	80	88	97	97	100	102	105	105	110	108	120	130	147	158	130	120	128	120	80	90	97	108	108	115	102	13							
13	70	18	32	70	88	95	90	92	97	100	102	103	102	98	88	105	108	115	108	112	92	88	95	195	101	16									
14	100	102	102	110	100	80	90	100	108	108	120	135	130	125	117	120	108	107	88	40	62	78	90	100	175	102	10								
15	95	98	100	100	90	92	93	94	95	95	92	90	100	118	137	152	140	117	102	108	100	35	75	130	102	210	98	20							
16	180	145	50	50	50	52	73	87	92	87	92	85	148	158	130	142	150	110	80	138	122	180	220	40	111	330	101	15							
17	30	55	75	95	102	100	100	112	110	107	125	112	128	142	140	140	138	125	112	108	98	82	88	75	103	155	100	15							
18	50	80	97	100	103	100	100	100	100	100	92	87	95	95	118	120	125	115	100	107	85	60	62	83	96	95	100	15							
19	160	130	10	-28	-10	33	67	82	90	92	115	132	142	13																					



Tromsø.

Vertical Intensity. Storminess (+ Down). Unit Gamma.

Gr. M. T.

JULY 1931

HOURLY MEAN VALUES.

Table for July 1931 showing hourly magnetic observations. Columns include Day (1-31), hours (1-24), and Diurnal Sum (M, PS, NS, AS). Values range from -37 to 110.

Table for August 1931 showing hourly magnetic observations. Columns include Day (1-31), hours (1-24), and Diurnal Sum (M, PS, NS, AS). Values range from -18 to 110.

Table for September 1931 showing hourly magnetic observations. Columns include Day (1-30), hours (1-24), and Diurnal Sum (M, PS, NS, AS). Values range from -18 to 372.



Tromsø.

Vertical Intensity. V = 50100 + Tabular Quantities expressed in Gamma.

Gr. M. T.

OCTOBER 1931

HOURLY MEAN VALUES

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	M	R	QM	QR		
1	-20	80	-15	-18	60	75	88	130	95	110	110	108	135	125	140	115	105	50	30	50	100	200	390	180	101	685	103	12	
2	40	150	25	28	83	113	112	108	100	110	155	162	140	100	-50	-65	-70	0	95	70	170	340	440	550	121	840	103	12	
3	440	180	90	40	55	70	115	140	140	128	127	120	125	123	132	118	125	95	75	118	118	100	77	70	122	680	103	12	
4	110	160	-30	40	78	90	95	102	110	115	110	155	170	170	160	115	60	145	420	310	260	265	325	151	665	103	12		
5	280	20	40	80	-40	20	80	130	150	145	110	130	150	160	132	120	65	60	-15	320	230	145	180	230	122	815	103	12	
6	70	-80	0	30	80	93	98	100	115	130	140	150	118	120	120	122	112	90	40	50	88	108	190	80	90	535	103	12	
7	-30	0	32	52	65	72	90	103	108	120	123	130	142	140	142	138	137	92	113	110	107	103	103	103	98	240	104	15	
8	105	107	103	92	75	60	68	90	100	100	112	108	120	110	108	125	132	113	120	118	110	50	-10	60	95	190	104	10	
9	85	95	85	73	50	57	70	83	97	100	100	102	120	142	150	152	132	125	110	108	100	100	101	102	102	140	103	13	
10	98	100	100	100	98	97	100	101	103	107	100	122	130	120	107	105	110	90	128	127	120	105	20	0	100	250	103	13	
11	38	70	102	108	108	108	103	105	108	110	118	117	120	130	148	140	130	110	103	100	99	97	130	140	110	205	105	13	
12	25	28	78	90	93	93	97	98	98	118	125	123	110	125	170	110	40	100	115	190	230	370	590	550	153	1005	101	20	
13	380	190	50	40	30	40	75	100	110	120	125	120	140	150	95	50	100	110	70	95	90	102	107	115	108	640	103	12	
14	15	50	82	88	98	112	120	115	112	118	128	140	142	150	142	148	200	88	115	120	130	120	98	90	110	195	103	12	
15	92	100	100	100	102	90	98	110	112	142	147	132	132	130	180	175	162	137	60	55	118	125	165	190	170	123	325	103	12
16	88	70	88	98	102	100	100	105	110	117	122	122	138	152	162	172	180	170	140	120	98	98	100	90	118	155	102	12	
17	68	8	35	67	52	70	92	105	125	132	128	130	150	120	118	108	108	110	110	110	40	30	75	130	95	350	103	12	
18	170	100	80	75	88	93	100	105	105	118	110	120	160	140	152	128	90	75	132	100	155	22	97	130	110	270	103	12	
19	112	68	90	70	72	70	92	108	130	138	122	145	118	110	112	140	125	110	105	35	-30	125	140	230	106	480	103	12	
20	55	52	85	90	97	102	105	110	110	110	122	120	118	120	133	125	115	120	112	20	30	82	205	180	105	425	104	13	
21	15	42	60	90	98	98	100	103	108	112	130	108	150	122	138	135	140	123	78	0	70	108	80	38	94	265	103	12	
22	280	10	-22	-8	40	73	88	115	120	132	128	125	132	130	120	105	130	20	35	70	88	70	62	78	88	610	103	12	
23	78	88	100	102	100	99	99	100	103	103	107	118	140	120	128	120	112	70	20	70	10	95	20	170	94	610	103	12	
24	30	47	72	18	40	48	72	108	115	125	120	110	105	118	117	108	117	117	110	100	98	88	62	72	103	155	103	12	
25	82	100	105	103	101	100	100	100	101	102	103	110	118	148	140	138	130	128	105	97	80	40	38	78	103	155	103	12	
26	72	88	90	100	102	102	101	102	105	101	101	103	107	112	115	122	123	118	100	100	20	70	80	78	96	345	104	17	
27	110	0	-5	25	73	95	97	100	103	108	122	125	160	110	60	-50	-20	-72	230	190	185	118	128	112	92	625	103	15	
28	93	105	160	62	52	75	102	115	118	135	145	112	120	170	150	120	20	10	230	150	210	250	140	120	124	450	103	12	
29	98	103	105	105	105	107	107	123	147	132	110	-140	-160	-58	-230	-50	60	70	250	290	450	480	300	220	114	1300	104	12	
30	90	105	100	20	170	-10	90	95	140	120	140	130	130	50	-30	-60	-10	-80	160	80	100	40	50	30	71	780	103	12	
31	95	103	98	103	78	72	98	110	142	130	142	135	160	130	160	130	90	40	10	70	90	130	55	68	102	245	103	12	
M	104.4	75.5	67.2	65.9	77.6	80.2	95.1	106.8	114.9	119.6	121.6	114.2	123.1	121.9	110.5	106.2	97.0	76.6	104.8	120.1	123.8	136.6	142.4	148.4	106.4	473	103	13	
QM	98.2	100.3	101.9	101.4	100.7	100.0	100.5	101.3	101.5	102.3	102.1	103.1	105.1	106.2	107.3	108.1	108.1	110.2	108.1	104.8	101.7	99.9	100.1	100.2					

