

UNIVERSITY OF CALIFORNIA  
DEC 3 - 1941  
LIBRARY

*Meteorological Station*

# ANNUAL REPORT

OF THE

METEOROLOGICAL

AND THE

SEISMOLOGICAL OBSERVATIONS

MADE AT THE

INTERNATIONAL LATITUDE OBSERVATORY  
OF MIZUSAWA

FOR

THE YEAR 1939.



---

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.

---

1940.



In recording the meteorological phenomena the following symbols are used:—

●	Rain	∇	Silver thaw	⊘	Oceanic noise
✱	Snow	~	Glazed frost	∞	Yellow dust
⊞	Thunder storm	⊞	Ice	0	Unusual 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	∪	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* and the observing house are found in the annual reports for the years 1902, 1904, 1905, 1910, 1916, 1925, 1936, and 1937.

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, 1940

H. KIMURA, *Rigakuhakusi*  
Director of the International Latitude Observatory  
of 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 "Kisyô-Yôran" 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.
- \* Out of order of the instrument.
- ⊕ Out of the range of the instrument.

## EARTHQUAKES, 1939.



No.	Date 1939	P				S				L				Maximum Range of Motion				Duration of Total Earthquake		Intensity	Approximate Epicenter
		E	W	N	S	E	W	N	S	E	W	N	S	E	W	N	S	m	s		
1	Jan. 1	e 12 14 20				i 14 53			e 14 51					+ 6			3	04	0	Off Cape Sioya	
2	1	e 18 30 25			e 30 26	i 30 50			i 30 50					- 15	+ 23		3	59	0	E off Cape Sioya	
3	2	e 12 04 53				e 05 19											2	59	0		
4	2	e 22 52 10				e 52 39								- 5			3	10	0		
5	3	e 4 53 12				53 28			e 53 30					± 5			2	36	0	E off Hukusima Pref.	
6	3	6				e 38 28											2	29	0		
7	3	15				e 11 00											2	15	0		
8	4	e 4 20 44				21 12			e 21 12								3	44	0	E off Hukusima Pref.	
9	4	e 6 00 11				00 36			e 00 36								2	51	0	" "	
10	4	e 9 56 40				57 07			e 57 10								2	55	0		
11	5	e 8 05 21				05 52								+ 11			4	18	0	ESE off Kinkwasan	
12	5	e 9 19 58				20 38			e 20 40					- 10			5	14	0	Off Cape Sioya	
13	5	e 11 54 37				55 12											3	15	0	" "	
14	5	e 13 04 57				i 05 25			e 05 26					+ 10			3	58	0	E off Cape Sioya	
15	5	e 15 28 44				i 29 09			e 29 12					- 18	+ 25		4	38	0	SE off Kinkwasan	
16	5	20				e 34 58											2	14	0		
17	6	e 15 45 27				i 45 55			e 45 56					+ 6			4	58	0		
18	6	e 18 07 01				i 07 29								+ 8			4	10	0	Kasima-nada	
19	7	i 13 14 57	14	56		i 15 22			i 15 22					- 27	- 35		5	31	0	NE off Cape Sioya	
20	7	i 13 40 18	e 40	18		i 40 36			40 36					+ 7			2	40	0	Off Miyako	
21	8	e 1 01 08				01 31			e 01 30					- 10			3	57	0	Off Cape Sioya	
22	8	e 6 10 26				10 46											2	18	0		
23	8	e 14 18 23				18 45											3	31	0		
24	10	e 7 36 41				i 36 57								- 5			1	55	0		
25	10	e 12 10 31	e 10	35		i 11 31			e 11 31					+ 33	+ 53		9	19	0	Off Kamikomotosima	
26	11	e 2 53 31	e 53	31		i 54 05			i 54 07					- 48	+ 78		7	28	0	NE off Cape Inubô	
27	11	5 02 04	e 02	07		i 02 24			i 02 24					- 11			3	33	0	Off the mouth of R. Ukedo	
28	12	e 6 00 39				01 21			e 01 22					+ 7			6	02	0	Near Kasumigaura	
29	12	23				e 16 10											0	53	0		
30	13	e 2 15 38				15 50											1	33	0		
31	13	22 22 34	22	34		i 23 02			23 01					- 114	+ 140		9	53	0	SE off Cape Siriya	
32	14	10 45 30	45	33		i 46 02			i 46 05					- 11	+ 23		5	23	0	SE off Cape Sioya	
33	14	e 11 16 05				e 16 29											3	42	0		
34	14	e 14 13 10				13 30											1	50	0		
35	14	e 18 25 05				25 20											1	54	0		
36	15	16				? 16 08											2	10	0		
37	15	22 29 23				i 29 35			e 29 35								1	40	0		
38	16	0 ⊕	i 10	37		⊕			i 10 48								7	27	2	NE off Kinkwasan	
39	16	e 11 32 33				33 04											3	48	0		
40	18	e 0 43 50				44 05			e 44 03								1	44	0		
41	18	14				e 42 07											2	04	0		
42	19	e 0 20 52				21 28								- 6			3	22	0		
43	19	? 5 34 54				? 35 27											2	22	0		
44	19	? 16 15 18				i 15 40			e 15 40								2	10	0		
45	19	? 21 26 46				? 27 04											2	28	0		
46	20	e 22 12 38				i 13 11			13 10					+ 3			2	47	0		
47	20	e 22 16 48				17 31								- 6			6	12	0		
48	20	23				? 14 21											1	19	0		
49	21	e 18 51 56				52 17			e 52 17					+ 5			3	39	0		
50	22	e 3 22 54	*			23 22			*								4	01	0		
51	22	e 4 45 36	*			? 50 48								+ 5			13	57	0	Distant	
52	22	10				e 56 29											2	28	0		
53	22	? 11 13 18	? 13	22										+ 6			11	12	0		
54	22	11				e 26 44											2	15	0		
55	23	e 3 57 37				i 57 54			e 57 53								2	11	0		

