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ANNUAL REPORT

OF THE

METEOROLOGICAL

AND THE

SEISMOLOGICAL OBSERVATIONS

MADE AT THE

INTERNATIONAL LATITUDE OBSERVATORY

OF MIZUSAWA

FOR

THE YEAR 1915.

LATITUDE $39^{\circ} 8' N.$, LONGITUDE $141^{\circ} 7' E.$,
HEIGHT ABOVE MEAN SEA LEVEL 61 METRES.



PUBLISHED BY THE INTERNATIONAL LATITUDE OBSERVATORY
OF MIZUSAWA.

1916.

The present report contains the results of the meteorological and the seismological observations in the observatory during the year 1915. No alteration is done in the kinds and the methods of observations. The observations and the computations were done by Messrs. K. Aoki, T. Gôukon and S. Sato 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 of the preceding day till 10h 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	es	Cirro-stratus
⚡	Thunder storm	†	Ice crystals	ek	Cirro-cumulus
⚡	Thunder without lightning	⊕	Solar corona	ke	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
∨	Silver thaw	∞	Dust haze	☾	Zodiacal light

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 two *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 EW component, and the other the NS component, of seismological movements. The *instrumental constants* are as follows:

	EW Component Apparatus	NS Component (after repair) Apparatus
Period of free oscillation	17 seconds	38 seconds
Multiplication of the pointer	100 times	20 times
Weight of heavy cylinder	45.0 kilograms	17.6 kilograms
Horizontal distance of the centre of the cylinder from the point of support }	20 centimetres	75 centimetres
Vertical distance between the points of support and of suspension }	104 centimetres	104 centimetres

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

April, 1916.

H. Kimura, *Rigakuhakushi*
Director of the International Latitude Observatory
of Mizusawa.

SEISMOLOGICAL OBSERVATIONS.

TABLE A.
(Earthquakes)

No.	Date 1915	Time of Occurrence			Duration of Total Earthquake (mean)	Maximum Range of Motion		Character of Motion	Intensity	Remarks
		(E W)	(N S)			(E W)	(N S)			
1	January	5	23 ^h 42 ^m 58 ^s	23 ^h 42 ^m 57 ^s	?	0.03	0.09	Slow	Feeble	
2		5	23 50 45	23 50 43	11.7	0.01	0.05	"	"	
3		6	0 12 51	— — —	2.5	0.01	—	"	"	
4		6	1 38 18	1 38 15	7.7	0.03	0.02	"	"	
5		6	3 09.1	— — —	4.7	0.01	—	"	"	
6		6	5 50 18	— — —	5.5	0.01	—	"	"	
7		6	6 31 57	— — —	3.8	0.00	—	"	"	
8		6	8 31 06	8 31 03	30.1	0.32	1.70	Quick	"	
9		15	23 49.2	23 49 12	4.5	0.11	0.23	Slow	"	
10		19	5 57 12	5 57 12	4.5	0.03	0.04	"	"	
11		20	14 40 22	?	3.8	0.02	0.02	"	"	
12		21	16 59 09	— — —	7.2	0.02	—	"	"	
13		22	— — —	0 10 34	8.5	—	0.02	"	"	
14		22	— — —	7 10 01	1.6	—	0.03	"	"	
15		24	17 58.1	— — —	3.2	0.01	—	"	"	
16		26	20 55 31	20 56.2	6.4	0.00	0.01	"	"	
17		27	6 58 19	6 58 19	10.0	0.04	0.06	"	"	
18		27	8 26 33	— — —	4.9	0.01	—	"	"	
19	February	8	15 56 16	15 56.5	4.8	0.01	0.01	"	"	
20		8	20 03 20	— — —	4.7	0.03	—	"	"	
21		9	3 57 29	3 57 33	4.2	0.03	0.04	"	"	
22		13	1 34 05	— — —	3.2	0.02	—	"	"	
23		14	6 22 25	— — —	2.0	0.01	—	"	"	
24		14	16 15 42	— — —	2.9	0.05	—	"	"	
25		14	22 34 02	— — —	1.8	0.01	—	"	"	
26		15	21 41 48	— — —	4.7	0.01	—	"	"	
27		21	1 21 32	— — —	4.1	0.02	—	"	"	
28		24	3 05 30	— — —	2.2	0.01	—	"	"	
29		24	6 38 30	6 38 30	3.8	0.23	0.15	Quick	"	Felt
30		24	7 53 24	— — —	1.9	0.01	—	Slow	"	
31		26	5 45 30	?	?	?	?	"	"	
32		26	6 02 00	6 02 05	2.0	0.01	?	"	"	
33	March	1	10 32 31	— — —	2.6	0.02	—	"	"	
34		1	18 03 26	— — —	2.8	0.02	—	"	"	
35		3	23 41 45	— — —	4.8	0.01	—	"	"	
36		8	9 39 33	— — —	1.9	0.01	—	"	"	
37		9	0 30 14	0 30 14	23.2	?	?	Quick	Weak	Felt
38		9	4 11 36	— — —	3.9	0.00	—	Slow	Feeble	
39		9	4 42.7	— — —	?	?	—	"	"	
40		10	9 54 29	9 54.7	3.9	0.02	?	"	"	
41		11	3 39 02	— — —	1.9	0.00	—	"	"	
42		11	11 38 48	11 38 48	3.5	0.16	0.08	"	"	
43		13	3 43 50	— — —	1.9	0.01	—	"	"	
44		13	6 58 06	— — —	?	0.01	—	"	"	
45		13	22 37 42	22 38.0	4.8	0.04	0.04	"	"	
46		14	5 39 32	5 39 34	4.3	0.05	0.02	"	"	
47		15	18 45 55	— — —	3.5	0.11	—	"	"	
48		16	4 16 41	?	2.8	0.01	0.01	"	"	
49		18	3 45 59	— — —	16.4	?	—	Quick	Weak	Felt
50		19	3 39 43	— — —	3.7	0.01	—	Slow	Feeble	
51		19	6 11 49	— — —	3.2	0.00	—	"	"	
52		19	22 04.0	— — —	5.5	0.01	—	"	"	
53		20	17 31 14	— — —	3.9	0.04	—	"	"	
54		22	23 24.5	— — —	3.1	0.01	—	"	"	
55		23	1 49 10	— — —	4.6	0.01	—	"	"	

