ANNUAL REPORT

OF THE

METEOROLOGICAL

AND THE

SEISMOLOGICAL OBSERVATIONS

MADE AT THE

INTERNATIONAL LATITUDE OBSERVATORY

OF MIZUSAWA

FOR

THE YEAR 1911.

WITH

APPENDIX

GENERAL MEAN OF THE METEOROLOGICAL OBSERVATIONS

DURING THE TEN YEARS BETWEEN 1902 AND 1911.

LATITUDE 39° 8′ N., LONGITUDE 141° 7′ E.,

HEIGHT ABOVE MEAN SEA LEVEL 61 METRES.

PUBLISHED BY THE INTERNATIONAL LATITUDE OBSERVATORY

OF MIZUSAWA.

1912.

The present report contains the results of the meteorological and the seismological observations in the observatory during the year 1911. No alteration is done in the kinds and the methods of observations. The observations and the computations were done by Messrs. T. Ito (till Oct.), T. Oyama and K. Aoki (from Oct.) under the superintendence of Dr. M. Hashimoto.

The following are to be generally noticed with respect to the meteorological observations:

Hours of observations.—The *Japanese Central Standard Time* (mean time of the meridian 9h east from Greenwich) is adopted.

Air Pressure.—The barometric readings in millimetres are reduced only to freezing point of water; the corrections to sea level and to standard gravity are given at the bottoms of the respective pages.

Air and *Earth Temperatures.*—The degrees are given in Centigrades.

Wind.—The velocity is expressed in metres per second. The direction is observed according to the sixteen cardinal points.

Cloud.—The amount is estimated by the scale 0-10, the forms are of the *International classification*, and the direction of motion is observed according to the eight cardinal points.

Tension of Water Vapour.—It is given in millimetres.

Relative Humidity.—It is given in percentages.

Precipitation.—The amount is given in millimetres. The number of days is counted only when the amount is 0.1 mm. or more in a day; but for those days with either snow, hail, or graupel, the amount is not taken into consideration.

Clear and *Cloudy Days.*—The mean amount of cloud is less than 2 exclusive for the former, and more than 8 inclusive for the latter.

Duration of Sunshine.—It is recorded by a sunshine-recorder of *Jordan's* pattern.

Amount of Ozone.—It is observed by means of *Sedan's ozonometer*, and is given in scale of 0–10.

Amount of Evaporation.—It is given in millimetres, the daily amount being, according to the instruction of the Central Meteorological Observatory in Tokio, that which results from 10h a. m. of the preceding day till 10h a. m. of the day in question.

The *occurrence of meteorological phenomena* is recorded with the following *international symbols:*

●	Rain	~	Glazed frost	C	Cirrus
*	Snow	⊹	Snow drift	CS	Cirro-stratus
⊼	Thunder storm	←	Ice crystals	CK	Cirro-cumulus
⊤	Thunder without lightning	⊕	Solar corona	KC	Cumulo-cirrus
≺	Lightning without thunder	○	Solar halo	SC	Strato-cirrus
△	Graupel	⊽	Lunar corona	SK	Strato-cumulus
▲	Hail	⊍	Lunar halo	N	Nimbus
≡	Mist, fog	⸝	Gales	K	Cumulus
⊔	Hoar frost	⌒	Rainbow	KN	Cumulo-nimbus
⊱	Dew	⋓	Aurora	S	Stratus
V	Silver thaw	∞	Dust haze		

The *descriptions* of the *meteorological instruments* are found in the annual reports for the years 1902, 1904, 1905, and 1910.

The *seismological instruments* in use are three *Omori's horizontal pendulums*, of the same type as that described in p. 8 of No. 5, "Publication of the Earthquake Investigation Committee in Foreign Language," one serving to register the NS component, and the other two the EW component, of seismological movements. The *instrumental constants* are as follows:

	NS Component Apparatus		EW Component Apparatus		
Period of free oscillation	30	seconds	20 seconds	17	seconds
Multiplication of the pointer	9	times	20 times	100	times
Weight of heavy cylinder	6.5	kilograms	15.0 kilograms	45.0	kilograms
Horizontal distance of the centre of the cylinder from the point of support	79	centimetres	40 centimetres	20	centimetres
Vertical distance between the points of support and of suspension	109	centimetres	87 centimetres	104	centimetres

The *time* adopted in the seismological observations is the Japanese Central Standard Time *reckoned from midnight.*

July, 1912.

H. Kimura, *Rigakuhakushi*

Director of the International Latitude Observatory of Mizusawa.

SEISMOLOGICAL OBSERVATIONS.

TABLE A.

(Earthquakes)

No.	Date 1911	Time of Occurrence † E. W (100)			N. S		E. W		Duration of Total Earthquake (mean)	Maximum Range of Motion E. W (100)	N. S	E. W	Character of Motion	Intensity	Remarks
		h	m	s	m	s	m	s	m	mm	mm	mm			
1	January 1	19	27	48	—	—	—	—	5.5	0.03	—	—	Slow	Feeble	
2	1	23	40	37	—	—	—	—	4.5	0.04	—	—	,,	,,	
3	2	20	42	14	42	38	42	18	5.7	0.20	0.33	0.20	Quick	,,	
4	3	21	27	04	—	—	27	23	3.1	0.02	—	0.02	Slow	,,	
5	4	8	—	—	34	23	34	13	147.0	—	8.78	11.65?	,,	,,	
6	7	11	20	50	—	—	20.9?		26.4?	0.05?	—	0.05	,,	,,	
7	9	10	02	38	02	46	02	41	4.9	0.21	0.27	0.20	,,	,,	
8	15	17	55	43	—	—	—	—	1.9	0.01	—	—	,,	,,	
9	16	17	59	44	—	—	—	—	27.2	0.04	—	—	,,	,,	
10	18	19	22	03	—	—	22	09	5.4	0.06	—	0.04	,,	,,	
11	21	3	15	28	15	23	15	32	7.9	0.15	0.21	0.20	,,	,,	
12	28	21	20	41	20	44	20	09	6.0	0.07	0.06	0.07	,,	,,	
13	29	17	41	39	—	—	42	01	2.2	0.02	—	0.02	,,	,,	
14	31	6	54	42	55	08	54	41	7.9	0.12	0.16	0.15	,,	,,	
15	February 9	15	20	38	20	44	20	40	4.7	0.08	0.06	0.05	,,	,,	
16	11	1	20	36	20	47	20	36	5.0	0.09	0.10	0.05	Quick	,,	
17	18	23	47	32	—	—	—	—	5.9	?	—	—	Slow	,,	
18	19	3	50	13	50	24	—	—	43.1	?	?	—	,,	,,	
19	23	20	—	—	—	—	17	58	37.7	—	—	0.12	,,	,,	
20	26	14	33	08	33	08	33	08	5.2	0.05	0.06	0.05	Quick	,,	Felt
21	27	0	34	02	—	—	—	—	1.3	0.01	—	—	,,	,,	
22	March 9	14	—	—	—	—	00	55	2.3	—	—	0.07	,,	,,	
23	11	12	23	50	23.9?		23	43	19.0	0.08	0.04	0.05	Slow	,,	
24	11	17	57.0		—	—	57	03	2.8	0.02	—	0.01	,,	,,	
25	11	22	—	—	25.1?		25	37	6.0	—	0.06	0.08	,,	,,	
26	12	17	—	—	—	—	31	29	5.0	—	—	0.05	Quick	,,	
27	13	7	53	59	—	—	54	06	9.8	0.05	—	0.04	,,	,,	
28	15	2	56	36	56	35	56	35	14.8	0.24	0.20	0.41	,,	,,	
29	15	23	32	31	—	—	32	32	3.5	0.05	—	0.06	Slow	,,	
30	17	19	07	44	07	47	07	49	3.9	0.10	0.10	0.09	,,	,,	
31	27	13	44	38	44	40	44	40	15.1	0.38	0.67	0.60	,,	,,	
32	28	6	—	—	—	—	33	56	4.1	—	—	0.02	,,	,,	
33	30	19	06	05	06	11	06	06	8.5	0.18	0.11	0.15	,,	,,	
34	April 5	12	52	20	52.8?		52	19	2.7	0.05	0.04	0.04	,,	,,	
35	7	14	00	21	00	18	00	20	1.8	0.03	0.03	0.03	Quick	,,	
36	7	14	38	47	—	—	38	45	1.8	0.02	—	0.02	,,	,,	
37	7	15	49	31	49	26	49	32	51.2	0.07	0.08	0.07	Slow	,,	
38	7	20	16	52	—	—	17	02	5.1	0.02	—	0.02	,,	,,	
39	8	22	59	44	—	—	0.7(23)h		5.7	0.07	—	0.06	Quick	,,	
40	10	13	44	15	44.2?		44	16	2.6	0.04	0.06	0.05	,,	,,	
41	10	14	13	32	13.8?		13	32	2.7	0.05	0.05	0.04	,,	,,	
42	11	19	14	59	14	58	14	57	8.5	0.80	1.00	0.80	,,	,,	Felt
43	14	14	12	25	12	23	12	25	9.9	0.44	0.62	0.51	Slow	,,	Felt
44	15	7	38	59	—	—	39.2		3.3	0.01	—	0.01	,,	,,	
45	15	14	02	00	—	—	—	—	2.0	0.01	—	—	Quick	,,	
46	15	22	14	02	14	18	14	11	13.5	0.14	0.13	0.16	,,	,,	
47	16	1	28	52	28	54	28	52	15.3	0.43	0.44	0.46	,,	,,	Felt
48	17	13	31	28	31	34	31	32	4.5	0.02	0.03	0.02	Slow	,,	
49	19	21	26	52	—	—	—	—	2.5	0.01	—	—	Quick	,,	
50	25	10	33	10	33	10	33	09	3.6	0.19	0.31	0.15	,,	,,	Felt