NOVEMBER

1	60	68	75	83	95	105	112	110	120	135	130	128	120	118	115	120	100	102	112	118	122	90	-12	102	205	103	10	
2	70	78	82	92	97	100	103	110	112	120	125	127	120	125	155	90	60	70	112	120	118	100	100	30	100	175	103	10
3	38	77	88	62	75	80	83	98	107	135	143	137	132	162	158	170	160	90	50	98	100	180	120	167	112	320	103	10
4	210	40	-25	-10	42	50	80	112	120	132	140	130	130	130	150	155	118	120	65	90	98	90	93	99	365	103	10	
5	88	87	82	60	50	42	73	97	132	150	142	150	122	110	112	125	80	-35	130	200	180	85	95	165	105	650	103	10
6	108	180	100	58	75	30	55	87	110	128	132	145	130	130	140	122	90	-70	40	68	90	110	40	60	90	445	103	10
7	160	55	90	70	42	78	112	122	123	130	150	127	130	135	122	128	122	92	95	70	50	90	10	45	98	585	103	10
8	15	70	60	58	25	50	120	110	100	125	120	160	130	75	110	110	-30	110	70	370	150	230	250	108	925	103	10	
9	90	-50	-2	-18	80	110	105	112	123	115	110	128	160	130	135	130	95	120	112	80	-20	10	80	90	84	375	103	10
10	60	25	65	40	70	85	130	125	120	128	122	120	112	120	122	150	112	-10	55	140	170	80	105	90	97	535	103	10
11	93	107	108	107	105	105	105	105	103	108	125	130	135	130	135	140	60	108	110	88	82	50	30	45	101	175	105	10
12	77	95	100	100	101	101	102	102	103	103	105	107	110	110	110	112	108	105	98	60	95	88	155	185	100	335	103	17
13	70	72	77	75	82	90	92	97	97	95	100	105	112	118	112	108	105	98	60	95	88	155	185	100	335	103	17	
14	37	58	60	120	105	102	103	105	110	115	122	160	120	150	145	110	60	35	-15	10	80	100	120	88	345	104	10	
15	80	92	102	100	90	105	105	107	100	103	105	110	140	150	128	125	90	5	-55	150	110	140	310	120	109	640	104	10
16	145	40	50	55	52	62	100	93	105	100	103	117	120	155	140	20	-20	-35	-60	140	80	330	20	50	78	650	103	10
17	90	10	110	88	100	108	95	92	120	110	120	118	115	130	150	130	112	0	-45	-30	5	10	170	99	815	103	10	
18	0	28	75	88	90	88	85	130	150	135	112	130	130	120	20	80	105	80	35	80	-10	20	120	105	83	490	103	10
19	88	120	50	40	58	70	82	92	100	115	127	105	112	113	22	140	122	85	0	-100	-140	30	10	65	69	545	103	10
20	95																											



Tromsø. Vertical Intensity, Storminess (+ Down). Unit Gamma. Gr. M. T.

OCTOBER 1931

Table for October 1931 showing magnetic observations. Columns include Day (1-31), hours (1-23), and Diurnal Sum (M, PS, NS, AS). Rows show hourly values and monthly totals (MPS, MNS).

Table for November 1931 showing magnetic observations. Columns include Day (1-30), hours (1-23), and Diurnal Sum (M, PS, NS, AS). Rows show hourly values and monthly totals (MPS, MNS).

Table for December 1931 showing magnetic observations. Columns include Day (1-31), hours (1-23), and Diurnal Sum (M, PS, NS, AS). Rows show hourly values and monthly totals (MPS, MNS).



RESUMING TABLES

Tromsø

Gr. M. T.