† Japanese Central standard Time (9h east from Greenwich), reckoned from midnight

TABLE A.

(Earthquakes)

No.	Date 1915	Time of Occurrence			Duration of Total Earthquake (mean)	Maximum Range of Motion		Character of Motion	Intensity	Remarks			
		(E W)	(N S)			(E W)	(N S)						
56	March	23	7	30.7	—	—	—	1.5	0.00	—	Slow	Feeble	
57		26	10	59.1	—	—	—	0.5	0.00	—	"	"	
58		26	14	36.9	—	—	—	1.3	0.01	—	"	"	
59		26	14	38 34	—	—	—	0.9	0.01	—	"	"	
60		26	16	51.8	—	—	—	0.5	0.00	—	"	"	
61		27	2	42 09	—	—	—	1.4	0.01	—	"	"	
62		27	11	05 49	—	—	—	3.5	0.01	—	"	"	
63		27	12	25.7	—	—	—	2.4	0.01	—	"	"	
64		30	23	35 21	—	—	—	1.0	0.01	—	"	"	
65	April	1	11	56 54	—	—	—	1.0	0.00	—	"	"	
66		1	14	50 27	—	—	—	1.0	0.00	—	"	"	
67		1	15	01 24	—	—	—	0.8	0.00	—	"	"	
68		1	18	19 25	—	—	—	0.7	0.00	—	"	"	
69		3	22	52 25	—	—	—	3.9	0.01	—	"	"	
70		4	—	—	10	54	57	4.8	—	0.21	"	"	
71		5	10	43 01	—	—	—	1.7	0.01	—	"	"	
72		6	3	32 43	—	—	—	2.5	0.02	—	"	"	
73		6	5	25 06	5	25	06	6.8	?	0.65	Quick	Weak	Felt
74		6	14	32 58	14	32	57	24.6	?	1.55	"	Feeble	
75		6	—	—	16	20	15	4.3	—	0.15	Slow	"	
76		8	1	14 12	—	—	—	2.0	0.01	—	"	"	
77		8	3	59 03	3	59	04	5.1	0.05	0.04	"	"	
78		8	4	05.1	4	05	03	1.8	0.01	0.01	"	"	
79		8	15	37 12	—	—	—	2.8	0.01	—	"	"	
80		8	20	11 40	—	—	—	2.9	0.01	—	"	"	
81		9	3	04.9	—	—	—	3.3	0.01	—	"	"	
82		11	11	05 40	11	05	40	5.6	0.15	0.15	Quick	"	Felt
83		13	19	46 00	—	—	—	2.8	0.01	—	Slow	"	
84		13	19	50 03	—	—	—	3.7	0.04	—	"	"	
85		13	21	50.7	—	—	—	0.8	0.00	—	"	"	
86		13	22	01 50	—	—	—	2.0	0.00	—	"	"	
87		15	14	35 44	—	—	—	2.2	0.01	—	"	"	
88		15	15	21 51	—	—	—	2.8	0.03	—	"	"	
89		15	16	09.4	—	—	—	1.8	0.00	—	"	"	
90		15	16	11.9	—	—	—	0.7	0.00	—	"	"	
91		15	16	12.9	—	—	—	0.7	0.00	—	"	"	
92		15	21	51.5	—	—	—	2.0	0.00	—	"	"	
93		15	22	04.3	—	—	—	2.0	0.01	—	"	"	
94		16	8	21.1	—	—	—	0.3	0.00	—	"	"	
95		16	8	21.7	—	—	—	0.3	0.00	—	"	"	
96		17	11	49 52	11	49	50	7.9	0.31	0.36	"	"	
97		17	20	45 56	—	—	—	3.4	0.01	—	"	"	
98		17	21	13 58	21	13.9	—	3.5	0.03	0.01	"	"	
99		18	7	51 14	—	—	—	1.7	0.00	—	"	"	
100		18	—	—	8	45	40	4.2	—	0.09	"	"	
101		18	11	05.1	—	—	—	1.1	0.00	—	"	"	
102		18	21	26.0	—	—	—	2.1	0.00	—	"	"	
103		18	22	00.3	—	—	—	1.1	0.00	—	"	"	
104		19	17	00 21	17	00	21	5.6	0.15	0.14	"	"	
105		20	20	22 23	—	—	—	2.8	0.01	—	"	"	
106		20	20	26 47	—	—	—	3.1	0.02	—	"	"	
107		22	14	26 28	—	—	—	?	0.25	—	"	"	
108		22	14	32 52	—	—	—	3.2	0.03	—	"	"	
109		24	0	47 30	0	47	34	9.1	0.01	0.01	"	"	
110		24	5	46 05	5	46	04	7.4	0.10	0.15	"	"	