† Japanese Central Standard Time (9^h east from Greenwich), reckoned from midnight.

TABLE A.

(*Earthquakes*)

No.	Date 1911	Time of Occurrence † E. W (100)	N. S	E. W	Duration of Total Earthquake (mean)	Maximum Range of Motion E.W (100)	N. S	E. W	Character of Motion	Intensity	Remarks
		h m s	m s	m s	m	mm	mm	mm			
51	April 25	22 47 18	47 23	47 18	7.1	0.31	0.29	0.30	Slow	Feeble	
52	27	4 48 03	— —	48 06	4.2	0.02	—	0.02	,,	,,	
53	28	4 59 20	— —	59 27	3.6	0.01	—	0.01	Quick	,,	
54	28	15 03 17	03 29	— —	5.2	0.03	0.03	—	Slow	,,	
55	30	13 28 35	— —	28.8	11.7	0.01	—	0.01	,,	,,	
56	May 3	20 10 33	10 51	10 50	2.9	0.02	0.03	0.02	,,	,,	
57	4	8 40 47	40 47	40 48	66.5	0.85	0.98	1.94	Quick	,,	
58	6	20 03 37	04 40	04 40	9.5	0.11	0.08	0.10	Slow	,,	
59	10	4 — —	— —	06 33	3.3	—	—	0.01	Quick	,,	
60	21	7 11 19	12.3	11.7	5.3	0.04	0.04	0.04	Slow	,,	
61	24	0 14 06	— —	— —	5.4	0.01	—	—	,,	,,	
62	24	10 37 21	37.3	37 23	9.6	0.07	0.07	0.07	,,	,,	Felt
63	24	11 05 40	05.8	05.8	8.0	0.04	0.06	0.08	,,	,,	
64	30	16 26 33	— —	27.0	4.4	0.03	—	0.03	,,	,,	
65	June 5	19 05 19?	05 20	05 17	6.3	0.22	0.32	0.28	,,	,,	
66	6	1 08 50	08 51	— —	3.1	0.05	0.08	--	Quick	,,	Felt
67	7	20 15.5	— —	— —	71.0	0.02	—	—	Slow	,,	
68	8	9 — —	— —	40 55	?	—	—	0.11	,,	,,	
69	10	7 22 32	23.9	— —	8.0	0.02	0.04	—	,,	,,	
70	15	23 29 13	29 14	29 12	109.5	?	?	?	,,	,,	
71	17	14 16 33	— —	19.8	15.0	0.02	—	0.05	,,	,,	
72	17	21 57.6	— —	— —	2.5	0.01	—	—	,,	,,	
73	18	6 04.2	— —	— —	1.0	0.00	—	—	,,	,,	
74	18	10 10 43	— —	11 11	2.8	0.02	—	0.01	Quick	,,	
75	26	5 36 01	36 07	36 02	6.2	0.03	0.09	0.07	Slow	,,	
76	26	8 40 11	— —	— —	4.1	0.02	—	—	,,	,,	
77	27	7 30 38	30.5	30 36	7.4	0.06	0.21	0.10	,,	,,	
78	July 5	3 48.7	— —	48.6	17.0?	0.03	—	0.04	,,	,,	
79	12	13 14 13	14 14	14 15	99.7	1.40	2.89	4.38	,,	,,	
80	14	10 54 42	54 42	54 44	4.8	0.07	0.07	0.07	Quick	,,	
81	15	19 19 12	19 15	— —	6.5	0.14	0.23	—	Slow	,,	
82	16	10 43 37	— —	43.9	3.0	0.02	—	0.02	,,	,,	
83	16	14 17.0	17 05	17 06	2.9	0.04	0.03	0.03	Quick	,,	
84	20	21 31 32	31.8	31.7	3.9	0.03	0.06	0.03	Slow	,,	
85	24	16 05.3	— —	— —	1.7	0.02	—	—	,,	,,	
86	August 12	22 57 10	57 11	— —	7.6	0.18	0.41	—	,,	,,	
87	13	2 — —	04 13	— —	8.3	0.14	0.16	—	,,	,,	
88	13	2 57 36	— —	— —	4.8	0.01	—	—	,,	,,	
89	17	7 47 50	47 50	47 45	51.0	?	?	4.67	,,	,,	
90	21	16 40 08	— —	— —	2.6	0.04	—	—	,,	,,	
91	22	1 39.9	— —	— —	2.2	0.02	—	—	,,	,,	
92	22	1 48,6	48.7	— —	3.3	0.17	0.09	—	,,	,,	
93	27	17 05 21	— —	— —	1.6	0.00	—	—	,,	,,	
94	28	5 — —	38 20	38 17	5.0	—	0.18	0.25	Quick	,,	Felt
95	31	3 51 56	51 59	51 56	17.3	0.14	0.21	0.16	Slow	,,	
96	September 2	9 27 03	27 03	27 06	10.8	0.13	0.18	0.15	,,	,,	
97	3	0 24 49	— —	— —	7.6	0.02	—	—	,,	,,	
98	5	19 — —	19 18	19 39	6.7	—	0.06	0.03	,,	,,	
99	6	9 55 54	55 54	— —	15.7	?	2.67	—	Quick	,,	Felt
100	9	19 53 10	— —	53 11	8.1	0.15	—	0.18	Slow	,,	

TABLE A.

(*Earthquakes*)