## EARTHQUAKES, 1939.



No.	Date 1939	P				S				L				Maximum Range of Motion				Duration of Total Earthquake	Intensity	Approximate Epicenter	
		E	W	N	S	E	W	N	S	E	W	N	S	E	W	N	S				
56	Jan. 23	h	m	s	m	s	m	s	m	s	m	s	μ	μ	m	s	0	E off Cape Siroya SE off Kinkwasan E off Cape Sioya			
57	23	e13	36	00	-	-	i36	21	-	-	-	-	-	-	3	47	0				
58	23	e16	18	24	-	-	e18	50	e18	51	-	-	-	-	2	25	0				
59	23	e18	22	37	e22	37	23	25	23	24	-	-	+	25	-	53	9		06	0	
60	24	i 4	02	19	i02	20	i02	46	i02	45	-	-	-	550	-	975	15		20	2	
61	24	e13	18	25	-	-	18	52	-	-	-	-	-	-	1	52	0				
61	24	18	09	17	e09	16	i09	43	09	41	-	-	+	42	-	43	8	18	0		
62	25	3	52	08	e52	11	62	05	?101	44	?102	54	-	-	-	-	126	53	0		
63	25	e 9	08	35	-	-	e08	52	-	-	-	-	-	-	-	-	1	27	0		
64	25	e12	46	35	-	-	e47	09	-	-	-	-	-	-	-	-	3	17	0		
65	25	14	-	-	-	-	e58	04	-	-	-	-	-	-	-	-	1	46	0		
66	25	e17	27	35	-	-	e28	14	-	-	-	-	-	3	-	-	4	08	0		
67	26	e 0	55	10	-	-	e55	26	-	-	-	-	-	-	-	-	1	37	0		
68	26	e12	31	43	-	-	32	09	-	-	-	-	-	3	-	-	2	19	0		
69	26	i15	54	31	e54	33	i54	48	i54	49	-	-	±	31	-	-	4	03	0		
70	26	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	43	0		
71	27	e10	39	21	e39	23	40	45	e40	46	-	-	+	10	-	-	9	15	0		
72	28	e11	20	42	-	-	i20	54	e20	53	-	-	-	-	-	-	1	37	0		
73	28	18	-	-	-	-	e40	44	-	-	-	-	-	-	-	-	1	15	0		
74	28	23	06	44	06	41	i07	58	i07	56	-	-	+	17	-	23	5	20	0		
75	29	7	-	-	-	-	e52	40	-	-	-	-	-	-	-	-	2	38	0		
76	29	e11	39	03	-	-	e39	37	-	-	-	-	-	-	-	-	3	35	0		
77	29	16	54	24	e54	28	i54	48	i54	50	-	-	+	18	-	58	4	34	0		
78	30	2	27	10	27	08	34	01	34	00	37	52	37	44	⊕	-2248	92	09	0		
79	30	e 4	09	57	-	-	10	16	10	16	-	-	+	6	-	-	2	58	0		
80	30	e 6	26	42	-	-	27	07	e27	12	-	-	-	6	-	-	4	03	0		
81	30	e19	21	26	-	-	21	46	e21	46	-	-	-	6	-	-	3	33	0		
82	30	19	-	-	-	-	26	46	-	-	-	-	-	-	-	-	1	27	0		
83	30	23	58	28	58	27	i64	50	i64	50	69	27	69	42	+	14	26	00	0		
84	31	5	-	-	-	-	e32	31	-	-	-	-	-	-	-	-	2	49	0		
85	31	i16	51	34	51	36	i51	54	i51	55	-	-	-	21	-	35	5	16	0		
86	Feb. 1	e 5	26	09	-	-	26	45	-	-	-	-	+	8	-	-	4	31	0		
87	1	11	22	53	e22	53	i23	19	23	21	-	-	+	19	-	-	5	11	0		
88	1	e11	44	22	-	-	44	56	-	-	-	-	-	-	-	-	2	34	0		
89	1	e14	34	08	-	-	34	27	-	-	-	-	-	-	-	-	2	14	0		
90	2	5	-	-	-	-	e04	57	-	-	-	-	-	-	-	-	1	46	0		
91	2	e15	53	10	e53	12	i53	35	i53	35	-	-	-	11	-	-	4	48	0		
92	2	e16	09	21	-	-	09	43	-	-	-	-	-	-	-	-	1	48	0		
93	3	5	35	22	e35	21	42	38	42	41	48	31	48	40	+	15	+	130	69	44	0
94	5	i18	42	02	e42	01	i42	18	i42	18	-	-	-	35	-	50	3	59	0		
95	6	e17	10	32	-	-	11	26	-	-	-	-	+	9	-	-	4	35	0		
96	7	?14	11	42	-	-	12	59	?12	57	-	-	-	10	-	-	13	37	0		
97	7	?10	09	29	-	-	09	56	-	-	-	-	-	-	-	-	3	53	0		
98	7	e18	31	52	-	-	32	24	-	-	-	-	-	10	-	-	5	59	0		
99	8	e15	17	23	e17	22	i17	59	17	58	-	-	-	52	+	75	8	16	0		
100	9	e 0	20	54	-	-	21	26	-	-	-	-	-	-	-	-	2	47	0		
101	9	e11	01	26	-	-	01	41	e01	44	-	-	-	-	-	-	2	52	0		
102	10	e12	27	06	-	-	i28	33	e28	32	-	-	-	6	-	-	6	12	0		
102	10	e15	49	53	e49	54	i50	15	50	16	-	-	-	13	-	-	4	11	0		
104	11	e 0	06	53	-	-	07	26	-	-	-	-	-	-	-	-	2	47	0		
105	11	e 3	31	04	-	-	31	25	-	-	-	-	-	-	-	-	2	57	0		
106	11	e20	31	34	e31	33	i32	38	32	38	-	-	-	10	-	-	6	03	0		
107	12	e 0	55	57	-	-	e56	04	-	-	-	-	-	-	-	-	1	33	0		
108	12	e 8	51	08	-	-	51	39	-	-	-	-	-	4	-	-	3	32	0		
109	12	e21	51	15	-	-	i51	27	e51	25	-	-	-	-	-	-	1	27	0		
110	13	i13	33	08	33	07	i33	20	i33	18	-	-	-	125	+	108	4	56	0		

EARTHQUAKES, 1939.