Diurnal Variation																									
QUIET VALUES																									
Local Noon = 10°44.2' Gr.M.T.																									
Declination. Unit Gamma. + West.																									
1931	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
JANUARY	4	4	4	3	2	1	0	-1	-2	-2	-3	-4	-3	-3	-3	-2	-2	-1	-1	0	1	3	4	4	
FEBRUARY	3	4	5	5	4	3	2	1	0	-2	-3	-5	-6	-6	-5	-4	-5	-4	-3	-1	0	1	3	3	
MARCH	2	4	6	7	8	9	8	7	4	-3	-9	-12	-15	-11	-8	-3	-2	-1	0	0	0	1	1	1	
APRIL	4	7	11	14	16	18	16	12	4	-3	-9	-14	-20	-15	-10	-6	-4	-3	-3	-3	-2	-2	0	2	
MAY	7	9	14	19	21	21	18	12	3	-4	-10	-16	-20	-17	-13	-10	-10	-9	-8	-8	-6	-3	0	5	
JUNE	12	16	20	22	23	21	18	12	6	-3	-11	-16	-22	-20	-16	-13	-11	-11	-11	-11	-10	-5	0	6	
JULY	10	15	20	23	24	22	21	17	9	-1	-10	-17	-21	-21	-18	-14	-11	-11	-11	-10	-8	-7	-2	3	
AUGUST	10	14	17	20	21	22	20	14	6	-5	-13	-20	-25	-23	-18	-13	-10	-10	-8	-5	-3	0	3	6	
SEPTEMBER	10	12	13	14	15	15	13	10	5	-3	-9	-14	-16	-15	-12	-11	-9	-9	-9	-6	-2	1	4	7	
OCTOBER	7	7	8	8	7	6	6	4	2	-3	-8	-11	-11	-10	-9	-8	-5	-3	-1	1	2	3	4	6	
NOVEMBER	6	6	5	3	3	2	1	0	-1	-3	-4	-5	-6	-6	-7	-7	-5	-3	-2	0	2	4	6	7	
DECEMBER	4	3	3	3	2	1	1	0	-1	-3	-4	-4	-4	-4	-4	-3	-2	-1	1	2	3	4	4	4	
MEAN	6.6	6.4	10.5	11.8	12.2	11.8	10.3	7.3	2.9	-2.9	-7.8	-12.5	-14.1	-12.6	-10.2	-7.8	-6.3	-5.5	-4.7	-3.4	-1.9	0	2.3	4.5	
Horizontal Intensity. Unit Gamma.																									
JANUARY	-2	-2	-1	-1	0	1	1	0	0	-1	-1	0	0	1	1	1	2	2	2	1	0	-1	-2	-2	
FEBRUARY	-1	-1	0	1	1	1	0	-1	-2	-4	-5	-3	-1	0	1	2	3	4	4	3	2	1	0	-1	
MARCH	4	4	5	6	6	4	1	-5	-12	-16	-17	-13	-9	-4	0	4	6	8	9	7	6	5	4	4	
APRIL	7	7	7	7	6	3	-3	-11	-18	-24	-24	-21	-13	-5	0	5	9	12	13	11	9	7	7	7	
MAY	7	7	6	4	1	-5	-11	-18	-23	-25	-23	-19	-10	-1	5	10	13	15	15	13	11	9	8	7	
JUNE	5	6	5	4	1	-6	-13	-19	-24	-26	-25	-22	-12	-1	7	13	18	20	20	17	14	9	7	5	
JULY	3	4	4	5	3	-3	-8	-18	-26	-28	-25	-17	-9	0	7	13	18	19	18	16	12	8	3	2	
AUGUST	2	3	3	3	2	0	-4	-11	-18	-23	-23	-17	-8	2	6	10	11	13	14	11	8	5	2	1	
SEPTEMBER	0	1	3	4	3	1	-4	-5	-10	-14	-13	-11	-6	1	4	6	8	9	9	7	5	3	1	0	
OCTOBER	-2	0	3	5	4	2	0	-5	-9	-11	-11	-8	-3	2	6	9	10	8	6	2	0	-2	-3	-3	
NOVEMBER	-3	-1	0	1	3	3	1	-1	-4	-6	-8	-6	-3	0	3	6	7	6	4	3	1	0	-2	-3	
DECEMBER	-3	-2	-1	0	2	3	2	0	-1	-2	-3	-2	-1	0	2	3	5	3	1	0	-1	-1	-2	-3	
MEAN	1.4	2.2	2.8	3.2	2.7	0.3	-2.9	-7.9	-12.2	-15.0	-14.8	-11.6	-6.3	-0.4	3.5	6.8	9.2	9.9	9.6	7.6	5.6	3.6	1.9	1.2	
Vertical Intensity. Unit Gamma.																									
JANUARY	-3	-2	-1	1	-2	-3	-4	-3	-1	-1	0	1	3	4	4	3	2	2	1	1	0	-1	-2	-3	
FEBRUARY	-1	0	-1	-2	-2	-3	-4	-4	-3	-2	-1	0	0	1	2	2	3	3	4	3	3	2	1	0	
MARCH	-1	-1	-1	-2	-2	-1	-1	-1	-1	0	1	1	2	3	3	4	3	4	3	2	0	-2	-3	-4	-4
APRIL	-1	0	1	2	1	0	0	-1	-1	0	0	1	1	2	3	4	3	1	0	-2	-3	-4	-5	-3	
MAY	0	1	1	2	1	0	-1	-2	-3	-3	-3	-3	-2	0	2	3	4	3	1	0	0	0	-1	0	
JUNE	0	-1	-1	-2	-2	-2	-3	-4	-4	-3	-2	-1	-1	0	1	2	4	3	3	2	1	0	0	0	
JULY	-1	0	1	0	-1	-1	0	0	-1	-2	-2	-1	-1	0	2	2	3	3	2	1	0	-1	-1	-1	