No.	Date 1911	Time of Occurrence † E. W (100)	Time of Occurrence † N. S	Time of Occurrence † E. W	Duration of Total Earthquake (mean)	Maximum Range of Motion E. W (100)	Maximum Range of Motion N. S	Maximum Range of Motion E. W	Character of Motion	Intensity	Remarks
		h m s	m s	m s	m	mm		mm			
101	September 17	9 01 03	— —	01 03	3.7	0.02	—	0.03	Slow	Feeble	
102	17	12 32 36	— —	32 40	110.0	0.27	—	0.76	,,	,,	
103	17	13 43 38	— —	— —	4.1	0.02	—	—	,,	,,	
104	19	0 23 58	23.8	23 47	6.4	0.05	0.09	0.13	,,	,,	
105	19	19 45 41	— —	— —	4.3	0.01	—	—	,,	,,	
106	19	22 03 50	— —	03 50	5.7	0.15	—	0.21	Quick	,,	Felt
107	21	16 21 43	— —	21 42	22.6	0.05	—	0.17	Slow	,,	
108	24	20 22 14	22 18	22 11	9.0	0.17	0.30	0.23	,,	,,	
109	29	18 19 31	19 31	19 30	4.6	0.23	0.36	0.32	Quick	,,	Felt
110	29	18 55 30	— —	— —	1.2	0.00	—	—	Slow	,,	
111	October 1	9 42 38	— —	— —	4.1	0.02	—	—	,,	,,	
112	8	0 31 13	— —	31 34	3.0	0.02	—	0.02	Quick	,,	
113	8	0 50 51	51 27	50 49	6.3	0.09	0.11	0.10	Slow	,,	
114	14	15 13 39	— —	14 45	13.4	0.02	—	0.05	,,	,,	
115	14	21 29 46	— —	30 04	84.6	0.02	0.31	0.35	,,	,,	
116	15	1 41.8	— —	41 52	32.0	0.01	—	0.02	,,	,,	
117	17	7 09.7	10 03	— —	6.0	0.16	0.12	—	,,	,,	
118	19	7 23 24	23 22	— —	4.1	0.02	0.04	—	Quick	,,	
119	20	14 18 41	— —	— —	4.5	0.04	—	—	Slow	,,	
120	21	2 53 32	53.0?	— —	5.3	0.02	0.01	—	,,	,,	
121	21	3 01.1	— —	— —	3.7	0.01	—	—	,,	,,	
122	21	11 18 07	— —	18 18	3.3	0.02	—	0.01	Quick	,,	
123	November 1	0 10 02	09 57	09 59	6.0	0.19	0.24	0.24	,,	,,	Felt
124	5	18 00 45	00 55	— —	9.6	0.21	0.50	—	Slow	,,	
125	7	3 42 56	42 56	42 56	3.0	0.11	0.11	0.12	Quick	,,	Felt
126	8	23 12 48	12 40	12 45	25.7	1.90?	2.50	3.10	Slow	,,	
127	9	13 27 47	— —	27 53	20.8	0.02	—	0.04	,,	,,	
128	11	4 55 19	55 30	55 18	3.7	0.05	0.06	0.05	,,	,,	
129	12	13 — —	25 51	25 48	4.9	—	0.06	0.06	,,	,,	
130	15	15 11 35	11 35	11 32	7.9	0.12	0.12	0.11	,,	,,	
131	15	22 49 29	49 32	49 22	10.0	0.28	0.50	0.30	,,	,,	
132	16	1 40.8	41.5	41 24	3.3	0.02	0.01	0.01	,,	,,	
133	20	3 32 31	32.4	32 52	2.1	0.04	0.04	0.03	,,	,,	
134	21	16 37 11	37 14	37 14	12.0	0.56	0.72	0.58	,,	,,	
135	21	20 57 47	— —	59 15	5.1	0.03	—	0.02	,,	,,	
136	22	4 27.8	— —	27.9	9.3	0.02	—	0.01	,,	,,	
137	27	21 10 06	10.3	10 14	6.8	0.08	0.08	0.07	,,	,,	
138	28	17 52 50	52 52	52 51	5.9	0.09	0.07	0.09	,,	,,	
139	December 6	17 32 05	?	32 05	15.1	0.68	0.86	0.65	,,	,,	
140	7	13 16 28	— —	— —	3.4	0.01	—	—	,,	,,	
141	7	14 42 57	— —	— —	2.7	0.01	—	—	,,	,,	
142	10	4 27.8	— —	— —	0.8	0.02	—	—	,,	,,	
143	11	15 45 06	— —	45 19	3.7	0.03	—	0.15	,,	,,	
144	17	4 — —	— —	32.3	113.0	—	—	0.24	,,	,,	
145	20	14 — —	— —	56 23	68.0	—	—	0.10	,,	,,	
146	21	5 — —	— —	29 47	?	—	—	0.55	Quick	,,	Felt
147	25	?	— —	— —	5.3	0.03	—	—	Slow	,,	

TABLE B.

(Pulsatory Oscillations EW Component.)

Beginning			Ending			Maximum			
Date 1911		Hour	Date 1911		Hour	Date 1911		Hour	Double Amplitude
		h			h			h h	m m
January	3	6	January	4	2	January	3	9–14	0.01
	5	4		7	18		5	4– 6	0.02
							7	10–14	0.01
	11	18		14	3		12–13	13– 2	0.05
	17	13		18	7		17–18	21– 6	0.01
	26	9		27	4		26	14–18	0.01
February	1	9	February	3	9	February	1	10–18	0.01
	11	20		13	9		11–12	20– 1	0.02
	15	21		18	3		15	22– 0	0.01
							16	23– 0	00.1
	20	22		22	6		21	21–22	0.01
	23	2		23	14		23	5– 6	0.01
	25	10		26	9		25–26	23– 1	0.01
March	1	10	March	16	9	March	2–3	9– 7	0.03
							7	11–21	0.04
							15–16	11– 1	0.02
	17	14		21	11		17–18	17–11	0.03
							19–20	14–22	0.03
	23	17		25	14		23	18–19	00.1
	31	6	April	2	8		31	6– 8	00.1
April	4	8		8	6	April	4	9–12	0.02
							6	9–19	0.01
	10	5		12	14		10	11–18	0.01
							11	10–19	0.02
	16	2		27	22		17–19	20–16	0.03
							26	3–22	0.03
May	3	15	May	6	16	May	5	9–10	0.01
	8	8		9	9		8	14–20	0.01
	13	8		16	20		13	14–19	0.01
	19	7		22	6		21	8–18	0.01
	23	9		25	9		25	1– 2	0.01
	27	12	June	1	2		30	8–18	0.01
June	3	9		5	20	June	4	9–14	0.02
							17	9–17	0.02
	16	9		23	20		19–20	11–20	0.04
							27–29	22–21	0.01
	26	3	July	1	2	July	5–6	9– 2	0.01
July	4	11		10	7				
							15	12–18	0.01
	14	22		16	9		21	13–18	0.02
							26	9–22	0.02
	20	10		29	10				
August	3	10	August	7	11	August	5–6	9– 6	0.02
	12	10		15	4		12-13	11– 1	0.01
							16	8–23	0.03
	15	14		18	22		17	8–21	0.03
	21	8		23	6		21–22	13–19	0.02
	24	11		27	6		25	16–17	0.01
September	2	9	September	19	10	September	2–3	9–13	0.02
	21	3		25	6		22	12–17	0.01
	28	8		29	4		28	11–19	0.01
	30	8	October	2	9		30	10–19	0.02
October	3	7		4	18	October	3–4	11– 2	0.02
	9	7		11	22		10–11	12– 8	0.01
							14	2– 8	0.02
	12	9		15	8		14–15	22– 2	0.02
							16–18	8– 2	0.04
	16	10		26	22		22	13–19	0.02
	29	10	November	3	10	November	1	13–17	0.01
November	6	11		7	2		6	19–23	0.01
	7	9		10	17		7	14–16	0.01
							9	16–19	0.01
	11	7		14	14		13	11–18	0.01
							17	12–15	0.01
	17	6		18	21		18	3– 6	0.01
							18	13–15	0.01
							19–20	23– 8	0.01
	19	23		30	15		23	14–19	0.01
							24	8–17	0.02
							27	12–17	0.02
December	3	7	December	4	2	December	3	10–14	0.01
	5	11		11	13		6	7–16	0.02
	15	10		18	7		17	16–18	0.01
	19	17		21	8		19–20	18– 6	0.02
	26	7		30	11		26	8–17	0.01

APPENDIX

GENERAL MEAN OF THE METEOROLOGICAL OBSERVATIONS

DURING THE TEN YEARS BETWEEN 1902 AND 1911.

GENERAL RESULTS

Month	AIR PRESSURE (mm)							AIR TEMPERATURE (°C)								CLOUD		
	Mean	Absolute						Mean	Absolute							AMOUNT Mean	RESULTANT MOTION (upper)	
		Max.	Day	Year	Min.	Day	Year		Max.	Day	Year	Min.	Day	Year	Range		Direction	%
January	757.4	770.6	27	04	735.4	11	06	-2.9	11.7	9	10	-20.2	7	04	31.9	7.2	S 77° W	87
February	756.6	772.8	24	11	738.2	6	08	-2.6	10.5	28	11	-20.2	20	05	30.7	7.2	S 87° W	77
March	757.6	769.2	19	03	738.2	6	06	1.4	20.0	19 30	02 05	-16.2	16	08	36.2	7.0	S 87° W	79
April	756.5	772.0	13	03	732.2	7	09	8.4	27.3	24	11	- 8.6	1	09	35.9	6.7	S 82° W	76
May	754.3	768.8	5	05	733.1	18	08	13.2	29.5	10	11	- 2.6	4	10	32.1	6.8	S 87° W	72
June	751.9	763.8	10	07	733.7	19	11	17.6	31.7	30	04	2.5	3	02	29.2	7.7	S 81° W	72
July	752.2	760.6	8	08	734.9	27	04	21.1	33.8	22	09	9.4	20 31	07 08	24.4	8.4	N 88° W	56
August	753.1	763.2	29	05	735.3	16	11	22.4	34.0	9	09	9.2	19	10	24.8	7.8	N 87° W	53
September	755.4	764.5	27	06	737.6	28	02	18.4	33.5	3	03	3.1	27	06	30.4	7.8	S 71° W	75
October	758.0	768.6	31	02	740.3	17	11	11.9	29.4	5	02	- 2.5	28 30	07	31.9	6.8	S 76° W	87
November	758.3	771.9	15	11	735.8	27	08	5.5	21.0	24	11	- 6.6	29	08	27.6	6.5	S 74° W	82
December	756.7	770.6	18	11	733.1	21	07	0.3	15.9	15	02	-15.9	20	07	31.8	6.6	S 74° W	77
Annual	755.7	772.8	24 II	11	73.22	7 IV	09	9.6	34.0	9VIII	09	-20.2	7 I 04 20 II 05		54.2	7.2	S 82° W	74