No.	Date 1939	P				S				L				Maximum Range of Motion				Duration of Total Earthquake		Intensity	Approximate Epicenter
		E	W	N	S	E	W	N	S	E	W	N	S	E	W	N	S	m	s		
111	Feb. 13	h	m	s	m	s	m	s	m	s	m	s	μ	μ	m	s	0				
112	14	18			-	-	e10	55	-	-	-	-	-	-	1	12	0				
113	15	14			-	-	e14	57	-	-	-	-	-	-	1	39	0				
114	16	e 9	59	51	-	-	60	11	e60	11	-	-	-	-	2	12	0				
115	16	i18	51	43	i51	42	i52	09	i52	12	-	-	-	-	35	39	1	ESE off Cape Sioya			
		e22	22	37	-	-	i22	58	22	57	-	-	-	-	3	16	0	Off Cape Sioya			
116	16	e23	39	22	e39	23	i39	36	39	36	-	-	-	13	3	10	0	Near Lake Tazawa			
117	17	e 0	22	39	-	-	i23	02	e23	02	-	-	-	+	6	2	56	0	Off Cape Sioya		
118	17	e 4	20	54	-	-	i21	15	e21	14	-	-	-	+	6	2	43	0	" "		
119	17	e 6	46	13	e46	14	i46	32	46	34	-	-	-	-	14	+	18	0	" "		
120	17	e10	10	40	-	-	10	58	-	-	-	-	-	-	-	2	10	0	" "		
121	17	e19	13	57	-	-	14	15	e14	17	-	-	-	-	5	3	15	0			
122	17	e20	58	57	e58	57	59	30	e59	31	-	-	-	-	6	3	12	0	Off Miyako		
123	17	e21	42	54	-	-	43	06	-	-	-	-	-	-	-	2	00	0			
124	18	e 9	14	15	-	-	14	32	e14	33	-	-	-	-	-	2	11	0	E off Hukusima Pref.		
125	18	i 9	18	56	i18	55	i19	13	i19	14	-	-	-	+	68	+	95	1	" "		
126	18	i11	30	50	i30	52	i31	22	i31	23	-	-	-	-	50	-	58	0	E off Hatinohe		
127	18	e13	13	30	-	-	13	59	-	-	-	-	-	-	-	2	52	0			
128	18	e17	53	36	e53	39	i53	59	i53	59	-	-	-	+	25	+	35	0	E off Hukusima Pref.		
129	19	e 8	16	12	-	-	16	47	16	46	-	-	-	-	9	-	-	0	E off Miyako		
130	20	e22	09	01	-	-	i09	32	e09	32	-	-	-	-	6	-	-	0			
131	20	?23	57	08	-	-	57	28	-	-	-	-	-	-	-	1	35	0			
132	21	4			-	-	e14	07	-	-	-	-	-	-	-	1	20	0			
133	22	e 0	29	47	-	-	30	09	e30	10	-	-	-	-	-	2	35	0			
134	22	11			-	-	?37	10	-	-	-	-	-	-	-	1	00	0			
135	23	5			-	-	e46	50	-	-	-	-	-	-	-	1	27	0			
136	23	i18	58	04	i58	03	i58	41	i58	39	-	-	-	-	66	+	85	0	Off Kuzi. (Iwate)		
137	23	e19	26	31	-	-	26	58	e26	58	-	-	-	-	5	2	52	0			
138	24	? 1	24	33	-	-	?26	03	?26	03	-	-	-	-	-	4	45	0			
139	24	e 9	56	03	-	-	56	25	-	-	-	-	-	-	-	2	31	0			
140	24	13			-	-	?09	04	-	-	-	-	-	-	-	1	24	0			
141	24	14	23	28	e23	30	?26	20	?26	27	-	-	-	-	-	8	26	0			
142	24	16			-	-	e49	47	-	-	-	-	-	-	-	1	34	0			
143	25	e 6	54	19	-	-	54	42	-	-	-	-	-	-	-	2	03	0			
144	25	e22	40	24	-	-	e40	41	-	-	-	-	-	-	-	2	00	0			
145	26	e14	10	11	e10	11	i10	38	e10	37	-	-	-	-	15	4	28	0	S off Cape Erimo		
146	26	16			-	-	e20	19	-	-	-	-	-	-	-	2	40	0			
147	28	? 2	43	58	?43	55	?47	36	?47	48	-	-	-	-	-	12	53	0			
148	28	e17	19	27	-	-	19	54	e19	53	-	-	-	-	-	4	14	0			
149	Mar. 1	e 6	51	55	-	-	i52	34	e52	32	-	-	-	+	10	5	53	0	SE off Kusiro		
150	1	e15	22	37	e22	37	23	00	23	02	-	-	-	-	11	5	00	0	E off Hukusima Pref.		
151	1	e15	36	37	-	-	37	02	e37	04	-	-	-	-	8	4	25	0	" "		
152	2	4			-	-	e16	42	-	-	-	-	-	+	4	2	57	0			
153	2	7	08	19	?08	13	?14	21	?14	29	-	-	-	+	7	21	18	0			
154	2	22			-	-	e37	45	-	-	-	-	-	-	-	1	09	0			
155	2	e23	12	05	-	-	12	30	e12	29	-	-	-	-	5	4	54	0			
156	3	22	52	49	e52	48	i53	21	e53	22	-	-	-	-	10	-	23	0	E off Hukusima Pref.		
157	4	i 8	49	47	i49	47	i49	56	i49	56	-	-	-	±	15	±	40	0	Sizugawa Bay		
158	4	e 9	10	11	-	-	i10	46	-	-	-	-	-	4	4	01	0				
159	4	e10	19	56	-	-	i20	40	i20	41	-	-	-	-	14	4	39	0	E off Cape Erimo		
160	4	e14	03	36	-	-	e04	01	-	-	-	-	-	-	-	2	53	0			
161	5	5			-	-	11	06	-	-	-	-	-	-	-	1	13	0			
162	5	6	19	16	e19	19	i19	36	19	36	-	-	-	-	6	3	33	0	E off Hukusima pref.		
163	6	e 3	12	35	-	-	12	54	-	-	-	-	-	-	5	2	26	0			
164	6	?14	10	37	-	-	e10	57	-	-	-	-	-	-	-	3	57	0			
165	6	e22	09	11	-	-	i09	43	e09	43	-	-	-	-	8	3	43	0	ESE off Kinkwasan		