TABLE A.
(Earthquakes)



No.	Date 1915	Time of Occurrence			Duration of Total Earthquake (mean)	Maximum Range of Motion		Character of Motion	Intensity	Remarks
		(E W)	(N S)	(E W)		(N S)				
111	April 24	14 ^h 20 ^m 52 ^s	—	—	2.2	0.02	—	Slow	Feeble	
112	24	22 26.2	—	—	1.5	0.00	—	"	"	
113	25	2 10 25	2	10 25	22.9	1.00	0.69	"	"	
114	25	9 06.7	—	—	5.9	0.01	—	"	"	
115	25	9 15.4	—	—	2.5	0.01	—	"	"	
116	25	17 14 40	—	—	3.5	0.01	—	"	"	
117	27	14 35 04	—	—	3.1	0.00	—	"	"	
118	27	20 36.1	—	—	2.0	0.00	—	"	"	
119	28	2 15.5	—	—	2.9	0.00	—	"	"	
120	May 1	5 36 53	5	36.8	2.8	0.01	0.01	"	"	
121	1	8 46 19	8	46 19	11.0	0.35	0.20	"	"	
122	1	14 03 18	14	03 17	217.3	?	?	"	"	
123	1	17 47 08	17	47 16	50.0	0.07	0.35	"	"	
124	1	19 33 51	—	—	30.6	0.01	—	"	"	
125	2	13 02 20	13	02 28	17.8	0.02	0.06	"	"	
126	3	12 17 34	12	17 40	?	0.02	0.10	"	"	
127	3	13 10 14	13	10 15	38.7	0.04	0.10	"	"	
128	4	7 58 45	7	58.9	3.1	0.01	0.00	"	"	
129	4	19 00 20	19	00.5	4.1	0.01	0.01	"	"	
130	5	17 49 09	—	—	5.7	0.01	—	"	"	
131	5	20 17 19	—	—	5.9	0.01	—	"	"	
132	7	16 46.2	16	46.2	4.1	0.02	0.03	"	"	
133	9	0 40 31	—	—	4.2	0.01	—	"	"	
134	9	12 48 07	—	—	2.0	0.01	—	"	"	
135	12	10 48 29	10	48 36	2.7	0.05	0.08	"	"	
136	12	17 59 03	17	59 04	4.5	0.08	0.20	"	"	
137	13	— — —	1	32.5	19.7	—	0.05	"	"	
138	13	10 52 53	10	52 53	5.9	?	0.14	"	"	
139	14	15 44 09	15	44 09	53.8	0.01	0.07	"	"	
140	14	23 26 38	—	—	16.7	0.01	—	"	"	
141	16	19 14 19	—	—	1.8	0.00	—	"	"	
142	16	19 30 45	—	—	7.0	0.02	—	"	"	
143	16	22 59 06	—	—	9.0	?	—	"	"	
144	17	1 48 35	—	—	7.3	0.00	—	"	"	
145	17	2 30 05	—	—	6.5	0.00	—	"	"	
146	19	5 46 09	5	46.3	4.4	0.03	0.02	"	"	
147	19	6 03 45	6	04.0	4.3	0.02	0.02	"	"	
148	21	1 22 41	1	22 41	4.0	0.04	0.05	"	"	
149	27	14 36.6	—	—	2.5	0.00	—	"	"	
150	27	15 13 47	15	14.0	3.0	0.01	0.00	"	"	
151	27	21 24.5	—	—	1.6	0.01	—	"	"	
152	27	22 03.1	—	—	1.8	0.00	—	"	"	
153	28	2 27 03	2	26 58	8.7	0.26	0.26	"	"	
154	29	1 18.4	1	18 23	2.9	0.01	0.01	"	"	
155	29	19 14 07	—	—	2.2	0.01	—	"	"	
156	29	22 58 32	—	?	2.5	0.02	0.01	"	"	
157	30	0 17.3	—	—	0.7	0.00	—	"	"	
158	30	22 07 30	22	07.6	3.2	0.01	0.01	"	"	
159	June 1	3 17.5	—	—	1.7	0.00	—	"	"	
160	1	23 54 21	—	—	46.2	?	—	"	"	
161	2	0 22.5	—	—	0.9	0.00	—	"	"	
162	4	23 27 33	23	27 33	3.0	0.04	0.04	"	"	
163	5	6 58 40	6	58 40	25.3	?	4.25	Quick	"	Felt
164	5	6 39 27	9	39 27	3.5	0.05	0.05	Slow	"	
165	6	20 31.3	—	—	1.9	0.01	—	"	"	

TABLE A.