AUGUST	-2	-2	-1	0	-1	-1	-2	-2	-2	-2	-3	-2	0	3	6	8	7	4	0	-1	-2	-3	-4	-4	
SEPTEMBER	-3	-2	-1	0	0	0	0	0	-1	-2	-4	-4	-2	0	2	4	6	7	6	4	1	-1	-3	-5	
OCTOBER	-5	-3	-1	-1	-2	-3	-3	-2	-2	-1	-1	0	2	3	4	5	6	7	5	2	-1	-3	-3	-3	
NOVEMBER	-3	-3	-2	-2	-2	-2	-3	-3	-2	-2	-1	0	2	3	4	5	7	6	4	2	0	-2	-3	-4	
DECEMBER	-2	-1	0	0	0	0	-1	-2	-3	-3	-2	0	2	3	3	3	3	2	2	1	0	-1	-2	-2	
MEAN	-1.8	-1.2	-0.5	-0.5	-1.0	-1.3	-1.8	-2.0	-2.0	-1.8	-1.7	-0.8	0.3	1.5	2.8	3.5	4.4	3.9	2.8	1.2	-0.2	-1.3	-2.3	-2.5	
Monthly Means.																									
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN												
DECLINATION.																									
DIRECT VALUES. D = 4° W + . . .	3.7	3.0	1.7	1.8	2.2	1.8	0.4	-0.3	-3.3	-4.3	-5.4	-5.8	0.4												
QUIET VALUES. D <sub>0</sub> = 4° W + . . .	4.8	4.8	3.1	2.5	2.7	2.3	1.0	0.6	-0.1	-1.7	-3.7	-4.6	1.0												
RANGE	42.7	61.4	54.2	41.6	47.0	56.0	44.3	58.6	81.4	103.0	87.2	70.9	62.4												
QUIET RANGE	3.3	4.1	7.5	10.6	12.7	14.2	14.1	13.7	9.0	6.1	4.6	2.8	6.6												
STORMINESS, MEAN	-3.5γ	-3.7γ	-3.6γ	-2.3γ	-1.7γ	-2.4γ	-1.8γ	-3.2γ	-1.1γ	-8.6γ	-5.7γ	-4.4γ	-3.5γ												
DIURNAL SUM PS (UNIT γ)	46	89	92	56	82	110	82	88	78	112	88	82	84												
NS	133	178	236	113	123	169	125	166	335	317	226	187	192												
AS	179	267	328	169	205	279	207	254	413	429	314	269	276												
HORIZONTAL INTENSITY.																									
DIRECT VALUES. H = 11500 γ + . . .	72.4γ	70.7γ	61.2γ	61.2γ	55.6γ	56.5γ	56.1γ	44.4γ	24.7γ	14.7γ	20.7γ	31.9γ	47.5γ												
QUIET VALUES. H <sub>0</sub> = 11500 γ + . . .	78γ	81γ	76γ	69γ	65γ	67γ	64γ	57γ	54γ	49γ	46γ	44γ	63γ												
RANGE	297γ	372γ	359γ	299γ	302γ	387γ	330γ	452γ	588γ	629γ	574γ	489γ	423γ												
QUIET RANGE	9γ	14γ	23γ	38γ	39γ	47γ	48γ	36γ	29γ	23γ	14γ	8γ	27γ												
STORMINESS, MEAN	-6.2γ	-10.6γ	-15.3γ	-8.3γ	-9.8γ	-9.9γ	-8.2γ	-13.0γ	-29.0γ	-34.6γ	-25.1γ	-11.9γ	15.1γ												
DIURNAL SUM PS (UNIT γ)	172	220	208	196	275	354	250	412	399	342	343	360	294												
NS	322	476	574	395	511	586	446	723	1094	1173	946	644	657												
AS	494	696	782	591	786	940	696	1135	1493	1515	1289	1004	952												
VERTICAL INTENSITY.																									
DIRECT VALUES. V = 50100 γ + . . .	95.5γ	90.0γ	94.7γ	97.8γ	105.8γ	106.0γ	98.3γ	99.5γ	100.9γ	106.4γ	94.2γ	88.3γ	98.1γ												
QUIET VALUES. V <sub>0</sub> = 50100 γ + . . .	99γ	97γ	98γ	99γ	104γ	102γ	102γ	101γ	101γ	103γ	102γ	100γ	101γ												
RANGE	169γ	276γ	238γ	166γ	191γ	265γ	231γ	268γ	378γ	473γ	383γ	311γ	279γ												
QUIET RANGE	11γ	11γ	11γ	11γ	10γ	12γ	12γ	15γ	13γ	13γ	12γ	11γ	12γ												
STORMINESS, MEAN	-3.8γ	-6.7γ	-3.1γ	-1.5γ	1.6γ	3.7γ	-3.3γ	-1.2γ	-0.6γ	3.3γ	-8.6γ	-11.7γ	-2.7γ												
DIURNAL SUM PS (UNIT γ)	111	163	180	137	206	286	180	274	362	501	239	156	233												
NS	201	324	255	171	169	199	259	302	392	421	446	438	298												
AS	313	487	435	308	375	485	439	576	754	922	685	594	531												

