

ANNUAL REPORT
OF THE
METEOROLOGICAL
AND THE
SEISMOLOGICAL OBSERVATIONS
MADE AT THE
INTERNATIONAL LATITUDE OBSERVATORY
OF MIZUSAWA
FOR
THE YEAR 1933.

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

PUBLISHED BY THE INTERNATIONAL LATITUDE OBSERVATORY
OF MIZUSAWA.

1934.

The present report gives the results of the meteorological and seismological observations made at this observatory during the year 1933. No alteration has been made in the nature and methods of observation. The observations and the calculations were made by Messers. M. Uchida, S. Satô, and I. Kumagai, under the superintendence of Mr. T. Ikeda.

The followings are to be noted with respect to the meteorological observations:

Hours of observation—Japanese Central Standard Time (i.e. mean time of the meridian 9h east from Greenwich) is adopted.

Air Pressure.—The barometric readings in millimetres are reduced to the freezing point of water, the corrections to sea level and to standard gravity are given at the bottom of the page for each month.

Air and Earth Temperatures.—The degrees are given in Centigrade.

**Wind.*—The velocity is expressed in metres per second. The direction was observed relative to the sixteen points of the compass.

Cloud.—The amount is estimated by the scale 0-10, the forms are those of the *International classification*, and the direction of motion is indicated relative to the sixteen points of the compass.

Tension of Water Vapour.—is given in millimetres.

Relative Humidity.—is given in percentages.

Precipitation.—The amount is given in millimetres.

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

Duration of Sunshine.—is recorded by a Jordan sunshine-recorder.

Amount of Evaporation.—is given in millimetres, for each day,—that is from 10h of the preceding day to 10h of the day in question, according to the instruction of the Central Meteorological Observatory in Tôkyô.

The heights of the meteorological instruments are as follows,

Barometer—63.1m above sea level.

Air temperature thermometer.—1.3m above the ground.

Anemometer.—15.4m above the ground.

Wind vane.—16.6m above the ground.

* Note:—The wind velocity is measured by the Robinson anemometer. Since January first of the year 1925 a new factor for this instrument has been used. The ratio of new factor to the old one is 0.7/1.0.

In recording meteorological phenomena the following symbols are used :—

●	Rain	▽	Silver thaw	≠	Oceanic noise
*	Snow	~	Glazed frost	∞	Yellow dust
☒	Thunder storm	□	Ice	○	Visibility
⊤	Thunder without lightning	†	Snow drift	⊗	Red sky
◁	Lightning without thunder	←	Ice crystals	C	Cirrus
△	Graupel	∅	Earthquake	CS	Cirro-stratus
▲	Hail	○	Solar corona	CK	Cirro-Cumulus
≡	Mist, Fog.	⊕	Solar halo	KC	Alto-Cumulus
□	Hoar frost	ψ	Lunar Corona	SC	Alto-stratus
⊜	Ice column in ground	⊜	Lunar halo	SK	Strato-cumulus
△	Dew	✗	Gale	N	Nimbus
⊲	Frozen dew	⌞	Rainbow	K	Cumulus
◎	Frozen rain	⌞	Aurora	KN	Cumulo-nimbus
〰	Wave cloud	⌞	Zodiacal light	S	Stratus
☒	Snow lying	∞	Haze		

The descriptions of the meteorological instruments are found in the annual reports for the years 1902, 1904, 1905, 1910, and 1916.

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.

	EW Component Apparatus	NS Component Apparatus
Period of free oscillation	16 seconds	36 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 suspension.	104 Centimetres	104 Centimetres

April, 1934

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

SEISMOLOGICAL OBSERVATIONS

Remarks :—

1. The intensities of the earthquakes are divided into the following seven classes according to the Central Meteorological Observatory of Japan.

Not felt 0.

Felt	{	1. slight
		2. moderate
		3. rather strong
		4. strong
		5. very strong
		6. disastrous

2. The approximate epicentres of the chief earthquakes are given, which are extracted from the "Kisyoyoran" issued monthly by the Central Meteorological Observatory of Japan.
3. The time adopted in the Seismological observations is Greenwich Civil Time.
4. Symbols and notations.

i Sudden beginning of the motion

e Gradual beginning of the motion

? Doubtful phase

* Time is not accurate due to the disorder of the instrument

⊕ Out of the range of the instrument

SEISMOLOGICAL OBSERVATIONS AT MIZUSAWA.

EARTHQUAKES, 1933.



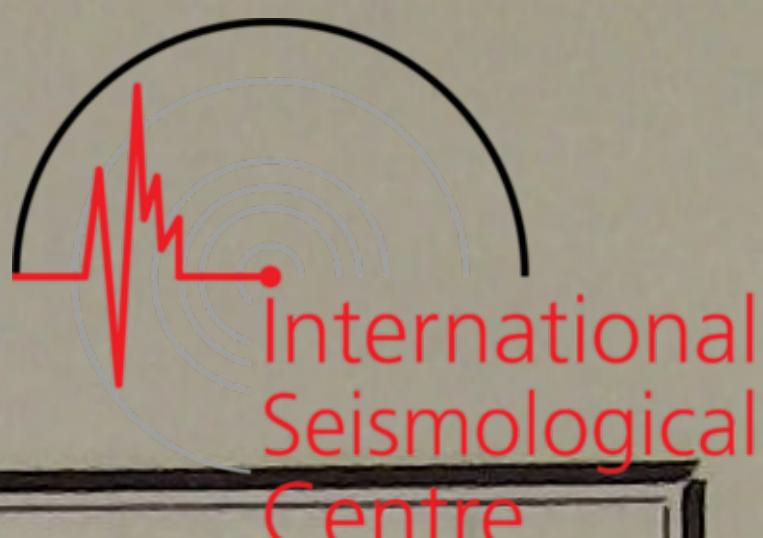
SEISMOLOGICAL OBSERVATIONS AT MIZUSAWA.

EARTHQUAKES, 1933.



No.	Date 1933	P				S				L				Maximum Range of Motion		Duration of Total Earthquake (mean)	Intensity	Approximate Epicenter
		E	W	N	S	E	W	N	S	E	W	N	S	E	W			
56	Jan. 7	h 15 49 25	e 15 49 25	m	s	i 49	59	e 49	54	m	s	m	s	mm	mm	m	2.9	0
57	7	15	-	-	-	-	-	-	-	-	-	-	-	0.01	0.01	0.8	0	0
58	7	15	-	-	-	e 59	42	-	-	-	-	-	-	-	-	2.3	0	0
59	7	18	-	-	-	e 15	55	-	-	-	-	-	-	0.01	-	1.9	0	0
60	7	e 19 37 52	-	-	-	i 38	27	-	-	-	-	-	-	0.01	-	3.8	0	0
61	7	i 20 08 28	e 08 27	i 09	06	i 08	56	-	-	-	-	-	-	0.08	0.08	6.5	0	Mabuti
62	7	e 20 53 44	-	-	i 54	06	-	-	-	-	-	-	-	0.01	-	2.5	0	E off mouth of the R.]
63	7	21	-	-	e 42	42	-	-	-	-	-	-	-	-	-	1.6	0	ENE off Miyako
64	8	e 4 27 14	-	-	i 27	46	e 27	44	-	-	-	-	-	0.02	0.01	4.5	0	0
65	8	e 5 44 39	-	-	e 45	14	-	-	-	-	-	-	-	0.01	-	2.2	0	0
66	8	i 6 29 34	i 29 34	i 30	17	i 30	21	-	-	-	-	-	-	0.81	1.18	16.0	0	E off mouth of the R. Mabuti
67	8	i 6 47 30	-	-	i 48	10	e 48	09	-	-	-	-	-	0.03	0.04	6.2	0	0
68	8	e 6 55 13	-	-	i 55	41	-	-	-	-	-	-	-	0.01	-	2.2	0	0
69	8	7	-	-	e 40	52	-	-	-	-	-	-	-	-	-	2.0	0	0
70	8	9	-	-	e 07	05	-	-	-	-	-	-	-	-	-	2.2	0	0
71	8	10	-	-	e 30	02	-	-	-	-	-	-	-	-	-	1.5	0	0
72	8	e 12 27 22	-	-	e 27	48	-	-	-	-	-	-	-	0.01	-	3.1	0	0
73	8	e 12 59 19	-	-	i 59	53	e 59	51	-	-	-	-	-	0.02	0.01	3.8	0	ENE off Miyako
74	8	15	-	-	e 43	26	-	-	-	-	-	-	-	0.00	-	2.2	0	0
75	8	e 16 53 39	-	-	i 54	09	? 54	13	-	-	-	-	-	0.01	-	3.0	0	0
76	8	i 18 29 00	e 29 02	i 29	27	i 29	27	-	-	-	-	-	-	0.12	0.20	9.4	0	ENE off Miyako
77	8	18	-	-	e 34	37	e 34	41	-	-	-	-	-	0.01	-	2.4	0	0
78	8	18	-	-	e 48	01	-	-	-	-	-	-	-	0.01	-	2.8	0	0
79	8	18	-	-	e 59	06	-	-	-	-	-	-	-	-	-	1.8	0	0
80	8	i 20 55 34	? 55 37	i 56	03	i 56	08	-	-	-	-	-	-	0.12	0.13	7.4	0	ENE off Miyako
81	8	e 21 46 11	-	-	i 46	38	e 46	48	-	-	-	-	-	0.03	0.04	4.7	0	ENE off Miyako
82	8	e 22 08 57	-	-	i 09	32	-	-	-	-	-	-	-	0.02	-	4.7	0	0
83	9	e 2 09 22	e 09 29	e 10	48	? 10	52	-	-	-	-	-	-	0.01	-	6.6	0	0
84	9	2	-	-	? 18	16	? 19	13	-	-	-	-	-	0.01	0.05	5.5	0	0
85	9	2	-	-	e 37	56	-	-	-	-	-	-	-	0.01	-	2.4	0	0
86	9	e 16 57 15	-	-	i 58	15	e 58	16	-	-	-	-	-	0.01	-	5.3	0	0
87	10	e 0 40 11	-	-	i 40	50	e 40	58	-	-	-	-	-	0.02	0.03	4.6	0	0
88	10	3	-	-	e 11	48	-	-	-	-	-	-	-	0.00	-	3.0	0	0
89	10	e 5 00 26	-	-	i 01	09	e 01	12	-	-	-	-	-	0.04	0.05	6.4	0	0
90	10	e 10 09 30	-	-	i 10	06	e 10	06	-	-	-	-	-	0.01	-	4.3	0	0
91	11	e 14 56 06	-	-	e 56	29	-	-	-	-	-	-	-	0.01	-	2.9	0	0
92	12	e 10 07 27	-	-	i 08	06	e 08	07	-	-	-	-	-	0.02	0.03	4.6	0	0
93	12	i 14 10 41	e 10 41	i 11	00	i 10	59	-	-	-	-	-	-	0.14	0.16	6.6	0	SE off Kinkazan
94	13	e 4 01 32	-	-	e 02	02	-	-	-	-	-	-	-	0.01	-	2.9	0	0
95	13	e 9 54 16	-	-	i 54	33	e 54	32	-	-	-	-	-	-	-	1.8	0	0
96	14	e 6 43 51	-	-	i 44	08	-	-	-	-	-	-	-	0.01	-	2.6	0	0
97	15	e 13 35 24	-	-	e 35	42	-	-	-	-	-	-	-	0.00	-	2.5	0	0
98	15	i 18 10 10	e 10 08	e 16	36	e 16	40	-	-	-	-	-	-	-	-	31.6	0	New Guinea
99	16	e 4 53 31	-	-	e 53	54	-	-	-	-	-	-	-	0.00	-	2.0	0	0
100	17	i 5 16 09	e 16 09	i 16	41	i 16	40	-	-	-	-	-	-	0.10	0.13	6.2	0	ENE off Miyako
101	17	18	-	-	i 49	19	e 49	30	-	-	-	-	-	0.03	-	2.1	0	0
102	18	? 13 31 15	-	-	? 32	06	? 31	56	-	-	-	-	-	0.02	0.02	4.7	0	0
103	18	e 17 17 45	-	-	i 19	52	? 19	53	-	-	-	-	-	0.02	0.04	6.7	0	0
104	20	e 23 49 53	-	-	i 50	19	e 50	22	-	-	-	-	-	0.02	0.02	3.6	0	0
105	21	? 19 39 05	? 38 18	? 49	08	? 49	07	? 58	34	? 59	00	-	-	-	-	16.1	0	0
106	22	e 5 05 55	e 06 01	i 06	56	e 07	00	-	-	-	-	-	-	0.03	0.04	5.9	0	0
107	23	4	-	-	* 43	20	-	-	-	-	-	-	-	0.00	-	1.9	0	0
108	23	e 12 54 53	-	-	e 55	25	e 55	34	-	-	-	-	-	0.02	-	4.2	0	0
109	23	18																

EARTHQUAKES, 1933.



No.	Date 1933	P				S				L				Maximum Range of Motion			Duration of Total Earthquake (mean)	Intensity	Approximate Epicenter	
		E	W	N	S	E	W	N	S	E	W	N	S	E	W	N	S			
111	Jan. 24	h m s	m s	m s	m s	i 11 31	e 11 34	m s	m s	m s	m s	m s	m s	mm	mm	m	6.3	0		
112		e 21 10 53	e 11 06	- -	- -	i 23 01	e 23 02	- -	- -	- -	- -	- -	- -	0.03	0.02	-	2.7	0		
113		e 10 22 40	- -	- -	- -	e 25 54	- -	- -	- -	- -	- -	- -	- -	-	-	-	0.7	0		
114		8	- -	- -	- -	i 10 22	e 10 24	- -	- -	- -	- -	- -	- -	0.02	-	-	3.8	0		
115		e 11 09 59	- -	- -	- -	e 36 04	- -	- -	- -	- -	- -	- -	- -	0.00	-	-	2.3	0		
116	Feb. 29	21	- -	- -	-	e 01 13	- -	- -	- -	- -	- -	- -	- -	0.00	-	2.0	0			
117		e 2 50 43	- -	- -	-	e 51 27	- -	- -	- -	- -	- -	- -	- -	0.01	-	3.7	0			
118		i 9 45 26	e 45 24	i 45 36	e 45 37	- -	- -	- -	- -	- -	- -	- -	- -	0.10	0.04	0.04	2.7	0	E off Kinkazan	
119		i 22 14 19	e 14 15	i 16 11	i 16 12	- -	- -	- -	- -	- -	- -	- -	- -	0.08	0.08	0.08	7.7	0	N off Uruppu	
120		i 6 20 26	e 20 23	i 22 23	i 22 23	- -	- -	- -	- -	- -	- -	- -	- -	0.04	0.04	0.04	7.8	0	WNW off Titizima	
121	7	e 0 13 38	- -	14 14	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	3.2	0			
122	7	e 21 07 42	- -	07 54	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	2.0	0			
123	8	i 12 50 08	e 50 07	i 50 18	i 50 18	- -	- -	- -	- -	- -	- -	- -	- -	0.04	-	3.1	0		Neighbourhood of Bay of Yamada (Iwate pref.)	
124	9	i 3 58 45	e 58 43	i 60 10	i 60 11	- -	- -	- -	- -	- -	- -	- -	- -	0.06	0.05	0.05	8.4	0	SW off Hatizoyozima	
125	9	8	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	-	-	-	0	(deep)		
126	11	3	- -	e 53 47	- -	- -	- -	- -	- -	- -	- -	- -	- -	-	-	0.8	0			
127	12	i 1 51 23	- -	i 51 39	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	1.9	0			
128	13	? 2 56 34	? 57 24	? 69 23	? 69 16	- -	- -	- -	- -	- -	- -	- -	- -	-	-	32.1	0	Distant Kasima-nada		
129	13	e 6 51 43	e 51 44	i 52 18	i 52 22	- -	- -	- -	- -	- -	- -	- -	- -	0.14	0.15	0.15	8.6	0		
130	13	i 17 28 47	e 28 43	i 29 21	e 29 20	- -	- -	- -	- -	- -	- -	- -	- -	0.04	0.04	0.04	5.6	0		
131	13	18	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	-	-	1.9	0			
132	13	e 23 09 02	? 09 08	e 10 52	? 10 53	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	9.3	0			
133	14	4	- -	e 32 42	- -	- -	- -	- -	- -	- -	- -	- -	- -	-	-	2.1	0			
134	14	4	- -	i 45 12	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	2.2	0			
135	15	e 20 23 17	- -	e 23 42	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	1.8	0			
136	16	e 0 30 43	- -	i 31 08	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	3.0	0			
137	16	e 1 31 05	- -	i 31 32	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	2.5	0			
138	16	e 22 11 06	- -	i 11 32	e 11 31	- -	- -	- -	- -	- -	- -	- -	- -	0.02	-	3.4	0			
139	17	i 13 52 38	e 52 33	i 52 52	i 52 51	- -	- -	- -	- -	- -	- -	- -	- -	0.03	0.04	0.04	3.1	0	Tairadate (Iwate pref.)	
140	17	e 18 36 03	- -	e 36 43	- -	- -	- -	- -	- -	- -	- -	- -	- -	-	-	2.9	0			
141	18	i 3 22 04	- -	i 22 37	e 22 37	- -	- -	- -	- -	- -	- -	- -	- -	0.02	0.01	0.01	3.2	0	SE far off Kinkazan	
142	20	i 9 51 47	e 51 47	i 52 20	i 52 17	- -	- -	- -	- -	- -	- -	- -	- -	0.27	0.24	0.24	8.5	0	E far off Sioyasaki	
143	20	e 11 06 10	- -	e 06 47	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	2.5	0			
144	20	11	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	1.8	0			
145	20	i 14 18 17	e 18 18	i 18 48	i 18 49	- -	- -	- -	- -	- -	- -	- -	- -	0.06	0.05	0.05	6.1	0	E off Sioyasaki	
146	20	15	- -	e 23 49	- -	- -	- -	- -	- -	- -	- -	- -	- -	-	-	2.2	0			
147	20	e 22 02 29	- -	i 03 11	e 03 11	- -	- -	- -	- -	- -	- -	- -	- -	0.02	0.02	0.02	5.0	0		
148	21	e 2 54 17	- -	e 55 00	e 55 05	- -	- -	- -	- -	- -	- -	- -	- -	0.02	0.02	0.02	5.3	0		
149	22	20	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	1.2	0			
150	23	e 8 28 59	e 29 03	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	-	-	48.0	0	Chile		
151	Mar. 24	5	- -	e 10 06	e 10 05	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	2.5	0			
152		e 13 19 31	- -	i 19 51	e 19 53	- -	- -	- -	- -	- -	- -	- -	- -	0.03	-	3.6	0			
153		e 14 21 56	- -	i 22 38	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	3.1	0			
154		i 17 31 39	i 31 40	⊕	⊕	- -	- -	- -	- -	- -	- -	- -	- -	⊕	⊕	⊕	4	off Kamaishi		

Four moderate earthquakes and a number of unfelt are missed between the earthquakes No. 154 (epicenter off Kamaishi, and caused great tsunami) and No. 155 due to the damage of the seismograph.

155	2	e 20 15 45	- -	e 16 09	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.07	-	5.2	0	After shock of Mar. 2nd

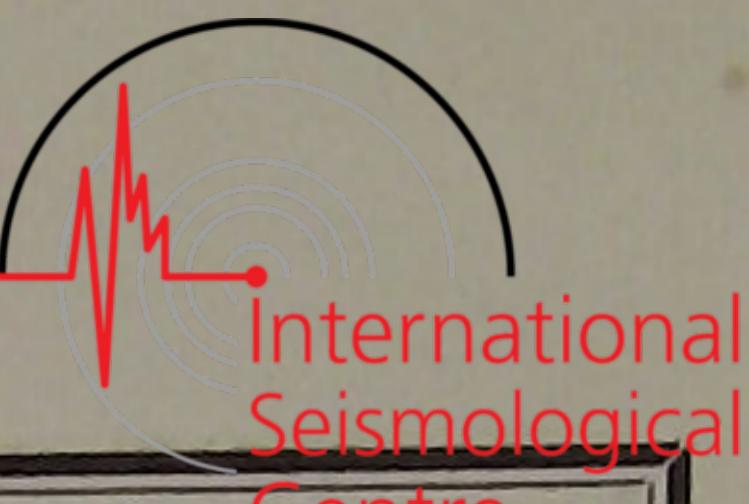
<tbl_r cells="19" ix="3

EARTHQUAKES, 1933.



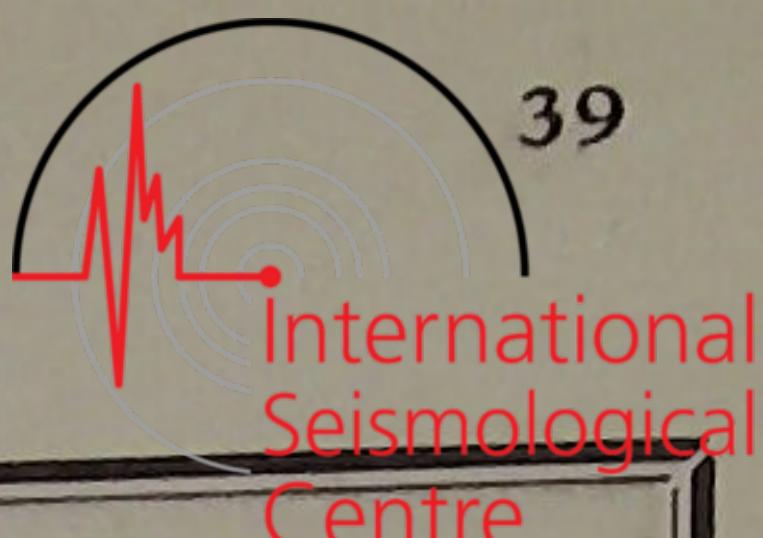
No.	Date 1933	P				S				L				Maximum Range of Motion		Duration of Total Earthquake (mean)	Intensity	Approximate Epicenter
		E	W	N	S	E	W	N	S	E	W	N	S	E	W			
160	Mar. 2	h 21	m 05	s 33	-	m -	s -	i 05	59	m -	s -	m -	s -	mm 0.05	mm -	m 4.0	0	Aft. sk. of Mar. 2 nd
161	2	21	-	-	-	-	-	-	-	-	-	-	-	0.01	-	-	0	
162	2	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	
163	2	e 21	18	25	-	-	-	e 18	50	-	-	-	-	0.01	-	2.4	0	
164	2	i 21	21	42	-	-	-	i 22	04	-	-	-	-	0.03	-	1.4	0	Aft. sk. of Mar. 2 nd
165	2	21	-	-	-	-	-	-	-	-	-	-	-	0.02	-	-	0	Aft. sk. of Mar. 2 nd
166	2	21	-	-	-	-	-	-	-	-	-	-	-	0.00	-	-	0	
167	2	21	-	-	-	-	-	-	-	-	-	-	-	0.01	-	-	0	
168	2	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	
169	2	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	
170	2	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	
171	2	i 21	48	52	-	-	-	i 49	09	? 49	16	-	-	0.13	0.16	5.9	0	Aft. sk. of Mar. 2 nd
172	2	21	-	-	-	-	-	e 56	49	-	-	-	-	0.00	-	-	0	
173	2	i 21	59	10	-	-	-	i 59	38	-	-	-	-	0.06	-	-	0	Aft. sk. of Mar. 2 nd
174	2	i 22	01	58	-	-	-	i 02	23	-	-	-	-	0.13	0.14	4.6	0	Aft. sk. of Mar. 2 nd
175	2	i 22	12	13	-	-	-	e 12	30	-	-	-	-	0.01	-	2.7	0	
176	2	e 22	16	25	-	-	-	i 16	47	-	-	-	-	0.02	-	3.4	0	Aft. sk. of Mar. 2 nd
177	2	e 22	22	31	-	-	-	e 23	00	-	-	-	-	0.01	-	3.6	0	
178	2	e 22	27	19	-	-	-	e 27	49	-	-	-	-	0.01	-	-	0	
179	2	22	-	-	-	-	-	e 31	36	-	-	-	-	0.01	-	-	0	
180	2	i 22	35	23	? 35	26	i 35	59	* 35	50	-	-	-	0.28	0.40	7.8	0	Aft. sk. of Mar. 2 nd
181	2	e 22	43	46	-	-	e 44	13	-	-	-	-	-	0.01	-	-	0	
182	2	22	-	-	e 47	01	-	-	-	-	-	-	-	0.01	-	-	0	
183	2	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	
184	2	22	-	-	e 54	36	-	-	-	-	-	-	-	-	-	-	0	
185	2	22	-	-	e 56	54	-	-	-	-	-	-	-	0.01	-	2.2	0	
186	2	23	-	-	e 00	56	-	-	-	-	-	-	-	0.01	-	3.1	0	
187	2	e 23	11	53	-	-	e 12	16	-	-	-	-	-	0.01	-	3.4	0	
188	2	23	-	-	e 23	00	-	-	-	-	-	-	-	0.01	-	3.5	0	
189	2	23	-	-	-	-	-	-	-	-	-	-	-	0.01	-	-	0	
190	2	23	-	-	e 39	34	-	-	-	-	-	-	-	-	-	-	0	
191	2	23	-	-	e 41	35	-	-	-	-	-	-	-	0.01	-	2.8	0	
192	2	e 23	48	12	-	-	e 48	45	-	-	-	-	-	-	-	3.0	0	
193	2	23	-	-	e 52	52	-	-	-	-	-	-	-	0.01	-	3.2	0	
194	2	e 23	58	05	-	-	i 58	28	-	-	-	-	-	0.04	-	3.0	0	Aft. sk. of Mar. 2 nd
195	3	0	-	-	e 03	28	-	-	-	-	-	-	-	0.03	-	5.0	0	"
196	3	e 0	11	15	-	-	i 11	45	-	-	-	-	-	0.03	-	5.4	0	"
197	3	0	-	? 19	05	-	-	? 19	26	-	-	-	-	0.30	0.31	4.0	0	"
198	3	? 0	25	01	-	-	? 25	27	-	-	-	-	-	0.02	-	0	"	"
199	3	? 0	26	36	-	-	e 26	50	-	-	-	-	-	0.06	-	0	"	"
200	3	? 0	28	08	-	-	i 28	31	? 28	37	-	-	-	0.15	0.09	7.4	0	"
201	3	0	-	-	e 39	41	-	-	-	-	-	-	-	0.01	-	3.1	0	
202	3	i 0	43	57	-	-	i 44	23	-	-	-	-	-	0.05	-	4.8	0	Aft. sk. of Mar. 2 nd
203	3	0	-	-	-	-	-	-	-	-	-	-	-	0.01	-	-	0	
204	3	i 0	55	04	-	-	i 55	29	-	-	-	-	-	0.02	-	4.0	0	Aft. sk. of Mar. 2 nd
205	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	
206	3	1	-	-	? 05	36	-	-	-	-	-	-	-	0.01	-	2.3	0	
207	3	e 1	19	58	-	-	e 20	30	-	-	-	-	-	0.01	-	-	0	
208	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	
209	3	e 1	47	40	-	-	e 48	01	-	-	-	-	-	0.01	-	2.1	0	
210	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	
211	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	
212	3	e 2	21	49	-	-	e 22	11	-	-	-	-	-	0.01	-	2.2	0	
213	3	2	-	-	-	-	-	-	-	-	-	-	-	0.01	-	-	0	
214	3	e 2	28	02	-	-	e 28	29	-	-	-	-	-	0.01	0.02	3.2	0	Aft. sk. of Mar. 2 nd

EARTHQUAKES, 1933.