(Earthquakes)

International
Seismological
Centre

No.	Date 1915	Time of Occurrence			Duration of Total Earthquake (mean)	Maximum Range of Motion		Character of Motion	Intensity	Remarks
		(E W)	(N S)			(E W)	(N S)			
166	June 7	6 ^h 48 ^m 59 ^s	6 ^h 48 ^m 57 ^s	?	?	?	Slow	Feeble		
167	7	8 22 27	8 22.7	3.0	0.02	0.02	"	"		
168	7	20 02.6	— — —	1.3	0.00	—	"	"		
169	8	3 11 23	— — —	1.8	0.01	—	"	"		
170	8	7 01.7	7 01.7	14.1	0.21	0.30	"	"		
171	8	20 14.9	— — —	5.1	0.00	—	"	"		
172	8	21 02.3	— — —	3.0	0.01	—	"	"		
173	9	11 48 27	— — —	0.9	0.00	—	"	"		
174	9	13 54 43	— — —	2.4	0.01	—	"	"		
175	10	1 36 05	— — —	1.3	0.00	—	"	"		
176	11	12 43 55	12 44.0	4.2	0.02	0.01	"	"		
177	11	20 05 37	20 05 37	7.6	0.17	0.21	"	"		
178	12	3 32 24	— — —	2.2	0.01	—	"	"		
179	12	6 35 16	6 35 20	4.8	0.03	0.04	"	"		
180	16	1 44 42	1 44 42	8.5	0.15	0.18	"	"		
181	16	14 14 26	14 14 29	5.4	0.01	0.01	"	"		
182	18	2 55 39	2 55 40	9.0	0.22	0.25	Quick	"		
183	20	0 37 59	0 38.1	4.9	0.01	0.01	Slow	"		
184	20	1 01 44	1 01 43	10.6	0.14	0.26	"	"		
185	20	16 31 55	16 31 55	6.2	0.05	0.05	"	"		
186	21	16 16 57	16 16 57	12.3	0.11	0.11	Quick	"		
187	22	12 44 03	— — —	5.3	0.01	—	Slow	"		
188	23	6 33 07	6 33 07	12.0	0.01	0.00	"	"		
189	23	16 15 10	— — —	5.1	0.01	—	"	"		
190	25	1 19 03	1 19.1	4.8	0.02	0.01	"	"		
191	27	22 16 42	22 16.8	5.7	0.01	0.01	"	"		
192	28	0 27 50	0 27 50	23.7	0.27	0.25	"	"		
193	29	4 59 40	4 59.7	5.0	0.02	0.01	"	"		
194	July 1	6 25.4	— — —	1.0	0.00	—	"	"		
195	1	17 00.6	— — —	3.1	0.01	—	"	"		
196	1	18 09 39	— — —	1.5	0.00	—	"	"		
197	2	22 10 22	?	3.6	0.01	0.01	"	"		
198	2	22 28 52	22 28 51	8.4	0.00	0.00	"	"		
199	2	22 38 17	22 38 18	12.9	0.18	0.27	"	"		
200	5	0 35 31	— — —	1.7	0.00	—	"	"		
201	7	10 38 25	10 38 26	4.7	0.23	0.21	Quick	"	Felt	
202	9	7 20 38	7 20 39	47.8	?	1.06	"	"		
203	11	20 01 57	20 01 57	5.4	0.08	0.08	"	"		
204	12	15 02 58	— — —	3.1	0.01	—	Slow	"		
205	13	22 15 08	22 15.1	3.0	0.01	0.01	"	"		
206	14	4 24 37	4 24.8	9.0	0.02	0.01	"	"		
207	15	19 30 45	19 30 45	6.8	0.02	0.05	"	"		
208	21	4 08 12	— — —	2.9	0.00	—	"	"		
209	23	16 09 42	16 09 45	4.2	0.02	0.01	"	"		
210	25	10 58 26	10 58 27	6.2	0.02	0.02	"	"		
211	25	23 16 19	23 16.5	8.3	0.02	0.01	"	"		
212	26	14 23 23	14 23 23	14.8	0.46	0.55	Quick	"		
213	26	18 04 49	— — —	4.0	0.01	—	Slow	"		
214	27	11 07 41	11 07 40	6.8	0.05	0.05	"	"		
215	28	0 36 24	— — —	1.8	0.00	—	"	"		
216	29	6 42 14	6 42 14	3.1	0.06	0.09	"	"		
217	31	10 36 09	10 36 09	137.5	?	5.35	"	"		
218	31	23 30.5	?	4.5	0.01	0.00	"	"		
219	August 1	1 06.2	?	7.5	0.02	0.01	"	"		
220	1	10 46 18	10 46.4	5.3	0.01	0.01	"	"		

TABLE A.
(Earthquakes)