The Diurnal Sums are 24 times greater than the corresponding Mean Values.

Tromsø

RESUMING TABLES

Gr. M. T.

		Storminess.																							
		Local Noon - 10 <sup>h</sup> 44.2 <sup>m</sup> Gr.M.T.																							
		Declination. Unit Gamma. + West.																							
1931		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
JANUARY	PS	1	1	1	3	1	2	3	2	1	2	4	8	10	10	17	22	21	17	19	13	7	3	3	2
JANUARY	NS	48	21	21	6	3	1	0	1	2	1	0	0	0	0	1	0	2	5	20	27	38	54	68	
FEBRUARY	PS	0	1	1	2	3	3	3	1	2	3	5	9	16	23	30	31	32	19	14	11	5	4	0	1
FEBRUARY	NS	69	61	37	16	5	8	9	2	2	1	0	0	1	0	1	0	3	2	20	28	62	79	69	
MARCH	PS	0	0	0	2	2	3	3	4	3	5	8	12	15	23	24	17	27	25	22	11	3	0	0	0
MARCH	NS	104	66	26	20	20	9	3	1	1	2	2	2	2	1	2	1	1	14	32	74	97	95		
APRIL	PS	1	1	1	1	0	1	1	2	4	6	9	11	15	23	27	30	30	17	5	2	0	0	0	0
APRIL	NS	64	39	25	21	14	5	1	2	0	1	0	1	0	0	0	0	0	0	21	38	38	56	59	
MAY	PS	0	1	1	2	2	2	3	4	6	5	12	17	23	28	35	30	33	35	29	9	0	0	0	0
MAY	NS	60	52	48	47	37	12	3	2	1	1	1	0	1	0	1	0	0	0	8	35	63	68	61	
JUNE	PS	0	1	1	2	3	3	4	5	5	10	16	28	30	28	33	51	49	41	29	16	4	1	0	0
JUNE	NS	101	72	55	35	19	13	2	1	1	1	3	0	1	0	0	0	0	0	4	10	34	56	84	111
JULY	PS	1	0	1	2	2	1	1	2	5	6	8	10	26	34	26	35	25	28	23	8	3	2	1	1
JULY	NS	81	47	32	10	9	5	3	2	1	0	1	2	2	1	1	1	1	1	13	30	49	73	80	
AUGUST	PS	0	1	1	4	1	1	1	1	3	10	18	28	42	43	69	55	49	41	28	11	2	0	0	0
AUGUST	NS	115	84	47	28	26	13	10	8	3	1	2	1	1	1	1	1	2	0	3	19	56	103	109	91
SEPTEMBER	PS	0	0	0	3	2	5	6	6	6	12	17	29	44	58	61	58	43	30	15	3	1	1	1	0
SEPTEMBER	NS	136	142	113	67	27	5	4	2	2	2	0	1	1	1	1	1	2	23	47	74	140	162	145	
OCTOBER	PS	0	0	0	0	2	3	4	7	10	13	23	34	41	51	42	44	37	20	7	2	0	0	0	0
OCTOBER	NS	164	116	66	45	34	17	7	3	2	0	0	0	4	5	5	9	16	21	68	87	93	122	138	152
NOVEMBER	PS	0	0	3	2	4	4	5	5	7	9	16	23	39	42	53	44	39	23	17	5	2	0	0	0
NOVEMBER	NS	104	72	50	29	11	6	4	2	1	1	0	0	0	1	0	0	1	23	31	55	99	158	168	137
DECEMBER	PS	1	0	1	3	4	5	10	6	8	9	10	13	20	34	43	45	50	40	29	17	9	4	0	0
DECEMBER	NS	82	59	31	16	10	7	1	0	1	1	0	0	0	0	0	0	1	8	34	74	109	102	107	
MEAN	PS	0	1	1	2	2	3	4	4	5	7	12	18	26	32	38	38	36	29	9	3	1	0	0	0
MEAN	NS	94	69	46	28	18	8	4	2	1	1	1	1	1	1	1	1	2	4	12	29	52	84	99	98
MEAN	AS	94	70	47	30	20	11	8	6	6	8	13	19	27	33	39	39	38	33	33	38	55	85	99	98
MEAN	PS - NS	-94	-68	-45	-26	-16	-5	0	2	4	6	11	17	25	31	37	37	34	25	9	-20	-49	-83	-99	-98
		Vertical Intensity. Unit Gamma. + Down.																							
JANUARY	PS	1	0	0	0	1	2	1	3	4	2	3	3	3	2	2	3	2	2	3	1	0	0	2	
JANUARY	NS	15	13	10	6	4	1	0	0	0	1	1	0	0	0	2	5	2	6	5	10	11	10	18	12
FEBRUARY	PS	0	1	0	0	1	3	4	2	3	2	3	5	6	7	6	8	10	7	4	3	3	0	0	0