No.	Date 1933	P			S			L			Maximum Range of Motion		Duration of Total Earthquake (mean)	Intensity	Approximate Epicenter
		E	W	N S	E	W	N S	E	W	N S	E	W	N S		
215	Mar. 3	h 2	m s	m s	m	s	e 49 20	m	s	m s	mm	mm	m	0	Aft. sk. of Mar. 2 nd
216		e 2 51 06	- -	- -	i 51 29	-	e 51 20	- -	- -	- -	0.02	0.02	2.9	0	
217		2	- -	- -	i 58 23	- -	- -	- -	- -	- -	0.01	-	-	0	
218		2	- -	- -	e 59 54	- -	- -	- -	- -	- -	0.01	-	1.5	0	
219		3	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	-	0	
220	3	i 3 15 21	- -	-	i 15 50	e 15 41	- -	- -	- -	- -	0.02	0.03	3.0	0	Aft. sk. of Mar. 2 nd
221	3	3	- -	-	- -	- -	- -	- -	- -	- -	-	-	-	0	"
222	3	e 3 30 34	- -	-	e 30 59	e 30 50	- -	- -	- -	- -	0.01	-	-	0	"
223	3	3	- -	-	- -	- -	- -	- -	- -	- -	-	-	1.1	0	"
224	3	i 3 34 36	e 34 40	i 35 19	e 35 19	- -	- -	- -	- -	- -	0.04	-	5.9	0	Aft. sk. of Mar. 2 nd
225	3	e 3 43 40	- -	-	i 44 06	e 44 07	- -	- -	- -	- -	0.02	0.04	3.1	0	Aft. sk. of Mar. 2 nd
226	3	3	- -	-	- -	- -	- -	- -	- -	- -	-	-	-	0	"
227	3	e 3 51 52	- -	-	i 52 16	e 52 12	- -	- -	- -	- -	0.01	-	3.4	0	"
228	3	4	- -	-	- -	- -	- -	- -	- -	- -	-	-	-	0	"
229	3	4	- -	-	e 10 10	e 10 19	- -	- -	- -	- -	0.01	0.02	2.8	0	Aft. sk. of Mar. 2 nd
230	3	4	- -	-	- -	- -	- -	- -	- -	- -	-	-	-	0	Aft. sk. of Mar. 2 nd
231	3	e 4 32 37	- -	-	i 33 09	e 33 12	- -	- -	- -	- -	0.03	0.03	4.4	0	
232	3	i 4 38 27	e 38 29	i 38 52	e 38 58	- -	- -	- -	- -	- -	0.27	0.26	12.0	0	
233	3	i 4 50 36	- -	-	e 50 55	- -	- -	- -	- -	- -	0.01	-	4.9	0	
234	3	4	- -	-	e 55 37	- -	- -	- -	- -	- -	-	-	1.9	0	
235	3	4	- -	-	e 59 04	- -	- -	- -	- -	- -	-	-	1.1	0	Aft. sk. of Mar. 2 nd
236	3	e 5 02 41	- -	-	i 03 14	e 03 17	- -	- -	- -	- -	0.01	-	3.5	0	
237	3	e 5 11 42	- -	-	i 12 12	e 12 09	- -	- -	- -	- -	0.01	-	3.2	0	
238	3	e 5 19 15	- -	-	e 19 36	e 19 35	- -	- -	- -	- -	0.01	0.02	1.8	0	
239	3	5	- -	-	- -	- -	- -	- -	- -	- -	-	-	-	0	
240	3	5	- -	-	- -	- -	- -	- -	- -	- -	-	-	-	0	Aft. sk. of Mar. 2 nd
241	3	5	- -	-	e 46 13	- -	- -	- -	- -	- -	0.01	-	1.7	0	
242	3	6	- -	-	- -	- -	- -	- -	- -	- -	-	-	-	0	
243	3	6	- -	-	e 09 51	e 09 59	- -	- -	- -	- -	0.01	-	-	0	
244	3	e 6 12 20	- -	-	i 12 46	- -	- -	- -	- -	- -	0.02	0.05	7.2	0	
245	3	6	- -	-	e 17 22	- -	- -	- -	- -	- -	0.01	-	3.2	0	Aft. sk. of Mar. 2 nd
246	3	6	- -	-	- -	- -	- -	- -	- -	- -	-	-	-	0	
247	3	6	- -	-	- -	- -	- -	- -	- -	- -	-	-	-	0	
248	3	e 6 35 34	e 35 39	i 36 08	e 36 07	- -	- -	- -	- -	- -	0.01	-	3.5	0	
249	3	6	- -	-	- -	- -	- -	- -	- -	- -	0.01	-	-	0	
250	3	6	- -	-	- -	- -	- -	- -	- -	- -	-	-	-	0	Aft. sk. of Mar. 2 nd
251	3	e 6 59 56	- -	-	i 60 23	- -	- -	- -	- -	- -	0.01	-	2.9	0	
252	3	7	- -	-	e 13 34	- -	- -	- -	- -	- -	0.01	-	1.5	0	
253	3	e 7 19 33	- -	-	i 20 07	e 20 11	- -	- -	- -	- -	0.02	-	4.3	0	
254	3	7	- -	-	- -	- -	- -	- -	- -	- -	-	-	-	0	
255	3	e 7 39 43	- -	-	i 40 10	- -	- -	- -	- -	- -	0.01	-	3.0	0	Aft. sk. of Mar. 2 nd
256	3	e 7 52 29	- -	-	i 52 59	e 52 59	- -	- -	- -	- -	0.01	0.02	3.8	0	
257	3	7	- -	-	- -	- -	- -	- -	- -	- -	0.01	-	1.4	0	
258	3	i 8 15 18	- -	-	i 15 44	e 15 49	- -	- -	- -	- -	0.04	0.04	5.6	0	
259	3	e 8 21 38	- -	-	e 22 03	- -	- -	- -	- -	- -	0.01	-	2.5	0	
260	3	e 8 26 06	e 26 14	e 26 33	e 26 39	- -	- -	- -	- -	- -	0.04	-	4.4	0	Aft. sk. of Mar. 2 nd
261	3	8	- -	-	- -	- -	- -	- -	- -	- -	-	-	-	0	
262	3	8	- -	-	- -	- -	- -	- -	- -	- -	-	-	-	0	
263	3	8	- -	-	e 44 46	- -	- -	- -	- -	- -	0.01	-	1.9	0	
264	3	e 8 47 20	- -	-	e 47 47	e 47 49	- -	- -	- -	- -	0.02	0.03	4.1	0	
265	3	8	- -	-	i 57 24	- -	- -	- -	- -	- -	-	-	1.8	0	Aft. sk. of Mar. 2 nd
266	3	9	- -	-	- -	- -	- -	- -	- -	- -	-	-	-	0	
267	3	i 9 13 21	i 13 21	⊕	i 13 57	- -	- -	- -	- -	- -	⊕	5.27	12.9	2	
268	3	e 9 26 26	- -	-	i 26 49	- -	- -	- -	- -	- -	0.05	0.04	2.4	0	
269	3	i 9 29 10	- -	-	i 29 35	e 29 34	- -	- -	- -	- -	0.04	0.05	4.8	0	

EARTHQUAKES, 1933.



No.	Date 1933	P				S				L				Maximum Range of Motion			Duration of Total Earthquake (mean)	Intensity	Approximate Epicenter
		E	W	N	S	E	W	N	S	E	W	N	S	E	W	N	S		
270	Mar. 3	h 9 39 13	m 39 15	i 39 37	i 39 38	m 39 37	i 39 38	mm	mm	m	12.9	2	Aft. sk. of Mar. 2nd						
271		e 9 53 04	- -	i 53 45	e 53 52	- -	- -	- -	- -	- -	- -	- -	- -	0.03	0.04	7.6	0	"	"
272		e 10 04 11	e 04 19	i 04 35	e 04 42	- -	- -	- -	- -	- -	- -	- -	- -	0.72	0.73	7.7	2	"	"
273		* 10 22 34	- -	* 23 00	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	3.1	0	"	"
274		* 10	- -	* 28 12	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	1.6	0	"	"
275	3	* 10 30 22	- -	* 30 48	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	2.0	0	"	"
276	3	* 10 32 48	* 32 51	* 33 16	* 33 16	- -	- -	- -	- -	- -	- -	- -	- -	0.35	0.54	10.4	2	Aft. sk. of Mar. 2nd	"
277	3	e 10 46 26	- -	e 46 56	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	5.3	0	"	"
278	3	e 10 57 25	- -	i 58 05	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	0.03	5.0	0	Aft. sk. of Mar. 2nd	"
279	3	e 11 02 57	- -	e 03 26	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	3.7	0	"	"
280	3	11	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	0	"	"	"
281	3	e 11 24 27	- -	i 24 53	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	2.7	0	"	"
282	3	e 11 38 12	- -	e 38 39	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	2.3	0	"	"
283	3	e 11 47 34	- -	i 48 13	* 48 28	- -	- -	- -	- -	- -	- -	- -	- -	0.04	0.05	3.8	0	Aft. sk. of Mar. 2nd	"
284	3	e 11 52 00	- -	i 52 32	* 52 23	- -	- -	- -	- -	- -	- -	- -	- -	0.04	0.04	4.7	0	"	"
285	3	i 11 57 10	e 57 10	i 57 34	i 57 34	- -	- -	- -	- -	- -	- -	- -	- -	0.42	0.40	10.0	2	"	"
286	3	i 12 14 33	e 14 34	i 15 01	i 15 03	- -	- -	- -	- -	- -	- -	- -	- -	0.19	0.19	6.8	0	"	"
287	3	* 12 21 26	- -	* 21 50	* 21 49	- -	- -	- -	- -	- -	- -	- -	- -	0.10	0.05	9.2	0	"	"
288	3	* 12	- -	* 31 38	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	0	"	"	"
289	3	* 12 32 57	- -	* 33 27	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	5.5	0	"	"
290	3	12	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	0	"	"	"
291	3	e 12 43 31	- -	e 43 58	- -	- -	- -	- -	- -	- -	- -	- -	- -	-	-	2.5	0	"	"
292	3	e 12 56 31	- -	e 57 05	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	3.7	0	"	"
293	3	e 13 02 11	- -	e 02 38	e 02 58	- -	- -	- -	- -	- -	- -	- -	- -	0.02	0.02	3.7	0	Aft. sk. of Mar. 2nd	"
294	3	13	- -	e 13 40	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	1.6	0	"	"
295	3	e 13 16 39	- -	e 17 05	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	2.7	0	"	"
296	3	13	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	-	-	0	"	"	"
297	3	13	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	1.4	0	"	"
298	3	13	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	-	-	1.9	0	"	"
299	3	13	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	-	-	0	"	"	"
300	3	13	- -	e 55 51	- -	- -	- -	- -	- -	- -	- -	- -	- -	-	-	1.6	0	"	"
301	3	e 14 14 15	- -	e 14 46	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	3.9	0	"	"
302	3	14	- -	e 20 44	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	3.0	0	"	"
303	3	14	- -	e 27 35	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	2.0	0	"	"
304	3	e 14 56 37	- -	e 57 13	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	2.6	0	"	"
305	3	i 15 02 48	i 02 49	i 03 16	i 03 16	- -	- -	- -	- -	- -	- -	- -	- -	0.59	0.60	2	Aft. sk. of Mar. 2nd	"	"
306	3	? 15 07 40	- -	i 08 03	i 08 06	- -	- -	- -	- -	- -	- -	- -	- -	0.48	0.75	10.5	2	"	"
307	3	* 15	- -	* 18 06	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	6.3	0	"	"
308	3	* 15 27 04	- -	* 27 50	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	4.0	0	"	"
309	3	* 15	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	-	-	0	"	"	"
310	3	* 15 45 15	- -	* 45 49	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	4.6	0	"	"
311	3	* 15 50 51	* 51 14	* 51 21	* 51 40	- -	- -	- -	- -	- -	- -	- -	- -	0.24	0.21	9.4	0	Aft. sk. of Mar. 2nd	"
312	3	* 15 58 17	- -	* 58 50	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	3.2	0	"	"
313	3	16 12 29	i 12 32	13 04	i 13 00	- -	- -	- -	- -	- -	- -	- -	- -	0.26	0.25	11.8	0	Aft. sk. of Mar. 2nd	"
314	3	16	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	0	"	"	"
315	3	e 16 32 20	e 32 27	i 32 48	e 32 49	- -	- -	- -	- -	- -	- -	- -	- -	0.02	0.04	3.7	0	Aft. sk. of Mar. 2nd	"
316	3	16	- -	i 42 50	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	0	"	"	"
317	3	e 16 42 21	- -	i 42 50	- -	- -	-												

EARTHQUAKES, 1933.



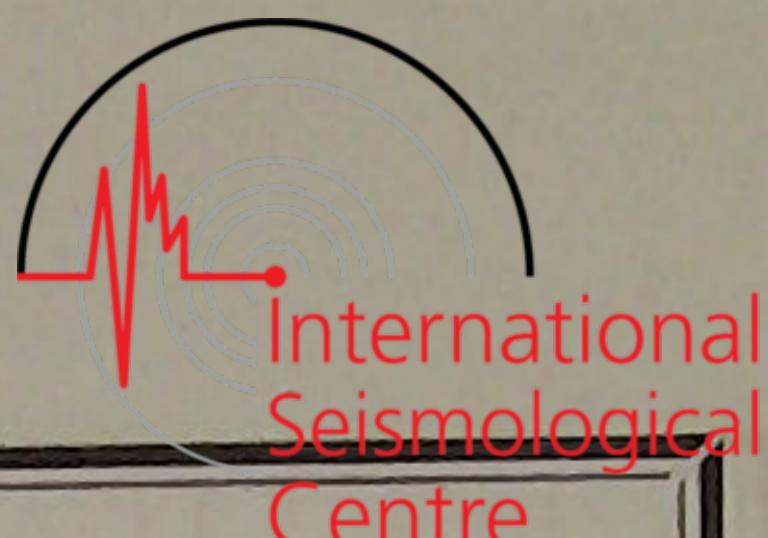
No.	Date 1933	P				S				L				Maximum Range of Motion		Duration of Total Earthquake (mean)	Intensity	Approximate Epicenter	
		E	W	N	S	E	W	N	S	E	W	N	S	E	W				
325	Mar. 3	h 17	m 50	s 19		m -	s -	m -	s -	m -	s -	m -	s -	mm	mm	m 1.5	0		
326	3	e 17	50	19		-	-	e 50	56	-	-	-	-	0.01	-	3.4	0		
327	3	17				-	-	-	-	-	-	-	-	0.00	-	0		Aft. sk. of Mar. 2nd	
328	3	18				e 01	18	e 01	22	-	-	-	-	0.01	0.03	4.2	0		
329	3	18				-	-	-	-	-	-	-	-	-	-	0			
330	3	18				-	-	-	-	-	-	-	-	0.00	-	2.3	0		
331	3	e 18	31	33		-	-	e 31	58	-	-	-	-	0.16	0.21	8.0	0	Aft. sk. of Mar. 2nd	
332	3	i 18	47	55		e 47	57	i 48	35	e 48	30	-	-	0.01	-	1.6	0		
333	3	18				-	-	e 57	54	-	-	-	-	0.62	0.62	12.7	2	Aft. sk. of Mar. 2nd	
334	3	i 19	08	00		i 08	01	i 08	27	i 08	29	-	-	-	-	-			
335	3	e 19	32	18		-	-	e 32	49	-	-	-	-	0.00	-	4.9	0	Aft. sk. of Mar. 2nd	
336	3	i 19	51	04		i 51	06	i 51	35	i 51	32	-	-	0.35	0.32	7.7	2	"	
337	3	i 20	11	14		e 11	20	i 11	41	e 11	45	-	-	0.03	0.02	3.7	0		
338	3	i 20	20	56		i 20	57	? 21	33	? 21	25	-	-	0.20	0.20	8.6	0	"	
339	3	e 20	41	48		-	-	i 42	13	e 42	14	-	-	0.02	0.02	5.7	0	"	
340	3	21				-	-	-	-	-	-	-	-	-	-	2.0	0		
341	3	21				e 12	35	-	-	-	-	-	-	0.00	-	-	0		
342	3	21				-	-	-	-	-	-	-	-	-	-	1.3	0		
343	3	21				-	-	e 26	12	-	-	-	-	-	-	1.7	0		
344	3	21				-	-	-	-	-	-	-	-	-	-	-			
345	3	21				-	-	i 55	32	e 55	33	-	-	0.01	0.02	4.4	0	Aft. sk. of Mar. 2nd	
346	3	e 21	54	55		-	-	i 55	32	e 55	33	-	-	0.01	-	4.4	0		
347	3	e 22	19	36		-	-	e 20	05	-	-	-	-	0.00	-	3.2	0		
348	3	22				-	-	-	-	-	-	-	-	-	-	0			
349	3	22				-	-	-	-	-	-	-	-	0.01	-	-			
350	3	i 22	31	35		e 31	36	i 32	03	e 31	57	-	-	0.03	0.04	5.4	0	Aft. sk. of Mar. 2nd	
351	3	22				-	-	e 46	01	-	-	-	-	0.01	-	2.0	0		
352	3	e 22	49	09		-	-	e 49	37	-	-	-	-	0.00	-	2.5	0		
353	3	e 22	54	00		-	-	e 54	27	-	-	-	-	0.00	-	2.3	0		
354	3	e 23	04	25		-	-	e 05	03	-	-	-	-	0.01	0.01	3.6	0		
355	3	i 23	11	28		-	-	i 11	52	e 11	47	-	-	0.02	0.03	4.8	0	Aft. sk. of Mar. 2nd	
356	3	i 23	18	50		e 18	57	i 19	17	e 19	21	-	-	0.02	0.03	4.6	0	"	
357	3	23				-	-	i 46	14	e 46	14	-	-	-	-	-	0		
358	3	i 23	45	42		-	-	e 53	44	-	-	-	-	0.03	0.02	5.3	0	Aft. sk. of Mar. 2nd	
359	3	23				-	-	-	-	-	-	-	-	-	-	1.8	0		
360	4	e 0	00	14		-	-	e 00	38	-	-	-	-	0.00	-	-	0		
361	4	e 0	01	43		-	-	e 02	12	-	-	-	-	0.01	-	2.3	0		
362	4	e 0	18	34		-	-	e 19	02	-	-	-	-	0.01	-	4.0	0		
363	4	i 0	23	52		-	-	i 24	25	e 24	18	-	-	0.02	0.03	5.5	0	Aft. sk. of Mar. 2nd	
364	4	e 0	47	54		-	-	e 48	37	-	-	-	-	0.00	-	3.6	0		
365	4	e 0	59	21		-	-	e 59	52	e 59	52	-	-	0.01	-	4.4	0		
366	4	1				-	-	e 56	14	-	-	-	-	-	-	1.7	0		
367	4	e 2	02	13		-	-	e 02	40	-	-	-	-	0.00	-	2.8	0		
368	4	2				-	-	-	-	-	-	-	-	-	-	1.7	0		
369	4	e 2	21	46		-	-	e 22	18	-	-	-	-	0.01	-	3.5	0		
370	4	e 2	25	33		-	-	e 25	59	-	-	-	-	0.00	-	2.5	0		
371	4	e 2	36	02		-	-	e 36	44	-	-	-	-	-	-	4.7	0		
372	4	3				-	-	e 17	15	-	-	-	-	0.00	-	1.3	0		
373	4	e 3	32	28		-	-	i 33	06	-	-	-	-	0.01	-	3.3	0		
374	4	e 3	48	45		-	-	i 49	15	-	-	-	-	0.01	-	2.9	0		
375	4	e 3	52	06		-	-	e 52	34	-	-	-	-	-	-	2.6	0		
376	4	4				-	-	-	-	-	-	-	-	-	-	0.9	0		
377	4	4				-	-	e 39	25	-	-	-	-	-	-	1.5	0		
378	4	e 4	41	47		-	-	e 42	27	-	-	-	-	0.01	0.02	4.1	0	Aft. sk. of Mar. 2nd	
379	4	e 5	04	38		-	-	e 05	07	-	-	-	-	-	-	2.0	0		

EARTHQUAKES, 1933.