No.	Date 1915	Time of Occurrence			Duration of Total Earthquake (mean)	Maximum Range of Motion		Character of Motion	Intensity	Remarks				
		(E W)		(N S)		(E W)	(N S)							
221	August	3	h 14	m 45	s 02	h 14	m 45.0	s —	7.8	m 0.02	m 0.02	Slow	Feeble	
222		3	17	28	14	17	28	14	5.0	0.30	0.27	Quick	"	Felt
223		3	22	12	58	22	12	57	42.0	0.02	0.20	Slow	"	
224		4	9	45	28	9	45	28	6.2	0.04	0.05	"	"	
225		5	7	33	20	7	33.6	—	5.1	0.01	0.01	"	"	
226		6	22	14	03	22	14	02	96.3	0.32	0.75	"	"	
227		7	10	45	54	10	45	54	8.4	0.06	0.10	"	"	
228		7	11	00.1	—	—	—	—	4.4	0.01	—	"	"	
229		8	0	16	54	0	16	49	61.7	0.01	0.09	"	"	
230		9	3	12	48	3	12.9	—	5.3	0.01	0.01	"	"	
231		9	15	07.4	—	—	—	—	2.1	0.01	—	"	"	
232		9	17	55	03	17	55	02	20.6	0.06	0.10	"	"	
233		11	1	24	57	1	24	57	4.6	0.19	0.25	Quick	"	Felt
234		12	2	13.2	—	—	—	—	2.1	0.00	0.00	Slow	"	
235		12	3	15.2	—	—	—	—	2.7	0.01	0.01	"	"	
236		12	4	12	52	4	12	52	4.9	0.04	0.04	"	"	
237		12	16	44	51	16	44	51	44.0	?	0.01	"	"	
238		12	17	48	06	17	48	06	2.2	0.02	0.02	"	"	
239		13	21	42	22	—	?	—	4.3	0.00	0.00	"	"	
240		14	21	37	42	21	37	41	6.2	0.22	0.35	Quick	"	Felt
241		17	9	39.5	—	—	—	—	5.3	0.01	0.01	Slow	"	
242		17	11	33	46	11	33	49	7.2	0.02	0.04	"	"	
243		17	13	12	15	13	12	16	2.3	0.00	0.00	"	"	
244		25	0	40.3	—	—	—	—	4.3	0.00	—	"	"	
245		25	4	10	37	4	11.2	—	7.7	0.02	0.03	"	"	
246		25	9	45	52	—	?	—	6.5	0.01	0.00	"	"	
247		25	10	34.9	—	—	?	—	5.9	0.01	0.00	"	"	
248		25	18	28	23	18	28.3	—	3.0	0.01	0.00	"	"	
249		28	17	01	00	17	01	00	8.0	0.06	0.10	"	"	
250	September	3	7	10	25	7	10.6	—	3.1	0.01	0.01	"	"	
251		4	2	07	13	—	?	—	6.1	0.01	0.01	"	"	
252		4	7	54	56	7	54	54	4.5	0.02	0.03	"	"	
253		4	8	01	29	8	01	30	4.1	0.03	0.03	"	"	
254		6	20	07	24	—	—	—	3.1	0.02	—	"	"	
255		7	10	40	01	10	39	57	117.6	0.02	0.40	"	"	
256		8	10	36.9	—	—	—	—	2.4	0.01	—	"	"	
257		9	5	13.2	—	—	—	—	3.1	0.01	—	"	"	
258		10	11	15	01	11	15.1	—	4.1	0.02	0.02	"	"	
259		10	12	14.5	—	—	—	—	1.1	0.00	—	"	"	
260		12	5	09	41	5	09	40	3.8	0.02	0.04	"	"	
261		12	9	05	46	9	05	46	?	0.06	0.03	"	"	
262		12	9	13	12	—	?	—	5.1	0.03	0.05	"	"	
263		13	2	21	52	2	21	52	3.5	0.04	0.05	"	"	
264		17	8	03	56	8	04.0	—	5.1	0.01	0.01	"	"	
265		21	15	21	25	15	21	23	2.6	0.03	0.01	Quick	"	
266		21	21	32	06	21	32.2	—	2.2	0.01	0.00	Slow	"	
267		25	8	50	45	8	50.8	—	3.2	0.01	0.01	"	"	
268	October	1	16	49	07	16	49.3	—	3.4	0.01	0.01	"	"	
269		2	5	49	40	5	49	39	3.1	0.01	0.01	"	"	
270		3	15	34.4	—	—	—	—	1.3	00.0	—	"	"	
271		3	16	04	53	16	04	52	146.0	0.06	0.25	"	"	
272		4	8	58	52	8	58	52	3.2	0.01	0.01	"	"	
273		5	22	57	48	22	57	48	31.7	?	0.05	"	"	
274		8	14	12	00	14	12	01	1.6	0.02	0.01	"	"	
275		9	0	37	34	0	37	37	10.3	0.77	0.83	Quick	"	Felt

TABLE A.

(Earthquakes)