FEBRUARY	NS	21	23	18	13	6	3	1	1	1	1	0	1	0	1	2	1	4	3	7	4	7	13	23	24
MARCH	PS	0	0	0	0	0	1	2	2	2	3	3	5	5	7	8	5	4	5	6	7	3	0	0	0
MARCH	NS	31	26	13	12	9	5	2	1	0	0	0	0	0	1	1	0	1	1	3	4	6	17	22	26
APRIL	PS	0	1	0	0	0	0	1	1	1	1	1	2	2	3	4	5	6	8	10	6	2	0	0	0
APRIL	NS	18	13	10	8	4	3	2	0	0	1	0	0	0	0	0	0	0	1	1	1	8	7	16	17
MAY	PS	0	0	0	0	1	2	3	3	3	2	2	3	4	5	8	5	5	9	12	12	4	1	0	0
MAY	NS	24	21	15	9	5	6	3	1	0	0	0	0	0	0	0	0	0	0	0	1	1	7	15	15
JUNE	PS	1	0	0	0	1	2	1	3	3	1	3	3	3	6	7	10	11	14	14	12	6	4	0	1
JUNE	NS	26	28	16	16	8	4	3	3	3	1	2	0	0	0	0	0	0	0	0	2	8	13	24	
JULY	PS	0	0	1	1	1	2	2	2	2	2	3	4	5	3	6	8	9	12	8	4	1	1	1	1
JULY	NS	20	18	14	5	4	3	3	1	1	2	2	1	2	1	1	1	1	0	0	3	9	16	18	0
AUGUST	PS	0	0	1	1	2	5	4	4	3	2	2	2	2	3	5	3	6	7	10	11	9	3	0	0
AUGUST	NS	25	26	17	9	5	1	3	1	1	1	1	2	2	3	1	1	2	2	1	1	4	13	21	21
SEPTEMBER	PS	0	0	0	0	2	4	3	3	2	2	2	3	4	6	10	8	7	5	4	8	3	0	0	0
SEPTEMBER	NS	38	49	54	21	6	3	1	2	2	3	2	2	1	3	2	5	5	6	6	9	11	23	40	41
OCTOBER	PS	0	0	0	0	2	4	6	5	4	3	3	4	4	6	7	12	12	11	18	7	2	0	0	0
OCTOBER	NS	44	38	36	17	8	2	2	1	1	2	5	3	5	4	4	6	8	10	5	16	13	26	25	39
NOVEMBER	PS	0	0	1	1	2	7	8	5	2	1	2	6	6	9	4	5	5	3	6	4	3	2	5	0
NOVEMBER	NS	23	22	16	11	3	0	0	0	1	2	2	1	3	2	4	4	9	18	4	12	15	22	26	25
DECEMBER	PS	0	0	0	0	2	5	4	4	3	3	2	3	2	4	5	6	6	7	8	7	2	4	4	0
DECEMBER	NS	22	15	12	7	4	0	0	1	1	1	1	1	4	3	4	12	6	3	7	5	11	18	18	29
MEAN	PS	0	0	0	0	1	3	3	3	3	2	2	4	4	5	6	6	7	8	9	7	4	2	1	0
MEAN	NS	26	24	19	11	5	3	2	1	1	1	1	1	1	1	2	3	3	4	3	5	8	14	21	24
MEAN	AS	26	24	19	11	6	6	5	4	4	3	3	5	5	6	9	10	12	12	12	12	16	22	24	24
MEAN	PS - NS	-26	-24	-19	-11	-4	0	1	2	2	1	1	3	3	4	4	3	4	4	6	2	-4	-12	-20	-24
		Horizontal Intensity. Unit Gamma.																							
JANUARY	PS	7	4	1	1	0	0	0	1	2	4	6	5	9	6	8	10	8	9	5	4	2	5	5	10
JANUARY	NS	22	13	13	15	11	8	4	2	1	1	0	0	0	0	1	1	5	15	12	18	18	19	23	
FEBRUARY	PS	10	2	0	1	1	1	1	2	3	4	4	6	7	11	10	9	10	7	5	4	9	24	18	10
FEBRUARY	NS	27	22	25	20	13	12	12	6	3	3	2	1	1	4	14	21	22	20	16	10	20	24	26	
MARCH	PS	14	1	0	0	0	0	1	2	3	3	4	5	13	16	16	15	14	11	4	4	10	14	15	14
MARCH	NS	21	29	27	21	19	20	12	6	2	0	0	1	0	1	0	4	0	8	15	13	16	18	22	
APRIL	PS	0	1	3	0	0	0	1	1	3	4	4	3	5	10	11	14	13	6	4	8	10	12	14	9
APRIL	NS	24	21	20	16	17	11	4	1	0	0	0	1	2	1	1	0	2	4	6	5	6	5	11	17
MAY	PS	6	8	1	7	0	0	1	1	3	4	4	11	11	14	20	22	15	10	6	4	14	21	16	9
MAY	NS	15	15	20	21	21	15	8	4	2	2	1	1	1	0	0	1	2	4	8	5	7	8	8	8
JUNE	PS	19	6	15	6	5	0	1	2	5	6	8	11	15	16	19	14	17	8	6	4	8	19	40	46
JUNE	NS	16	23	34	25	16	11	4	2	2	1	1	1	1	1	4	4	5	8	9	10	13	11	9	
JULY	PS	10	0	0	0	0	0	0	1	4	6	7	11	11	10	12	11	11	7	4	11	12	14	25	
JULY	NS	26	33	32	20	12	8	8	4	3															