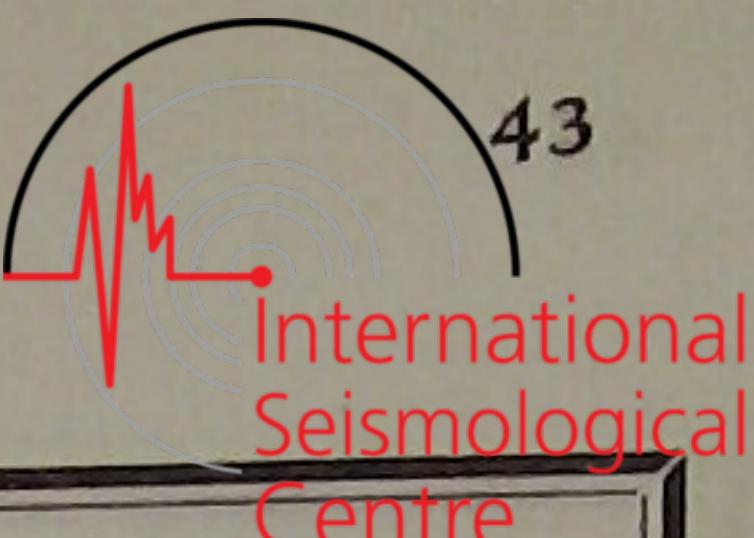
No.	Date 1933	P				S				L				Maximum Range of Motion		Duration of Total Earthquake (mean)	Intensity	Approximate Epicenter
		E	W	N	S	E	W	N	S	E	W	N	S	E	W			
380	Mar. 4	h 5 22 02	m s	m s	m s	e 22 29	m s	m s	m s	m s	m s	m s	mm	mm	m	2.5	0	Aft. sk. of Mar. 2 nd
381		e 5 54 05	- -	- -	- -	e 54 32	- -	- -	- -	- -	- -	- -	0.00	-	2.7	0		
382		e 6 03 10	- -	- -	- -	e 03 40	- -	- -	- -	- -	- -	- -	0.00	-	2.7	0		
383		i 6 45 02	e 45 02	i 45 35	e 45 31	i 45 35	- -	- -	- -	- -	- -	- -	0.18	0.17	9.2	0		
384		6	- -	e 56 55	- -	e 56 55	- -	- -	- -	- -	- -	- -	-	-	3.4	0		
385	4	e 7 05 39	- -	e 06 00	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	2.0	0		
386	4	7	- -	e 14 18	- -	- -	- -	- -	- -	- -	- -	- -	-	-	2.5	0		
387	4	7	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	-	-	1.1	0		
388	4	e 8 09 39	- -	e 10 16	- -	- -	- -	- -	- -	- -	- -	- -	-	-	2.5	0		
389	4	i 8 22 36	- -	i 23 01	e 23 01	- -	- -	- -	- -	- -	- -	- -	0.03	0.04	5.2	0		Aft. sk. of Mar. 2 nd
390	4	8	- -	e 49 37	- -	- -	- -	- -	- -	- -	- -	- -	-	-	2.3	0		
391	4	9	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	1.5	0		
392	4	9	- -	e 44 41	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	4.2	0		
393	4	10	- -	e 02 24	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	3.9	0		
394	4	i 10 19 13	- -	i 19 42	e 19 36	- -	- -	- -	- -	- -	- -	- -	0.02	0.02	6.0	0		Aft. sk. of Mar. 2 nd
395	4	10	- -	- -	i 46 24	e 46 29	- -	- -	- -	- -	- -	- -	0.00	-	1.6	0		
396	4	i 10 45 59	e 46 00	i 46 24	e 46 29	- -	- -	- -	- -	- -	- -	- -	0.02	0.01	3.6	0		
397	4	10	- -	e 56 36	- -	- -	- -	- -	- -	- -	- -	- -	-	-	2.7	0		
398	4	11	- -	e 30 08	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	1.6	0		
399	4	e 11 51 26	- -	e 51 53	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	2.9	0		
400	4	e 12 13 50	- -	e 14 26	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	3.3	0		
401	4	e 12 19 50	- -	e 20 24	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	3.2	0		
402	4	i 12 40 53	i 40 54	i 41 22	i 41 22	- -	- -	- -	- -	- -	- -	- -	0.10	0.15	5.8	1		
403	4	e 13 49 23	- -	e 49 50	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	3.0	0		
404	4	14	- -	e 07 00	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	1.4	0		
405	4	14	- -	e 09 18	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	2.7	0		
406	4	14	- -	e 20 30	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	1.4	0		
407	4	14	- -	e 46 17	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	1.6	0		
408	4	i 15 29 54	- -	e 30 20	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	3.2	0		
409	4	15	- -	e 48 20	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	1.8	0		
410	4	16	- -	- -	e 17 50	- -	- -	- -	- -	- -	- -	- -	-	-	0			
411	4	e 17 17 28	- -	i 27 05	e 17 50	- -	- -	- -	- -	- -	- -	- -	0.01	-	2.5	0		
412	4	e 17 26 54	- -	i 27 39	e 27 42	- -	- -	- -	- -	- -	- -	- -	0.02	0.03	4.6	0		
413	4	e 17 58 05	- -	e 58 33	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	3.7	0		
414	4	e 18 11 26	- -	e 12 00	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	2.6	0		
415	4	18	- -	e 29 46	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	1.7	0		
416	4	e 19 44 31	- -	e 45 06	e 45 18	- -	- -	- -	- -	- -	- -	- -	0.01	-	4.2	0		
417	4	e 19 56 59	- -	e 57 31	e 57 30	- -	- -	- -	- -	- -	- -	- -	0.02	0.03	4.5	0		
418	4	20	- -	e 20 27	- -	- -	- -	- -	- -	- -	- -	- -	-	-	1.9	0		
419	4	i 20 28 23	e 28 23	i 28 52	e 28 49	- -	- -	- -	- -	- -	- -	- -	0.11	0.06	2.6	1		Aft. sk. of Mar. 2 nd
420	4	20	- -	e 53 40	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	1.8	0		
421	4	21	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	0.8	0		
422	4	22	- -	e 03 14	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	4.7	0		
423	4	i 22 14 33	- -	i 15 02	i 15 03	- -	- -	- -	- -	- -	- -	- -	0.05	0.04	5.7	0		
424	4	22	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	-	-	1.1	0		
425	4	e 22 44 45	- -	e 45 38	e 45 40	- -	- -	- -	- -	- -	- -	- -	0.03	0.04	4.5	0		
426	4	23	- -	e 08 13	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	1.9	0		
427	4	23	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	1.6	0		
428	5	i 1 26 05	e 26 07	i 26 30	i 26 27	- -	- -	- -	- -	- -	- -	- -	0.09	0.04	5.2	0		
429	5	2	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	1.0	0		
430	5	2	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	-	-	1.1	0		
431	5	3	- -	e 09 52	- -	- -	- -	- -	-									

EARTHQUAKES, 1933.



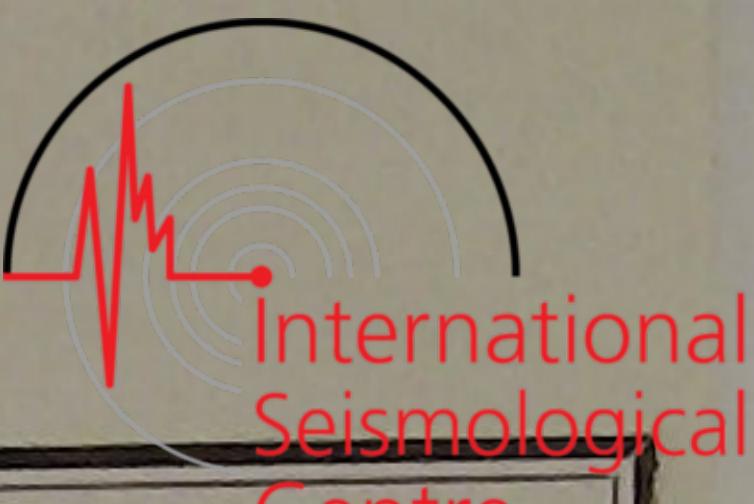
No.	Date 1933	P			S			L			Maximum Range of Motion		Duration of Total Earthquake (mean)	Intensity	Approximate Epicenter		
		E	W	N	S	E	W	N	S	E	W	N	S				
435	Mar. 5	h 5	m s	m	s	m	s	m	s	m	s	mm	mm	m	0		
436	5	e 5	37 45	-	-	i 38	15	-	-	-	-	0.01	-	2.4	0		
437	5	e 5	48 51	-	-	i 49	09	-	-	-	-	0.01	-	2.0	0		
438	5	6	-	-	-	-	-	-	-	-	-	0.01	-	0			
439	5	e 6	38 50	-	-	i 39	08	-	-	-	-	0.03	-	2.5	0	Aft. sk. of Mar. 2nd	
440	5	6	-	-	-	-	-	-	-	-	-	-	-	0			
441	5	6	-	-	-	-	-	-	-	-	-	0.01	-	0			
442	5	6	-	-	-	-	-	-	-	-	-	-	-	0			
443	5	e 7	01 25	-	-	e 01	56	-	-	-	-	0.02	-	3.6	0	Aft. sk. of Mar. 2nd	
444	5	7	-	-	-	e 48	11	-	-	-	-	0.01	-	1.5	0		
445	5	8	-	-	-	-	-	-	-	-	-	0.01	-	0			
446	5	9	-	-	-	-	-	-	-	-	-	-	-	0			
447	5	10	-	-	-	-	-	-	-	-	-	0.00	-	0			
448	5	10	-	-	e 39	29	-	-	-	-	-	0.00	-	2.3	0		
449	5	10	-	-	-	-	-	-	-	-	-	-	-	0			
450	5	11	-	-	-	-	-	-	-	-	-	0.01	-	1.7	0		
451	5	11	-	-	e 22	06	-	-	-	-	-	0.00	-	1.7	0		
452	5	11	-	-	e 53	54	-	-	-	-	-	0.00	-	1.7	0		
453	5	11	-	-	e 58	59	-	-	-	-	-	0.01	-	2.3	0		
454	5	12	-	-	e 15	41	-	-	-	-	-	0.01	-	2.2	0		
455	5	12	-	-	-	-	-	-	-	-	-	0.04	0.04	5.2	0		
456	5	e 13	17 53	e 17	53	i 18	14	e 18	21	-	-	-	-	-	0	Aft. sk. of Mar. 2nd	
457	5	14	-	-	-	-	-	-	-	-	-	-	-	0			
458	5	e 14	52 24	-	-	e 52	42	-	-	-	-	-	0.01	-	2.2	0	
459	5	e 16	23 26	-	-	e 23	59	-	-	-	-	-	0.01	-	4.3	0	
460	5	e 16	28 21	-	-	e 28	51	-	-	-	-	-	0.01	-	3.5	0	
461	5	16	-	-	-	-	-	-	-	-	-	-	-	0			
462	5	17	-	-	e 12	27	-	-	-	-	-	0.01	-	1.5	0		
463	5	17	-	-	e 27	36	-	-	-	-	-	0.01	-	2.7	0		
464	5	e 17	42 55	-	-	e 43	29	-	-	-	-	-	0.01	-	3.2	0	
465	5	17	-	-	e 52	38	-	-	-	-	-	-	-	2.5	0		
466	5	18	-	-	e 07	19	-	-	-	-	-	0.00	-	2.2	0		
467	5	19	-	-	-	-	-	-	-	-	-	-	-	0			
468	5	19	-	-	e 28	12	-	-	-	-	-	0.00	-	1.2	0		
469	5	19	-	-	-	-	-	-	-	-	-	-	-	0			
470	5	e 19	44 19	-	-	i 44	45	-	-	-	-	-	0.01	-	2.0	0	
471	5	19	-	-	-	-	-	-	-	-	-	-	-	0			
472	5	20	-	-	e 45	58	-	-	-	-	-	0.00	-	1.2	0		
473	5	i 20	47 45	e 47	44	i 48	06	i 48	13	-	-	-	0.08	0.06	7.3	0	
474	5	20	-	-	e 55	58	-	-	-	-	-	-	-	2.7	0	Aft. sk. of Mar. 2nd	
475	5	21	-	-	e 36	15	-	-	-	-	-	-	-	1.6	0		
476	5	22	-	-	e 09	40	-	-	-	-	-	-	-	2.0	0		
477	5	22	-	-	e 58	19	-	-	-	-	-	0.01	-	2.3	0		
478	5	23	-	-	-	-	-	-	-	-	-	-	-	0			
479	5	23	-	-	-	-	-	-	-	-	-	-	-	0			
480	5	23	-	-	-	-	-	-	-	-	-	-	-	0	0		
481	6	1	-	-	-	-	-	-	-	-	-	-	-	3.2	0		
482	6	1	-	-	e 49	53	-	-	-	-	-	-	-	1.0	0		
483	6	2	-	-	-	-	-	-	-	-	-	-	-	1.2	0		
484	6	3	-	-	e 01	29	-	-	-	-	-	-	-	1.2	0		
485	6	e 3	10 23	-	-	e 11	17	-	-	-	-	0.01	-	3.0	0		
486	6	e 4	03 02	-	-	i 03	35	e 03	35	-	-	0.03	0.03	4.2	0		
487	6	4	-	-	-	-	-	-	-	-	-	-	-	0			
488	6	5	-	-	e 00	11	-	-	-	-	-	-	-	3.2	0		
489	6	e 5	36 32	-	-	e 36	58	-	-	-	-	0.01	-	2.6	0	Aft. sk. of Mar. 2nd	

EARTHQUAKES, 1933.



No.	Date 1933	P				S				L				Maximum Range of Motion			Duration of Total Earthquake (mean)	Intensity	Approximate Epicenter	
		E	W	N	S	E	W	N	S	E	W	N	S	E	W	N	S			
490	Mar. 6	h 6	m 12	s 53		m	s	m	s	m	s	m	s	mm	0.02	mm	0.01	m 4.0	0	Aft. sk. of Mar. 2nd
491		6	6			-	-	e 18	00	e 13	20	-	-	-	-	-	-	1.6	0	
492		6	6			-	-	-	-	-	-	-	-	-	-	-	-	1.3	0	
493		6	6			-	-	-	-	-	-	-	-	-	-	-	-	0.0	0	
494		e 6	57	57		-	-	e 58	27	-	-	-	-	0.01	-	-	-	1.9	0	
495	6	7				-	-	-	-	-	-	-	-	-	-	-	-	0		
496	i 7	53	27			-	-	i 53	56	-	-	-	-	0.02	-	-	-	4.2	0	Aft. sk. of Mar. 2nd
497	6	8				-	-	e 10	10	-	-	-	-	0.01	-	-	-	2.4	0	
498	e 8	22	31			-	-	e 23	04	-	-	-	-	0.01	-	-	-	2.9	0	
499	e 8	27	37			-	-	e 28	05	-	-	-	-	-	-	-	-	2.6	0	
500	6	8				-	-	e 38	58	-	-	-	-	-	-	-	-	1.6	0	
501	i 8	57	58			-	-	i 58	25	e 58	28	-	-	0.03	0.02	-	-	4.1	0	Aft. sk. of Mar. 2nd
502	e 9	10	30			-	-	e 10	51	-	-	-	-	0.01	-	-	-	2.0	0	
503	6	10				-	-	e 42	07	-	-	-	-	-	-	-	-	2.2	0	
504	e 11	31	19			-	-	e 31	45	-	-	-	-	-	-	-	-	2.2	0	
505	6	11				-	-	e 51	16	-	-	-	-	-	-	-	-	1.2	0	
506	6	12				-	-	-	-	-	-	-	-	-	-	-	-	0.8	0	
507	6	12				-	-	-	-	-	-	-	-	-	-	-	-	0		
508	6	12				-	-	-	-	-	-	-	-	-	-	-	-	0		
509	6	13				-	-	e 10	20	-	-	-	-	0.01	-	-	-	1.7	0	
510	6	13				-	-	e 13	45	-	-	-	-	0.00	-	-	-	1.3	0	
511	6	15				-	-	-	-	-	-	-	-	-	-	-	-	1.0	0	
512	6	15				-	-	e 55	49	-	-	-	-	-	-	-	-	1.1	0	
513	6	16				-	-	-	-	-	-	-	-	-	-	-	-	0		
514	e 16	19	47			-	-	e 20	20	e 20	20	-	-	0.01	0.01	0.01	4.3	0		
515	e 17	07	08			-	-	e 07	41	-	-	-	-	-	-	-	-	2.3	0	
516	6	17				-	-	-	-	-	-	-	-	-	-	-	-	0		
517	e 17	23	14			-	-	e 23	40	-	-	-	-	0.00	-	-	-	3.5	0	
518	e 17	41	30			-	-	e 41	55	-	-	-	-	0.01	-	-	-	3.1	0	
519	6	17				-	-	-	-	-	-	-	-	-	-	-	-	0		
520	6	18				-	-	e 19	20	-	-	-	-	-	-	-	-	0		
521	6	19				-	-	e 19	20	-	-	-	-	0.01	-	-	-	2.3	0	
522	6	20				-	-	-	-	-	-	-	-	-	-	-	-	0		
523	6	e 21	15	04		e 15	14	i 15	40	e 15	49	-	-	0.02	0.02	0.02	4.5	0		Aft. sk. of Mar. 2nd
524	e 21	30	28		-	-	e 30	55	-	-	-	-	-	-	-	-	-	2.6	0	
525	6	21				-	-	-	-	-	-	-	-	-	-	-	-	0		
526	6	21				-	-	-	-	-	-	-	-	-	-	-	-	0		
527	6	e 22	02	00		-	-	e 02	29	-	-	-	-	0.01	-	-	-	2.5	0	
528	6	23				-	-	e 04	43	-	-	-	-	-	-	-	-	1.9	0	
529	6	e 23	18	44		-	-	e 19	14	-	-	-	-	0.01	-	-	-	4.2	0	
530	7	0				-	-	e 53	34	-	-	-	-	0.01	-	-	-	2.0	0	
531	7	3				-	-	e 46	24	-	-	-	-	-	-	-	-	2.4	0	
532	7	3				-	-	-	-	-	-	-	-	-	-	-	-	0		
533	7	4				-	-	-	-	-	-	-	-	-	-	-	-	0		
534	7	5				-	-	-	-	-	-	-	-	-	-	-	-	0		
535	7	e 7	24	56		e 24	58	i 25	20	e 25	20	-	-	0.02	0.02	0.02	5.6	0		
536	7	7				-	-	-	-	-	-	-	-	-	-	-	-	0		
537	7	7				-	-	-	-	-	-	-	-	0.01	-	-	-	0		
538	7	8				-	-	-	-	-	-	-	-	-	-	-	-	0		
539	7	9				-	-	-	-	-	-	-	-	0.01	-	-	-	0		
540	7	9				-	-	-	-	-	-	-	-	-	-	-	-	0		
541	7	e 10	01	00		-	-	e 01	23	-	-	-	-	0.00	-	-	-	1.6	0	
542	7	10				-	-	-	-	-	-	-	-	0.00	-	-	-	0		
543	7	e 11	03	05		-	-	e 03	30	-	-	-	-	0.00	-	-	-	0		
544	7	11				-	-	-	-	-	-	-	-	-	-	-	-	0		

EARTHQUAKES, 1933.



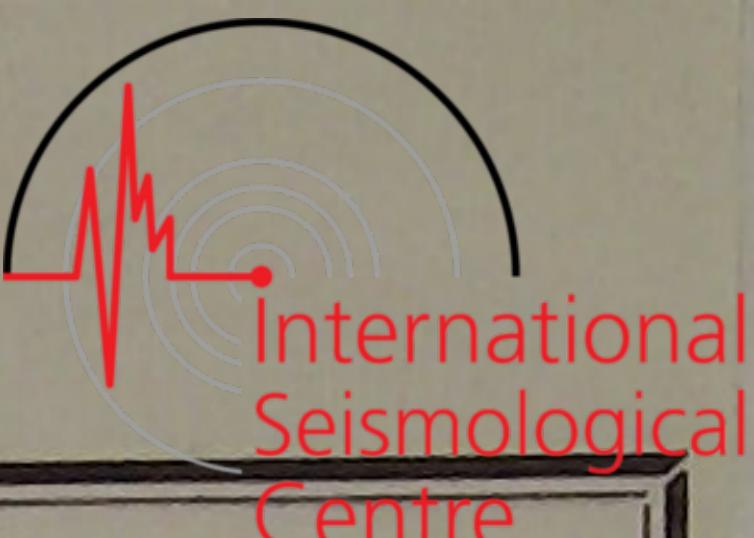
No.	Date 1933	P			S			L			Maximum Range of Motion		Duration of Total Earthquake (mean)	Intensity	Approximate Epicenter
		E	W	N S	E	W	N S	E	W	N S	E	W			
545	Mar. 7	h 11	m s	m s	m 59	s 03	m s	m s	m s	m s	mm 0.00	mm -	m 1.4	0	
546	7	13	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	-	0	
547	7	15	- -	- -	- -	- -	- -	- -	- -	- -	-	-	0.9	0	
548	7	15	- -	- -	e 57	s 53	- -	- -	- -	- -	0.01	0.01	2.5	0	
549	7	e 16 57 25	- -	- -	- -	- -	- -	- -	- -	- -	-	-	-	-	
550	7	i 17 03 31	- -	- -	i 04 02	e 04 01	- -	- -	- -	- -	0.01	0.02	4.3	0	Aft. sk. of Mar. 2nd
551	7	e 17 26 05	- -	- -	i 26 32	e 26 27	- -	- -	- -	- -	0.01	0.02	3.5	0	"
552	7	i 17 39 55	- -	- -	i 40 26	e 40 22	- -	- -	- -	- -	0.03	0.03	5.8	0	"
553	7	17	- -	- -	- -	- -	- -	- -	- -	- -	-	-	2.7	0	
554	7	e 18 01 57	- -	- -	i 02 26	- -	- -	- -	- -	- -	0.01	-	-	-	
555	7	15	- -	- -	- -	- -	- -	- -	- -	- -	-	-	-	0	
556	7	19	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	-	0	
557	7	e 19 58 05	- -	- -	e 58 42	- -	- -	- -	- -	- -	0.02	0.02	2.9	0	Aft. sk. of Mar. 2nd
558	7	i 20 05 55	e 05 57	- -	i 06 22	e 06 27	- -	- -	- -	- -	0.02	0.02	3.8	0	Aft. sk. of Mar. 2nd
559	7	i 22 22 08	e 22 09	- -	i 22 38	i 22 38	- -	- -	- -	- -	0.12	0.02	8.3	0	Aft. sk. of Mar. 2nd
560	7	22	- -	-	i 48 47	e 48 55	- -	- -	- -	- -	0.03	0.03	2.0	0	
561	7	i 22 48 17	e 48 28	-	i 48 47	e 48 55	- -	- -	- -	- -	0.00	-	5.0	0	Aft. sk. of Mar. 2nd
562	7	23	- -	-	e 24 58	- -	- -	- -	- -	- -	0.01	0.02	2.7	0	Aft. sk. of Mar. 2nd
563	7	e 23 29 16	- -	-	e 29 46	e 29 45	- -	- -	- -	- -	0.01	0.02	3.8	0	Aft. sk. of Mar. 2nd
564	7	e 23 33 39	e 33 56	-	e 34 11	e 34 18	- -	- -	- -	- -	0.02	0.02	4.6	0	"
565	7	23	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	1.6	0	
566	8	0	- -	- -	- -	- -	- -	- -	- -	- -	-	-	0.8	0	
567	8	i 1 36 13	i 36 11	-	i 36 35	i 36 33	- -	- -	- -	- -	⊕	1.72	11.4	2	Aft. sk. of Mar. 2nd
568	8	1	- -	-	e 53 32	- -	- -	- -	- -	- -	-	-	3.7	0	
569	8	2	- -	-	- -	- -	- -	- -	- -	- -	-	-	-	0	
570	8	2	- -	-	- -	- -	- -	- -	- -	- -	-	-	1.7	0	
571	8	2	- -	-	e 48 53	- -	- -	- -	- -	- -	-	-	1.7	0	
572	8	3	- -	-	- -	- -	- -	- -	- -	- -	-	-	-	0	
573	8	i 3 30 46	e 30 46	-	i 31 10	e 31 06	- -	- -	- -	- -	0.09	0.02	4.8	0	Aft. sk. of Mar. 2nd
574	8	4	- -	-	- -	- -	- -	- -	- -	- -	-	-	-	0	
575	8	4	- -	-	- -	- -	- -	- -	- -	- -	-	-	-	0	
576	8	4	- -	-	- -	- -	- -	- -	- -	- -	-	-	-	0	
577	8	5	- -	-	- -	- -	- -	- -	- -	- -	-	-	-	0	
578	8	6	- -	-	- -	- -	- -	- -	- -	- -	-	-	-	0	
579	8	8	- -	-	e 09 30	- -	- -	- -	- -	- -	0.01	-	2.9	0	
580	8	e 8 22 46	- -	-	e 23 12	- -	- -	- -	- -	- -	0.01	-	2.6	0	
581	8	e 8 44 05	- -	-	e 44 30	- -	- -	- -	- -	- -	0.01	-	2.3	0	
582	8	e 8 52 05	- -	-	e 52 35	- -	- -	- -	- -	- -	0.01	-	2.9	0	
583	8	9	- -	-	- -	- -	- -	- -	- -	- -	-	-	-	0	
584	8	9	- -	-	- -	- -	- -	- -	- -	- -	-	-	-	0	
585	8	9	- -	-	- -	- -	- -	- -	- -	- -	-	-	-	0	
586	8	e 10 20 39	- -	-	e 21 07	- -	- -	- -	- -	- -	0.01	-	3.1	0	
587	8	10	- -	-	e 32 35	- -	- -	- -	- -	- -	-	-	-	0	
588	8	e 11 07 41	- -	-	i 08 12	e 08 12	- -	- -	- -	- -	0.02	0.01	4.5	0	Aft. sk. of Mar. 2nd
589	8	e 11 36 52	- -	-	e 37 23	- -	- -	- -	- -	- -	0.01	-	3.4	0	
590	8	11	- -	-	e 46 41	- -	- -	- -	- -	- -	0.00	-	1.8	0	
591	8	e 12 26 31	- -	-	e 27 03	- -	- -	- -	- -	- -	0.00	-	2.8	0	
592	8	12	- -	-	- -	- -	- -	- -	- -	- -	-	-	1.6	0	
593	8	i 12 42 56	e 42 56	-	i 43 23	e 43 23	- -	- -	- -	- -	0.06	0.05	5.4	0	
594	8	13	- -	-	e 04 18	- -	- -	- -	- -	- -	0.01	-	2.2	0	
595	8	13	- -	-	e 13 11	- -	- -	- -	- -	- -	-	-	3.0	0	
596	8	e 13 24 18	- -	-	i 24 47	- -	- -	- -	- -	- -	0.02	-	4.0	0	Aft. sk. of Mar. 2nd
597	8	13	- -	-	- -	- -	- -	- -	- -	- -	-	-	1.2	0	
598	8	i 13 48 47	- -	-	i 49 13	e 49 08	- -	- -	- -	- -	0.05	0.04	5.8	0	Aft. sk. of Mar. 2nd
599	8	14	- -	-	- -	- -	- -	- -	- -	- -	-	-	-	0	

EARTHQUAKES, 1933.