Month	TENSION OF VAPOUR (mm)							HUMIDITY %				PRECIPITATION (mm)							SUNSHINE DURATION 1906-1911	
	Mean	Absolute						Mean	Absolute			Mean	Maximum						Mean	%
		Max.	Day	Year	Min.	Day	Year		Min.	Day	Year		in 24h.	Day	Year	in 4h.	Day	Year		
January	3.0	6.9	25 1,9	03 10	1.0	7 5	04 06	80.5	43	16	07	75.5	33.5	12	11	13.1	12	11	95.1	32
February	3.0	6.2	29	04	1.2	11,12 11	07 10	78.5	36	28	11	49.6	23.3	28	09	13.6	19	09	119.3	39
March	3.8	10.0	31	05	1.3	16	08	74.7	27	29	02	77.8	51.5	20	03	18.3	10	03	153.8	42
April	5.9	12.9	26	04	2.3	1	09	71.7	24	23	10	92.7	97.2	4	11	28.0	4	11	188.3	48
May	8.1	16.6	31	09	3.0	2,3	10	72.4	21	10	11	125.0	69.1	4	08	37.4	5	03	183.5	41
June	11.8	19.4	26	04	5.8	5	08	78.9	26	14	11	142.1	92.5	6	10	47.2	6	10	144.8	33
July	15.5	22.9	26	06	7.8	20	07	83.1	41	2 4,22,24,25	07 09	171.6	67.6	21	11	37.2	21	11	127.6	28
August	16.9	24.0	22	08	8.7	18	10	83.7	34	26	09	181.7	108.2	15	10	75.1	23	08	142.0	34
September	13.4	22.5	4	05	6.0	26	08	84.2	38	23 12	04 07	150.5	86.8	17	02	48.9	17	02	128.7	35
October	8.6	17.3	3	11	3.7	30 29	02 03	81.6	34	23	08	95.3	72.8	17	03	39.2	17	03	143.5	42
November	5.5	14.2	24	11	2.4	28	10	79.8	40	1 28 8	08 09 11	80.8	58.4	24	11	53.5	24	11	115.1	38
December	3.7	9.7	15	02	1.4	20	07	79.8	30	4	08	65.9	24.0	12	07	16.7	12	07	107.8	37
Annual	8.3	24.0	22VIII	08	1.0	7 I 04 5 I 06		79.1	21	10 V	11	131.27	108.2	15VIII	10	75.1	23VIII	08	1679.9	38

Month	WIND									NO. OF DAYS WITH										
	Velocity (m. p. s)					Resultants				●* △▲	*	△▲	↖	≡²	Clear	Cloudy	/	[	Sunless 1906-1911	☾
	Mean	Max.	Dir.	Day	Year	Dir.	Vel.	Dir.	%											
January	4.2	26.0	WNW	3	03	N34°W	2.8	N30°W	47	21.6	20.8	1.3	—	1.0	0.8	14.5	8.6	5.5	7.8	1.4
February	4.2	26.5	WNW	27	10	N40°W	2.5	N40°W	40	19.5	20.1	0.7	—	0.4	1.4	13.0	7.3	2.8	3.8	2.5
March	4.6	26.2	NW	13	09	N48°W	2.4	N50°W	37	16.9	15.0	1.1	—	0.1	1.5	14.0	9.5	6.8	5.0	1.9
April	5.0	29.6	SE	7	09	N74°W	1.6	N90°W	24	14.0	2.2	1.0	0.4	0.2	3.5	13.1	11.0	5.5	4.5	1.6
May	4.6	34.8	W	18	08	S 60°W	1.3	S 54°W	23	13.4	—	0.1	1.4	1.1	2.6	14.6	9.5	1.2	5.1	1.1
June	3.8	19.6	WNW	14	09	S 28°W	1.3	S 27°W	27	15.2	—	0.1	1.7	1.0	1.1	18.5	3.0	—	7.9	1.1
July	3.5	20.7	SSE	10	04	S 14°W	1.7	S 17°W	35	18.5	—	—	1.6	0.6	0.7	22.2	1.8	—	8.6	1.8
August	3.1	29.0	S	16	11	S 7°W	1.6	S 13°W	35	16.1	—	—	2.9	1.7	0.6	18.9	2.2	—	5.0	1.5
September	2.8	24.9	ESE	23	03	S 42°W	0.6	S 65°W	15	16.6	—	—	1.8	1.6	1.8	18.7	2.2	0.3	7.1	1.3
October	2.9	18.7	NW WNW	25 22	04 07	N48°W	0.8	N44°W	25	16.6	0.2	0.2	0.8	2.2	2.5	13.5	2.8	3.2	5.7	1.2
November	3.8	31.1	NW	10	09	N42°W	1.8	N39°W	31	17.1	5.9	1.0	0.8	1.9	2.2	8.5	7.0	11.2	4.7	1.0
December	4.5	31.8	NW	7	07	N39°W	2.7	N31°W	37	20.4	18.3	1.9	0.5	0.5	1.2	9.6	8.8	8.6	4.6	1.4
Annual	3.9	34.8	W	18 V	08	N21°W	1.2	N75°W	19	205.9	82.5	7.4	11.9	12.3	19.9	179.1	73.7	45.1	69.8	17.8