Quiet Diurnal Variation used in the Calculation of the Storminess.

Declination. Unit Gamma. + West.

Table with columns for months (1931) and days (1-23) and rows for months (JANUARY to DECEMBER). Values range from -13 to 12.

Horizontal Intensity. Unit Gamma.

Table with columns for months (1931) and days (1-23) and rows for months (JANUARY to DECEMBER). Values range from -13 to 12.

Vertical Intensity. Unit Gamma.

Table with columns for months (1931) and days (1-23) and rows for months (JANUARY to DECEMBER). Values range from -5 to 6.

OMITTED TIME-INTERVALS TO BE INTERPOLATED

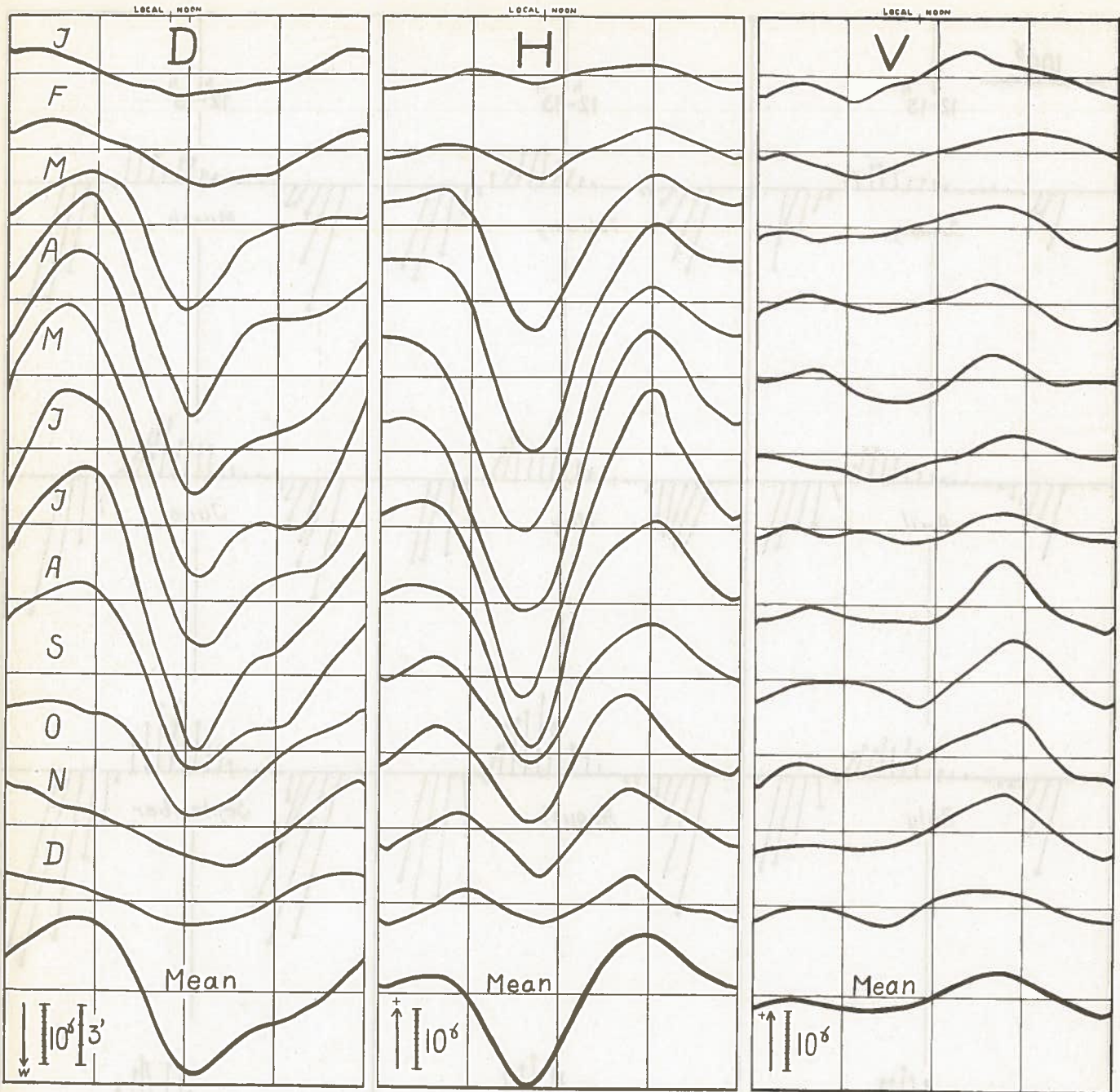


Fig. 1. The Diurnal Variation of the Quiet Values.

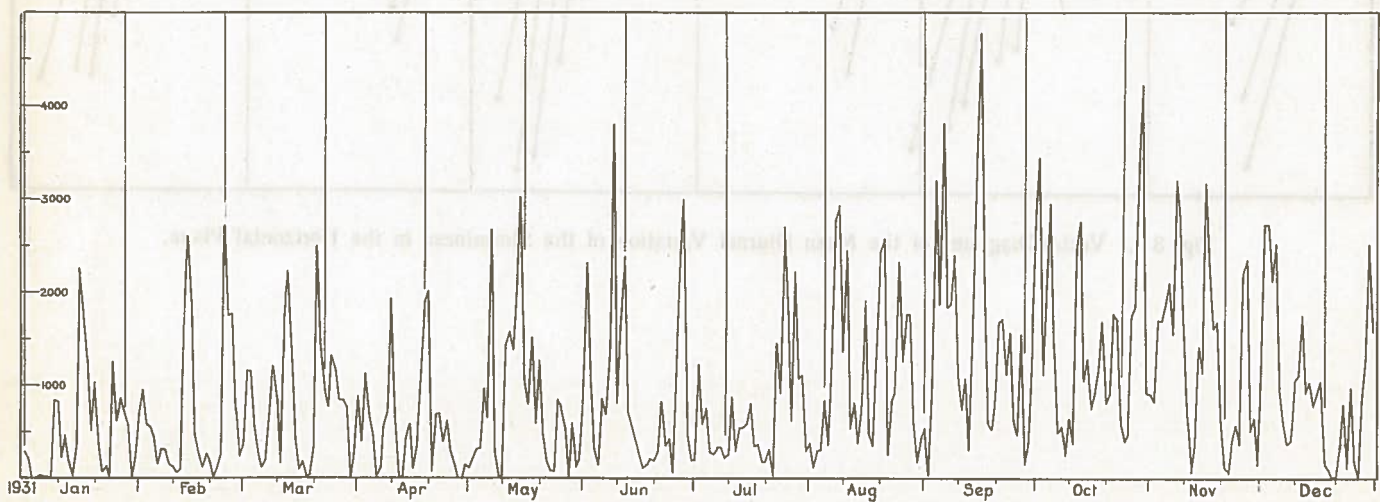


Fig. 2. The Variation of the Absolute Storminess for the Horizontal Intensity during the Year.