EARTHQUAKES, 1939.



No.	Date 1939	P				S				L				Maximum Range of Motion				Duration of Total Earthquake		Intensity	Approximate Epicenter
		E	W	N	S	E	W	N	S	E	W	N	S	E	W	N	S	m	s		
166	Mar. 7	h 15	m 17	s 25	m 17	s 26	m 17	s 55	m 17	s 55	-	-	-	-	+ 166	- 272	20	42	0	SE off Cape Erimo	
167	7	e 23	58	46	-	-	i 59	20	59	21	-	-	-	-	+ 28	- 45	7	03	0	NE off Cape Erimo	
168	8	6	-	-	-	-	e 58	09	-	-	-	-	-	-	-	-	2	57	0		
169	8	16	-	-	-	-	e 39	25	-	-	-	-	-	-	-	-	2	26	0		
170	8	e 22	07	01	? 06	33	14	08	? 14	08	-	-	-	-	-	-	19	53	0	Distant	
171	9	1 27	10	e 27	09	i 27	33	i 27	32	-	-	-	-	- 41	+ 53	6	26	0	E off Cape Sioya		
172	9	5	-	-	-	-	e 15	20	-	-	-	-	-	-	-	-	1	09	0		
173	9	18 13	22	13	24	i 13	58	i 13	58	-	-	-	-	+ 31	+ 50	7	10	0	Near Simoyûki		
174	9	? 22	11	52	-	-	? 12	00	-	-	-	-	-	-	-	-	1	20	0		
175	10	e 2	48	16	? 48	18	e 52	28	? 52	29	-	-	-	-	-	-	11	00	0	Distant	
176	10	e 3	02	21	e 02	24	e 06	59	? 06	38	-	-	-	-	-	-	41	26	0	"	
177	10	e 19	45	13	-	-	45	38	e 45	37	-	-	-	-	7	-	5	18	0		
178	10	21 59	26	-	-	i 60	42	e 60	45	-	-	-	-	- 11	-	-	15	35	0	SW off Hatizyô I.	
179	10	23 28	10	-	-	i 28	35	e 28	34	-	-	-	-	- 10	-	-	4	07	0	ENE off Cape Sioya	
180	11	13 43	54	-	-	i 44	24	e 44	24	-	-	-	-	+ 11	- 10	-	6	36	0	ESE off Miyako	
181	12	16 55	07	-	-	i 55	37	55	38	-	-	-	-	- 18	+ 25	-	8	23	0	NE off Kinkwasan.	
182	15	e 0	56	43	-	-	i 57	30	e 57	31	-	-	-	+ 14	- 25	-	4	35	0	Off Cape Sioya	
183	15	e 1	35	40	e 35	40	36	08	e 36	07	-	-	-	- 9	-	-	5	38	0	E off Hukusima pref.	
184	16	e 14	42	43	-	-	43	06	e 43	07	-	-	-	-	-	-	2	56	0		
185	16	e 22	15	40	-	-	16	19	e 16	17	-	-	-	+ 5	-	-	4	33	0		
186	19	e 9	04	43	-	-	05	31	05	33	-	-	-	- 4	-	-	5	15	0		
187	19	e 11	20	50	e 20	50	i 21	44	21	42	-	-	-	+ 11	- 25	-	6	27	0	Middle part	
188	19	13	-	-	-	-	e 56	18	-	-	-	-	-	-	-	-	2	40	0	of Kuzyukuri-hama	
189	20	i 3	24	57	i 24	57	i 27	09	i 27	07	-	-	-	+ 189	+ 388	-	31	46	0	N part of Hyuga-nada	
190	20	6 52	43	e 52	44	i 53	16	53	15	-	-	-	-	- 25	+ 28	-	7	59	0	E off Cape Sioya	
191	20	7	-	-	-	-	e 04	00	-	-	-	-	-	-	-	-	3	08	0		
192	21	i 1	21	28	e 21	27	29	56	29	55	37	17	37	05	- 10	- 165	-	51	04	0	Distant
193	21	e 9	34	33	-	-	e 34	43	-	-	-	-	-	-	-	-	1	28	0		
194	21	10 05	54	e 05	53	i 06	10	e 06	10	-	-	-	-	- 15	-	-	3	44	0	NNE off Miyako	
195	21	e 17	58	18	-	-	58	43	-	-	-	-	-	-	-	-	2	57	0		
196	22	e 3	26	42	-	-	27	02	e 27	03	-	-	-	+ 5	-	-	3	36	0		
197	22	3 53	48	e 53	46	60	23	60	24	-	-	-	-	-	-	-	18	18	0	Distant	
198	22	4 40	01	39	59	i 40	36	e 40	36	-	-	-	-	+ 15	- 20	-	5	56	0	Off Cape Sioya	
199	22	e 9	04	06	-	-	04	17	e 04	14	-	-	-	-	-	-	1	48	0		
200	22	e 13	33	26	-	-	33	50	e 33	51	-	-	-	-	-	-	3	12	0		
201	22	e 15	50	37	-	-	i 50	58	e 51	00	-	-	-	-	-	-	3	15	0		
202	22	e 22	02	36	-	-	i 02	59	-	-	-	-	-	-	-	-	2	46	0		
203	23	i 7	39	53	39	53	i 40	08	i 40	09	-	-	-	-	-	-	7	46	0	E off Kinkwasan	
204	23	e 10	30	24	-	-	30	44	-	-	-	-	-	-	-	-	2	59	0		
205	23	11	-	-	-	-	e 06	54	-	-	-	-	-	-	-	-	1	05	0		
206	23	e 23	49	47	-	-	50	08	-	-	-	-	-	- 4	-	-	5	18	0		
207	24	4 14	26	e 14	27	i 14	56	i 14	56	-	-	-	-	+ 16	+ 23	-	5	10	0	E off Cape Siroya	
208	24	4 34	58	e 34	57	i 35	27	35	26	-	-	-	-	+ 25	- 25	-	6	11	0	E off Cape Sioya	
209	24	5 30	01	e 29	59	i 30	30	30	31	-	-	-	-	- 7	-	-	4	21	0	ESE off " "	
210	24	e 7	00	38	-	-	01	08	e 01	10	-	-	-	- 3	-	-	2	58	0		
211	24	e 12	32	00	-	-	32	11	-	-	-	-	-	-	-	-	3	01	0		
212	25	e 2	27	46	-	-	28	07	-	-	-	-	-	-	-	-	3	19	0	E off Hukusima pref.	
213	26	e 0	52	30	e 52	28	i 53	29	i 53	30	-	-	-	- 6	-	-	3	19	0	S part of Kuzyukuri-hama	
214	27	e 15	02	03	-	-	02	28	-	-	-	-	-	- 14	+ 25	-	7	33	0		
215	28	e 0	53	04	-	-	53	16	-	-	-	-	-	-	-	-	2	05	0		
216	28	e 13	29	16	-	-	29	50	e 29	52	-	-	-	-	-	-	3	21	0		
217	28	17	-	-	-	-	e 57	00	-	-	-	-	-	-	-	-	2	03	0		
218	29	e 0	26	16	-	-	e 32	44	-	-	-	-	-	-	-	-	2	03	0		
219	29	e 11	17	13	-	-	i 17	46	e 17	43	-	-	-	-	-	-	13	38	0		
220	29	e 14	50	01	-	-	50	26	-	-	-	-	-	- 5	-	-	4	03	0		
																	3	30	0		