No.	Date 1932	P			S			L			Maximum Range of Motion		Duration of Total Earthquake (mean)	Intensity	Approximate Epicenter
		E	W	N	S	E	W	N	S	E	W	N	S		
600	Mar. 8	h 14 33 49	m s	m s	m s	e 34 25	m s	m s	m s	mm	mm	m	4.7	0	
601	8	e 15 13 42	- -	- -	- -	e 14 08	- -	- -	- -	0.01	-	2.9	0		
602	8	19	- -	- -	- -	- -	- -	- -	- -	-	-	0	0		
603	8	20	- -	- -	- -	- -	- -	- -	- -	-	-	0	0		
604	8	e 21 25 02	- -	- -	- -	e 25 37	- -	- -	- -	0.01	-	3.3	0		
605	8	e 23 03 29	- -	- -	- -	e 04 00	- -	- -	- -	0.00	-	3.0	0		
606	9	0	- -	- -	- -	e 24 25	- -	- -	- -	-	-	2.1	0		
607	9	2	- -	- -	- -	- -	- -	- -	- -	0.00	-	2.1	0		
608	9	e 3 08 54	- -	- -	- -	e 09 23	- -	- -	- -	0.00	-	3.6	0		
609	9	e 5 35 00	e 35 05	i 35 33	e 35 34	e 35 34	- -	- -	- -	0.04	0.05	6.9	0	Aft. sk. of Mar. 2nd	
610	9	6	- -	- -	- -	e 42 53	- -	- -	- -	-	-	2.4	0		
611	9	7	- -	- -	- -	e 16 25	- -	- -	- -	-	-	1.6	0		
612	9	7	- -	- -	- -	e 31 55	- -	- -	- -	0.00	-	2.5	0		
613	9	8	- -	- -	- -	e 51 58	- -	- -	- -	-	-	3.2	0		
614	9	i 9 55 43	e 55 43	i 56 08	e 56 12	- -	- -	- -	- -	0.06	0.04	5.5	0	Aft. sk. of Mar. 2nd	
615	9	10	- -	- -	- -	e 40 38	- -	- -	- -	-	-	1.6	0		
616	9	10	- -	- -	- -	e 43 06	- -	- -	- -	-	-	2.3	0		
617	9	e 14 05 58	- -	- -	- -	i 06 40	- -	- -	- -	0.01	0.01	3.4	0		
618	9	15	- -	- -	- -	- -	- -	- -	- -	-	-	1.7	0		
619	9	15	- -	- -	- -	e 46 50	- -	- -	- -	-	-	1.6	0		
620	9	e 16 02 58	- -	- -	- -	e 03 22	- -	- -	- -	0.01	0.01	2.9	0		
621	9	e 16 06 46	- -	- -	- -	i 07 10	- -	- -	- -	0.01	-	3.2	0		
622	9	e 17 05 49	- -	- -	- -	e 06 18	- -	- -	- -	0.01	0.01	3.3	0		
623	9	e 17 45 13	- -	- -	- -	i 45 30	- -	- -	- -	0.01	-	2.3	0		
624	9	19	- -	- -	- -	- -	- -	- -	- -	-	-	1.3	0		
625	9	e 19 16 00	- -	- -	- -	i 16 29	- -	- -	- -	0.01	-	3.4	0		
626	10	1	- -	- -	- -	e 22 59	- -	- -	- -	-	-	2.5	0		
627	10	1	- -	- -	- -	e 27 02	- -	- -	- -	-	-	0.9	0		
628	10	2	- -	- -	- -	- -	- -	- -	- -	-	-	0	0		
629	10	e 2 49 07	- -	- -	- -	e 49 42	- -	- -	- -	0.01	-	4.1	0		
630	10	e 3 34 10	- -	- -	- -	e 34 40	- -	- -	- -	0.01	-	3.1	0		
631	10	e 5 08 27	- -	- -	- -	e 08 57	- -	- -	- -	-	-	1.9	0		
632	10	5	- -	- -	- -	- -	- -	- -	- -	-	-	1.3	0		
633	10	6	- -	- -	- -	- -	- -	- -	- -	0.00	-	2.0	0		
634	10	i 7 35 39	i 35 39	i 36 12	i 36 08	- -	- -	- -	- -	0.09	0.11	11.4	0	Aft. sk. of Mar. 2nd	
635	10	7	- -	- -	- -	e 47 53	- -	- -	- -	-	-	2.2	0		
636	10	e 8 00 08	- -	- -	- -	e 00 39	- -	- -	- -	0.01	0.01	3.7	0		
637	10	i 8 04 17	e 04 19	i 04 46	e 04 53	- -	- -	- -	- -	0.03	0.01	5.0	0		
638	10	9	- -	- -	- -	e 03 46	- -	- -	- -	-	-	2.6	0		
639	10	9	- -	- -	- -	e 51 03	- -	- -	- -	-	-	2.1	0		
640	10	e 11 59 41	e 59 56	i 60 12	e 60 17	- -	- -	- -	- -	0.03	0.05	4.6	0		
641	10	e 12 16 56	- -	- -	e 17 30	- -	- -	- -	-	0.01	0.02	4.7	0		
642	10	e 13 44 10	- -	- -	e 44 29	- -	- -	- -	-	0.01	-	2.5	0		
643	10	e 14 50 28	- -	- -	e 50 59	- -	- -	- -	-	-	-	3.2	0		
644	10	e 15 08 39	- -	- -	e 09 01	- -	- -	- -	-	-	-	2.3	0		
645	10	19	- -	- -	- -	- -	- -	- -	- -	-	-	1.3	0		
646	10	i 19 51 17	e 51 18	i 51 46	e 51 49	- -	- -	- -	- -	0.03	0.04	5.4	0		
647	10	20	- -	- -	e 01 51	- -	- -	- -	-	0.00	-	2.1	0		
648	10	e 21 29 30	- -	- -	e 29 59	- -	- -	- -	-	0.01	-	3.3	0		
649	10	22	- -	- -	- -	- -	- -	- -	-	-	-	2.6	0		
650	10	22	- -	- -	- -	- -	- -	- -	-	-	-	1.9	0		
651	10	e 22 33 55	- -	- -	i 34 45	e 34 45	- -	- -	-	0.02	0.02	4.2	0		
652	10	e 23 16 21	- -	- -	e 16 45	- -	- -	- -	-	-	-	4.3	0		
653	10	e 23 22 57	- -	- -	e 23 27	- -	- -	- -	-	0.01	-	4.6	0		
654	11	e 4 18 56	- -	- -	i 19 30	e 19 27	- -	- -	-	0.01	-	5.0	0		

EARTHQUAKES, 1933.



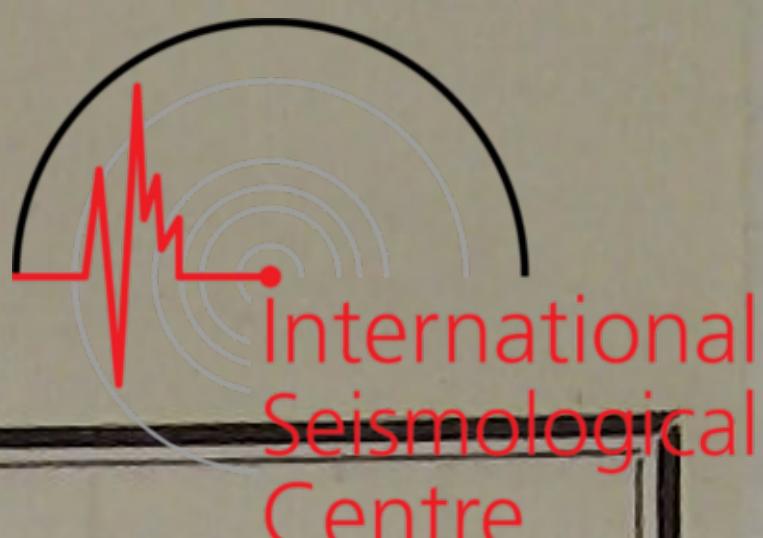
No.	Date 1933	P			S			L			Maximum Range of Motion		Duration of Total Earthquake (mean)	Intensity	Approximate Epicenter					
		E	W	N	S	E	W	N	S	E	W	N	S							
655	Mar. 11	h	m	s		m	s	m	s	m	s	m	s	mm	mm	m	2.2	0		
656		7	—	—		e	28	19	—	—	—	—	—	0.00	—	3.2	0	0		
657		10	—	—		—	—	—	—	—	—	—	—	—	—	1.4	0	0		
658		11	—	—		—	—	—	—	—	—	—	—	—	—	—	0	0		
659		11	e	11	52	33	—	—	e	52	58	—	—	0.00	—	2.5	0	0		
660	11	13	—	—		e	42	37	—	—	—	—	—	0.01	—	3.0	0	0		
661	11	14	—	—		e	00	47	—	—	—	—	—	—	—	1.9	0	0		
662	11	e	14	23	36	e	23	36	i	24	37	e	24	37	—	0.07	—	34.9	0	
663	11	16	—	—		—	—	—	—	—	—	—	—	—	—	—	1.2	0	0	
664	11	16	—	—		e	47	43	—	—	—	—	—	—	—	—	1.8	0	0	
665	11	i	19	35	27	i	35	26	i	37	38	i	37	38	—	0.75	0.53	37.4	0	WNW off Titizima
666	11	23	—	—		e	20	29	—	—	—	—	—	0.01	—	4.0	0	0		
667	11	23	—	—		—	—	—	—	—	—	—	—	—	—	—	1.9	0		
668	12	0	—	—		e	38	39	—	—	—	—	—	—	—	—	2.4	0		
669	12	e	0	41	53	—	—	i	42	23	e	42	23	—	0.02	0.03	4.2	0	Aft. sk. of Mar. 2 nd	
670	12	e	2	36	19	—	—	i	36	52	e	36	46	—	0.02	0.03	4.0	0	„	
671	12	e	3	27	52	—	—	e	28	29	—	—	—	—	0.02	—	4.3	0	„	
672	12	3	—	—		—	—	—	—	—	—	—	—	—	—	0.8	0			
673	12	4	—	—		e	38	44	—	—	—	—	—	—	0.01	—	2.9	0		
674	12	i	5	06	31	e	06	31	i	07	10	e	07	09	—	0.24	0.24	12.1	0	Aft. sk. of Mar. 2 nd
675	12	5	—	—		—	—	—	—	—	—	—	—	—	—	—	—	0		
676	12	5	—	—		—	—	—	—	—	—	—	—	0.01	—	3.6	0			
677	12	e	5	54	28	—	—	e	55	01	—	—	—	—	0.00	—	3.3	0		
678	12	7	—	—		—	—	—	—	—	—	—	—	—	—	—	0			
679	12	i	8	45	22	—	—	i	45	44	e	45	42	—	0.03	0.05	4.0	0	Aft. sk. of Mar. 2 nd	
680	12	e	10	20	00	—	—	e	20	29	—	—	—	—	0.01	—	2.6	0		
681	12	12	—	—		—	—	—	—	—	—	—	—	—	—	—	—	0		
682	12	13	—	—		e	43	42	—	—	—	—	—	—	—	—	1.5	0		
683	12	e	14	08	28	—	—	e	08	47	—	—	—	—	0.00	—	2.2	0		
684	12	16	—	—		e	19	17	—	—	—	—	—	—	—	—	0.7	0		
685	12	16	—	—		e	20	40	—	—	—	—	—	—	—	—	1.7	0		
686	12	17	—	—		e	45	51	—	—	—	—	—	—	—	—	2.2	0		
687	12	19	—	—		—	—	—	—	—	—	—	—	—	—	—	1.0	0		
688	12	22	—	—		e	27	02	—	—	—	—	—	—	—	—	2.1	0		
689	13	e	1	29	15	—	—	e	30	10	—	—	—	—	0.00	—	3.7	0		
690	13	2	—	—		e	48	38	—	—	—	—	—	—	—	—	1.5	0		
691	13	4	—	—		—	—	—	—	—	—	—	—	—	—	—	1.5	0		
692	13	6	—	—		e	56	22	—	—	—	—	—	—	0.01	—	2.1	0		
693	13	e	7	16	00	e	16	00	e	16	39	e	16	46	—	0.06	0.06	14.5	0	Kasimanada ?
694	13	e	9	29	41	—	—	e	30	12	—	—	—	—	0.01	—	2.8	0		
695	13	12	—	—		—	—	—	—	—	—	—	—	—	—	—	1.3	0		
696	13	e	12	32	23	—	—	i	32	52	—	—	—	—	0.01	—	3.0	0		
697	13	e	12	38	51	—	—	i	39	20	—	—	—	—	0.02	—	4.1	0		
698	13	i	15	57	49	e	57	52	i	58	19	i	58	19	—	0.05	0.06	7.3	0	Aft. sk. of Mar. 2 nd
699	13	16	—	—		e	21	44	—	—	—	—	—	—	—	—	2.2	0	„	
700	13	e	16	57	28	—	—	e	57	59	—	—	—	—	0.01	—	4.3	0		
701	13	e	17	37	42	—	—	e	38	08	—	—	—	—	0.02	—	4.4	0		
702	13	18	—	—		e	42	45	—	—	—	—	—	—	—	—	1.7	0		
703	13	i	21	03	59	—	—	i	04	25	e	04	12	—	0.04	0.04	5.0	0	Aft. sk. of Mar. 2 nd	
704	13	23	—	—		e	18	37	—	—	—	—	—	—	—	—	1.9	0		
705	14	e	1	23	35	—	—	e	24	12	—	—	—	—	0.01	—	4.2	0		
706	14	e	4	04	13	—	—	e	04	47	—	—	—	—	—	—	3.3	0		
707	14	i	4	28	16															



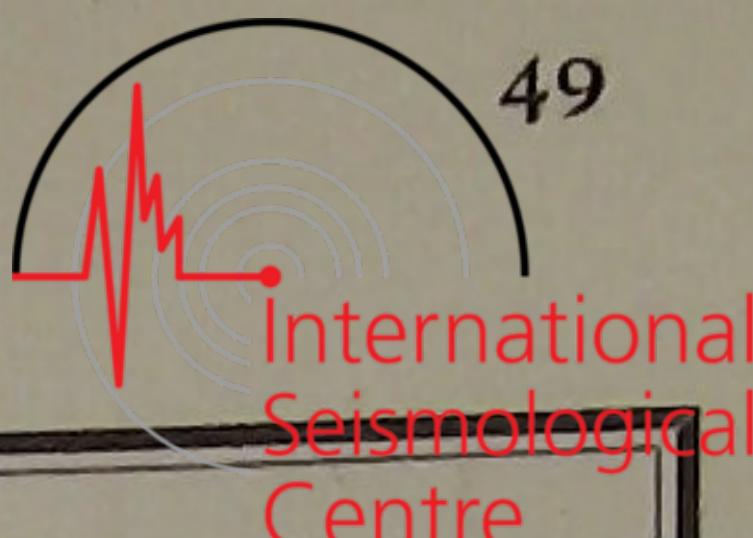
EARTHQUAKES, 1933.

No.	Date 1933	P				S				L				Maximum Range of Motion		Duration of Total Earthquake (mean)	Intensity	Approximate Epicenter
		E	W	N	S	E	W	N	S	E	W	N	S	E	W			
710	Mar. 14	h 12 59 51	e 59 53	m 59	s 53	i 60 16	e 60 18	m 60	s 18	m 60	s 18	m 60	s 18	mm 0.06	mm 0.05	m 8.3	0	Aft. sk. of Mar. 2nd
711		e 14 26 52	- - -	e 27 22	- - -	i 05 57	e 05 56	- - -	- - -	- - -	- - -	- - -	- - -	0.00	-	3.0	0	Aft. sk. of Mar. 2nd
712		i 16 05 28	- - -	i 05 57	- - -	e 05 56	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.09	0.05	8.1	0	
713		e 17 22 19	- - -	i 23 03	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.01	-	3.6	0	
714		e 22 50 31	- - -	i 51 06	- - -	e 51 14	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.01	-	4.2	0	
715	14	e 23 35 51	- - -	i 36 25	- - -	e 36 21	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.02	0.02	4.2	0	Aft. sk. of Mar. 2nd
716	15	e 0 42 00	- - -	e 42 31	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.01	-	3.4	0	
717	15	1	- - -	e 52 50	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	-	-	1.8	0	
718	15	2	- - -	e 28 21	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.00	-	2.6	0	
719	15	5	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	-	-	1.5	0	
720	15	5	- - -	e 09 55	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.00	-	2.8	0	
721	15	e 6 53 57	- - -	e 54 50	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.01	-	5.6	0	
722	15	8	- - -	e 17 01	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	-	-	1.6	0	
723	15	i 17 32 02	e 32 03	i 32 31	- - -	e 32 28	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.04	0.05	6.6	0	Aft. sk. of Mar. 2nd
724	15	18	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	-	-	1.4	0	
725	15	19	- - -	e 06 21	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	-	-	1.9	0	
726	15	20	- - -	e 07 57	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.00	-	1.8	0	
727	15	e 22 59 06	- - -	i 59 43	- - -	e 59 42	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.01	-	4.0	0	
728	16	1	- - -	e 32 51	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	-	-	1.6	0	
729	16	e 3 28 33	- - -	e 28 57	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.01	-	2.3	0	
730	16	i 8 52 26	- - -	i 52 57	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.01	-	3.3	0	
731	16	i 9 05 16	e 05 11	e 05 44	- - -	e 05 36	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.12	0.10	8.1	0	Aft. sk. of Mar. 2nd
732	16	e 9 16 23	- - -	e 16 45	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	-	-	2.7	0	
733	16	e 10 15 22	- - -	e 15 55	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.02	-	3.8	0	Aft. sk. of Mar. 2nd
734	16	13	- - -	? 54 36	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	-	-	1.9	0	
735	16	16	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.01	-	-	0	
736	17	i 16 00 08	e 00 08	e 04 02	- - -	e 04 02	- - -	? 06 19	- - -	? 06 55	- - -	- - -	- - -	-	-	47.1	0	Aleutian Is.
737	17	i 19 39 25	e 39 24	e 45 00	- - -	e 44 58	- - -	? 49 50	- - -	? 50 11	- - -	- - -	- - -	-	-	54.6	0	Distant
738	18	1	- - -	e 04 51	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.01	-	4.3	0	
739	18	2	- - -	e 32 34	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.00	-	3.6	0	
740	18	e 2 51 49	- - -	e 52 18	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.01	-	4.3	0	
741	18	6	- - -	e 08 13	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.01	-	3.5	0	
742	18	e 9 50 40	- - -	e 51 35	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.01	-	4.8	0	
743	18	10	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	-	-	2.8	0	
744	18	i 11 45 36	e 45 41	i 46 06	- - -	e 46 07	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.02	0.04	6.2	0	Aft. sk. of Mar. 2nd
745	18	i 15 53 09	e 53 04	i 54 20	- - -	i 54 23	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.04	0.05	4.2	0	S off Hatizyo-zima
746	18	20	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	-	-	2.1	0	
747	18	e 20 34 14	- - -	i 34 25	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.01	-	2.6	0	
748	18	e 21 24 22	e 24 25	i 25 56	- - -	e 25 59	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.11	0.13	8.7	0	Aft. sk. of Mar. 2nd
749	18	i 22 49 53	e 50 02	i 50 18	- - -	e 50 21	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.04	0.04	5.8	0	"
750	18	22	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.01	-	2.5	0	
751	18	23	- - -	e 26 53	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.01	-	4.3	0	
752	19	e 1 02 53	- - -	e 03 18	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	-	-	3.4	0	
753	19	1	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	-	-	1.0	0	
754	19	e 2 39 07	- - -	i 39 39	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.01	-	3.4	0	
755	19	i 9 56 52	e 56 56	i 57 23	- - -	e 57 14	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.03	-	4.1	0	Aft. sk. of Mar. 2nd
756	19	e 12 50 41	- - -	e 51 18	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	-	-	3.9	0	
757	19	e 17 16 43	- - -	e 17 04	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	0.00	-	2.8	0	
758	19	17	- - -															

EARTHQUAKES, 1933.



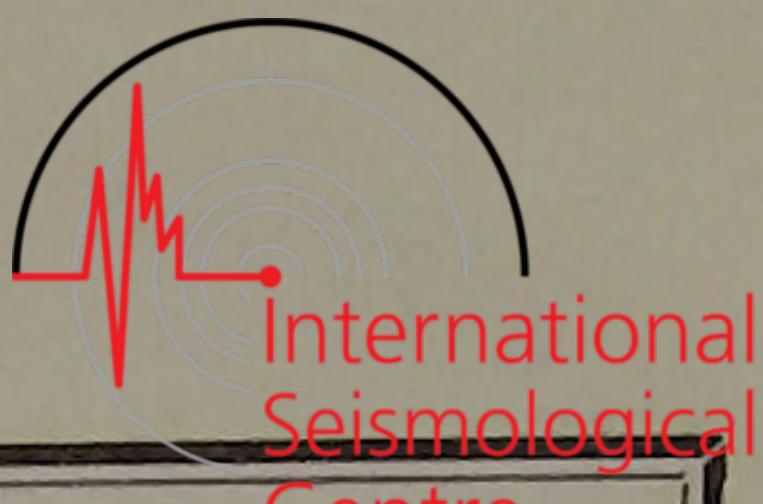
No.	Date 1933	D			S			L			Maximum Range of Motion			Duration of Total Earthquake (mean)	Intensity	Approximate Epicenter			
		E	W	N	S	E	W	N	S	E	W	N	S						
765	Mar. 20	h	m	s		m	s	m	s	m	s	m	s	mm	mm	m	0		
766		e	8	06	32	-	-	e	07	02	-	-	-	0.01	-	5.2	0		
767		i	10	38	06	-	-	e	38	26	-	-	-	0.01	-	3.1	0		
768		i	12	34	01	-	-	i	34	27	e	34	30	-	0.02	0.03	5.3	0	
769						-	-	e	44	43	-	-	-	0.00	-	3.4	0		
						-	-	e	10	52	-	-	-	0.00	-	1.9	0		
770	20	e	15	22	14	-	-	e	22	40	-	-	-	0.01	-	3.5	0		
771	20	e	22	06	42	-	-	e	07	13	e	07	13	-	0.02	0.03	6.1	0	
772	21		5			-	-	-	-	-	-	-	-	-	-	0.7	0		
773	21	i	15	54	18	e	54	19	i	54	32	i	54	32	-	0.55	0.56	6.1	2
774	21		17			-	-	e	08	09	-	-	-	0.01	-	2.1	0		
775	21	e	17	11	48	-	-	i	12	19	e	12	20	-	0.02	0.01	5.6	0	
776	21		21			-	-	e	52	43	-	-	-	0.01	-	4.3	0		
777	21	e	23	25	51	-	-	e	26	29	-	-	-	0.01	-	4.7	0		
778	22	e	1	01	04	-	-	e	01	38	-	-	-	0.02	-	3.9	0		
779	22	e	9	28	50	-	-	e	29	20	-	-	-	0.02	-	4.1	0		
780	22	e	15	21	28	-	-	e	22	09	-	-	-	0.01	-	4.3	0		
781	22	e	16	25	55	-	-	e	26	22	-	-	-	0.01	-	3.0	0		
782	22	e	16	57	58	-	-	i	58	27	e	58	28	-	0.04	0.05	5.6	0	
783	22	e	17	53	14	-	-	e	53	47	-	-	-	0.01	-	4.4	0		
784	23	e	4	48	42	-	-	e	48	59	-	-	-	0.02	0.04	5.2	0		
785	23	e	9	08	09	-	-	i	08	33	e	44	01	-	0.03	-	3.0	0	
786	23	e	12	43	35	e	43	37	e	43	58	-	-	-	0.12	0.15	8.0	0	
787	23		14			-	-	e	44	01	-	-	-	0.01	-	"	"		
788	23	e	16	06	28	-	-	e	06	58	e	07	01	-	0.02	0.04	5.5	0	
789	23	e	23	56	59	-	-	e	57	24	-	-	-	0.01	-	4.3	0		
790	24	0				-	-	-	-	-	-	-	-	0.00	-	0			
791	24	5				-	-	-	-	-	-	-	-	0.00	-	2.0	0		
792	24	e	6	18	02	-	-	e	18	32	-	-	-	0.01	-	3.0	0		
793	24	e	8	11	29	-	-	e	11	59	-	-	-	0.01	-	2.7	0		
794	24		12			-	-	e	34	57	-	-	-	-	-	1.9	0		
795	24	e	13	41	16	-	-	i	41	42	-	-	-	0.01	-	3.6	0		
796	24		19			-	-	e	02	08	-	-	-	-	-	2.6	0		
797	24		22			-	-	e	58	31	-	-	-	0.01	-	1.9	0		
798	25	e	0	51	48	-	-	e	52	17	-	-	-	0.01	-	3.1	0		
799	25	e	6	48	58	-	-	e	49	23	-	-	-	0.01	-	1.8	0		
800	25	e	6	52	34	-	-	e	53	00	-	-	-	0.02	-	2.7	0		
801	25		9			-	-	e	18	37	-	-	-	-	-	2.1	0		
802	25		19			-	-	e	39	48	-	-	-	0.00	-	2.1	0		
803	25	e	21	53	19	-	-	e	53	40	-	-	-	0.01	-	2.6	0		
804	26	e	7	15	04	-	-	e	15	29	-	-	-	0.02	-	2.8	0		
805	26	i	10	58	38	-	-	i	59	04	-	-	-	0.09	-	5.3	0		
806	26		12			-	-	-	-	-	-	-	-	0.01	-	1.7	0		
807	26	e	13	40	46	-	-	e	41	13	-	-	-	0.01	-	3.0	0		
808	26		14			-	-	e	26	32	-	-	-	0.00	-	1.4	0		
809	26		18			-	-	e	05	08	-	-	-	0.00	-	1.8	0		
810	26		22			-	-	e	24	42	-	-	-	0.00	-	2.5	0		
811	27	e	15	55	04	-	-	e	55	39	-	-	-	0.04	-	5.0	0		
812	27		23			-	-	? 49	46	-	-	-	0.02	-	3.3	0			
813	28		11			-	-	-	-	-	-	-	-	-	0.9	0			
814	28		13			-	-	-	-	-	-	-	-	-	1.0	0			
815	29		21			-	-	e	29	37	-	-	-	-	-	2.3	0		
816	29		21			-	-	e	45	14	-	-	-	-	-	2.6	0		
817	30	e	18	57	06	-	-	e	57	33	-	-	-	-	-	2.4	0		
818	30		23			-	-	-	-	-	-	-	-	-	-	2.1	0		
819	31	e	9	04	13	-	-	e	04	42	-	-	-	0.01	-	2.9	0		



EARTHQUAKES, 1933.