Month / Hour	Jan.	Feb.	March.	April.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
TENSION OF VAPOUR (mm)													
2 a	2.9	2.9	3.7	5.7	7.8	11.3	15.0	16.5	13.0	8.3	5.3	3.6	8.0
6 a	2.9	2.8	3.6	5.6	7.9	11.5	15.1	16.5	12.8	8.0	5.1	3.6	8.0
10 a	3.1	3.0	3.9	6.1	8.4	12.0	15.6	17.0	13.5	8.8	5.6	3.8	8.4
2 p	3.2	3.2	4.1	6.1	8.4	12.0	15.8	17.0	13.6	8.8	5.8	3.9	8.5
6 p	3.1	3.1	4.0	6.1	8.3	12.0	15.9	17.3	13.8	9.0	5.7	3.8	8.5
10 p	3.0	3.0	3.8	5.9	8.2	11.7	15.5	16.8	13.3	8.5	5.5	3.7	8.3
Mean	3.0	3.0	3.8	5.9	8.1	11.8	15.5	16.9	13.4	8.6	5.5	3.7	8.3
RELATIVE HUMIDITY %													
2 a	85.6	85.7	83.6	83.8	86.3	91.0	93.1	94.0	93.8	91.7	87.6	84.8	88.4
6 a	87.2	86.5	85.4	85.2	85.1	89.2	91.9	93.9	94.7	92.5	88.7	86.2	89.0
10 a	78.3	73.5	68.5	64.1	63.1	71.2	76.5	76.1	76.2	73.9	75.1	76.0	72.7
2 p	69.7	66.9	61.9	55.2	55.7	64.0	69.8	67.7	67.8	62.7	65.1	69.3	64.6
6 p	78.9	75.8	70.8	64.8	64.8	72.4	78.6	80.1	81.8	80.0	77.7	79.1	75.4
10 p	83.6	82.9	78.3	77.3	79.7	85.6	89.0	90.5	90.8	88.8	84.7	83.7	84.4
Mean	80.5	78.5	74.7	71.7	72.4	78.9	83.1	83.7	84.2	81.6	79.8	79.8	79.1
AMOUNT OF CLOUD (0—10)													
2 a	6.8	6.8	6.6	6.5	6.6	7.5	8.3	8.3	7.4	6.6	6.1	6.2	7.0
6 a	7.6	7.6	7.5	7.0	7.0	8.4	9.0	9.1	8.4	7.5	6.9	7.0	7.7
10 a	7.7	7.5	7.5	7.0	7.1	7.8	8.7	8.0	7.7	7.2	7.0	7.3	7.5
2 p	7.7	7.6	7.3	7.0	7.1	7.8	8.4	7.3	7.9	7.1	7.3	7.1	7.5
6 p	6.6	6.9	6.8	6.8	6.8	7.7	8.3	7.2	8.0	5.9	5.7	6.2	6.9
10 p	6.6	6.6	6.2	5.8	6.2	7.0	7.9	7.2	7.1	6.4	5.9	6.0	6.6
Mean	7.2	7.2	7.0	6.7	6.8	7.7	8.4	7.8	7.8	6.8	6.5	6.6	7.2
AMOUNT OF PRECIPITATION (mm)													
2 a	11.9	8.3	15.2	14.5	20.5	19.8	24.9	29.9	19.2	14.3	19.6	13.2	211.2
6 a	11.7	8.4	16.7	17.4	23.0	19.7	34.3	30.9	26.0	18.3	12.4	11.6	230.4
10 a	12.8	6.9	13.3	16.5	14.6	18.3	26.9	27.2	29.1	18.3	11.7	11.2	206.7
2 p	11.6	8.7	9.5	16.5	23.3	31.6	24.6	18.5	23.9	15.0	9.3	9.9	206.6
6 p	14.1	8.0	11.2	14.2	20.6	25.7	34.2	44.1	25.2	14.9	16.3	8.9	237.5
10 p	13.3	9.4	11.8	13.6	23.0	27.0	26.7	31.2	27.1	14.6	11.6	11.2	220.3
Total	75.5	49.6	77.8	92.7	125.0	142.1	171.6	181.7	150.5	95.3	80.8	65.9	1312.7
NO. OF DAYS WITH AMOUNT> 30 (mm) IN A DAY													
Mean	0.1	—	0.3	0.3	1.2	0.9	1.7	1.7	1.1	0.4	0.3	—	8.0
FREQUENCY OF PRECIPITATION WITH AMOUNT >0.1 (mm) IN 4 HOURS													
Mean	12.6	12.3	10.2	6.6	6.9	8.4	9.4	7.5	8.1	6.7	8.7	12.1	109.5
FREQUENCY OF PRECIPITATION WITH AMOUNT< 0.1 (mm) IN 4 HOURS													
Mean	27.1	28.9	26.3	12.8	16.0	17.3	21.0	15.1	15.3	11.8	18.8	27.6	236.0

Month / Hour	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
AIR PRESSURE (700mm+)													
2 a	57.4	56.5	57.5	56.5	54.4	51.9	52.2	53.0	55.4	57.9	58.3	56.6	55.6
6 a	57.5	56.6	57.8	57.0	54.9	52.3	52.6	53.4	55.8	58.2	58.5	56.8	55.9
10 a	58.1	57.2	58.0	57.0	54.7	52.1	52.4	53.4	55.8	58.4	58.8	57.3	56.1
2 p	56.6	55.9	56.9	55.7	53.6	51.2	51.5	52.4	54.6	57.1	57.4	56.0	54.9
6 p	57.3	56.6	57.4	56.0	53.8	51.5	51.9	52.7	55.0	57.8	58.2	56.6	55.4
10 p	57.6	56.8	58.0	56.8	54.6	52.2	52.6	53.5	55.7	58.3	58.4	56.8	55.9
Mean	57.4	56.6	57.6	56.5	54.3	51.9	52.2	53.1	55.4	58.0	58.3	56.7	55.7
AIR TEMPERATURE (°C)													
2 a	–4.2	–4.4	–0.8	5.2	9.4	14.5	18.5	20.0	16.0	9.4	3.4	–1.2	7.2
6 a	–4.9	–5.2	–1.4	4.8	9.8	15.0	18.8	20.0	15.6	8.6	2.7	0.0	6.9
10 a	–2.2	–1.6	2.8	10.4	15.6	19.4	22.4	24.1	20.1	13.8	6.8	0.9	11.1
2 p	0.0	0.5	4.9	13.0	18.0	21.5	24.4	26.2	22.3	16.6	9.4	2.8	13.3
6 p	–2.2	–1.7	2.5	10.1	15.0	19.2	22.3	23.4	19.2	12.8	6.4	0.4	10.6
10 p	–3.6	–3.4	0.6	7.0	11.4	16.0	19.8	20.9	17.0	10.4	4.4	–0.8	8.3
Mean	–2.9	–2.6	1.4	8.4	13.2	17.6	21.1	22.4	18.4	11.9	5.5	0.3	9.6
EARTH TEMPERATURE (°C)													
Surface													
2 a	–1.6	–1.4	0.4	5.3	10.2	15.7	19.8	21.6	17.3	10.7	4.2	0.2	8.5
6 a	–1.8	–1.8	0.1	4.7	10.1	16.1	20.0	21.5	16.7	10.0	3.6	0.0	8.3
10 a	–0.8	–0.5	3.7	13.6	20.7	24.0	26.7	28.1	22.8	15.5	7.4	1.0	13.5
2 p	0.2	0.8	8.1	17.2	23.7	27.0	29.9	31.4	25.5	18.4	10.6	2.5	16.3
6 p	–0.6	–0.3	2.9	10.8	16.7	21.2	24.7	25.7	20.7	13.8	6.6	0.9	12.0
10 p	–1.2	–1.0	1.2	7.1	12.2	17.3	21.2	22.7	18.3	11.7	4.9	0.5	9.6
Mean	–1.0	–0.7	2.7	9.8	15.6	20.2	23.7	25.2	20.2	13.4	6.2	0.8	11.4
0.3 Metres below the Surface (1905-1911)													
Mean	1.9	1.3	3.0	8.2	13.3	17.8	21.1	23.2	20.5	15.1	9.1	4.0	11.6
1.0 Metre below the Surface (1905-1911)													
Mean	5.4	4.3	3.9	6.5	10.6	14.2	17.4	20.1	19.8	16.7	12.6	8.4	11.7
3.0 Metres below the Surface (1905-1911)													
Mean	12.2	11.0	10.1	9.3	9.3	10.0	11.1	12.3	13.6	14.2	14.2	13.3	11.7
6.0 Metres below the Surface (1905-1911)													
Mean	12.6	12.4	12.1	11.7	11.4	11.1	11.1	11.2	11.5	11.9	12.3	12.6	11.8

ANNUAL EXTREMES (1905-1911)

DEPTH	0.3					1.0					3.0				
	Max.	Date	Min.	Date	Range	Max.	Date	Min.	Date	Range	Max.	Date	Min.	Date	Range
Absolute	26.4	9 VIII 1909	0.5	6 II 1909	25.9	21.6	24 VIII 1908	3.1	25III-1IV 1909	18.5	14.8	5,7,8 XI 1905	8.6	22IV-14V 1905	16.9

NO. OF OBSERVATIONS OF WIND FROM.

Dir. / Month	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Calm
January	20.8	6.4	5.6	3.3	7.2	4.4	5.3	4.4	7.7	4.4	5.1	3.7	12.5	11.4	30.7	43.2	9.9
February	16.1	5.6	5.4	3.4	5.6	3.7	5.9	5.0	9.7	6.1	4.5	3.9	11.8	14.4	31.3	30.8	6.0
March	17.4	3.7	4.4	2.1	4.1	2.8	4.5	8.1	17.7	10.2	6.1	5.1	8.6	13.2	34.8	37.5	5.7
April	15.3	4.4	3.9	2.1	3.8	1.9	5.2	10.4	29.7	12.6	7.0	5.2	11.4	6.5	25.1	28.1	7.3
May	11.7	3.6	4.5	1.8	3.4	2.0	6.7	14.2	41.0	13.8	8.2	6.0	9.4	8.0	20.2	21.2	10.3
June	11.0	4.3	3.9	2.2	3.8	2.1	4.8	15.8	48.3	19.8	6.5	3.4	6.6	4.0	13.6	20.3	9.6
July	11.4	4.8	3.0	2.1	2.7	1.1	4.4	17.6	54.1	26.4	8.6	3.3	4.2	3.2	11.1	17.0	11.0
August	12.4	3.3	3.4	2.2	3.0	2.0	7.5	20.1	49.1	24.9	7.7	2.9	4.5	3.5	9.4	14.1	16.0
September	13.8	3.4	4.3	2.4	4.5	3.4	5.5	10.0	36.5	14.9	6.9	2.7	5.2	4.3	20.9	23.9	17.4
October	22.0	7.5	5.0	1.6	3.5	3.3	6.2	7.9	22.7	10.1	4.6	4.7	6.8	6.8	24.5	32.9	15.9
November	21.1	5.1	6.2	2.7	5.6	3.7	6.3	6.8	16.5	7.2	6.3	3.8	8.5	7.4	30.5	31.2	11.1
December	21.1	8.0	6.8	4.3	5.6	4.8	8.0	5.7	11.8	5.7	3.7	3.3	10.2	13.6	32.3	32.8	8.3
Mean	16.2	5.0	4.7	2.5	4.4	2.9	5.9	10.5	28.7	13.0	6.3	4.0	8.3	8.0	23.7	27.7	10.7