EARTHQUAKES, 1939.



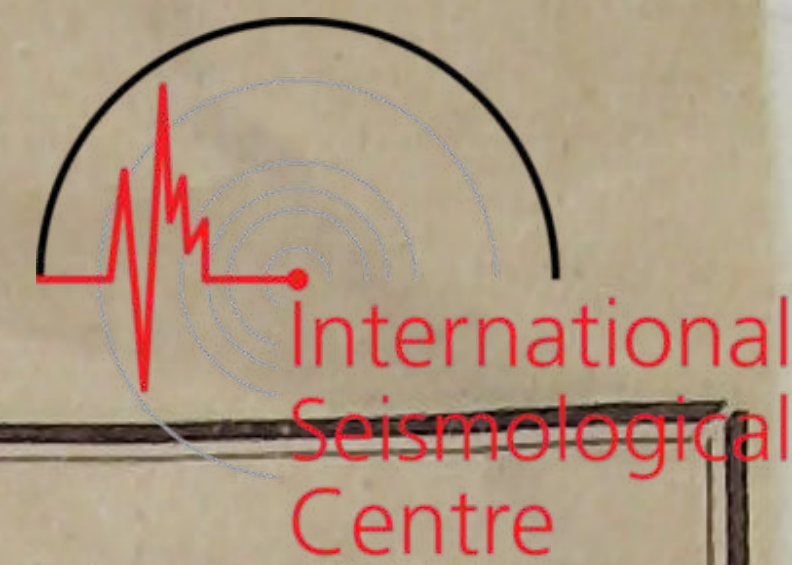
No.	Date 1939	P				S				L				Maximum Range of Motion				Duration of Total Earthquake	Intensity	Approximate Epicenter
		E	W	N	S	E	W	N	S	E	W	N	S	E	W	N	S			
221	Mar. 31	h	m	s	m	s	m	s	m	s	m	s	m	s	μ	μ	m	s	0	SE off Kusiro
222	Apr. 2	7	19	22	19	21	i20	12	i20	11	-	-	-	-	-	-	7	37	0	
223	3	e	1	29	03	-	-	29	20	-	-	-	-	-	3	-	1	39	0	
224	3	e	11	19	55	-	-	e20	26	e20	28	-	-	-	-	-	3	24	0	
225	4	e	3	26	48	-	-	27	16	-	-	-	-	-	-	-	3	27	0	
226	4	6	-	-	-	-	e34	21	-	-	-	-	-	-	-	-	1	08	0	
227	4	e	7	01	52	-	-	02	13	e02	13	-	-	-	-	-	2	23	0	
228	5	e	1	25	39	e25	42	26	04	e26	04	-	-	-	-	-	3	13	0	E off Cape Sioya
229	5	e	16	53	18	e53	17	e61	53	e61	51	e69	04	e69	04	-	6	68	0	Distant
230	6	2	-	-	-	-	?35	19	-	-	-	-	-	-	-	-	3	15	0	
231	6	? 3	19	25	-	-	20	25	-	-	-	-	-	-	-	-	4	57	0	
232	6	e	5	04	03	-	-	04	28	e04	28	-	-	-	-	-	2	25	0	
233	6	8	-	-	-	-	?32	08	-	-	-	-	-	-	-	-	1	30	0	
234	7	e	6	30	57	-	-	31	27	e31	26	-	-	-	-	-	2	39	0	
235	7	16	05	13	e05	12	05	56	05	57	-	-	-	+	16	-	7	44	0	SE off Cape Inubô
236	8	?12	02	30	-	-	02	49	-	-	-	-	-	-	-	-	1	59	0	
237	9	e	8	16	04	-	-	i16	36	e16	37	-	-	+	10	-	3	56	0	Off the mouth of R. Niikappu
238	9	?15	18	58	-	-	?19	26	-	-	-	-	-	-	-	-	2	36	0	
239	9	e	15	46	14	-	-	i46	27	-	-	-	-	-	-	-	1	42	0	
240	10	e	11	26	13	e26	13	i27	07	27	07	-	-	-	14	-	4	59	0	S off Cape Otisi
241	10	12	46	45	-	-	i47	06	-	-	-	-	-	-	3	-	2	16	0	
242	10	19	-	-	-	-	e29	17	-	-	-	-	-	-	-	-	1	32	0	
243	11	e	21	49	50	-	-	i50	41	50	40	-	-	-	-	-	3	36	0	Near Mt. Ontake
244	11	22	01	51	e01	52	i02	09	02	08	-	-	-	-	14	-	3	38	0	Off Kuzi (Iwate)
245	12	17	15	42	e15	42	i16	04	16	06	-	-	-	-	16	+	28	00	0	SE off Kinkwasan
246	12	23	-	-	-	-	e13	24	-	-	-	-	-	-	-	-	1	40	0	