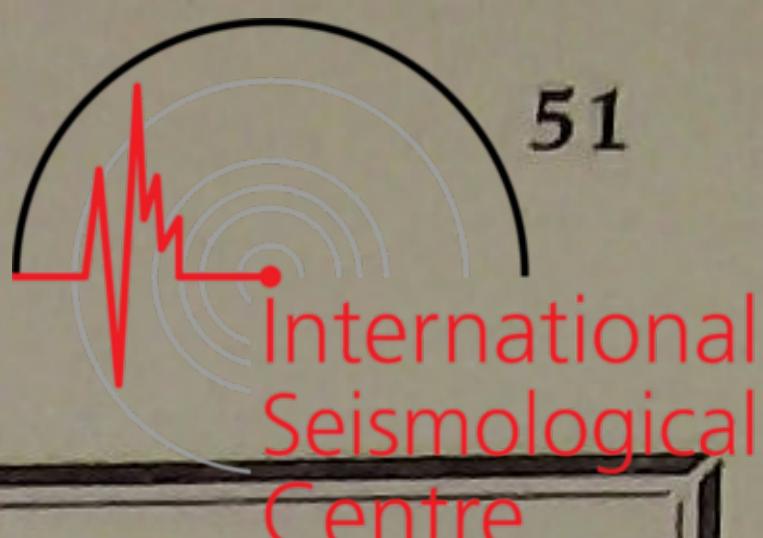
No.	Date 1933	P				S				L				Maximum Range of Motion			Duration of Total Earthquake (mean)	Intensity	Approximate Epicenter
		E	W	N	S	E	W	N	S	E	W	N	S	E	W	N	S		
820	Mar. 31	h m s		m s		m s		m s		m s		m s		mm	mm	m	3.9	0	
821	31	e 11 42 35		— —		e 43 03		— —		— —		— —		0.01	—	4.2	0		
822	Apr. 1	e 21 16 42		— —		e 17 21		— —		— —		— —		0.01	—	2.2	0		
823	1	10		— —		e 16 43		— —		— —		— —		—	—	2.2	0		
824	1	11		— —		e 39 21		— —		— —		— —		0.00	—	2.5	0		
825	1	42 05		— —		e 42 36		— —		— —		— —		0.01	—	4.1	0		
826	1	14		— —		e 08 46		— —		— —		— —		0.01	—	2.7	0		
827	1	i 15 59 32	*	59 33		i 59 54	*	59 53		— —		— —		1.13	0.85	7.3	1	Aft. sk. of Mar. 2nd	
828	1	? 16 08 55		— —		i 09 20		— —		— —		— —		0.07	—	5.7	0	"	
829	1	16		— —		e 43 57		— —		— —		— —		—	—	1.4	0		
830	2	i 22 41 42		— —		i 42 02		— —		— —		— —		0.37	0.46	10.6	0	Aft. sk. of Mar. 2nd	
831	2	7		— —		e 33 23		— —		— —		— —		0.01	—	1.5	0		
832	2	e 9 26 52		— —		e 27 17		— —		— —		— —		0.02	—	3.2	0	Aft. sk. of Mar. 2nd	
833	2	e 9 43 27		— —		i 43 49		— —		— —		— —		0.03	—	4.2	0		
834	2	e 9 53 27		— —		i 54 00		— —		— —		— —		0.11	—	7.5	0	Mouth of the R. Kuzi	
835	2	i 10 11 05	*	11 04		i 11 28	*	11 27		— —		— —		0.42	0.45	9.6	1	Aft. sk. of Mar. 2nd	
836	2	e 16 10 37		— —		e 10 52		— —		— —		— —		0.05	—	6.6	0		
837	2	e 16 52 59		— —		i 53 28		— —		— —		— —		—	—	1.8	0		
838	3	18		— —		i 54 41		— —		— —		— —		0.01	—	4.0	0		
839	3	e 1 54 16		— —		i 10 41		— —		— —		— —		0.22	—	7.9	0	Neighbourhood of Tayama (Iwate)	
840	3	e 13 11 44		— —		e 12 09		— —		— —		— —		0.01	—	3.2	0		
841	3	e 19 37 29		— —		e 37 50		— —		— —		— —		0.01	—	3.0	0		
842	3	20		— —		i 53 58		— —		— —		— —		—	—	1.7	0		
843	4	4		— —		e 00 54		— —		— —		— —		0.00	—	1.6	0		
844	4	e 7 02 56		— —		e 03 20		— —		— —		— —		0.01	—	2.5	0		
845	4	20		— —		e 21 29		— —		— —		— —		0.00	—	4.1	0		
846	5	7		— —		e 38 43		— —		— —		— —		—	—	1.8	0		
847	6	e 8 12 31		— —		e 13 04		— —		— —		— —		0.01	—	3.8	0		
848	6	i 15 12 35	*	12 34		i 13 07	*	13 02		— —		— —		0.08	0.04	7.5	0	Aft. sk. of Mar. 2nd	
849	7	e 16 12 57		— —		i 13 24	*	13 25		— —		— —		0.06	0.01	5.5	0	"	
850	7	16		— —		e 50 46		— —		— —		— —		0.01	—	2.1	0		
851	7	18		— —		e 48 00		— —		— —		— —		0.00	—	3.2	0		
852	7	20		— —		e 13 46		— —		— —		— —		0.00	—	1.2	0		
853	8	13		— —		e 41 46		— —		— —		— —		—	—	1.8	0		
854	8	e 13 41 14		— —		e 41 46		— —		— —		— —		—	—	3.0	0		
855	8	20		— —		e 31 39		— —		— —		— —		0.01	—	2.1	0		
856	9	i 2 47 13	i 47 14	⊕		? 47 37		— —		— —		— —		⊕	2.99	3	Aft. sk. of Mar. 2nd		
857	9	? 2 57 49	*	57 51		i 58 15	*	58 16		— —		— —		0.60	0.42	17.4	0	"	
858	9	3		— —		e 13 04		— —		— —		— —		—	—	2.9	0		
859	9	3		— —		e 19 39		— —		— —		— —		—	—	2.3	0		
860	9	3		— —		e 48 22		— —		— —		— —		—	—	1.8	0		
861	9	e 3 47 49		— —		e 08 56		— —		— —		— —		0.01	—	4.1	0		
862	9	5		— —		i 28 57		— —		— —		— —		—	—	2.0	0		
863	9	i 6 28 27		— —		i 28 38		— —		— —		— —		0.09	0.05	5.9	0	Aft. sk. of Mar. 2nd	
864	9	i 8 28 11		— —		i 28 38		— —		— —		— —		0.07	—	5.5	0	"	
865	9	e 8 52 10		— —		e 52 41		— —		— —		— —		0.01	—	3.9	0		
866	9	e 10 19 36		— —		e 19 58		— —		— —		— —		—	—	2.1	0		
867	9	i 10 30 58	e 30 58	i 31 35		e 31 32		— —		— —		— —		0.78	0.77	11.3	0	Aft. sk. of Mar. 2nd	
868	9	10		— —		e 49 05		— —		— —		— —		0.01	—	2.2	0		
869	9	e 13 48 40		— —		e 21 26		— —		— —		— —		0.01	—	3.8	0		
870	9	e 17 21 06		— —		e 21 26		— —		— —		— —		0.01	—	2.5	0		
871	9	e 17 59 17		— —		i 59 40		— —		— —		— —		0.02	—	0	Aft. sk. of Mar. 2nd		
872	9	18		— —		e 14 44		— —		— —		— —		—	—	1.6	0		
873	9	e 20 14 11		— —		e 42 14		— —		— —		— —		0.01	—	3.9	0		
874	9	e 20																	

EARTHQUAKES, 1933.



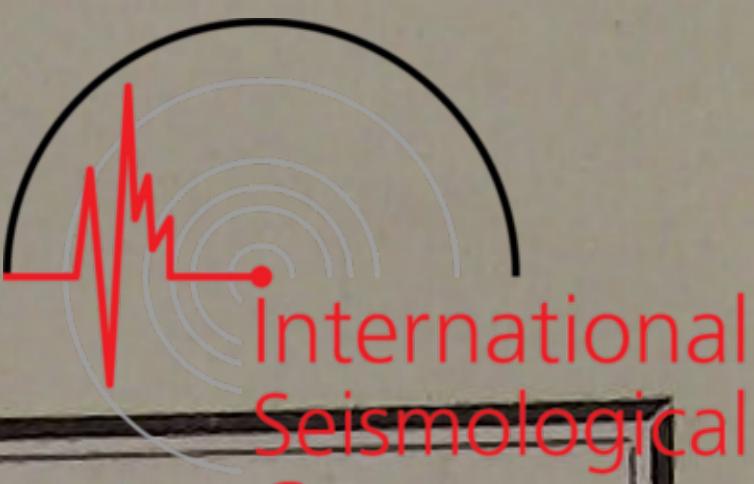
No.	Date 1933	P				S				L				Maximum Range of Motion		Duration of Total Earthquake (mean)	Intensity	Approximate Epicenter	
		E	W	N	S	E	W	N	S	E	W	N	S	E	W				
875	Apr. 9	h	m	s		m	s	m	s	m	s	m	s	mm	mm	m	2.5	0	
876		e 20	52	23		-	-	e 52	45	-	-	-	-	-	-	0.7	0		
877		21				-	-	e 39	38	-	-	-	-	-	-	2.2	0		
878		e 22	39	12		-	-	i 50	37	-	-	-	-	0.12	-	7.3	0	Aft. sk. of Mar. 2nd	
879		i 23	50	11		-	-	e 11	59	e 11	54	-	-	0.02	-	4.5	0	"	
880	10	e 0	11	31		-	-	e 11	59	-	-	-	-	-	-	1.2	0		
881	10	0				-	-	e 34	16	-	-	-	-	0.01	-	3.4	0		
882	10	e 0	33	51		-	-	i 13	08	-	-	-	-	0.01	-	3.1	0		
883	10	e 1	12	42		-	-	e 29	38	-	-	-	-	0.01	-	2.3	0		
884	10	e 1	29	15		-	-	e 34	59	-	-	-	-	0.00	-	3.2	0		
885	10	e 2	04	52		-	-	e 05	19	-	-	-	-	-	-	2.6	0		
886	10	3				-	-	e 00	39	-	-	-	-	-	-	2.1	0		
887	10	5				-	-	e 32	29	-	-	-	-	-	-	3.0	0		
888	10	e 5	31	56		-	-	e 06	25	-	-	-	-	0.00	-	2.9	0		
889	10	e 7	06	03		-	-	e 44	31	-	-	-	-	-	-	2.9	0		
890	10	e 9	43	46		-	-	i 44	09	e 44	08	-	-	0.02	-	3.7	0	Aft. sk. of Mar. 2nd	
891	10	e 10	59	59		-	-	e 60	33	-	-	-	-	0.00	-	3.4	0		
892	10	e 11	48	37		-	-	e 49	04	-	-	-	-	0.01	-	4.1	0	Aft. sk. of Mar. 2nd	
893	10	e 12	48	16		-	-	i 48	48	-	-	-	-	0.03	-	4.8	0		
894	10	e 13	44	03		-	-	e 44	31	-	-	-	-	0.00	-	3.2	0		
895	10	e 17	50	38		-	-	e 51	11	e 44	02	-	-	0.01	-	4.6	0		
896	11	e 7	43	36		-	-	e 44	00	e 44	02	-	-	-	-	4.6	0		
897	11	8				-	-	e 49	01	-	-	-	-	-	-	2.9	0		
898	11	e 9	14	15		-	-	e 15	02	-	-	-	-	0.01	-	3.8	0		
899	11	9				-	-	e 58	44	-	-	-	-	-	-	3.5	0		
900	11	13				-	-	e 29	13	-	-	-	-	0.01	-	3.3	0		
901	11	18				-	-	e 01	47	-	-	-	-	-	-	1.9	0		
902	11	19				-	-	e 47	57	-	-	-	-	0.01	-	4.3	0		
903	12	i 7	36	27	e 36	32	i 36	54	e 36	57	-	-	-	-	0.05	-	5.7	0	Aft. sk. of Mar. 2nd
904	12	7			-	-	e 44	01	-	-	-	-	-	-	0.01	-	1.8	0	
905	12	e 16	23	36		-	-	i 24	08	e 24	07	-	-	0.03	-	4.9	0	Aft. sk. of Mar. 2nd	
906	13	3				-	-	e 48	06	-	-	-	-	0.01	-	2.2	0		
907	13	i 15	54	11		-	-	i 54	38	-	-	-	-	0.03	0.03	6.2	0	Aft. sk. of Mar. 2nd	
908	14	e 11	31	15		-	-	i 31	55	e 31	56	-	-	0.01	-	4.0	0	Aft. sk. of Mar. 2nd	
909	15	e 1	25	24		-	-	i 26	05	-	-	-	-	0.02	-	4.7	0	Aft. sk. of Mar. 2nd	
910	15	e 3	58	16	e 09	32	i 58	49	e 58	53	-	-	-	0.02	0.02	4.0	0	Aft. sk. of Mar. 2nd	
911	15	i 11	09	32	e 09	32	i 10	05	e 10	07	-	-	-	0.07	-	5.5	0	"	
912	16	e 16	21	10	-	-	i 21	39	e 21	41	-	-	-	0.02	0.01	4.5	0	"	
913	16	16			-	-	e 54	46	-	-	-	-	-	-	-	2.1	0		
914	16	e 17	00	51	-	-	i 01	33	-	-	-	-	-	0.03	0.02	4.9	0	Aft. sk. of Mar. 2nd	
915	16	e 19	24	25	e 24	24	e 30	44	e 30	40	-	-	? 36	37	-	33.6	0	Distant	
916	18	e 22	06	32	-	-	e 06	45	-	-	-	-	0.00	-	-	2.1	0		
917	19	i 2	56	20	i 56	20	i 56	52	i 56	52	-	-	-	0.48	0.68	13.8	1	Aft. sk. of Mar. 2nd	
918	19	e 6	49	31	e 49	34	e 53	46	e 53	45	? 57	19	? 56	47	0.01	0.09	25.0	0	Aft. sk. of Mar. 2nd
919	19	i 20	58	46	-	-	i 59	26	-	-	-	-	-	0.02	0.02	8.2	0	Aft. sk. of Mar. 2nd	
920	20	e 18	20	59	-	-	i 21	21	e 21	24	-	-	-	0.02	-	5.8	0		
921	20	20			-	-	e 20	42	-	-	-	-	-	0.00	-	3.6	0		
922	20	e 20	50	19	-	-	e 53	09	-	-	-	-	-	0.01	-	5.7	0		
923	20	e 22	03	13	-	-	e 03	42	-	-	-	-	-	0.01	-	4.0	0		
924	21	e 4	27	07	-	-	i 27	31	e 27	32	-	-	-	0.02	0.01	4.9	0	Aft. sk. of Mar. 2nd	
925	21	e 14	12	57	-	-	e 13	27	-	-	-	-	-	0.00	-	3.8	0		
926	21	e 20	41	08	e 41	10	i 41	55	e 41	56	-	-	-	0.03	0.03	7.7	0	Aft. sk. of Mar. 2nd	
927	22	i 8	52	00	e 51	57	i 52	32	e 52	36	-	-	-	0.09	-	6.9	0	Mouth of the R.	
928	23	1			-	-	e 29	22	-	-	-	-	-	-	-	3.0	0	Niikappu	
929	23	6			-	-													

EARTHQUAKES, 1933.



No.	Date 1933	P				S				L				Maximum Range of Motion		Duration of Total Earthquake (mean)	Intensity	Approximate Epicenter	
		E	W	N	S	E	W	N	S	E	W	N	S	E	W				
930	Apr. 23	h 7 14 16	m s	*	14 19	m s	⊕	*	14 40	m s	—	—	—	mm	mm	m	29.0	1	Aft. sk. of Mar. 2 ^{ne}
931		7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.2	0	
932		i 8 26 37	* 26 38	i 27 01	* 27 00	—	—	—	—	—	—	—	—	0.27	0.18	12.3	0		Aft. sk. of Mar. 2 nd
933		i 12 20 21	* 20 22	i 20 46	—	—	—	—	—	—	—	—	—	0.10	—	10.1	0		"
934		e 13 22 57	—	—	e 23 17	—	—	—	—	—	—	—	—	0.01	—	2.2	0		
935		14	—	—	e 10 21	—	—	—	—	—	—	—	—	—	—	—	0.9	0	
936		e 14 43 10	—	—	e 43 41	—	—	—	—	—	—	—	—	0.01	—	3.4	0		
937		23	—	—	e 47 58	—	—	—	—	—	—	—	—	0.01	—	2.5	0		
938		e 18 53 17	—	—	e 53 44	—	—	—	—	—	—	—	—	0.01	—	2.6	0		
939		e 22 20 43	—	—	e 21 08	—	—	—	—	—	—	—	—	0.01	—	3.9	0		
940	May 25	i 1 58 04	e 58 04	i 58 27	e 58 26	—	—	—	—	—	—	—	—	0.14	0.05	7.0	0		Aft. sk. of Mar. 2 nd
941		i 2 55 21	e 55 23	i 55 44	e 55 49	—	—	—	—	—	—	—	—	0.03	0.03	4.6	0		"
942		? 4 03 26	—	—	i 03 55	e 03 57	—	—	—	—	—	—	—	0.02	0.02	3.8	0		"
943		5	—	—	e 25 25	—	—	—	—	—	—	—	—	—	—	1.9	0		
944		e 2 44 37	e 44 53	e 51 22	e 51 24	59	26	58	47	—	—	—	—	—	—	62.2	0	Distant	
945		e 6 32 51	—	—	e 33 17	—	—	—	—	—	—	—	—	0.01	—	2.6	0		
946		e 15 31 35	—	—	e 32 02	—	—	—	—	—	—	—	—	0.01	—	3.0	0		
947		17	—	—	e 07 06	—	—	—	—	—	—	—	—	0.01	—	3.7	0		
948		i 18 32 08	e 32 09	i 33 34	e 33 37	—	—	—	—	—	—	—	—	0.06	0.04	9.1	0	Etoroff	
949		e 18 56 42	—	—	e 57 24	—	—	—	—	—	—	—	—	—	—	3.2	0		
950	1	19	—	—	e 16 36	—	—	—	—	—	—	—	—	0.01	—	2.0	0		
951	1	i 19 53 05	e 53 10	i 54 37	i 54 36	—	—	—	—	—	—	—	—	0.32	0.13	15.2	0	S off Etoroff	
952	1	20	—	—	e 08 55	—	—	—	—	—	—	—	—	0.01	—	2.4	0		
953	1	e 22 39 21	—	—	e 40 47	—	—	—	—	—	—	—	—	0.01	—	4.9	0		
954	1	e 23 14 28	—	—	i 15 54	e 15 53	—	—	—	—	—	—	—	0.03	0.02	—	0		
955	1	? 23 18 31	—	—	i 19 44	e 19 45	—	—	—	—	—	—	—	0.06	0.10	8.7	0		
956	2	e 2 20 18	—	—	i 20 37	i 20 37	—	—	—	—	—	—	—	0.03	0.02	2.1	0		
957	2	? 7 00 24	—	—	? 01 09	—	—	—	—	—	—	—	—	0.01	—	4.9	0		
958	2	? 8 06 02	—	—	i 06 58	—	—	—	—	—	—	—	—	0.01	—	4.7	0		
959	2	e 9 27 37	—	—	e 28 50	—	—	—	—	—	—	—	—	0.01	—	3.7	0		
960	2	11	—	—	e 16 02	—	—	—	—	—	—	—	—	0.01	—	1.1	0		
961	2	16	—	—	i 36 15	e 36 13	—	—	—	—	—	—	—	0.01	—	3.0	0		
962	2	e 16 35 18	—	—	i 25 30	e 25 30	—	—	—	—	—	—	—	0.01	—	5.0	0		
963	2	e 17 25 05	—	—	e 10 39	—	—	—	—	—	—	—	—	0.03	0.04	4.4	0		
964	2	18	—	—	e 02 41	—	—	—	—	—	—	—	—	0.01	0.02	4.4	0	Aft. sk. of Mar. 2 nd	
965	3	e 5 15 02	—	—	e 15 28	e 15 33	—	—	—	—	—	—	—	0.02	0.03	4.7	0		
966	3	e 6 35 13	—	—	e 35 42	e 35 42	—	—	—	—	—	—	—	0.01	—	5.2	0		
967	4	e 14 14 17	—	—	e 14 52	—	—	—	—	—	—	—	—	0.01	—	3.3	0		
968	4	e 18 13 45	—	—	i 14 13	e 14 13	—	—	—	—	—	—	—	0.01	0.02	5.1	0		
969	4	19	—	—	e 02 41	—	—	—	—	—	—	—	—	—	—	2.4	0		
970	4	20	—	—	e 43 31	—	—	—	—	—	—	—	—	0.00	—	3.4	0		
971	5	5	—	—	e 54 57	—	—	—	—	—	—	—	—	0.01	—	4.3	0		
972	7	e 0 33 10	e 33 18	i 33 40	e 33 39	—	—	—	—	—	—	—	—	0.01	0.02	4.8	0		
973	7	e 16 36 28	—	—	i 37 53	e 37 50	—	—	—	—	—	—	—	0.02	0.02	6.0	0		
974	7	e 23 02 08	—	—	i 03 16	e 03 16	—	—	—	—	—	—	—	0.02	0.04	6.3	0		
975	7	e 23 16 34	—	—	e 17 07	e 17 06	—	—	—	—	—	—	—	0.01	0.02	3.9	0		
976	8	e 10 47 46	—	—	e 48 19	—	—	—	—	—	—	—	—	0.01	—	5.3	0		
977	8	12	—	—	e 59 03	—	—	—</td											

EARTHQUAKES, 1933.