No.	Date 1915	Time of Occurrence						Duration of Total Earthquake (mean)	Maximum Range of Motion		Character of Motion	Intensity	Remarks			
		(E W)			(N S)				(E W)	(N S)						
276	October	12	h	m	s	h	m	s	9.1	m	m	0.01	0.01	Slow	Feeble	
277		13	6	29	36	6	29	35	28.9			?	3.00	Quick	Weak	Felt
278		13	15	35	59	15	35	59	12.6	0.24	0.35			Slow	Feeble	
279		13	20	01	15	20	01	15	9.5	0.19	0.21			"	"	
280		13	21	06	29	21	06	29	7.7	0.31	0.30			"	"	
281		14	4	41	59	4	41	58	9.7	0.76	0.60			Quick	Weak	Felt
282		14	9	04	18	9	04	19	4.6	0.05	0.05			Slow	Feeble	
283		14	9	26	59	9	27.2		4.3	0.02	0.01			"	"	
284		14	11	05	13	11	05.4		2.8	0.02	0.01			"	"	
285		14	12	03.8		—	—	—	0.6	0.00	—			"	"	
286		14	12	40	03	12	40	03	4.0	0.30	0.35			Quick	"	Felt
287		14	14	02	24	14	02.7		1.9	0.01	0.00			Slow	"	
288		14	16	20	49	—	—	—	2.4	0.02	—			"	"	
289		14	17	17	23	17	17.5		3.2	0.02	0.01			"	"	
290		14	22	42	39	—	—	—	2.1	0.01	—			"	"	
291		15	1	26	36	1	26	33	12.6	?	?			Quick	"	Felt
292		15	2	55	16	—	—	—	4.9	0.01	—			Slow	"	
293		15	3	29	55	—	—	—	2.7	0.01	—			"	"	
294		15	3	39	26	3	39	26	15.7	?	0.95			Quick	"	Felt
295		15	4	21	12	—	—	—	2.9	0.01	—			Slow	"	
296		15	7	31	30	7	31.5		5.1	0.03	0.04			"	"	
297		15	9	56	06	9	56.2		3.8	0.02	0.01			"	"	
298		15	19	09	16	19	09	18	7.8	0.12	0.15			"	"	
299		16	1	18	30	1	18.7		2.9	0.02	0.01			"	"	
300		16	1	54	57	1	54	58	14.6	0.25	0.46			"	"	
301		16	22	38	44	22	38	45	7.9	0.03	0.01			"	"	
302		17	0	20	33	0	20	33	19.6	0.59	0.81			Quick	"	Felt
303		17	3	16	05	3	16.2		3.9	0.01	0.01			Slow	"	
304		17	3	28	26	—	—	—	3.7	0.00	—			"	"	
305		17	3	37	22	3	37	23	13.1	0.20	0.29			Quick	"	
306		17	4	03	12	—	—	—	3.9	0.01	—			Slow	"	
307		17	5	03	11	5	03	11	5.5	0.03	0.03			"	"	
308		17	7	05	51	—	—	—	2.8	0.00	—			"	"	
309		17	9	30	55	9	30	56	6.9	0.07	0.10			"	"	
310		17	10	35	57	—	—	—	3.0	0.00	—			"	"	
311		17	14	36	02	—	—	—	4.2	0.01	—			"	"	
312		17	14	44	17	14	44	20	6.5	0.04	0.05			"	"	
313		18	0	18	46	—	—	—	3.5	0.01	—			"	"	
314		20	20	51	48	20	51.9		3.9	0.01	0.01			"	"	
315		21	4	10	04	4	10	05	5.7	0.07	0.10			"	"	
316		23	11	16	13	—	—	—	4.9	0.01	—			"	"	
317		23	11	28	09	11	28.3		2.3	0.01	0.00			"	"	
318		23	13	57	23	13	57.4		3.1	0.01	0.00			"	"	
319		27	3	07	38	3	07.6		3.7	0.03	0.05			"	"	
320		28	9	53.7		?			3.2	0.03	0.02			"	"	
321	November	1	16	24	16	16	24	16	?	?	?			Quick	Weak	Felt
322		1	—	—	—	16	49	07	?	—	4.05			"	Feeble	Felt
323		1	—	—	—	17	03.2		3.7	—	0.08			Slow	"	
324		1	—	—	—	17	29.7		2.0	—	?			"	"	
325		1	17	49	15	17	49	16	5.8	0.21	0.54			"	"	
326		1	18	00	36	18	00	36	?	?	4.00			Quick	"	Felt
327		1	18	51	03	18	51	03	4.5	?	0.07			Slow	"	
328		1	18	56	57	18	56	57	10.3	0.32	0.49			"	"	
329		1	19	25.5		—	—	—	4.1	0.01	—			"	"	
330		1	19	31.7		—	—	—	3.1	0.02	—			"	"	

TABLE A.

(Earthquakes)