247	13	8	-	-	-	-	?11	30	-	-	-	-	-	-	-	-	1	32	0	
248	13	15	-	-	-	-	e25	22	-	-	-	-	-	-	-	-	2	13	0	
249	14	e	3	23	02	e23	02	i23	34	23	34	-	-	+	23	-	6	22	0	Kasima-nada
250	14	e	7	14	21	-	-	e14	41	-	-	-	-	-	-	-	2	53	0	
251	14	e	17	29	43	-	-	30	05	e30	05	-	-	+	6	-	4	17	0	E off Cape Sioya
252	15	e	9	06	59	-	-	e08	04	e08	04	-	-	-	-	-	13	27	0	N off Titizima
253	15	e	11	21	36	-	-	21	47	21	48	-	-	-	-	-	1	29	0	
254	16	16	-	-	-	-	-	05	47	-	-	-	-	-	-	-	1	42	0	
255	18	3	50	50	-	-	51	23	-	-	-	-	-	-	-	-	3	30	0	
256	18	6	42	35	42	35	?54	20	?54	30	-	-	-	+	11	-	128	39	0	Chile (Distant)
257	20	e	8	06	35	e06	35	i06	42	06	43	-	-	+	6	-	2	00	0	Near Yoshihama Bay (Iwate)
258	21	e	1	18	40	-	-	e19	11	-	-	-	-	-	-	-	3	06	0	
259	21	e	3	13	55	-	-	i14	28	e14	28	-	-	-	5	-	4	51	0	
260	21	i	4	31	09	i31	09	i32	46	i32	47	-	-	⊕	+	748	19	55	0	N part of Japan Sea
261	21	i	17	19	24	e19	21	i19	39	i19	38	-	-	-	30	-	4	48	0	NE off Kuzi (Iwate)
262	22	10	-	-	-	-	e53	27	-	-	-	-	-	-	-	-	2	13	0	
263	22	11	-	-	-	-	e31	44	-	-	-	-	-	-	-	-	3	18	0	
264	22	e	12	27	33	-	-	e28	03	-	-	-	-	-	-	-	3	22	0	
265	23	e	9	07	48	-	-	08	21	e08	19	-	-	-	5	-	5	26	0	Kasima-nada
266	23	9	-	-	-	-	e19	15	-	-	-	-	-	-	-	-	1	38	0	
267	23	e	17	40	14	-	-	i40	58	e40	56	-	-	-	11	-	8	07	0	Off Cape Sioya
268	23	e	21	01	04	-	-	i01	35	-	-	-	-	-	5	-	4	31	0	
269	24	8	11	14	-	-	11	41	-	-	-	-	-	-	-	-	3	16	0	
270	24	9	41	18	e41	19	i41	40	41	40	-	-	-	+	43	+	38	50	0	NE off Cape Sioya
271	24	e	10	56	49	-	-	57	10	57	10	-	-	+	10	-	4	07	0	" "
272	24	e	12	33	11	-	-	33	40	33	40	-	-	-	14	-	4	12	0	Off Cape Sioya
273	24	13	-	-	-	-	e45	14	-	-	-	-	-	-	-	-	1	59	0	
274	24	e	23	05	34	e05	35	06	22	e06	22	-	-	+	26	-	9	44	0	NE off Cape Sioya
275	25	e	4	51	34	-	-	i52	50	52	50	-	-	-	7	-	7	02	0	NW off Etoroff I.

EARTHQUAKES, 1939.