No.	Date 1933	P			S			L			Maximum Range of Motion			Duration of Total Earthquake (mean)	Intensity	Approximate Epicenter
		E	W	N	S	E	W	N	S	E	W	N	S			
985	May 10	h m s	m s	m s	m s	e 20 58	m s	m s	m s	mm	mm	m	3.2	0	Aft. sk. of Mar. 2 nd Neighbourhood of Kadoma (Iwate)	
986		i 10 35 53	- -	i 36 20	e 36 19	- -	- -	- -	- -	0.02	0.04	6.0	0	0		
987		e 5 30 54	- -	e 31 20	- -	- -	- -	- -	- -	0.00	-	2.7	0	0		
988		i 10 21 49	- -	i 22 00	i 22 00	- -	- -	- -	- -	0.04	-	3.3	0	0		
989		e 11 59 35	- -	i 60 07	- -	- -	- -	- -	- -	0.01	-	3.7	0	0		
990	11	13	- -	e 10 19	- -	- -	- -	- -	- -	0.00	-	2.7	0	0	Aft. sk. of Mar. 2 nd	
991	11	e 14 16 05	- -	e 16 27	- -	- -	- -	- -	- -	0.01	-	4.6	0	0		
992	11	e 14 26 58	- -	e 27 27	- -	- -	- -	- -	- -	0.01	-	4.4	0	0		
993	11	e 16 04 34	- -	e 05 08	- -	- -	- -	- -	- -	0.01	-	3.7	0	0		
994	11	e 18 29 27	- -	e 29 59	e 30 01	- -	- -	- -	- -	0.02	0.02	5.7	0	0		
995	11	e 18 46 08	- -	e 46 39	- -	- -	- -	- -	- -	0.01	-	6.2	0	0	Neighbourhood of Yoneyama (Miyagi)	
996	11	e 19 29 42	- -	e 30 07	- -	- -	- -	- -	- -	0.01	-	5.9	0	0		
997	11	e 23 19 11	- -	e 19 56	- -	- -	- -	- -	- -	0.00	-	4.4	0	0		
998	11	e 23 51 24	- -	e 51 50	- -	- -	- -	- -	- -	0.01	-	3.6	0	0		
999	14	e 14 07 29	- -	e 07 45	- -	- -	- -	- -	- -	0.01	-	2.8	0	0		
1000	14	i 14 19 36	e 19 35	i 19 47	e 19 46	- -	- -	- -	- -	0.03	-	3.2	0	0	Neighbourhood of Yoneyama (Miyagi)	
1001	14	20	- -	e 28 13	- -	- -	- -	- -	- -	-	-	2.9	0	0		
1002	15	e 14 13 57	- -	i 14 30	e 14 30	- -	- -	- -	- -	0.01	0.02	3.7	0	0		
1003	15	21	- -	e 31 25	- -	- -	- -	- -	- -	0.01	-	0.9	0	0		
1004	15	e 23 48 53	- -	e 49 29	- -	- -	- -	- -	- -	0.01	-	3.4	0	0		
1005	16	? 1 21 41	? 21 55	? 31 07	? 30 30	- -	- -	? 39 45	- -	-	-	34.7	0	0	Distant Aft. sk. of Mar. 2 nd	
1006	16	e 18 25 35	- -	e 26 14	e 26 17	- -	- -	- -	- -	0.02	0.03	6.4	0	0		
1007	16	e 20 02 12	- -	e 02 49	e 02 54	- -	- -	- -	- -	0.01	0.01	5.2	0	0		
1008	16	e 20 25 05	- -	e 25 34	- -	- -	- -	- -	- -	-	-	3.1	0	0		
1009	16	e 20 54 37	- -	e 55 05	- -	- -	- -	- -	- -	0.00	-	2.5	0	0		
1010	17	e 0 57 44	- -	e 58 21	- -	- -	- -	- -	- -	0.01	0.01	4.0	0	0	Off mouth of the R. Distant Saru Neighbourhood of Hayatine	
1011	17	e 7 47 12	e 47 10	i 47 47	e 47 50	- -	- -	- -	- -	0.05	0.06	7.1	0	0		
1012	18	? 0 00 13	? 00 04	? 03 47	? 03 50	- -	- -	- -	- -	0.01	-	10.0	0	0		
1013	19	e 0 47 57	- -	i 48 17	e 48 17	- -	- -	- -	- -	0.02	0.04	2.9	0	0		
1014	19	e 23 18 56	- -	e 19 18	e 19 16	- -	- -	- -	- -	0.01	-	2.9	0	0		
1015	20	e 3 58 38	e 58 35	e 59 01	e 59 09	- -	- -	- -	- -	0.02	0.01	3.8	0	0	Aft. sk. of Mar. 2 nd	
1016	20	e 14 19 58	- -	e 19 28	- -	- -	- -	- -	- -	0.01	-	3.1	0	0		
1017	20	e 15 16 47	- -	e 17 15	e 17 11	- -	- -	- -	- -	0.01	-	3.8	0	0		
1018	20	e 15 52 53	- -	i 53 22	e 53 21	- -	- -	- -	- -	0.01	0.02	4.2	0	0		
1019	20	e 16 04 08	- -	e 04 55	e 04 59	- -	- -	- -	- -	0.02	0.03	4.9	0	0		
1020	20	e 16 15 43	- -	e 16 21	- -	- -	- -	- -	- -	0.01	-	3.9	0	0	Aft. sk. of Mar. 2 nd	
1021	20	e 17 02 39	- -	e 03 13	- -	- -	- -	- -	- -	0.01	-	3.0	0	0		
1022	20	e 18 22 00	e 22 03	e 22 46	e 22 47	- -	- -	- -	- -	0.02	0.01	5.6	0	0		
1023	20	e 18 39 08	- -	e 39 41	- -	- -	- -	- -	- -	-	-	3.8	0	0		
1024	20	i 19 09 51	e 09 51	e 10 27	e 10 26	- -	- -	- -	- -	0.06	0.05	-	0	0	Aft. sk. of Mar. 2 nd	
1025	20	e 19 14 40	e 14 42	e 15 15	e 15 10	- -	- -	- -	- -	0.05	0.10	-	0	0	Aft. sk. of Mar. 2 nd	
1026	20	e 19 19 22	e 19 24	e 19 56	e 19 55	- -	- -	- -	- -	0.03	0.04	6.2	0	0		
1027	20	e 19 27 44	- -	e 28 17	e 28 11	- -	- -	- -	- -	0.01	-	6.6	0	0		
1028	20	21	- -	e 51 25	- -	- -	- -	- -	- -	0.01	-	2.9	0	0		
1029	20	e 21 56 27	- -	e 56 55	e 56 57	- -	- -	- -	- -	0.01	0.02	5.7	0	0		
1030	20	23	- -	- -	- -	- -	- -	- -	- -	-	-	1.7	0	0	Aft. sk. of Mar. 2 nd	
1031	21	e 0 24 39	- -	e 25 22	e 25 24	- -	- -	- -	- -	0.02	0.02	5.1	0	0		
1032	21	e 0 59 01	- -	e 59 35	e 59 40	- -	- -	- -	- -	0.01	-	4.2	0	0		
1033	21	2	- -	e 10 18	- -	- -	- -	- -	- -	-	-	2.0	0	0		
1034	21	2	- -	e 15 09	- -	- -	- -	- -	- -	-	-	2.5	0	0		
1035	21	e 6 31 35	- -	i 31 45	e 31 48	- -	- -	- -	- -	0.02	-	2.2	0	0	Aft. sk. of Mar. 2 nd	
1036	21	6	- -	- -	- -	- -	- -	- -	- -	0.01	-	1.1	0	0		
1037	21	6	- -	i 49 30	- -	- -	- -	- -	- -	0.0						

EARTHQUAKES, 1933.



No.	Date 1933	P			S			L			Maximum Range of Motion		Duration of Total Earthquake (mean)	Intensity	Approximate Epicenter			
		E	W	N	S	E	W	N	S	E	W	N	S					
1040	May 21	h 16	m 53	s	m	s	e 48	53	m	s	m	s	mm	mm	m	1.5	0	Distant
1041	21	21	-	-	-	-	e 58	30	-	-	-	-	0.01	-	2.9	0		
1042	21	22	-	-	-	-	e 02	07	-	-	-	-	0.01	-	4.2	0		
1043	22	0	-	-	-	-	-	-	-	-	-	-	-	-	2.0	0		
1044	22	e 10	57	50	-	-	i 58	18	e 58	18	-	-	0.02	0.02	4.7	0	Aft. sk. of Mar. 2nd	
1045	22	e 11	14	33	-	-	e 15	03	-	-	-	-	0.01	-	4.0	0		
1046	22	e 12	29	29	-	-	e 29	59	e 29	57	-	-	0.01	0.02	4.2	0	Aft. sk. of Mar. 2nd	
1047	22	e 15	30	24	e 30	25	e 31	19	e 31	24	-	-	0.03	-	5.9	0	"	
1048	22	e 17	23	31	-	-	e 23	59	-	-	-	-	-	-	3.3	0		
1049	22	e 19	40	07	-	-	e 40	52	-	-	-	-	0.01	-	4.2	0		
1050	23	e 1	26	34	-	-	e 26	57	-	-	-	-	-	-	3.1	0		
1051	23	e 7	11	50	-	-	e 12	23	-	-	-	-	0.01	-	2.5	0		
1052	23	15	-	-	-	-	-	-	-	-	-	-	-	-	1.9	0		
1053	23	i 23	34	33	e 34	35	i 35	03	e 35	03	-	-	0.03	0.03	5.6	0	Aft. sk. of Mar. 2nd	
1054	24	i 4	37	55	e 37	55	i 39	28	e 39	31	-	-	0.07	0.03	6.7	0	N off Siretoko zaki (deep)	
1055	24	i 10	38	58	e 38	58	i 39	12	e 39	15	-	-	0.11	0.05	6.7	1	E off Kinkwasan	
1056	24	e 20	42	42	-	-	e 43	08	-	-	-	-	-	-	2.2	0		
1057	25	e 6	53	31	-	-	e 54	09	e 54	16	-	-	0.01	-	4.3	0		
1058	26	e 23	14	59	-	-	e 15	51	-	-	-	-	0.01	-	5.6	0		
1059	27	e 5	10	29	-	-	e 10	52	-	-	-	-	0.01	-	3.2	0		
1060	28	i 4	50	02	e 50	02	i 50	24	e 50	24	-	-	0.06	0.05	6.6	0	SE off Kinkwasan	
1061	28	23	-	-	e 43	16	-	-	-	-	-	-	0.01	-	2.8	0		
1062	29	e 5	56	21	-	-	i 56	36	-	-	-	-	0.01	-	2.6	0		
1063	29	? 13	31	58	e 31	59	? 32	25	i 32	27	-	-	0.21	0.20	5.7	0	Neighbourhood of Yusawa (Akita)	
1064	29	i 19	03	42	e 03	44	i 03	58	e 04	02	-	-	0.22	0.14	5.2	0	"	
1065	29	e 21	10	26	-	-	e 11	07	-	-	-	-	0.01	-	3.0	0		
1066	31	i 3	15	11	e 15	11	i 15	25	e 15	24	-	-	0.11	0.10	4.1	0	Mouth of the R. Akka (Iwate)	
1067	31	e 18	17	59	-	-	e 18	22	-	-	-	-	0.01	-	2.9	0		
1068	June 2	e 0	01	14	-	-	e 01	30	-	-	-	-	0.00	-	2.8	0		
1069	2	e 7	41	33	e 41	36	e 44	40	? 47	05	? 47	43	-	-	-	0	Distant	
1070	2	i 19	34	18	e 34	18	i 34	31	e 34	32	-	-	0.08	0.09	4.9	0	Neighbourhood of Minase (Akita)	
1071	3	e 3	13	30	-	-	i 13	53	i 13	53	-	-	0.03	0.04	4.0	0		
1072	3	e 7	08	29	-	-	e 09	04	e 09	04	-	-	0.01	-	4.1	0		
1073	3	e 13	02	30	-	-	i 02	45	-	-	-	-	0.01	-	2.0	0		
1074	3	e 16	55	15	-	-	i 55	48	e 55	46	-	-	0.01	-	4.3	0		
1075	3	i 17	12	43	e 12	42	? 16	18	? 15	32	-	-	0.05	0.04	17.4	0		
1076	4	e 6	56	00	-	-	i 56	28	e 56	28	-	-	0.02	0.03	5.4	0		
1077	4	i 13	48	28	e 48	42	i 54	55	e 54	57	-	-	-	-	12.0	0	Distant	
1078	4	e 14	19	52	-	-	i 20	02	-	-	-	-	0.01	-	1.8	0		
1079	4	e 22	39	03	-	-	i 39	33	e 39	41	-	-	0.01	0.02	5.3	0		
1080	5	e 1	52	04	e 52	04	i 52	34	e 52	34	-	-	0.05	0.05	8.2	0	Kasimanada	
1081	6	e 2	34	49	-	-	e 35	42	-	-	-	-	0.00	0.01	7.5	0		
1082	6	4	-	-	-	-	e 33	54	-	-	-	-	-	-	2.1	0		
1083	6	e 6	47	46	e 47	43	e 49	54	e 49	56	-	-	0.02	0.02	8.4	0		
1084	8	i 18	11	31	i 11	31	i 12	04	i 12	06	-	-	0.51	0.49	22.9	2	ENE off Miyako	
1085	8	23	-	-	e 58	25	-	-	-	-	-	-	0.01	-	1.5	0		
1086	9	e 0	00	09	-	-	i 00	37	e 00	36	-	-	0.04	0.03	4.1	0		
1087	12	6	-	-	e 04	33	-	-	-	-	-	-	0.01	-	3.9	0		
1088	12	9	-	-	-	-	-	-	-	-	-	-	-	-	1.4	0		
1089	12	i 21	08	37	i 08	37	i 08	47	i 08	47	-	-	⊕	1.55	18.8	2	Bay of Kesennuma (Miyagi)	
1090	12	i 22	43	30	-	-	e 43	40	-	-	-	-	0.01	-	2.0	0		
1091	13	1	-	-	-	-	-	-	-	-	-	-	-	-	1.0	0		
1092	13	e 3	13	36	-	-	i 14	06	e 14	08	-	-	0.01	-	4.1	0		
1093	13	4	-	-	-	-	e 53	56	-	-	-	-	0.00	-				

SEISMOLOGICAL OBSERVATIONS AT MIZUSAWA.

EARTHQUAKES, 1933.



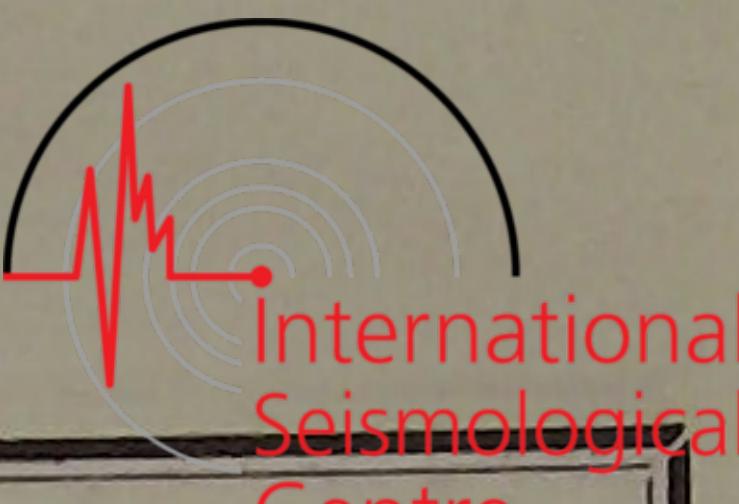
No.	Date 1933	P				S				L				Maximum Range of Motion		Duration of Total Earthquake (mean)	Intensity	Approximate Epicenter
		E	W	N	S	E	W	N	S	E	W	N	S	E	W			
1095	June 13	h m s	m s	m s	m s	e 48	51	m s	m s	m s	m s	m s	mm	mm	m	1.4	0	E off mouth of the R. Mabuti
1096		10 e 11 34 24	— —	— —	— —	e 34	54	— —	— —	— —	— —	— —	0.01	—	4.9	0		
1097		e 12 58 19	— —	— —	— —	e 58	41	e 58	48	— —	— —	— —	0.01	0.02	4.4	0		
1098		e 14 41 04	— —	— —	— —	e 41	45	— —	— —	— —	— —	— —	0.01	—	5.5	0		
1099		i 20 34 20	i 34 19	i 34 48	i 34 48	— —	— —	— —	— —	— —	— —	— —	⊕	1.82	19.6	2		
1100	15	e 2 46 57	— —	— —	— —	e 47	48	— —	— —	— —	— —	— —	0.00	—	4.2	0	E off mouth of the R. Mabuti	
1101	15	7	— —	— —	— —	e 02	43	— —	— —	— —	— —	— —	0.01	—	3.7	0		
1102	16	e 12 26 01	— —	— —	— —	i 26	30	e 26	31	— —	— —	— —	0.01	0.02	5.0	0		
1103	17	i 14 02 38	e 02 38	i 03 07	e 03 07	— —	— —	— —	— —	— —	— —	— —	0.14	0.10	8.4	0		
1104	18	10	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	0.00	—	2.4	0		
1105	18	e 13 13 31	— —	— —	— —	i 15	12	e 15	12	— —	— —	— —	0.02	0.02	13.8	0	E off Kinkwasan	
1106	18	e 19 41 44	— —	— —	— —	e 42	17	— —	— —	— —	— —	— —	0.01	—	4.6	0		
1107	18	i 21 37 58	i 37 58	⊕	⊕	— —	— —	— —	— —	— —	— —	— —	⊕	⊕	75.5	4		
1108	18	22	— —	— —	— —	e 28	19	— —	— —	— —	— —	— —	0.01	—	0.6	0		
1109	18	e 22 28 07	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	0.01	—	2.3	0		
1110	18	22	— —	— —	— —	e 53	52	— —	— —	— —	— —	— —	0.01	—	2.2	0	E off Kinkwasan	
1111	19	0	— —	— —	— —	e 24	44	e 24	43	— —	— —	— —	—	—	0.6	0		
1112	19	e 0 24 30	— —	— —	— —	e 02	19	— —	— —	— —	— —	— —	0.01	—	2.5	0		
1113	19	e 1 02 06	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	—	—	1.3	0		
1114	19	1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	—	—	1.1	0		
1115	19	1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	—	—	1.2	0	E off Kinkwasan	
1116	19	2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	—	—	1.1	0		
1117	19	e 3 06 01	— —	— —	— —	e 06	14	— —	— —	— —	— —	— —	0.01	—	2.4	0		
1118	19	i 6 18 22	e 18 22	i 18 36	i 18 36	— —	— —	— —	— —	— —	— —	— —	0.06	0.03	5.1	1		
1119	19	e 7 13 57	e 13 57	i 14 13	e 14 11	— —	— —	— —	— —	— —	— —	— —	0.01	0.01	3.2	0		
1120	19	8	— —	— —	— —	e 51	51	— —	— —	— —	— —	— —	0.01	—	2.6	0	E off Kinkwasan	
1121	19	e 11 08 54	— —	— —	— —	e 09	19	— —	— —	— —	— —	— —	0.01	—	3.7	0		
1122	19	e 12 40 26	— —	— —	— —	i 40	47	— —	— —	— —	— —	— —	0.01	—	2.8	0		
1123	19	i 14 10 36	— —	— —	— —	i 10	50	e 10	50	— —	— —	— —	0.01	—	3.1	0		
1124	19	18	— —	— —	— —	e 28	15	— —	— —	— —	— —	— —	—	—	1.0	0		
1125	19	18	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	—	—	1.0	0	E off Kinkwasan	
1126	20	0	— —	— —	— —	i 59	27	e 59	29	— —	— —	— —	0.00	—	1.7	0		
1127	20	e 14 58 54	— —	— —	— —	e 56	39	— —	— —	— —	— —	— —	0.01	0.02	4.3	0		
1128	20	23	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	0.00	—	2.1	0		
1129	21	0	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	—	—	0.8	0		
1130	21	13	— —	— —	— —	e 51	21	— —	— —	— —	— —	— —	0.00	—	2.4	0	E off Miyako ESE off Kinkwasan	
1131	21	e 13 57 43	— —	— —	— —	i 57	56	— —	— —	— —	— —	— —	0.00	—	1.6	0		
1132	21	e 19 35 23	— —	— —	— —	i 35	51	e 35	52	— —	— —	— —	0.01	0.02	3.2	0		
1133	21	19	— —	— —	— —	e 39	01	— —	— —	— —	— —	— —	0.01	0.01	2.5	0		
1134	21	23	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	0.00	—	1.4	0		
1135	23	i 2 59 29	e 59	32	i 59	54	e 59	56	— —	— —	— —	— —	0.04	0.05	5.2	0	E off Miyako ESE off Kinkwasan	
1136	23	i 3 27 11	e 27	10	i 27	33	i 27	32	— —	— —	— —	— —	0.04	0.04	5.7	0		
1137	23	e 13 24 51	— —	— —	i 25	10	e 25	10	— —	— —	— —	— —	0.02	0.02	5.0	0		
1138	23	23	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	—	—	1.5	0		
1139	24	7	— —	— —	e 24	17	— —	— —	— —	— —	— —	— —	0.00	—	2.8	0		
1140	24	8	— —	— —	e 54	13	— —	— —	— —	— —	— —	— —	0.01	—	2.9	0	Distant ESE off Miyako	
1141	24	e 22 04 24	e 04	24	e 12	31	e 12	45	19	57	20	32	—	—	74.3	0		
1142	25	e 1 48 32	e 48	32	i 48	58	i 48	58	— —	— —	— —	— —	0.05	0.05				



EARTHQUAKES, 1933.

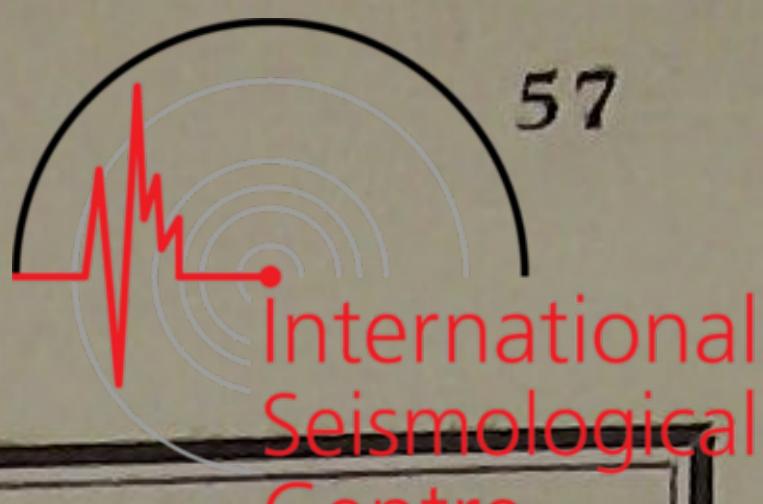
No.	Date 1933	P				S				L				Maximum Range of Motion			Duration of Total Earthquake (mean)	Intensity	Approximate Epicenter			
		E	W	N	S	E	W	N	S	E	W	N	S	E	W	N	S					
1150	June 30	h 6	m 17	s 18		m 09	s 18	m 47	s 55	m 05	s 25	m 07	s 31	—	—	—	—	mm	mm	m	0.6	0
1151		—	—	—	—	e 09	—	—	—	—	—	—	—	—	—	—	—	—	—	2.3	0	
1152		—	—	—	—	e 47	—	—	—	—	—	—	—	—	—	—	—	—	—	1.9	0	
1153		—	—	—	—	e 05	—	—	—	—	—	—	—	—	—	—	—	—	—	1.6	0	
1154		—	—	—	—	e 07	—	—	—	—	—	—	—	0.00	—	—	—	—	—	11.2	0	
1155	July 1	14	—	—	—	e 53	52	—	—	—	—	—	—	—	0.00	—	—	—	—	2.3	0	
1156	2	0	—	—	—	e 56	34	—	—	—	—	—	—	—	0.00	—	—	—	—	2.0	0	
1157	2	e 3	22	27	—	e 22	57	—	—	—	—	—	—	—	0.01	—	—	—	—	3.3	0	
1158	2	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.3	0	
1159	2	12	—	—	—	e 20	19	—	—	—	—	—	—	—	—	—	—	—	—	1.4	0	
1160	2	16	—	—	—	e 20	54	—	—	—	—	—	—	—	0.00	—	—	—	—	3.2	0	
1161	2	i 16	48	42	i 48	42	i 49	03	i 49	03	—	—	—	—	0.19	0.25	—	—	—	9.7	0	
1162	2	e 18	43	35	—	—	i 43	55	—	—	—	—	—	—	0.01	—	—	—	—	2.7	0	
1163	2	e 19	31	24	—	—	e 31	44	—	—	—	—	—	—	0.00	—	—	—	—	2.6	0	
1164	3	e 0	47	14	e 47	12	i 47	82	e 47	32	—	—	—	—	0.02	0.01	—	—	—	3.8	0	
1165	3	e 19	28	24	—	—	i 28	44	e 28	44	—	—	—	—	0.02	0.02	—	—	—	3.9	0	
1166	4	e 20	34	47	—	—	i 35	06	—	—	—	—	—	—	0.01	—	—	—	—	3.1	0	
1167	5	15	—	—	—	e 47	57	—	—	—	—	—	—	—	0.00	—	—	—	—	2.6	0	
1168	5	19	—	—	—	e 20	42	—	—	—	—	—	—	—	0.01	—	—	—	—	3.3	0	
1169	6	e 2	00	33	—	—	i 01	12	e 01	13	—	—	—	—	0.02	0.02	—	—	—	5.2	0	
1170	6	13	—	—	—	e 52	52	—	—	—	—	—	—	—	0.00	—	—	—	—	2.4	0	
1171	6	i 14	25	29	e 25	29	i 25	57	e 25	57	—	—	—	—	0.06	0.06	—	—	—	5.3	0	
1172	6	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.7	0	
1173	7	e 3	48	12	—	—	i 48	31	e 48	30	—	—	—	—	0.01	—	—	—	—	2.8	0	
1174	7	e 4	16	41	—	—	i 16	58	e 16	58	—	—	—	—	0.02	—	—	—	—	2.6	0	
1175	7	e 4	19	26	—	—	i 19	45	e 19	46	—	—	—	—	0.01	—	—	—	—	2.5	0	
1176	7	e 11	55	13	—	—	i 56	11	e 56	11	—	—	—	—	0.01	0.01	—	—	—	3.6	0	
1177	7	e 14	16	25	—	—	i 17	32	e 17	32	—	—	—	—	0.01	0.02	—	—	—	3.8	0	
1178	8	3	—	—	—	e 00	54	—	—	—	—	—	—	—	0.00	—	—	—	—	3.5	0	
1179	8	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.1	0	
1180	8	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.8	0	
1181	8	7	—	—	—	e 29	27	—	—	—	—	—	—	—	0.01	—	—	—	—	1.2	0	
1182	8	e 7	58	40	—	—	e 59	31	e 59	30	—	—	—	—	0.01	0.02	—	—	—	5.6	0	
1183	9	e 1	32	08	i 32	09	i 33	41	i 33	40	—	—	—	—	0.13	0.05	—	—	—	32.0	0	
1184	9	1	—	—	—	e 43	26	—	—	—	—	—	—	—	0.00	—	—	—	—	2.8	0	
1185	9	2	—	—	—	e 10	05	—	—	—	—	—	—	—	0.00	—	—	—	—	3.0	0	
1186	9	3	—	—	—	e 15	47	—	—	—	—	—	—	—	0.00	—	—	—	—	1.5	0	
1187	9	e 4	29	03	—	—	i 29	34	e 29	32	—	—	—	—	0.01	0.01	—	—	—	3.9	0	
1188	9	e 9	01	05	—	—	i 02	28	e 02	29	—	—	—	—	0.01	0.02	—	—	—	6.1	0	
1189	9	9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.9	0	
1190	9	e 9	30	04	e 30	05	i 31	30	e 31	34	—	—	—	—	0.04	0.05	—	—	—	29.2	0	
1191	9	e 9	50	20	e 50	21	i 51	44	e 51	46	—	—	—	—	0.06	0.06	—	—	—	SE off Etoroff		
1192	9	9	—	—	e 56	44	e 58	23	e 58	24	—	—	—	—	0.01	0.03	—	—	—	12.6	0	
1193	9	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.6	0		
1194	9	e 11	23	45	—	—	i 25	14	e 25	15	—	—	—	—	0.02	0.03	—	—	—	9.6	0	
1195	9	11	—	—	e 37	08	—	—	—	—	—	—	—	—	0.00	—	—	—	—	3.6	0	
1196	9	e 12	32	45	e 32	45	i 34	27	i 34	28	—	—	—	—	1.10	1.32	—	—	—	55		

EARTHQUAKES, 1933.