MONTHLY MEAN VELOCITY (m. p. s.) OF WIND FROM

Dir. / Month	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
January	4.6	3.1	2.6	2.8	2.2	2.1	1.8	1.7	3.4	3.4	2.4	2.8	4.0	4.9	5.9	5.5
February	4.3	3.4	2.9	2.6	2.2	2.5	2.5	2.5	3.6	2.9	2.0	3.3	3.5	5.9	5.5	5.7
March	4.0	2.5	2.3	1.7	1.7	2.2	2.9	3.7	4.5	3.6	3.3	3.4	4.1	5.3	5.8	5.9
April	4.5	2.7	2.7	1.1	2.2	1.9	3.1	4.0	5.6	4.6	3.3	5.5	4.4	5.8	6.7	6.3
May	4.0	2.6	2.4	1.6	1.9	1.8	3.8	4.9	5.4	4.4	3.2	3.2	4.3	4.9	6.3	6.0
June	4.0	3.2	2.1	1.9	1.7	1.6	2.7	4.3	4.6	4.1	2.8	3.3	2.9	4.2	4.3	4.4
July	3.3	2.3	1.8	1.8	1.0	0.9	2.7	4.2	5.0	3.5	2.9	3.0	2.7	3.0	2.8	3.9
August	2.9	2·2	1.8	1.4	1.3	1.9	2.7	3.5	4.3	3.3	2.5	1.8	1.8	1.5	2.6	3.4
September	2.7	2.1	1.4	1.5	1.7	1.4	2.2	3.7	4.2	2.9	2.0	2.1	2.3	2.8	2.8	3.1
October	3.0	2.0	1.8	1.3	1.5	1.5	1.7	3.2	3.7	2.9	1.8	2.6	2.6	3.1	4.3	3.8
November	3.6	2.4	2.0	2.1	1.9	1.6	1.7	3.0	3.9	3.3	2.5	3.0	2.5	4.4	5.8	5.0
December	4.0	3.2	2.3	2.6	2.3	2.0	1.9	2.4	3.6	2.5	2.2	3.3	4.2	6.9	6.9	5.5
Mean	3.7	2.6	2.5	1.9	1.8	1.8	2.5	3.4	4.3	3.4	2.6	3.1	3.3	4.4	5.0	4.9

NO. OF DAYS WITH GALES 10-15 (m. p. s.)

Month / Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Mean	9.2	7.1	7.7	12.1	12.2	4.7	3.6	2.4	1.9	4.3	7.3	7.5	80.0
15–29													
Mean	3.6	3.3	4.2	3.5	2.0	0.5	0.3	0.4	0.7	0.6	2.4	4.5	26.0
>29													
Mean	—	—	—	0.1	0.1	—	—	0.1	—	—	0.1	0.1	0.5

VELOCITY OF WIND (m. p. s.)

Month / Hour	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
2a	3.8	3.6	3.8	3.4	2.9	2.1	2.1	2.0	1.8	2.0	3.1	4.1	2.9
6a	3.7	3.7	3.5	3.0	2.8	2.2	2.3	2.0	1.9	2.0	2.9	3.9	2.8
10a	4.0	4.3	4.7	5.7	5.1	3.9	3.6	3.2	3.2	3.5	4.1	4.6	4.2
2p	5.2	5.7	6.3	7.7	7.2	5.9	5.2	4.8	4.3	4.7	5.4	5.8	5.7
6p	4.6	4.4	5.1	6.2	6.3	5.4	4.8	4.1	3.3	3.1	3.8	4.5	4.6
10p	3.7	3.7	4.0	4.1	3.4	3.2	3.3	2.7	2.3	2.3	3.2	3.8	3.3
Mean	4.2	4.2	4.6	5.0	4.6	3.8	3.5	3.1	2.8	2.9	3.8	4.5	3.9

MEAN DIRECTION AND VELOCITY (m. p. s.) OF WIND

Year / Month	1902		1903		1904		1905		1906		1907		1908		1909		1910		1911		Mean	
January	N 36°W	3.5	N 31°W	2.5	N 59°W	1.6	N 31°W	2.3	N 37°W	3.1	N 26°W	2.6	N 34°W	2.5	N 29°W	3.6	N 31°W	2.7	N 34°W	3.2	N 34°W	2.8
February	N 55°W	1.7	N 30°W	3.0	N 59°W	2.2	N 42°W	2.9	N 34°W	3.3	N 35°W	2.2	N 39°W	2.2	N 42°W	2.6	N 37°W	2.5	N 35°W	3.1	N 40°W	2.5
March	N 42°W	2.7	N 44°W	2.0	N 62°W	3.3	N 59°W	1.8	N 45°W	2.6	N 51°W	1.4	N 59°W	2.5	N 47°W	2.2	N 54°W	2.6	N 26°W	3.5	N 48°W	2.4
April	N 79°W	3.2	S 67°W	1.0	S 84°W	1.3	N 59°W	2.1	N 52°W	2.2	N 75°W	1.5	N 58°W	1.7	S 15°W	1.4	N 73°W	1.6	N 47°W	2.2	N 74°W	1.6
May	S 65°W	1.8	S 68°W	1.3	S 29°W	1.4	S 34°W	1.7	S 81°W	1.5	S 54°W	1.4	S 69°W	1.2	N 80°W	1.0	W	1.1	S 38°W	1.5	S 60°W	1.3
June	S 28°W	1.7	S 40°W	1.3	S 43°W	1.1	S 22°W	1.3	S 15°W	1.4	S 70°W	0.7	S 17°W	1.0	S 18°W	1.8	S 21°W	1.5	S 28°W	1.2	S 28°W	1.3
July	S 15°W	1.6	S 43°W	0.9	S 15°W	2.2	S 12°W	2.1	S 7°W	2.6	S 15°W	1.6	S 5°W	1.9	S 17°W	1.3	S 6°W	1.7	S 35°W	1.3	S 14°W	1.7
August	S 17°W	1.2	S 41°W	0.6	S 30°W	0.8	S 17°W	1.4	S 21°W	1.5	S 12° E	3.3	S 3°W	2.5	S 7°W	2.1	S 21°E	0.8	S 10°W	2.1	S 7°W	1.6
September	S 6°W	1.7	S 40°W	0.9	S 74°W	0.5	S 42°W	3.3	S 71°W	0.5	W	0.6	S 24°W	0.6	S 88°W	0.6	S 42°W	0.7	S 30°W	0.6	S 42°W	0.6
October	N 47°W	1.1	N 39°W	0.7	N 33°W	1.7	N 68°W	0.4	N 86°W	0.9	N 55°W	1.3	N 57°W	0.8	N 43°W	1.7	N 33°W	1.2	N 56°W	1.0	N 48°W	0.8
November	N 29°W	1.7	N 53°W	1.1	N 83°W	0.9	N 34°W	1.0	N 38°W	2.5	N 35°W	2.2	N 52°W	2.4	N 62°W	1.7	N 39°W	2.2	N 44°W	1.3	N 42°W	1.8
December	N 27°W	3.3	N 63°W	2.0	N 42°W	2.2	N 41°W	2.3	N 47°W	1.8	N 53°W	2.9	N 48°W	4.3	N 27°W	3.0	N 33°W	3.1	N 23°W	3.0	N 39°W	2.7
Annual	N 72°W	1.3	N 69°W	1.1	N 79°W	1.2	N 76°W	1.0	N 67°W	1.3	N 73°W	1.0	N 73°W	1.2	N 68°W	1.1	N 59°W	1.2	N 57°W	1.2	N 69°W	1.2