No.	Date 1939	P				S				L				Maximum Range of Motion				Duration of Total Earthquake		Intensity	Approximate Epicenter	
		E	W	N	S	E	W	N	S	E	W	N	S	E	W	N	S	m	s			
276	Apr. 26	e 1	42	52	-	-	43	27	-	-	-	-	-	-	-	-	-	3	34	0	E off Cape Sioya	
277	26	e 11	21	41	-	-	22	49	e 22	50	-	-	-	-	+	8	-	10	48	0		
278	26	18	-	-	-	-	? 36	40	e 36	40	-	-	-	-	-	6	-	3	03	0		
279	29	e 7	13	07	e 13	09	i 13	30	13	31	-	-	-	-	-	10	-	4	55	0		
280	29	e 16	46	09	-	-	46	24	-	-	-	-	-	-	-	-	-	2	06	0		
281	May 30	e 3	04	36	e 04	36	12	21	12	07	17	22	17	20	⊕	⊕	162	38	0	Distant		
282	1	e 5	17	37	-	-	17	58	-	-	-	-	-	-	-	-	-	2	09	0		
283	1	e 5	48	18	-	-	48	34	-	-	-	-	-	-	-	-	-	3	05	0		
284	1	i 5	58	51	58	51	⊕	-	⊕	-	-	-	-	-	⊕	⊕	⊕	-	4	Oga peninsula		
285	1	6	-	-	-	-	? 19	26	? 19	25	-	-	-	-	+	13	-	3	35	0		
286	1	6	-	-	-	-	? 26	07	-	-	-	-	-	-	-	-	-	2	03	0	" "	
287	1	6	28	44	28	43	29	06	29	06	-	-	-	-	+	240	+	223	-	2	" "	
288	1	6	-	-	-	-	? 38	32	-	-	-	-	-	-	-	-	-	2	52	0	" "	
289	1	e 6	43	28	-	-	44	51	44	51	-	-	-	-	+	6	-	4	54	0	" "	
290	1	e 6	49	27	-	-	49	45	-	-	-	-	-	-	-	-	-	2	58	0	" "	
291	1	e 6	55	49	-	-	e 56	05	-	-	-	-	-	-	-	-	-	1	41	0	" "	
292	1	7	03	20	e 03	17	i 03	46	i 03	44	-	-	-	-	+	59	+	123	-	0	" "	
293	1	i 7	09	16	i 09	15	i 09	33	i 09	33	-	-	-	-	+	80	-	113	5	57	0	" "
294	1	e 7	16	04	e 16	04	i 16	27	16	25	-	-	-	-	+	11	+	25	3	22	0	" "
295	1	7	24	01	e 23	59	i 24	18	24	16	-	-	-	-	-	12	-	-	3	07	0	" "
296	1	i 7	28	42	i 28	40	29	01	29	02	-	-	-	-	⊕	-1375	-	15	58	2	" "	
297	1	7	-	-	-	-	e 45	58	-	-	-	-	-	-	-	-	-	1	06	0	" "	
298	1	7	-	-	-	-	e 52	40	-	-	-	-	-	-	-	-	-	1	06	0	" "	
299	1	7	-	-	-	-	e 55	04	-	-	-	-	-	-	-	-	-	2	10	0	" "	
300	1	8	-	-	-	-	e 00	37	00	39	-	-	-	-	-	-	-	2	09	0	" "	
301	1	8	-	-	-	-	e 03	44	-	-	-	-	-	-	-	-	-	1	18	0	" "	
302	1	8	-	-	-	-	e 13	02	-	-	-	-	-	-	-	-	-	1	45	0	" "	
303	1	e 8	29	58	-	-	e 30	14	-	-	-	-	-	-	-	-	-	-	-	0	" "	
304	1	8	-	-	-	-	e 31	13	e 31	11	-	-	-	-	-	-	-	2	02	0	" "	
305	1	8	-	-	-	-	e 44	56	-	-	-	-	-	-	-	-	-	0	57	0	" "	
306	1	i 8	56	23	56	22	i 56	42	56	40	-	-	-	-	+	41	+	78	5	40	0	" "
307	1	9	-	-	-	-	e 07	13	-	-	-	-	-	-	-	-	-	1	55	0	" "	
308	1	9	15	21	e 15	22	15	39	15	38	-	-	-	-	-	-	-	4	01	0	" "	
309	1	e 9	22	59	-	-	23	18	e 23	18	-	-	-	-	+	5	-	3	29	0	" "	
310	1	9	53	44	-	-	53	58	-	-	-	-	-	-	-	-	-	1	42	0	" "	
311	1	e 9	59	07	e 59	09	59	23	e 59	22	-	-	-	-	-	30	+	60	-	0	E off Miyako	
312	1	10	04	10	04	09	i 04	27	04	27	-	-	-	-	+	28	+	40	5	37	0	Oga Peninsula
313	1	10	-	-	-	-	e 32	19	-	-	-	-	-	-	-	-	-	0	51	0	" "	
314	1	e 10	33	04	-	-	e 33	26	-	-	-	-	-	-	-	-	-	2	18	0	" "	
315	1	10	-	-	-	-	e 37	44	-	-	-	-	-	-	-	-	-	1	13	0	" "	
316	1	e 10	52	55	-	-	e 53	15	-	-	-	-	-	-	-	-	-	1	57	0	" "	
317	1	i 11	43	45	i 43	47	44	04	44	04	-	-	-	-	-	84	+	123	5	37	0	" "
318	1	11	49	46	e 49	45	i 50	03	i 50	02	-	-	-	-	-	18	-	25	-	0	" "	
319	1	11	50	58	50	59	51	19	51	20	-	-	-	-	-	415	+	550	15	22	0	" "
320	1	e 12	06	23	-	-	e 06	44	-	-	-	-	-	-	-	-	-	2	34	0	" "	
321	1	12	12	16	12	18	i 12	34	i 12	35	-	-	-	-	-	42	+	90	5	32	0	" "
322	1	12	18	23	e 18	24	i 18	44	18	44	-	-	-	-	-	11	-	28	4	40	0	" "
323	1	e 12	23	30	-	-	23	42	-	-	-	-	-	-	-	-	-	1	57	0	" "	
324	1	12	-	-	-	-	27	29	-	-	-	-	-	-	-	-	-	1	26	0	" "	
325	1	12	-	-	-	-	e 39	43	-	-	-	-	-	-	-	-	-	1	30	0	" "	
326	1	12	-	-	-	-	e 54	28	-	-	-	-	-	-	-	-	-	1	11	0	" "	
327	1	i 13	01	00	e 00	57	i 01	18	i 01	17	-	-	-	-	-	-	-	5	40	0	" "	
328	1	13	18	55	-	-	i 19	11	e 19	09	-	-	-	-	-	25	+	35	5	40	0	" "
329	1	i 13	43	25	i 43	26	i 43	44	i 43	43	-	-	-	-	-	5	-	-	2	58	0	" "
330	1	e 13	53	24	-	-	53	45	e 53	44	-	-	-	-	+	299	-	313	9	44	2	" "
																5	-	-	3	18	0	" "