No.	Date 1933	P				S				L				Maximum Range of Motion			Duration of Total Earthquake (mean)	Intensity	Approximate Epicenter	Centre
		E	W	N	S	E	W	N	S	E	W	N	S	E	W	N	S			
1205	July 9	h 21	m 21	s 21		m -	s -	m -	s -	m -	s -	m -	s -	mm	mm	m	1.5	0	E off Kamaisi	
1206		22				e 00	48	e 18	28	e 18	28	e 22	17	0.00	-	2.2	0			
1207		e 22	17	00		e 18	28	e 18	28	e 22	51	e 22	49	0.01	0.02	16.1	0			
1208		i 0	22	20		i 22	20	i 22	51	i 22	49	i 22	20	⊕	2.02	18.6	2			
1209		e 6	24	18		e 25	24	e 25	22	e 25	22	e 25	24	0.01	0.01	8.7	0			
1210	10	e 10	41	36		e 41	35	i 48	14	e 48	14	-	-	-	-	25.6	0			
1211	10	11				-	-	-	-	-	-	-	-	-	-	1.9	0			
1212	10	e 13	31	42		e 33	03	-	-	-	-	-	-	0.01	-	6.4	0			
1213	10	18				e 29	45	-	-	-	-	-	-	-	-	3.1	0			
1214	10	18				-	-	-	-	-	-	-	-	-	-	2.2	0			
1215	10	18				-	-	-	-	-	-	-	-	-	-	1.3	0			
1216	10	20				e 28	49	-	-	-	-	-	-	0.00	-	5.4	0			
1217	10	e 23	04	27		i 06	07	e 06	07	-	-	-	-	0.02	-	6.5	0			
1218	11	? 6	01	04		e 01	57	e 02	11	e 02	03	-	-	0.04	0.05	8.3	0			
1219	11	6				-	-	-	-	-	-	-	-	0.00	-	3.3	0			
1220	11	e 6	51	10		e 51	11	i 52	12	e 52	16	-	-	0.10	0.09	12.4	0		ESE off Katuura	
1221	11	7				e 18	57	-	-	-	-	-	-	-	-	2.8	0			
1222	11	8				e 32	04	e 32	05	-	-	-	-	0.01	-	2.5	0			
1223	11	e 9	21	09		e 21	42	-	-	-	-	-	-	0.01	-	4.6	0			
1224	11	e 21	03	42		e 04	33	-	-	-	-	-	-	0.01	0.01	5.2	0			
1225	11	22				e 44	09	-	-	-	-	-	-	-	-	2.8	0			
1226	12	9				e 29	52	-	-	-	-	-	-	0.00	-	2.9	0			
1227	12	e 16	18	18		i 18	52	e 18	52	-	-	-	-	0.01	0.01	5.9	0			
1228	12	18				-	-	-	-	-	-	-	-	-	-	1.2	0			
1229	12	e 18	54	20		i 55	38	e 55	35	-	-	-	-	0.02	0.02	7.2	0		SE of Inubô-zaki	
1230	13	0				-	-	i 59	24	i 59	27	-	-	-	-	1.4	0			
1231	13	e 7	58	38		e 58	40	i 59	24	i 59	27	-	-	0.15	0.05	8.8	0		WNW of Okusiri-zima	
1232	13	10				e 45	18	-	-	-	-	-	-	0.00	-	3.3	0			
1233	13	10				e 52	52	-	-	-	-	-	-	0.00	-	3.4	0			
1234	14	1				e 49	00	-	-	-	-	-	-	0.00	-	3.5	0			
1235	14	6				e 34	13	-	-	-	-	-	-	-	-	3.5	0			
1236	14	i 16	05	37		e 05	37	i 07	11	i 07	13	-	-	0.04	0.05	6.9	0		off Vladivostok	
1237	14	19				e 56	16	-	-	-	-	-	-	-	-	2.4	0			
1238	14	e 21	41	09		e 41	44	e 41	41	-	-	-	-	0.01	-	3.9	0			
1239	15	e 3	56	24		i 57	01	e 57	00	-	-	-	-	0.01	0.01	4.6	0			
1240	15	e 17	19	32		-	-	i 19	47	-	-	-	-	0.01	-	2.1	0			
1241	15	18				e 20	32	-	-	-	-	-	-	-	-	2.0	0			
1242	15	e 19	20	46		e 21	05	-	-	-	-	-	-	0.00	-	3.9	0			
1243	15	e 22	33	04		e 33	45	e 33	41	-	-	-	-	0.01	0.01	4.0	0			
1244	15	e 22	51	00		e 51	19	e 51	16	-	-	-	-	0.01	-	2.5	0			
1245	16	3				e 05	03	-	-	-	-	-	-	-	-	2.7	0			
1246	16	e 3	53	35		e 53	35	i 53	55	e 53	54	-	-	0.04	0.05	4.6	0		off Kinkwasan	
1247	16	e 6	44	05		-	-	e 44	35	-	-	-	-	0.01	-	3.5	0			
1248	16	i 7	26	38		e 26	37	i 26	54	i 26	54	-	-	0.19	0.22	6.8	0		off Miyako	
1249	16	e 7	35	56		e 35	55	i 36	16	i 36	13	-	-	0.10	0.11	5.6	0		"	
1250	16	7				-	-	-	-	-	-	-	-	-	-	2.2	0			
1251	16	8				e 59	25	e 59	15	-	-	-	-	0.02	0.04	3.2	0			
1252	17	5				-	-	-	-	-	-	-	-	0.01	-	2.7	0			
1253	17	i 15	20	37		e 20	37	i 20	55	i 20	54	-	-	0.11	0.09	5.8	0		off Miyako	
1254	17	16				-	-	-	-	-	-	-	-	0.00	-	1.8	0			
1255	17	i 18	16	31		e 16	32	i 17	08	e 17	08	-	-	0.05	0.08	6.5	0		off Miyako	
1256	18	e 9	48	51		e 48	54	i 49	09	e 49	13	-	-	0.04	0.03	43.6	0		"	
1257	18	10				-	-	e 56	14	e 56	17	-	-	0.01	-	4.1	0			
1258	18	11				-	-	e 28	45	-	-	-	-	0.01	-	2.2	0			
1259	18	19				-	-	e 05	19	-	-	-	-	-	-	1.8	0			

EARTHQUAKES, 1933.



No.	Date 1933	P				S				L				Maximum Range of Motion		Duration of Total Earthquake (mean)	Intensity	Approximate Epicenter
		E	W	N	S	E	W	N	S	E	W	N	S	E	W			
1260	July 18	h m s	m s	m	s	e 11	29	e 11	19	m	s	m	s	mm	0.01	mm	4.5	0
1261	19	10	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1	0	
1262	19	13	-	-	-	-	-	-	-	-	-	-	-	-	-	2.6	0	
1263	19	15	-	-	e 06	35	-	-	-	-	-	-	0.01	-	8.4	0		
1264	19	20	-	-	e 00	30	-	-	-	-	-	-	-	-	-	2.0	0	
1265	19	20	-	-	-	-	-	-	-	-	-	-	-	-	0.00	0.6	0	
1266	20	16	-	-	e 58	57	-	-	-	-	-	-	-	-	-	2.8	0	
1267	20	i 23 14 47	i 14 47	i 15	18	i 15	18	-	-	-	-	-	-	0.57	0.60	17.8	1	E off Kinkwasan
1268	21	4	-	-	e 10	59	-	-	-	-	-	-	-	-	-	2.2	0	
1269	22	i 6 32 13	e 32 13	i 32	51	i 32	50	-	-	-	-	-	-	0.05	0.08	7.6	0	E off Miyako
1270	22	e 8 40 43	-	-	i 41	13	i 41	13	-	-	-	-	-	0.02	0.04	4.1	0	
1271	22	i 21 32 26	? 32 20	? 38	04	? 38	02	? 42	01	? 40	44	-	-	-	-	42.5	0	
1272	23	* 5 01 08	* 01 24	* 01	42	* 01	54	-	-	-	-	-	-	0.01	0.02	4.4	0	
1273	23	* 8 12 47	-	-	* 13	13	-	-	-	-	-	-	-	-	-	2.0	0	
1274	24	i 8 39 56	e 39 56	i 41	23	? 41	23	-	-	-	-	-	-	0.01	-	6.2	0	S off Vladivostok
1275	24	18	-	-	e 22	16	e 22	36	? 28	00	? 27	19	-	-	-	2.4	0	
1276	24	e 19 16 01	e 15 51	e 20	10	-	-	-	-	-	-	-	-	-	-	23.5	0	
1277	24	23	-	-	e 47	25	e 47	28	-	-	-	-	-	-	-	2.1	0	
1278	26	e 18 46 55	-	-	e 50	12	-	-	-	-	-	-	-	0.01	-	5.6	0	
1279	27	e 18 49 25	-	-	e 50	12	-	-	-	-	-	-	-	0.01	-	5.4	0	
1280	27	19	-	-	e 07	54	-	-	-	-	-	-	-	0.00	-	2.1	0	
1281	28	e 16 45 16	? 45 04	i 47	15	e 47	13	-	-	-	-	-	-	0.03	0.02	7.4	0	
1282	28	e 20 08 37	-	-	e 09	36	-	-	-	-	-	-	-	0.01	-	4.9	0	
1283	29	21	-	-	e 41	27	-	-	-	-	-	-	-	-	-	1.8	0	
1284	30	e 0 49 49	-	-	i 50	16	e 50	17	-	-	-	-	-	0.01	0.02	4.4	0	
1285	30	17	-	-	e 25	22	-	-	-	-	-	-	-	-	-	3.2	0	
1286	30	e 17 33 08	-	-	e 34	02	-	-	-	-	-	-	-	-	-	4.1	0	
1287	30	e 17 39 35	-	-	i 40	26	e 40	27	-	-	-	-	-	0.02	0.03	4.7	0	
1288	31	3	-	-	e 00	45	e 00	47	-	-	-	-	-	0.01	-	3.2	0	
1289	31	e 9 04 08	-	-	e 04	53	-	-	-	-	-	-	-	0.00	-	4.6	0	
1290	Aug.	1	2	-	-	i 49	05	e 49	05	-	-	-	-	-	-	1.7	0	
1291	1	i 12 48 57	e 48 57	-	-	i 49	05	e 49	05	-	-	-	-	0.02	0.02	2.7	0	
1292	2	0	-	-	e 39	43	-	-	-	-	-	-	-	-	-	2.4	0	
1293	2	7	-	-	e 48	23	-	-	-	-	-	-	-	0.00	-	2.2	0	
1294	2	i 12 19 34	i 19 34	i 19	47	i 19	48	-	-	-	-	-	-	0.24	0.25	6.3	1	Upper valley of the R. Kuzi
1295	2	20	-	-	e 47	05	-	-	-	-	-	-	-	-	-	2.8	0	
1296	2	22	-	-	e 42	43	-	-	-	-	-	-	-	0.01	-	3.0	0	
1297	3	20	-	-	e 36	01	-	-	-	-	-	-	-	-	-	2.9	0	
1298	3	e 22 10 04	-	-	i 10	20	e 10	21	-	-	-	-	-	0.01	-	3.6	0	
1299	5	18	-	-	e 25	01	-	-	-	-	-	-	-	0.01	-	1.1	0	
1300	6	6	-	-	e 42	05	-	-	-	-	-	-	-	-	-	1.4	0	
1301	6	13	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6	0	
1302	6	20	-	-	e 35	26	-	-	-	-	-	-	-	0.01	-	1.7	0	
1303	6	20	-	-	e 46	02	-	-	-	-	-	-	-	0.01	0.02	3.8	0	
1304	7	i 0 42 35	e 42 35	i 43	06	i 43	06	-	-	-	-	-	-	0.24	0.28	10.0	1	E off Kamaisi
1305	7	e 11 10 07	-	-	i 10	39	e 10	40	-	-	-	-	-	0.03	0.04	6.0	0	
1306	7	11	-	-	-	-	-	-	-	-	-	-	-	-	-	2.6	0	
1307	7	19	-	-	e 17	51	-	-	-	-	-	-	-	-	-	3.0	0	
1308	8	e 6 03 00	-	-	i 03	35	e 03	33	-	-	-	-	-	0.02	-	4.1	0	
1309	9	e 4 31 56	-	-	e 32	27	e 32	26	-	-	-	-	-	0.01	0.01	3.6	0	
1310	10	e 23 01 38	-	-	e 01	49	e 01	47	-	-	-	-	-	0.01	-	3.2	0	
1311	11	e 9 01 22	e 01	14	? 07	41	? 08	57	? 13	26	? 13	31	-	-	-	23.8	0	
1312	11	e 14 05 40	-	-	e 05	52	-	-	-	-	-	-	-	-	-	1.7	0	
1313	12	12	-	-	e 47	14	e 47	14	-	-	-	-	-	0.01	-	2.7	0	
1314	12	22	-	-	e 03	03	-	-	-	-	-	-	-	0.00	-	2.6	0	

EARTHQUAKES, 1933.



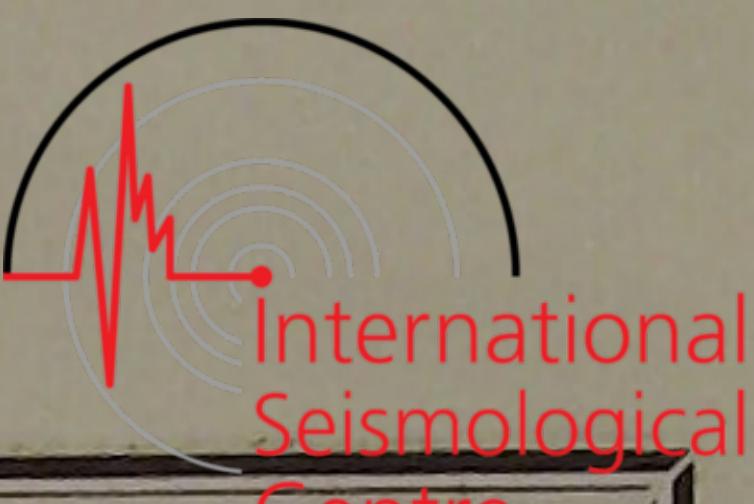
No.	Date 1933	P				S				L				Maximum Range of Motion		Duration of Total Earthquake (mean)	Intensity	Approximate Epicenter	
		E	W	N	S	E	W	N	S	E	W	N	S	E	W				
1315	Aug. 12	h 23	m 09	s 17	m 09	s 18	m 09	s 18	m 09	mm 0.02	mm 0.02	m 4.0	0						
1316	13	7	-	-	e 54	31	-	-	-	-	-	-	-	0.00	-	2.5	0		
1317	13	e 19	26	05	-	-	i 26	32	e 26	32	-	-	-	0.01	-	3.3	0		
1318	14	e 6	32	30	-	-	e 32	58	-	-	-	-	-	0.01	-	2.7	0		
1319	14	22	-	-	e 32	19	-	-	-	-	-	-	-	0.01	-	2.2	0		
1320	15	i 3	00	22	i 00	21	i 02	09	i 02	09	-	-	-	0.13	0.10	9.2	0	NNE off Titizima	
1321	15	e 20	43	37	-	-	e 44	03	-	-	-	-	-	0.00	-	3.0	0		
1322	18	e 4	35	53	-	-	e 36	20	-	-	-	-	-	0.01	-	3.0	0		
1323	19	e 15	58	23	-	-	i 58	54	e 58	49	-	-	-	0.01	0.02	4.8	0		
1324	20	? 11	51	00	? 51	19	? 61	42	? 61	16	-	-	-	-	-	20.5	0	Distant	
1325	20	12	-	-	e 12	16	-	-	-	-	-	-	-	-	-	3.0	0		
1326	23	6	-	-	e 46	07	-	-	-	-	-	-	-	0.00	-	2.6	0		
1327	23	11	-	-	e 37	10	-	-	-	-	-	-	-	-	-	2.2	0		
1328	23	e 23	06	01	-	-	e 06	27	-	-	-	-	-	0.00	-	3.3	0		
1329	24	e 16	36	45	-	-	i 37	27	-	-	-	-	-	0.01	-	3.7	0		
1330	25	e 7	56	49	e 56	54	i 61	39	e 61	50	65	00	65	13	0.93	2.25	63.8	0	Upper part of Kôga
1331	26	e 5	21	29	-	-	i 22	25	e 22	28	-	-	-	0.01	0.01	5.5	0		
1332	26	e 17	56	54	-	-	e 57	24	-	-	-	-	-	0.00	-	2.9	0		
1333	28	e 8	49	04	e 49	04	i 50	09	e 50	09	-	-	-	0.03	0.03	5.4	0		
1334	28	12	-	-	e 23	53	-	-	-	-	-	-	-	-	-	1.9	0		
1335	28	e 22	39	50	e 40	06	? 44	08	? 44	07	? 47	42	? 47	26	-	-	95.1	0	Distant SE off mouth of the R. Abukuma
1336	29	12	31	49	i 31	49	32	08	i 32	09	-	-	-	-	0.41	0.55	10.7	1	
1337	29	e 20	27	18	-	-	27	35	-	-	-	-	-	-	-	-	1.8	0	
1338	30	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1	0	
1339	30	e 16	41	59	-	-	e 42	26	-	-	-	-	-	0.01	-	3.2	0		
1340	31	e 7	55	19	-	-	e 55	58	-	-	-	-	-	0.01	-	3.7	0	Sept.	
1341	1	5	-	-	e 11	01	-	-	-	-	-	-	-	0.00	-	2.1	0		
1342	1	19	-	-	e 29	46	-	-	-	-	-	-	-	-	-	1.5	0		
1343	1	20	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3	0		
1344	1	23	-	-	e 19	23	-	-	-	-	-	-	-	-	-	1.6	0		
1345	2	e 0	07	07	-	-	e 07	48	-	-	-	-	-	0.01	-	4.2	0		
1346	2	e 1	27	52	-	-	i 28	28	e 28	34	-	-	-	0.02	0.01	5.0	0		
1347	2	2	-	-	e 51	33	-	-	-	-	-	-	-	0.01	-	3.1	0		
1348	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	0		
1349	2	7	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5	0		
1350	2	8	-	-	i 43	26	i 45	04	i 45	06	-	-	-	-	-	2.9	0	S off Hatizyozima (deep)	
1351	2	i 16	43	26	i 43	26	i 45	04	i 45	06	-	-	-	1.16	1.08	29.7	0		
1352	2	e 21	15	45	-	-	i 17	13	e 17	13	-	-	-	0.02	0.02	7.6	0		
1353	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	2.2	0		
1354	3	3	-	-	e 53	38	-	-	-	-	-	-	-	0.00	-	3.6	0		
1355	3	12	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	0		
1356	4	e 4	06	51	-	-	i 07	20	-	-	-	-	-	0.01	-	3.0	0		
1357	4	e 19	59	58	-	-	e 59	36	-	-	-	-	-	0.01	-	2.8	0		
1358	4	e 23	06	37	-	-	i 07	38	-	-	-	-	-	0.02	-	5.5	0		
1359	5	e 4	49	50	-	-	e 50	16	-	-	-	-	-	0.01	-	3.4	0		
1360	5	e 7	45	50	-	-	i 46	10	-	-	-	-	-	0.02	-	3.2	0	Mouth of the R. Uke (Iwate)	
1361	5	e 18	28	40	-	-	e 29	04	-	-	-	-	-	0.01	-	2.9	0		
1362	6	e 7	49	46	-	-	i 50	01	e 50	01	-	-	-	0.03	-	3.0	0		
1363	6	e 9	59	57	-	-	i 61	25	-	-	-	-	-	0.02	-	5.0	0		
1364	6	14	-	-	e 07	38	-	-	-	-	-	-	-	0.01	-	3.0	0		
1365	6	i 22	18	53	e 18	52	i 27	22	e 27	02	? 32	10	? 31	33	-	33.4	0	Direction of Figi Is.	
1366	7	9	-	-	e 40	21	-	-	-	-	-	-	-	0.01	-	2.6	0		
1367	7	14	-	-	e 20	16	-	-	-	-	-	-	-	-	-	2.1	0		
1368	7	i 20	14	54	e 14	54	i 15	07	i 1										

EARTHQUAKES, 1933.



No.	Date 1933	P				S				L				Maximum Range of Motion			Duration of Total Earthquake (mean)	Intensity	Approximate Epicenter
		E	W	N	S	E	W	N	S	E	W	N	S	E	W	N	S		
1370	Sept. 8	h 15 21 47	m s	m	s	e 22 19	m s	m	s	m	s	m	s	mm	mm	m	3.3	0	Neighbourhood of Vladivostok
1371		16	- -	- -	- -	i 06 29	i 06 29	- -	- -	- -	- -	- -	- -	-	-	1.0	0		
1372		e 5 04 45	- -	- -	- -	e 16 14	- -	- -	- -	- -	- -	- -	- -	0.05	0.05	8.5	0		
1373		5	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	2.4	0		
1374		15	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	-	-	0.7	0		
1375	9	21	- -	e 29 40	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	4.9	0	E off Miyako	
1376	10	e 2 57 00	- -	e 57 59	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	4.6	0		
1377	12	i 5 05 56	i 05 58	i 06 21	i 06 23	- -	- -	- -	- -	- -	- -	- -	- -	0.28	0.20	9.1	0		
1378	14	e 2 38 51	- -	e 39 32	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	3.1	0		
1379	14	e 6 27 13	- -	e 27 57	e 27 59	- -	- -	- -	- -	- -	- -	- -	- -	0.01	0.01	5.8	0		
1380	15	e 7 06 45	- -	e 07 15	e 07 24	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	4.0	0	E off Miyako	
1381	15	13	- -	i 56 20	e 56 25	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	4.6	0		
1382	16	7	- -	e 08 11	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	1.7	0		
1383	16	e 19 42 48	- -	e 43 33	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	3.6	0		
1384	17	i 4 00 04	i 00 04	i 00 25	i 00 29	- -	- -	- -	- -	- -	- -	- -	- -	0.26	0.40	10.1	0		
1385	18	e 0 16 07	- -	e 16 33	e 16 33	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	2.5	0	Noto Peninsula	
1386	18	e 5 33 28	- -	e 33 56	- -	- -	- -	- -	- -	- -	- -	- -	- -	-	-	2.9	0		
1387	20	e 3 58 14	- -	i 59 23	e 59 23	- -	- -	- -	- -	- -	- -	- -	- -	0.03	0.03	5.0	0		
1388	20	e 5 51 12	e 51 13	i 51 32	e 51 32	- -	- -	- -	- -	- -	- -	- -	- -	0.02	-	3.7	0		
1389	20	23	- -	? 40 01	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	4.1	0		
1390	21	i 3 15 27	e 15 28	i 16 18	i 16 20	- -	- -	- -	- -	- -	- -	- -	- -	0.26	0.26	19.4	0	ESE off Miyako	
1391	21	9	- -	i 41 15	e 41 14	- -	- -	- -	- -	- -	- -	- -	- -	0.02	-	2.8	0		
1392	21	i 9 48 30	i 48 30	i 49 16	i 49 09	- -	- -	- -	- -	- -	- -	- -	- -	⊕	1.10	27.3	2		
1393	21	i 13 42 52	i 42 52	i 43 29	i 43 24	- -	- -	- -	- -	- -	- -	- -	- -	0.49	0.78	13.0	0		
1394	21	14	- -	e 36 04	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	3.0	0		
1395	21	16	- -	e 12 48	- -	- -	- -	- -	- -	- -	- -	- -	- -	-	-	2.8	0	E off Kinkwasan	
1396	21	i 19 44 10	i 44 09	i 44 47	i 44 44	- -	- -	- -	- -	- -	- -	- -	- -	0.41	0.33	11.0	0		
1397	21	e 21 33 33	- -	i 33 56	e 33 54	- -	- -	- -	- -	- -	- -	- -	- -	0.02	-	4.6	0		
1398	21	23	- -	e 22 08	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	3.1	0		
1399	21	23	- -	e 43 27	- -	- -	- -	- -	- -	- -	- -	- -	- -	-	-	2.2	0		
1400	22	i 3 46 04	e 46 02	i 46 28	e 46 30	- -	- -	- -	- -	- -	- -	- -	- -	0.02	0.04	5.4	0	E off Kinkwasan	
1401	22	i 4 14 12	e 14 12	i 14 39	e 14 38	- -	- -	- -	- -	- -	- -	- -	- -	0.03	0.05	5.5	0		
1402	23	0	- -	e 36 44	- -	- -	- -	- -	- -	- -	- -	- -	- -	-	-	2.3	0		
1403	23	19	- -	e 21 18	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	3.2	0		
1404	23	23	- -	e 40 05	- -	- -	- -	- -	- -	- -	- -	- -	- -	-	-	2.5	0		
1405	24	e 15 25 56	e 26 01	? 31 10	? 31 26	- -	- -	- -	- -	- -	- -	- -	- -	-	-	18.6	0	SE off Miyako	
1406	24	i 16 06 10	e 06 11	i 06 46	i 06 50	- -	- -	- -	- -	- -	- -	- -	- -	0.12	0.11	7.9	0		
1407	24	16	- -	e 21 36	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	2.8	0		
1408	25	14	- -	e 11 58	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.00	-	3.7	0		
1409	25	e 18 59 16	e 58 46	? 69 48	? 68 44	? 77 04	- -	? 76 52	- -	- -	- -	- -	- -	-	-	43.3	0		
1410	25	19	- -	e 43 00	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	5.4	0	Off Kinkwasan	
1411	26	1	- -	e 14 01	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	1.8	0		
1412	26	e 4 24 52	e 24 52	i 25 10	e 25 10	- -	- -	- -	- -	- -	- -	- -	- -	0.03	0.03	4.6	0		
1413	26	e 15 19 08	e 19 08	i 19 11	i 19 11	- -	- -	- -	- -	- -	- -	- -	- -	0.02	0.10	3.2	1		
1414	26	19	- -	e 22 20	- -	- -	- -	- -	- -	- -	- -	- -	- -	-	-	2.5	0		
1415	27	i 8 49 36	e 49 34	i 49 49	i 49 48	- -	- -	- -	- -	- -	- -	- -	- -	0.03	0.03	3.2	0	Off Kinkwasan	
1416	27	e 23 48 00	- -	e 48 45	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.01	-	4.3	0		
1417</td																			

EARTHQUAKES, 1933.