MEAN DIRECTION AND FREQUENCY OF WIND

January	N 25°W	41	N 33°W	41	N 68°W	22	N 42°W	40	N 34°W	46	N 34°W	47	N 28°W	43	N 29°W	62	N 26°W	54	N 22°W	60	N 30°W	47
February	N 53°W	27	N 30°W	50	N 59°W	34	N 48°W	42	N 36°W	55	N 41°W	38	N 43°W	32	N 41°W	36	N 38°W	37	N 27°W	59	N 40°W	40
March	N 50°W	32	N 44°W	32	N 66°W	49	N 62°W	29	N 46°W	31	N 41°W	29	N 78°W	33	N 49°W	39	N 54°W	48	N 25°W	62	N 50°W	37
April	S 89°W	36	S 68°W	18	S 79°W	21	N 66°W	23	N 69°W	27	S 89°W	32	N 63°W	26	S 53°W	18	N 74°W	26	N 43°W	31	N 80°W	24
May	S 43°W	26	S 49°W	24	S 28°W	26	S 60°W	26	S 64°W	26	S 52°W	22	S 69°W	19	W	21	W	18	S 30°W	32	S 54°W	23
June	S 32°W	33	S 31°W	28	N 41°W	17	S 27°W	31	S 23°W	29	S 53°W	15	S 7°W	50	S 12°W	44	S 30°W	30	S 31°W	20	S 27°W	27
July	S 17°W	33	S 39°W	18	S 22°W	34	S 17°W	41	S 14°W	52	S 18°W	37	S 10°W	23	S 20°W	26	S 12°W	41	S 48°W	28	S 17°W	35
August	S 22°W	33	S 35°W	13	S 33°W	22	S 19°W	40	S 31°W	39	S 9°E	62	S 5°W	44	S 9°W	48	S 14°E	21	S 22°W	43	S 13°W	35
September	S 12°W	29	S 46°W	25	N 80°W	13	S 72°W	9	N 68°W	13	N 73°W	25	N 74°W	15	S 79°W	12	S 46°W	19	S 39°W	22	S 65°W	15
October	N 47°W	22	N 41°W	16	N 35°W	33	N 62°W	14	S 70°W	18	N 45°W	23	N 52°W	17	N 42°W	34	N 32°W	48	N 50°W	30	N 44°W	25
November	N 36°W	29	N 44°W	16	N 43°W	27	N 33°W	38	N 37°W	34	N 32°W	42	N 47°W	38	N 65°W	19	N 35°W	44	N 29°W	26	N 39°W	31
December	N 16°W	39	N 62°W	21	N 42°W	38	N 46°W	32	N 37°W	28	N 30°W	28	N 41°W	43	N 20°W	55	N 28°W	51	N 12°W	45	N 31°W	37
Annual	N 87°W	17	N 77°W	17	N 82°W	20	N 86°W	19	N 79°W	20	N 76°W	18	N 82°W	18	N 73°W	19	N 60°W	22	N 55°W	22	N 75°W	19

MAXIMUM CONTINUANCE OF DAYS WITH PRECIPITATION

Year	From Day	From Month	To Day	To Month	No. of Days	Remarks
1902	2	Jan.	21	Jan.	20	—
03	22	July	4	Aug.	14	—
04	26	Oct.	11	Nov.	17	27 <0.1
05	28	Nov.	16	Dec.	19	5 <0.1
06	25	Jan.	18	Feb.	25	4,8 <0.1
07	31	Aug.	10	Sept.	11	—
08	11	Jan.	29	Jan.	19	12,14,26<0.1
09	11	Feb.	15	Feb.	15	—
10	3	Aug.	16	Aug.	14	—
11	8	Oct.	19	Oct.	12	11,14(≡)<0.1
Absolute	25	Jan. 1906	18	Feb.	25	4,8 <0.1

MAXIMUM CONTINUANCE OF DAYS WITHOUT PRECIPITATION

Year	From Day	From Month	To Day	To Month	No. of Days	Remarks
1902	3	June	10	June	8	—
03	26	Sept.	7	Oct.	12	1, 3, 7<0.1
04	14	Aug.	29	Aug.	16	19,21,22<0.1
05	9	Apr.	15	Apr.	7	—
06	19	May	26	May	8	—
07	20	July	1	Aug.	13	24 <0.1
08	12	Oct.	24	Oct.	13	—
09	15	July	24	July	10	21 <0.1
10	15	Apr.	24	Apr.	10	24 <0.1
11	18	Feb.	28	Feb.	11	18,21,23<0.1
Absolute	14	Aug. 1904	29	Aug.	16	19,21,22<0.1

FIVE DAY MEANS.

Month	Period	Air Press.	Air Temp.	Tension of Vapour	Relative Humidity	Amount of Cloud	Velocity of Wind	Amount of Precip.
January	1– 5	756.3	–2.7	3.1	83	7.2	4.1	13.1
	6–10	758.2	–2.3	3.1	79	6.9	4.4	9.5
	11–15	757.6	–2.8	3.0	79	7.3	4.3	10.6
	16–20	756.9	–2.7	3.1	81	7.1	4.6	14.1
	21–25	757.8	–3.6	2.9	82	7.1	4.1	12.6
	26–30	758.2	–3.0	2.9	80	7.3	3.9	10.1
February	31– 4	755.1	–3.2	3.0	82	7.8	3.6	12.4
	5– 9	756.2	–3.6	2.9	80	7.4	4.1	8.6
	10–14	756.3	–3.2	2.8	77	7.1	4.9	7.6
	15–19	756.7	–2.3	3.2	78	7.3	4.6	9.3
	20–24	757.3	–2.7	3.0	79	6.6	3.9	8.8
	25– 1	757.4	–0.6	3.4	78	7.0	4.4	12.3
March	2– 6	755.0	–0.9	3.4	77	7.3	5.2	13.3
	7–11	756.7	0.8	3.7	75	6.7	4.5	13.6
	12–16	756.9	0.6	3.6	72	7.4	4.8	13.4
	17–21	758.3	1.6	3.9	75	6.9	4.4	12.8
	22–26	759.5	2.6	4.1	74	6.9	4.1	9.9
	27–31	759.7	4.2	4.5	73	6.6	4.8	10.0
April	1– 5	758.2	5.4	5.0	75	7.4	5.0	23.9
	6–10	756.5	7.5	5.6	72	6.2	5.2	11.4
	11–15	756.7	8.3	5.9	72	6.9	5.3	16.8
	16–20	755.5	8.6	6.0	71	6.6	5.3	20.9
	21–25	756.5	9.9	6.2	68	6.0	4.9	10.5
	26–30	755.7	10.6	6.9	72	7.0	4.9	9.2
May	1– 5	756.7	11.6	7.0	75	6.9	5.2	27.1
	6–10	754.7	12.3	7.5	71	6.6	4.6	17.4
	11–15	755.2	12.1	7.7	74	7.5	4.9	17.4
	16–20	752.5	13.9	8.3	72	6.4	5.2	34.8
	21–25	753.1	13.8	8.3	71	5.8	4.1	5.9
	26–30	754.1	15.1	9.6	76	7.5	4.0	18.3
June	31– 4	752.9	16.5	10.7	77	6.9	4.1	8.4
	5– 9	751.0	16.9	10.7	75	6.6	4.1	30.6
	10–14	751.7	17.3	11.4	79	7.8	3.7	23.5
	15–19	752.6	17.2	11.9	82	8.2	3.6	31.1
	20–24	752.0	18.1	12.0	77	7.9	3.8	13.3
	25–29	751.3	19.0	13.4	81	8.4	3.3	34.1
July	30– 4	751.8	18.5	12.9	82	8.7	3.6	37.0
	5– 9	752.5	19.1	13.7	83	8.3	3.7	17.2
	10–14	752.5	21.3	15.6	83	8.6	3.8	24.2
	15–19	752.2	21.8	16.4	85	8.6	3.5	34.9
	20–24	751.8	21.5	15.5	82	7.8	3.6	18.3
	25–29	751.9	22.9	17.3	84	8.3	3.5	34.8
August	30– 3	752.0	23.1	17.3	84	8.4	3.5	28.1
	4– 8	751.7	23.7	18.0	84	8.2	3.7	35.8
	9–13	753.1	23.0	17.5	84	7.8	3.1	25.6
	14–18	752.8	21.7	15.8	81	7.1	3.5	30.8
	19–23	753.6	22.0	16.6	85	7.9	2.9	29.6
	24–28	754.4	21.9	16.4	84	8.0	3.0	25.0
September	29– 2	754.5	21.6	16.4	86	8.2	2.7	26.1
	3– 7	754.3	21.3	16.2	86	8.2	2.6	20.5
	8–12	755.0	20.0	14.4	83	7.7	3.2	17.5
	13–17	754.8	18.1	13.0	84	7.9	2.7	27.8
	18–22	755.2	17.2	12.5	85	8.2	2.9	36.6
	23–27	757.2	15.9	11.1	83	7.4	2.7	22.5
October	28– 2	756.7	15.1	9.8	80	6.8	3.3	16.2
	3– 7	757.3	13.6	9.6	83	7.3	2.9	23.0
	8–12	758.3	12.5	8.7	81	6.8	3.1	12.9
	13–17	758.3	13.1	9.5	84	7.3	2.7	24.1
	18–22	757.6	11.7	8.5	82	6.7	2.8	16.4
	23–27	758.1	10.7	7.8	81	5.9	3.2	10.8
	28– 1	758.8	8.1	6.5	79	6.3	3.3	7.8
November	2– 6	758.2	6.9	6.1	80	6.5	3.3	11.7
	7–11	757.6	6.4	5.8	79	6.0	3.5	15.2
	12–16	758.7	6.3	5.7	79	6.1	3.4	6.7
	17–21	758.5	5.0	5.4	80	6.6	3.8	15.1
	22–26	759.0	5.3	5.1	80	6.7	4.0	19.2
	27– 1	757.1	3.8	4.6	80	7.6	4.2	14.1
December	2– 6	757.3	2.1	4.1	80	6.0	4.5	7.5
	7–11	757.3	1.7	4.1	76	6.0	5.3	8.5
	12–16	757.8	0.1	3.8	79	6.4	4.4	11.1
	17–21	756.1	–0.8	3.5	80	7.2	4.4	11.9
	22–26	755.1	–1.5	3.5	80	6.8	4.2	10.6
	27–31	756.5	–1.7	3.3	82	7.2	4.1	12.7