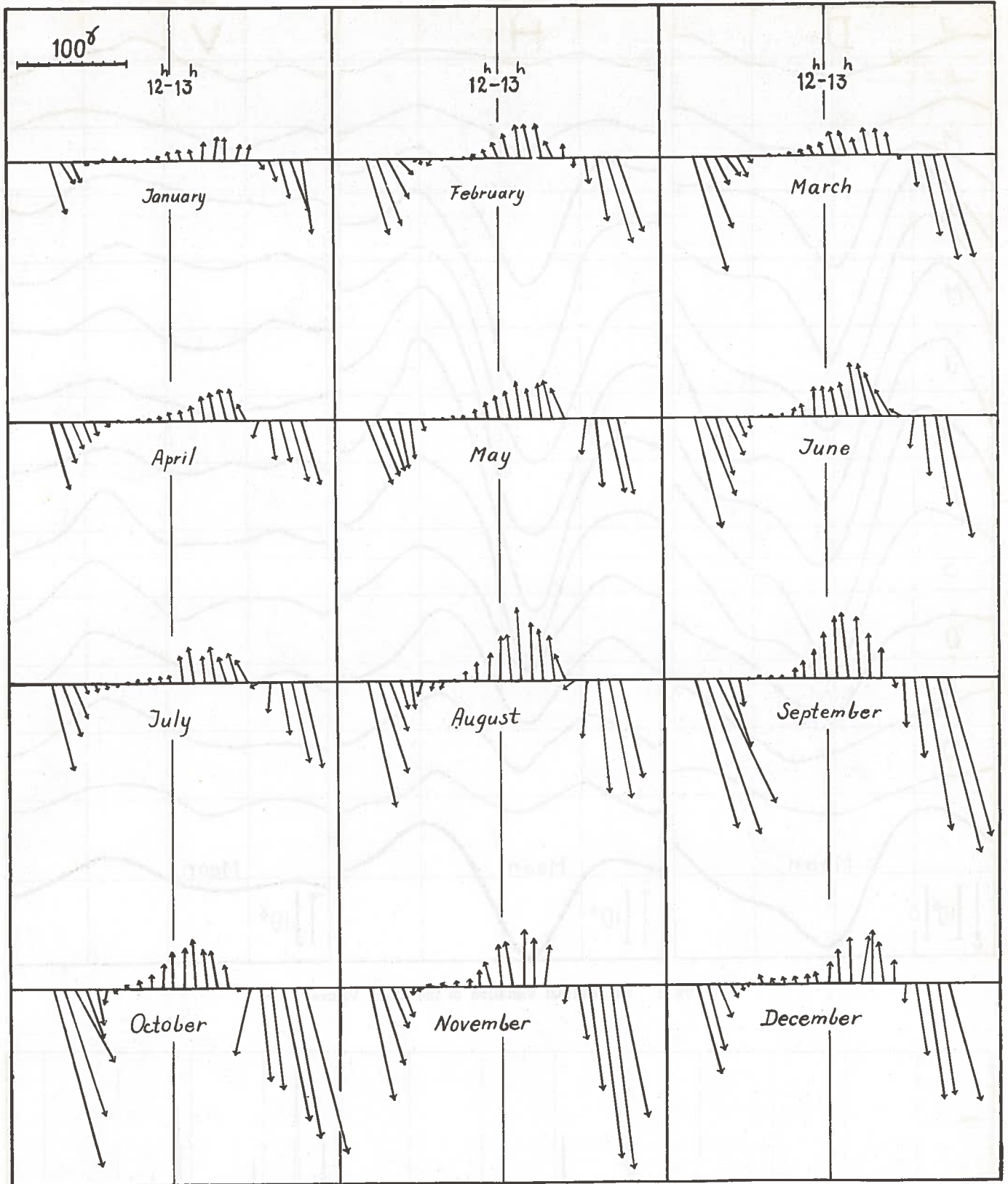


Fig. 3 a. Vector-Diagrams of the Mean Diurnal Variation of the Storminess in the Horizontal Plane.

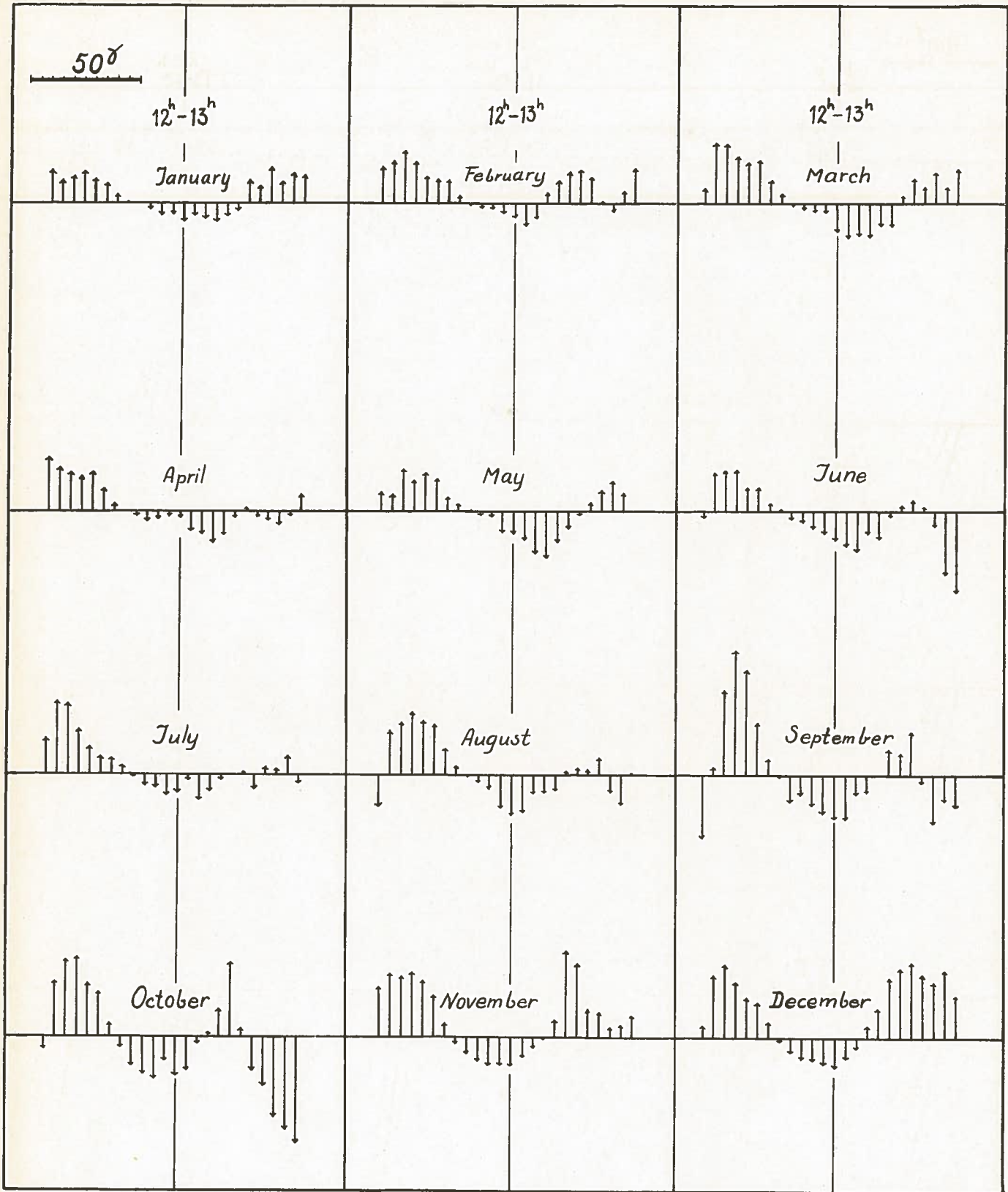


Fig. 3 b. The Vertical Component of the Mean Diurnal Variation of the Storminess.