No.	Date 1933	P				S				L				Maximum Range of Motion		Duration of Total Earthquake (mean)	Intensity	Approximate Epicenter
		E	W	N	S	E	W	N	S	E	W	N	S	E	W			
1425	Sept. 30	h	m	s		m	s	m	s	m	s	m	s	mm	mm	m	29.2	0
1426		e 15	45	00	-	-	i 45	21	e 45	18	-	-	-	-	0.01	0.02	4.5	0
1427		Oct. 1	2	-	-	e 23	24	-	-	-	-	-	-	0.00	-	3.1	0	
1428		1	e 3	01	38	e 01	41	i 02	03	e 02	05	-	-	0.02	-	4.8	0	
1429		1	e 14	36	04	e 35	59	i 36	34	i 36	32	-	-	0.14	0.17	9.8	0	Kasimanada
1430	2	2	-	-	e 34	52	-	-	-	-	-	-	-	-	-	2.1	0	
1431	2	e 3	34	09	-	-	e 34	43	e 34	46	-	-	-	0.01	0.01	5.0	0	
1432	2	e 11	39	26	-	-	i 39	52	e 39	55	-	-	-	0.01	0.01	4.4	0	
1433	3	8	-	-	e 05	28	-	-	-	-	-	-	-	0.00	-	3.0	0	
1434	4	i 18	39	35	i 39	35	i 40	11	i 40	12	-	-	-	0.56	0.65	18.7	0	The central part of Niigata pref.
1435	4	e 19	28	21	-	-	i 29	18	-	-	-	-	-	0.01	-	2.7	0	
1436	4	7	-	-	e 26	14	-	-	-	-	-	-	-	0.00	-	3.3	0	
1437	5	6	-	-	e 10	22	-	-	-	-	-	-	-	-	-	2.2	0	
1438	5	? 13	40	35	? 40	39	? 48	52	? 47	56	-	-	-	-	-	49.6	0	
1439	6	e 17	26	22	e 26	22	i 26	52	i 26	52	-	-	-	0.06	0.06	5.7	0	E off Siriyazaki
1440	7	e 7	42	18	-	-	e 42	41	-	-	-	-	-	0.01	-	4.6	0	
1441	7	e 8	16	13	-	-	e 16	39	-	-	-	-	-	0.01	-	3.5	0	
1442	8	e 12	38	52	-	-	e 39	22	-	-	-	-	-	0.01	-	4.9	0	
1443	9	e 12	07	35	e 07	42	i 08	37	e 08	35	-	-	-	0.03	0.05	8.8	0	
1444	11	i 13	58	00	i 58	00	i 58	14	i 58	14	-	-	-	0.34	0.31	10.7	1	E off Kinkwasan
1445	12	7	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	0	
1446	12	21	-	-	e 23	43	-	-	-	-	-	-	-	-	-	3.7	0	
1447	12	21	-	-	e 38	17	-	-	-	-	-	-	-	0.00	-	2.7	0	
1448	12	e 22	09	47	-	-	e 10	24	-	-	-	-	-	0.00	-	5.9	0	
1449	13	e 18	40	55	-	-	e 41	23	e 41	22	-	-	-	0.00	-	5.2	0	
1450	14	e 10	57	48	-	-	e 58	24	-	-	-	-	-	0.00	-	3.7	0	
1451	14	12	-	-	i 52	50	e 52	52	-	-	-	-	-	0.01	-	3.0	0	
1452	15	e 8	13	17	-	-	i 13	36	e 13	37	-	-	-	0.01	-	4.1	0	
1453	15	8	-	-	e 29	36	-	-	-	-	-	-	-	0.00	-	3.1	0	
1454	15	11	-	-	e 54	08	-	-	-	-	-	-	-	-	-	0.9	0	
1455	15	e 14	26	09	-	-	i 26	20	-	-	-	-	-	0.01	-	1.3	0	
1456	16	i 4	42	13	e 42	13	i 42	58	i 42	58	-	-	-	0.07	0.06	5.8	0	N off Erimozaki
1457	16	22	-	-	e 01	27	-	-	-	-	-	-	-	0.01	-	2.0	0	
1458	18	i 10	32	06	e 32	05	i 32	30	i 32	30	-	-	-	0.04	0.05	5.7	0	E off Kamaisi
1459	19	e 16	25	28	-	-	i 25	43	-	-	-	-	-	0.01	-	1.7	0	
1460	19	e 23	06	40	-	-	i 06	54	e 06	55	-	-	-	0.04	0.05	3.1	0	
1461	21	e 2	46	40	e 46	11	i 47	13	e 47	09	-	-	-	0.13	0.25	16.1	0	SE off Nozimasaki
1462	21	18	-	-	e 32	52	-	-	-	-	-	-	-	0.01	-	1.8	0	
1463	22	e 19	36	09	-	-	i 36	20	-	-	-	-	-	0.03	-	2.0	0	
1464	23	i 0	42	09	i 42	09	i 42	37	i 42	35	-	-	-	0.16	0.21	9.2	0	E off Miyako
1465	24	e 18	15	59	-	-	e 16	39	-	-	-	-	-	0.01	-	4.5	0	
1466	25	e 23	47	47	e 47	45	i 48	35	e 48	28	-	-	-	0.01	0.01	5.8	0	
1467	26	8	-	-	e 08	11	-	-	-	-	-	-	-	-	-	2.1	0	
1468	30	7	-	-	e 10	11	-	-	-	-	-	-	-	0.01	-	2.1	0	
1469	30	e 18	24	56	-	-	i 25	22	-	-	-	-	-	0.01	-	2.5	0	
1470	Nov. 1	e 8	22	50	e 22	48	i 23	35	e 23	33	-	-	-	0.05	0.06	9.9	0	The Northern part of Kuzyukurihama
1471		11	-	-	e 45	23	-	-	-	-	-	-	-	0.01	-	2.2	0	
1472		3	e 10	09	09	-	i 09	34	e 09	31	-	-	-	0.01	0.02	4.4	0	
1473		5	e 3	12	25	-	-	e 12	55	-	-	-	-	0.01	-	2.8	0	
1474		5	6	-	-	-	-	-	-	-	-	-	-	-	-	1.6	0	
1475	5	10	-	-	e 18	52	-	-	-	-	-	-	-	0.00	-	2.0	0	
1476	5	17	-	-	e 19	49	-	-	-	-	-	-	-	0.00	-	2.4	0	
1477	7	6	-	-	e 44	46	-	-	-	-	-	-	-	0.01	-	3.6	0	
1478	7	e 17	00	34	-	-	e 01	10	e 01	15	-	-	-	0.02	0.02	5.1	0	
1479	8	i 5	44															

EARTHQUAKES, 1933.



No.	Date 1933	P				S				L				Maximum Range of Motion		Duration of Total Earthquake (mean)	Intensity	Approximate Epicenter
		E	W	N	S	E	W	N	S	E	W	N	S	E	W			
1480	Nov. 9	h 3	m 06	s -	-	m 43	s 06	m -	s -	m -	s -	m -	s -	mm 0.00	mm -	m 2.9	0	
1481	10	2	-	-	-	i 13	48	-	-	-	-	-	-	0.01	-	1.3	0	
1482	10	4	-	-	-	e 59	22	-	-	-	-	-	-	0.01	-	4.5	0	
1483	10	5	-	-	-	e 45	07	-	-	-	-	-	-	0.00	0.02	3.3	0	
1484	10	12	-	-	-	e 04	53	-	-	-	-	-	-	-	-	3.0	0	
1485	10	19	-	-	-	e 35	16	-	-	-	-	-	-	0.01	-	3.2	0	
1486	11	e 14 46 43	-	-	-	i 47	13	e 47	03	-	-	-	-	0.01	0.03	4.4	0	
1487	14	e 0 26 54	-	-	-	e 27	57	-	-	-	-	-	-	0.00	-	5.0	0	
1488	14	14	-	-	-	e 25	15	-	-	-	-	-	-	0.00	-	3.4	0	
1489	19	1	-	-	-	e 36	30	-	-	-	-	-	-	0.00	-	1.7	0	
1490	19	e 3 21 03	e 21	30	? 29	30	? 29	49	? 37	29	? 36	49	-	0.03	53.8	0		
1491	20	e 8 33 02	e 32	56	i 33	31	i 33	29	-	-	-	-	-	0.06	0.05	5.7	0	
1492	20	i 23 32 24	i 32	22	i 41	06	e 41	04	? 54	14	? 50	31	-	0.05	0.25	103.3	0	ESE off Siriyazaki SW of Green-Land
1493	21	1	-	-	e 29	28	-	-	-	-	-	-	-	-	-	2.1	0	
1494	21	e 15 27 40	-	-	i 28	08	-	-	-	-	-	-	-	0.01	-	2.4	0	
1495	21	e 18 43 48	-	-	i 44	13	e 44	11	-	-	-	-	-	0.02	0.02	4.5	0	
1496	22	e 12 50 44	e 50	37	? 56	12	? 56	32	? 60	36	? 61	22	-	0.06	0.06	54.3	0	
1497	22	19	-	-	e 02	47	-	-	-	-	-	-	-	0.01	-	4.4	0	
1498	22	? 22 35 30	? 35	27	? 38	14	? 38	09	-	-	-	-	-	-	0.05	12.0	0	
1499	27	e 7 50 44	-	-	i 51	23	e 51	22	-	-	-	-	-	0.03	0.03	6.1	0	
1500	27	i 19 14 55	i 14	55	i 15	15	i 15	15	-	-	-	-	-	0.54	0.97	11.3	1	E off Miyako
1501	28	e 11 19 42	-	-	e 20	31	-	-	-	-	-	-	-	0.01	-	4.6	0	
1502	Dec. 2	8	-	-	e 48	49	-	-	-	-	-	-	-	0.01	0.01	4.2	0	
1503	3	2	-	-	e 56	25	-	-	-	-	-	-	-	0.01	-	3.0	0	
1504	3	17	-	-	e 27	53	-	-	-	-	-	-	-	-	-	2.0	0	
1505	3	19	-	-	e 29	45	-	-	-	-	-	-	-	0.00	-	2.3	0	
1506	4	i 19 35 45	i 35	47	i 37	11	i 37	13	-	-	-	-	-	0.51	0.57	20.8	0	E off the Strait of Sôya
1507	6	e 19 21 17	e 21	18	i 21	40	i 21	42	-	-	-	-	-	0.05	0.05	7.8	0	
1508	7	1	-	-	e 57	41	-	-	-	-	-	-	-	0.00	-	2.0	0	
1509	7	e 3 54 02	-	-	e 54	33	-	-	-	-	-	-	-	-	-	2.4	0	
1510	7	e 18 36 30	e 36	28	i 37	19	e 37	16	-	-	-	-	-	0.03	0.03	8.1	0	NE of Izu peninsula
1511	8	4	-	-	e 16	54	-	-	-	-	-	-	-	0.00	-	3.3	0	
1512	9	23	-	-	e 05	41	-	-	-	-	-	-	-	0.00	-	1.2	0	
1513	10	i 14 15 08	i 15	08	i 15	26	i 15	27	-	-	-	-	-	0.09	0.11	5.7	0	Neighbourhood of Kinkwasan
1514	11	e 17 03 10	-	-	e 03	39	-	-	-	-	-	-	-	-	-	2.7	0	
1515	11	e 22 34 54	-	-	e 35	19	e 35	19	-	-	-	-	-	0.01	-	3.9	0	
1516	12	11	-	-	e 31	32	-	-	-	-	-	-	-	0.00	-	2.3	0	
1517	12	e 14 19 24	e 19	21	e 25	43	e 25	59	e 29	48	30	04	-	0.03	0.03	24.4	0	
1518	12	e 16 54 07	-	-	e 54	36	e 54	37	-	-	-	-	-	0.01	-	3.6	0	
1519	12	e 23 56 27	-	-	e 56	53	-	-	-	-	-	-	-	-	-	3.1	0	
1520	13	e 19 48 06	-	-	e 48	29	e 48	32	-	-	-	-	-	0.01	0.02	4.4	0	
1521	14	e 14 05 26	-	-	e 05	49	-	-	-	-	-	-	-	0.01	-	3.4	0	
1522	15	e 22 53 24	-	-	e 53	47	-	-	-	-	-	-	-	0.00	-	3.2	0	
1523	19	i 17 42 09	i 42	08	i 42	22	i 42	21	-	-	-	-	-	0.06	0.05	5.5	0	SE off Kinkwasan
1524	20	i 22 42 05	i 42	05	i 42	21	i 42	21	-	-	-	-	-	0.05	0.05	4.1	1	Mouth of the R. Kuzi (Iwate)
1525	21	23	-	-	? 12	52	-	-	-	-	-	-	-	0.01	0.01	12.5	0	
1526	25	21	-	-	e 04	18	-	-	-	-	-	-	-	-	-	1.1	0	
1527	28	e 14 51 14	-	-	i 51	54	-	-	-	-	-	-	-	0.01	-	5.7	0	
1528	28	e 15 15 57	-	-	e 16	40	-	-	-	-	-	-	-	0.01	-	4.1	0	
1529	28	e 18 27 57	-	-	i 28	34	e 28	30	-	-	-	-	-	0.03	0.03	5.3	0	Off mouth of the R. Niikappu
1530	29	e 3 56 46	-	-	e 57	18	-	-	-	-	-	-	-	0.01	-	4.1	0	
1531	29	6	-	-	-	-	-	-	-	-	-	-	-	0.01	-	1.3	0	
1532	30	e 2 50 55	e 50	55	i 51	10	i 51	10	-	-	-	-	-	0.06	0.05	3.		

CHIEF EARTHQUAKES OBSERVED WITH NASU'S SEISMOGRAPH, 1933.

Instrument; Nasu's seismograph with three components.

Instrumental constants

Component	V	T ₀	γ/T ₀ ²	Mass
E-W	25	4.5 s	0.025	7.2 kgr.
N-S	25	5.4	0.013	7.2
Vertical	25	4.9	0.055	4.4

Remarks:

1. Direction of the earth's displacement; positive towards north, east, and upward respectively
2. \oplus out of the range of the instrument
3. \times too feeble to measure
4. $*$ out of order of the instrument

No.	Date	P			S			Maximum Amplitude			First Motion			Remarks
		mean of 3 comp.			mean of 3 comp.			E-W	N-S	Vertical	E-W	N-S	Vertical	
3 13 66	Jan. 3 7 8	h	m	s	m	s		μ	μ	μ	— 28	— 36	— 32	ENE of Miyako off mouth of the R. Abukuma E off mouth of the R. Mabuti
		15 27 46	28 26		— 2000	— 1670	+ 360	— 40	— 32	— 40	— 32	+ 36	+ 41	
		4 07 17	08 07		— 2154	— 1434	— 144	— 40	— 32	— 40	— 32	+ 36	+ 41	
154	Mar. 2	17 31 40	13 56		— 2154	> 2920	+ 1434	— 1400	— 467	— 467	+ 873			Caused Tunami
267	3	9 13 23	13 56		— 2154	> 2920	+ 1434	— 144	+ 120	+ 120	+ 120			Aft. sk. of Mar. 2nd
270	3	9 39 14	39 40		+ 1130	+ 934	+ 538	— 88	+ 96	+ 96	+ 76			"
272	3	10 04 12	04 37		+ 692	+ 780	+ 328	— 40	— 20	— 40	— 20	+ 25		"
285	3	11 57 09	57 33		+ 380	+ 258	+ 208	— 32	— 20	— 32	— 20	+ 32		"
305	3	15 02 47	03 11		— 500	+ 520	+ 190	— 48	?	— 48	?	+ 32		"
306	3	15 07 39	08 07		— 590	— 880	— 208	— 48	— 20	— 48	— 20	+ 32		"
334	3	19 08 02	08 29		— 396	+ 554	+ 376	— 37	— 7	— 37	— 7	+ 23		"
336	3	19 51 08	51 34		— 298	— 250	+ 126	— 14	— 4	— 14	— 4	+ 10		"
567	8	1 36 12	36 33		— 990	— 2720	— 436	+ 44	+ 20	+ 44	+ 20	— 56		"
665	11	19 35 27	37 39		+ 762	— 948	— 132	+ 16	+ 40	+ 16	+ 40	+ 41		WNW off Titizima
773	21	15 54 18	54 31		— 230	+ 416	+ 140	+ 7	— 12	+ 7	— 12	— 30		Lower part of the R. Kitakami
826	Apr. 1	15 59 32	59 53		+ 1190	+ 1100	— 510	— 56	— 18	— 56	— 18	+ 46		Aft. sk. of Mar. 2nd
856	9	2 47 13	47 39		> 3000	> 2860	> 2298	— 160	— 20	— 160	— 20	+ 112		"
867	9	10 30 58	31 24		— 522	— 880	+ 263	— 64	— 12	— 64	— 12	+ 48		"
917	19	2 56 18	56 49		— 402	— 880	+ 200	— 8	+ 8	— 8	+ 8	+ 6		"
930	23	7 14 16	14 40		— 1658	— 1616	⊕	— 98	— 12	— 98	— 12	— 12		"
1055	May 24	10 38 58	39 14		— 70	— 80	+ 32	+ 8	— 6	+ 8	— 6	— 10		E off Kinkwasan
1084	June 8	18 11 30	12 04		— 540	+ 936	— 168	— 14	— 8	— 168	— 8	+ 20		ENE off Miyako
1089	12	21 08 38	08 47		+ 2848	+ 1926	+ 874	+ 430	— 200	+ 430	— 200	— 411		Bay of Kesenuma
1099	13	20 34 20	34 49		+ 2110	+ 1500	⊕	— 14	— 23	— 14	— 23	+ 20		E off mouth of the R. Mabuti
1107	18	21 37 58	38 14	⊕	⊕	⊕	⊕	+ 1715	— 1690	+ 1715	— 1690	— 1438		E off Kinkwasan
1161	July 2	16 48 42	49 03		— 160	+ 334	+ 114	— 8	— 8	— 8	— 8	+ 16		NE off Miyako
1208	10	0 22 22	22 51		+ 568	+ 1352	+ 354	+ 148	— 22	+ 354	— 22	— 123		E off Kamaisi
1267	20	23 14 47	15 18		+ 480	+ 960	+ 360	+ 158	— 40	+ 960	— 40	— 194		E off Kinkwasan
1294	Aug. 2	12 19 32	19 46		— 134	+ 156	+ 106	— 8	— 12	— 8	— 12	— 12		Upper valley of the R. Kuzi
1304	7	0 42 35	43 06		— 134	+ 360	+ 138	+ 8	— 26	+ 360	— 26	— 36		E off Kamaisi
1336	29	12 31 48	32 08		+ 1280	+ 484	⊕	— 12	— 12	+ 484	— 12	— 12		SE off mouth of the R. Abukuma
1351	Sept. 2	16 43 26	45 06		+ 1308	+ 2086	— 322	+ 9	+ 13	+ 9	+ 13	+ 11		S off Hatizyozima (deep)
1384	17	4 00 04	00 26		— 203	— 582	— 118	— 16	— 12	— 582	— 118	+ 20		E off Miyako
1392	21	9 48 28	49 12		— 880	— 1620	— 480	— 98	+ 28	— 480	— 98	+ 85		ESE of Miyako
1434	Oct. 3	18 39 34	40 12		+ 712	— 996	⊕	+ 12	+ 8	+ 12	+ 8	+ 6		The central part of Niigata pref.
1444	11	13 58 00	58 13		— 200	+ 592	+ 108	+ 23	— 26	+ 592	— 26	— 36		E off Kinkwasan
1500	Nov. 27	19 14 55	15 16		— 352	— 890	— 460	— 31	— 6?	— 890	— 460	+ 30		E off Miyako
1506	Dec. 4	19 35 46	37 11		+ 640	+ 452	+ 182	— 28	— 80	+ 640	— 80	+ 64		E off the strait of Sôya
1524	20	22 42 05	42 21		+ 30	+ 41	— 24	— 28	— 24	+ 41	— 24	— 24		Mouth of the R. Kuzi



PULSATORY OSCILATIONS, 1933 (EW Component.)

No.	Beginning			Ending			Maximum						Double Amplitude	
	Date			Date			Date			Date				
	Month	Day	Hour	Month	Day	Hour	Day	Hour	—	Day	Hour			
1	January	1	2	January	3	21	2	0		2	3		6	
2		6	1		9	20	6	12		6	15		6	
3		10	23		16	14	11	23		12	2		10	
4		17	9		18	5	17	7		17	11		10	
5		26	1		28	24	27	10		27	12		7	
6	February	3	0	February	6	15	5	13		5	15		3	
7		10	10		12	23	10	20		10	23		4	
8		14	0		16	22	15	16		15	19		5	
9		18	2		20	23	19	12		19	14		4	
10		21	0		27	15	24	21		24	24		10	
11	March	28	0	March	2	13	28	22		28	23		4	
12		4	9		7	2	5	8		5	11		10	
13		16	0		18	17	16	23		17	2		43	
14		20	14		24	18	23	15		23	18		12	
15		26	18		29	19	27	22		28	1		22	
16	April	2	10	April	4	15	3	22		4	1		4	
17		5	0		7	8	5	16		5	19		5	
18		8	5		12	20	9	13		9	16		5	
19		15	2		17	13	15	13		15	16		7	
20		26	1		27	16	26	11		26	14		6	
21	May	28	0	May	30	23	28	14		28	16		13	
22		2	0		4	23	3	16		3	18		11	
23		5	2		6	17	6	1		6	3		3	
24		7	0		9	1	8	0		8	3		6	
25		17	21		19	24	18	1		18	3		3	
26	June	6	11	June	8	17	7	13		7	16		7	
27		27	0		27	20	27	13		27	15		8	
28	July	16	14	July	17	21	17	2		17	4		2	
29		25	10		26	16	26	2		26	5		2	
30	August	6	0	August	8	20	7	0		7	3		2	
31	September	14	22	September	15	19	15	1		15	3		2	
32		17	12		19	23	18	0		18	3		2	
33		4	0		7	14	6	8		6	12		23	
34		15	10		16	20	16	0		16	3		4	
35		26	2		29	10	28	6		28	8		6	
36	October	6	3	October	8	12	7	13		7	15		18	
37		15	20		18	14	16	22		16	24		10	
38		19	8		22	10	20	16		20	20		24	
39		22	20		25	11	23	4		23	7		11	
40	November	1	19	November	4	12	2	12		2	15		10	
41		6	4		8	14	6	13		6	16		20	
42		10	20		13	13	12	0		12	3		7	
43		15	22		18	12	16	11		16	13		20	
44		18	21		22	14	19	9		19	12		5	
45		27	15		29	10	28	3		28	5		9	
46	December	1	0	December	4	5	2	5		2	7		5	
47		6	2		7	9	6	10		6	13		7	
48		11	23		12	19	12	5		12	7		3	
49		16	20		18	17	17	9		17	12		20	
50		19	15		23	24	20	10		20	13		5	
51		30	14	January (1934)	1	20	31	0		31	3		15	