NO. OF DAYS WITH MINIMUM AIR TEMP. <0° C

Year \ Month	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Sum	First Date	Last Date	Interval Days
Mean	0.8	12.0	26.6	29.6	27.3	22.4	5.7	0.9	125.3	2.2 Nov.	26.6 April	177.5

NO. OF DAYS WITH MEAN AIR TEMP. <0°

Mean	—	1.7	15.7	24.7	23.1	9.8	0.3	—	75.3	2.8 Dec.	15.9 March	100.4

NO. OF DAYS WITH MAX. AIR TEMP. <0°

Mean	—	0.1	3.6	8.8	7.7	2.8	—	—	23.0	17.0 Dec.	23.0 Feb.	67.6

NO. OF DAYS WITH MAX. AIR TEMP. >25°

Year \ Month	April	May	June	July	Aug.	Sept.	Sum	First Date	Last Date	Interval Days
Mean	0.4	3.4	7.1	17.3	23.2	8.9	60.3	16.2 May	23.0 Sept.	129.9

NO. OF DAYS WITH MAX. AIR TEMP. >30°

Mean	—	—	0.5	4.2	7.3	0.6	12.6	1.4 July	24.1 Aug.	58.9

NO. OF DAYS WITH MEAN AIR TEMP. >25°

Mean	—	—	—	3.9	6.8	0.4	11.1	13.5 July	8.3 Aug.	26.7

HOAR FROST

Year \ Month	First Day		Last Day		Interval	Year \ Month	First Day		Last Day		Interval Days
	Day	Month	Day	Month			Day	Month	Day	Month	
Mean	8.8	Oct.	6.5	May	214.7	Absolute	11	Sept. (1902)	27	May (1904)	259

SNOW

Mean	13.6	Nov.	10.2	April	145.8	Absolute	30	Oct. (1904)	24	April (1905)	176

SNOW ON GROUND

Mean	11.3	Dec.	13.6	March	87.4	Absolute	16	Nov. (1904)	13	April (1902)	149

AMOUNT OF EVAPORATION (mm) 1906–1911.

Year \ Month	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Mean	1.4	1.5	2.1	3.6	4.6	4.2	4.4	4.4	3.0	2.4	1.7	1.5	2.9

AMOUNT OF OZONE (0–10) 1906–1911.

Mean	7.1	7.3	6.8	6.8	6.6	6.7	6.2	6.0	7.0	6.9	7.1	7.0	6.8

HARMONIC CONSTANTS DERIVED FROM THE ABOVE DATA.

DIURNAL

AIR PRESSURE (mm)

January	757.43	+0.28 Sin	(15°+x)	+0.46 Sin (181+2x)
February	756.60	+0.18	19	+0.46 180
March	757.59	+0.28	34	+0.48 180
April	756.51	+0.51	22	+0.47 181
May	754.35	+0.57	24	+0.39 185
June	751.87	+0.41	29	+0.36 180
July	752.21	+0.40	37	+0.35 181
August	753.07	+0.38	30	+0.41 177
September	755.37	+0.44	25	+0.43 182
October	757.96	+0.38	31	+0.50 187
November	758.29	+0.32	28	+0.44 189
December	756.68	+0.26	9	+0.42 185
Annual	755.66	+0.36	24	+0.42 182

AIR TEMPERATURE (°C)

January	− 2.86	+2.14 Sin	(230°+x)	+0.84 Sin (55°+2x)
February	− 2.64	+2.57	230	+0.86 68
March	+ 1.42	+2.97	230	+0.91 78
April	+ 8.41	+4.08	232	+1.01 77
May	+13.21	+4.45	236	+0.77 84
June	+17.61	+3.63	237	+0.49 71
July	+21.07	+3.01	235	+0.54 67
August	+22.44	+3.15	239	+0.80 65
September	+18.36	+3.22	237	+1.03 71
October	+11.93	+3.68	236	+1.34 67
November	+ 5.53	+3.03	232	+1.07 63
December	+ 0.35	+1.72	253	+0.44 19
Annual	+ 9.57	+3.16	235	+0.87 69

EARTH SURFACE TEMPERATURE (°C)

January	− 0.96	+0.88 Sin	(226°+x)	+0.31 Sin (55°+2x)
February	− 0.70	+1.12	225	+0.45 57
March	+ 2.72	+3.44	238	+1.61 50
April	+ 9.80	+6.05	241	+2.10 75
May	+15.61	+7.00	245	+2.23 83
June	+20.21	+5.77	245	+1.64 76
July	+23.70	+5.11	243	+1.47 70
August	+25.17	+4.90	244	+1.70 67
September	+20.21	+4.16	242	+1.60 71
October	+13.36	+3.83	240	+1.56 69
November	+ 6.21	+3.06	237	+1.35 58
December	+ 0.85	+1.01	234	+0.51 48
Annual	+11.37	+3.86	241	+1.34 68

ANNUAL

AIR PRESSURE (mm)

755.66+ 2.66 Sin (88°+x) +1.44 Sin (248°+2x)

AIR TEMPERATURE (°C)

9.57+12.42 Sin (243+x) +0.59 Sin (285+2x)

EARTH TEMPERATURE (°C)

Surface.

11.34+13.09 Sin (245+x) +0.65 Sin (330+2x)

0.3 Metres below the Surface

11.56+10.84 Sin (235+x) +0.54 Sin (330+2x)

1 Metre below the Surface

11.66+ 8.07 Sin (216+x) +0.36 Sin (320+2x)

3 Metres below the Surface

11.73+ 2.48 Sin (151+x) +0.10 Sin (251+2x)

6 Metres below the Surface

11.83+ 0.76 Sin (85+x) +0.02 Sin (123+2x)

AMOUNT OF PRECIPITATION (mm)

18.17+ 9.42 Sin (246+x) +2.03 Sin (27+2x)

AMOUNT OF CLOUD (0−10)

7.21+ 0.55 Sin (250+x) +0.56 Sin (27+2x)

RELATIVE HUMIDITY (%)

79.21+ 4.74 Sin (180+x) +2.94 Sin (30+2x)

TENSION OF VAPOUR

8.27+ 6.53 Sin (238+x) +1.54 Sin (13+2x)

大正元年九月十九日印刷

大正元年九月廿五日發行

岩手縣水澤町

臨時緯度觀測所

東京市京橋區高代町四番地

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