No.	Date 1915	Time of Occurrence			Duration of Total Earthquake (mean)	Maximum Range of Motion		Character of Motion	Intensity	Remarks		
		(E W)	(N S)			(E W)	(N S)					
331	November	1	19	42.5	19	42.6	3.7	0.01	0.01	Slow	Feeble	
332		1	19	52 42	19	52 43	6.7	0.07	0.10	"	"	
333		1	20	36 40	20	36 41	6.2	0.08	0.10	"	"	
334		1	21	36 44	21	36.7	4.3	0.03	0.02	"	"	
335		1	22	27 48	—	—	3.9	0.00	—	"	"	
336		1	23	60.6	—	—	2.5	0.01	—	"	"	
337		2	0	22 29	—	—	4.9	0.03	—	"	"	
338		2	0	41 59	—	—	20.9	1.94	—	Quick	"	Felt
339		2	0	57.6	—	—	2.1	0.00	—	Slow	"	
340		2	1	37 05	—	—	5.9	0.01	—	"	"	
341		2	2	22 00	2	22.1	4.7	0.03	0.02	"	"	
342		2	2	38 27		?	5.6	0.02	0.02	"	"	
343		2	2	55.9	—	—	2.2	0.00	—	"	"	
344		2	4	47 56	—	—	3.5	0.02	—	"	"	
345		2	4	52 12	—	—	4.8	0.09	—	"	"	
346		2	4	57 43	—	—	5.7	0.03	—	"	"	
347		2	6	52.8	—	—	2.1	0.01	—	"	"	
348		2	13	06 30	13	06 29	5.6	0.06	0.09	"	"	
349		2	13	28 06	13	28 06	20.2	0.39	0.75	Quick	"	
350		2	14	22 04	14	22.3	5.8	0.01	0.01	Slow	"	
351		2	15	05 29	15	05.9	5.7	0.01	0.01	"	"	
352		2	17	18.2	—	—	3.0	0.00	—	"	"	
353		2	17	47.8	—	—	1.7	0.00	—	"	"	
354		2	18	59 39	18	59.7	5.2	0.02	0.01	"	"	
355		2	19	31.8	—	—	3.1	0.00	—	"	"	
356		2	20	33 19	20	33.3	5.1	0.02	0.02	"	"	
357		2	20	55.5	—	—	4.7	0.00	—	"	"	
358		3	1	38 56	—	—	3.3	0.01	—	"	"	
359		3	11	54 35	—	—	3.7	0.00	—	"	"	
360		3	13	31 32	13	31 34	3.8	0.02	0.01	"	"	
361		3	14	36 05	14	36 05	9.9	0.16	0.20	"	"	
362		3	15	11 47	15	11 46	5.6	0.04	0.06	"	"	
363		3	22	15 31	—	—	3.7	0.01	—	"	"	
364		4	5	29 12	—	—	12.7	0.17	—	"	"	
365		4	9	58.4	—	—	3.4	0.00	—	"	"	
366		4	10	05 38	10	05.6	10.8	0.09	0.06	"	"	
367		4	10	17.4	—	—	4.7	0.00	—	"	"	
368		4	11	04 46	11	04 46	15.0	0.21	0.25	"	"	
369		4	12	12 27	12	12 28	41.7	?	1.90	Quick	"	Felt
370		4	15	23 20	15	23.5	4.5	0.01	0.01	Slow	"	
371		4	16	16 34	16	16.6	3.8	0.01	0.01	"	"	
372		4	17	08 34	17	08 34	8.4	0.04	0.05	"	"	
373		5	1	43.5	—	—	2.6	0.00	—	"	"	
374		5	3	42.2	—	—	3.9	0.00	—	"	"	
375		5	11	48 20	11	48 19	8.0	0.14	0.15	"	"	
376		5	12	26 41	—	—	?	0.01	—	"	"	
377		5	13	06.5	—	—	4.0	0.01	—	"	"	
378		6	7	41 22	7	41.3	4.9	0.02	0.01	"	"	
379		6	23	25 45	23	25 45	2.5	0.01	0.00	"	"	
380		7	5	36 53	5	37.0	3.1	6.01	0.01	"	"	
381		7	13	59 59	13	59 59	10.5	0.20	0.17	"	"	
382		8	16	45.5	—	—	3.4	0.00	—	"	"	
383		8	18	02 13	—	—	3.4	0.01	—	"	"	
384		10	16	02 58	16	02 59	5.0	0.05	0.05	"	"	
385		10	21	50 15	21	50.3	5.5	0.02	0.02	"	"	

TABLE A.

(Earthquakes)

No.	Date 1915	Time of Occurrence						Duration of Total Earthquake (mean)	Maximum Range of Motion		Character of Motion	Intensity	Remarks
		(E W)			(N S)				(E W)	(N S)			
386	November 12	h	m	s	h	m	s	m	m	m	Slow	Feeble	
		3	22	24	3	22	20	8.8	0.15	0.23			
387	12	8	16	48	—	—	—	3.9	0.03	—	"	"	
388	12	14	14	56	14	14	51	5.7	0.04	0.09	"	"	
389	13	1	38.5		—	—	—	3.5	0.01	—	"	"	
390	13	1	46	58	1	47	00	5.9	0.12	0.17	"	"	
391	13	22	56	39	22	56	39	11.4	0.21	0.35	Quick	"	Felt
392	13	23	08	56	23	08	56	18.3	0.28	0.50	"	"	Felt
393	14	1	26	01	1	26	02	10.3	0.18	0.33	"	"	Felt
394	14	3	15	42	3	15	42	6.0	0.03	0.02	Slow	"	
395	14	7	51	48	7	51	49	5.5	0.06	0.11	"	"	
396	14	8	00	34	8	00.7		7.4	0.01	0.01	"	"	
397	14	16	26.3		16	26.1		3.8	0.01	0.01	"	"	
398	14	20	42.2		—	—	—	1.7	0.01	—	"	"	
399	16	9	41	04	9	41	08	3.8	0.02	0.02	"	"	
400	16	10	38	13	10	38	13	14.5	0.24	0.35	"	"	
401	16	11	35	03	11	35	03	12.8	0.15	0.20	"	"	
402	16	19	06	54	19	07.0		5.4	0.04	0.04	"	"	
403	18	9	24	49	9	24	50	8.5	0.09	0.15	"	"	
404	18	13	02	52	13	02	52	55.8	?	4.85	Quick	"	Felt
405	18	13	23	19	13	23	19	3.3	0.02	0.02	Slow	"	
406	18	14	30	34	—	—	—	2.4	0.00	—	"	"	
407	19	3	35	24	—	—	—	2.1	0.01	—	"	"	
408	19	5	25	10	—	—	—	4.3	0.01	—	"	"	
409	20	13	26	43	13	26.9		4.5	0.01	0.01	"	"	
410	20	14	27	39	—	—	—	3.8	0.01	—	"	"	
411	20	20	34	53	20	35.0		5.3	0.01	0.01	"	"	
412	22	22	24.7		—	—	—	3.7	0.01	—	"	"	
413	22	22	37	55	—	—	—	3.7	0.01	—	"	"	
414	24	14	21	28	14	21	28	5.3	0.03	0.04	"	"	
415	December 2	2	10.2		2	10.6		2.6	0.01	0.01	"	"	
416	3	11	47	17	11	47	17	35.7	0.02	0.14	"	"	
417	3	13	49.4		—	—	—	3.7	0.00	—	"	"	
418	5	21	48	10	21	48.1		6.3	0.02	0.01	"	"	
419	7	5	59	16	5	59	15	29.3	0.28	0.49	"	"	
420	7	6	11	46	—	—	—	2.2	0.01	—	"	"	
421	7	6	16	26	—	—	—	3.8	0.02	—	"	"	
422	7	7	32	17	7	32.8		4.5	0.01	0.01	"	"	
423	7	23	21	37	—	—	—	2.7	0.01	—	"	"	
424	8	16	53	54	16	53	55	10.5	0.08	0.10	"	"	
425	8	20	16	20	—	—	—	5.0	0.01	—	"	"	
426	9	13	46	42	—	—	—	5.9	0.01	—	"	"	
427	9	16	19.6		—	—	—	3.4	0.00	—	"	"	
428	9	22	59	17	22	59.6		4.1	0.02	0.01	"	"	
429	13	2	49	03	2	49.8		6.1	0.01	0.01	"	"	
430	13	14	24	24		?		10.6	0.01	0.01	"	"	
431	13	15	23	41	—	—	—	1.3	0.01	—	"	"	
432	14	5	41	33	5	41	33	6.5	0.23	0.25	"	"	
433	14	19	21	05		?		3.8	0.03	0.04	"	"	
434	14	20	44	37	20	44	47	4.2	0.07	0.06	"	"	
435	15	11	54	09	11	54.3		2.1	0.02	0.01	"	"	
436	19	0	36	17	0	36.3		1.8	0.03	0.01	"	"	
437	23	17	03	39	—	—	—	1.8	0.01	—	"	"	
438	24	6	17.9		—	—	—	1.9	0.01	—	"	"	
439	28	16	13.6		—	—	—	2.2	0.00	—	"	"	
440	29	6	02	08	6	02	08	5.0	0.05	0.05	"	"	
441	31	21	57	14	21	57	13	3.5	0.02	0.02	"	"	

TABLE B.

(Pulsatory Oscillation E W Component.)

Beginning		Ending		Maximum			
Date 1915	Hour	Date 1915	Hour	Date 1915	Hour	Double Amplitude	
January	1	7	January 2	14	January 1	15-17	0.01
	3	18	5	10	4	16-18	0.01
	7	16	14	5	8	10-21	0.04
	15	9	21	9	12	1-8	0.03
	28	9	30	16	15-16	20-1	0.01
February	1	9	February 2	23	17	20-23	0.01
	4	12	6	7	28	21-23	0.01
	9	11	11	10	1	19-21	0.01
	19	9	20	9	4	20-23	0.02
	24	2	26	2	9	16-18	0.01
March	27	1	March 3	6	19	16-17	0.01
	5	5	7	2	24	9-15	0.02
	8	8	10	16	28	9-13	0.04
	11	7	12	4	6	14-16	0.02
	14	3	16	10	9	21-23	0.02
April	17	6	18	10	11	15-16	0.01
	19	12	21	21	14	22-23	0.01
	23	9	25	10	17	16-17	0.01
	29	12	31	9	20	15-16	0.02
	3	17	April 5	14	23	17-18	0.01
May	10	7	10	21	24	11-12	0.01
	12	8	14	20	30	12-13	0.01
	22	8	24	3	4	15-17	0.01
	28	7	May 4	19	10	17-18	0.01
	11	10	14	22	12	21-23	0.01
June	17	7	19	18	22	14-17	0.02
	20	1	25	23	29	13-18	0.01
	27	10	28	20	12	7-19	0.03
	4	8	June 6	20	17	17-20	0.03
	12	3	13	18	20-21	23-3	0.01
August	23	19	24	19	24	8-12	0.01
	29	9	July 1	9	28	7-9	0.01
	2	4	August 4	20	28	12-15	0.00
	5	8	8	18	5	12-15	0.00
	26	4	28	13	12	13-17	0.00
September	2	14	September 2	23	24	13-15	0.00
	8	6	14	9	30	14-18	0.01
	21	16	24	15	3	2-4	0.00
	26	4	29	6	7	12-14	0.00
	30	16	October 1	19	27	3-7	0.01
October	8	6	11	17	September 2	16-17	0.01
	12	9	15	21	9	9-13	0.01
	18	8	20	18	12	13-16	0.00
	26	7	29	10	22	11-13	0.01
	30	8	November 1	19	23	11-12	0.00
November	9	14	11	5	27	13-15	0.01
	12	9	15	21	October 1	11-12	0.00
	18	8	20	18	9	12-16	0.02
	26	7	29	10	10	12-14	0.02
	30	8	November 1	19	13	10-16	0.01
9	14	11	5	19	13-17	0.05	
				27	12-13	0.01	
				31	10-11	0.01	
				November 10	0-1	0.01	

TABLE B.

(Pulsatory Oscillation *E W* Component.)

Beginning		Ending		Maximum		
Date 1915	Hour	Date 1915	Hour	Date 1915	Hour	Double Amplitude
November	11	November	13	November	12	0.01
	20		18		18	0.01
	4		21		20	0.01
	9	December	1		29	0.01
	12		5		4	0.01
December	3		9		7	0.02
	16		11		10	0.01
	22		12		12	0.01
	14		20		14	0.01
	18		21		18	0.03
	4		24		23	0.01
	22		28		26	0.01
	8					