## EARTHQUAKES, 1939.



No.	Date 1939	P				S				L				Maximum Range of Motion				Duration of Total Earthquake	Intensity	Approximate Epicenter
		E	W	N	S	E	W	N	S	E	W	N	S	E	W	N	S			
331	May 1	h	m	s	m	s	m	s	m	s	m	s	μ	μ	m	s	0	Oga Peninsula		
332	1	e14	14	22	-	-	14	46	14	45	-	-	-	-	3	35	0	" "		
333	1	14	-	-	-	-	e39	13	-	-	-	-	-	-	1	04	0	" "		
334	1	e15	43	27	-	-	43	42	-	-	-	-	-	-	4	43	0	" "		
335	1	e15	55	01	-	-	e55	27	-	-	-	-	-	-	2	58	0	" "		
336	1	e16	02	53	-	-	03	11	-	-	-	-	-	-	2	39	0	" "		
337	1	16	06	14	i06	14	⊕	-	?06	31	-	-	⊕	⊕	?	-	3	" "		
338	1	16	18	44	e18	43	18	59	19	01	-	-	-	63	+ 80	10	28	0	" "	
339	1	e16	29	22	-	-	e29	38	-	-	-	-	-	-	-	-	1	52	0	" "
340	1	e16	37	50	-	-	38	05	-	-	-	-	-	-	-	-	2	01	0	" "
341	1	i17	05	37	05	38	i05	54	05	57	-	-	+	68	- 105	6	52	0	" "	
342	1	e17	15	29	-	-	15	48	-	-	-	-	-	-	-	-	2	21	0	" "
343	1	e17	25	28	-	-	25	44	-	-	-	-	-	-	-	-	2	24	0	" "
344	1	i17	28	06	-	-	28	24	e28	23	-	-	+	9	-	-	4	07	0	" "
345	1	e17	32	41	-	-	33	02	-	-	-	-	-	-	-	-	2	18	0	" "
346	1	e17	36	59	-	-	37	18	-	-	-	-	-	-	-	-	2	11	0	" "
347	1	e17	49	43	-	-	e50	00	-	-	-	-	-	-	-	-	2	14	0	" "
348	1	18	-	-	-	-	e07	20	-	-	-	-	-	-	-	-	0	53	0	" "
349	1	e18	08	34	-	-	e08	47	-	-	-	-	-	-	-	-	1	52	0	" "
350	1	18	-	-	-	-	e12	47	-	-	-	-	-	-	-	-	0	42	0	" "
351	1	e18	13	36	-	-	13	50	-	-	-	-	-	-	-	-	2	01	0	" "
352	1	e18	16	20	-	-	16	39	e16	40	-	-	+	11	-	-	2	37	0	" "
353	1	e18	19	15	-	-	19	36	-	-	-	-	-	8	-	-	3	28	0	" "
354	1	e18	24	59	-	-	25	17	-	-	-	-	-	-	-	-	2	12	0	" "
355	1	e18	39	01	-	-	?39	23	-	-	-	-	+	8	-	-	4	12	0	" "
356	1	e18	55	41	-	-	56	01	-	-	-	-	+	6	-	-	2	33	0	" "
357	1	e19	02	40	-	-	03	01	-	-	-	-	-	-	-	-	2	19	0	" "
358	1	e19	13	21	-	-	13	39	-	-	-	-	-	-	-	-	2	18	0	" "
359	1	19	-	-	-	-	e17	01	-	-	-	-	-	-	-	-	1	31	0	" "
360	1	19	-	-	-	-	e38	32	-	-	-	-	-	-	-	-	1	05	0	" "
361	1	e19	41	02	-	-	41	20	-	-	-	-	-	-	-	-	2	04	0	" "
362	1	e19	45	47	-	-	46	05	-	-	-	-	-	-	-	-	2	00	0	" "
363	1	e20	03	53	-	-	04	09	-	-	-	-	-	-	-	-	2	33	0	" "
364	1	e20	41	27	-	-	e41	50	-	-	-	-	-	-	-	-	1	54	0	" "
365	1	e21	28	09	-	-	e28	34	-	-	-	-	-	-	-	-	2	18	0	" "
366	1	e22	12	24	-	-	e12	48	-	-	-	-	-	-	-	-	1	54	0	" "
367	1	e22	31	02	-	-	e31	22	-	-	-	-	-	-	-	-	2	35	0	" "
368	1	22	-	-	-	-	e49	17	-	-	-	-	-	-	-	-	1	45	0	" "
369	1	23	-	-	-	-	e08	42	-	-	-	-	-	-	-	-	1	35	0	Oga Peninsula
370	1	e23	45	57	-	-	e36	43	-	-	-	-	-	-	-	-	1	22	0	" "
371	1	e23	55	35	-	-	e55	56	-	-	-	-	-	-	-	-	2	14	0	" "
372	1	i23	59	39	-	-	i59	59	-	-	-	-	-	-	-	-	1	37	0	" "
373	2	e 0	51	43	-	-	52	04	52	04	-	-	-	-	-	-	5	22	0	" "
374	2	e 1	21	51	-	-	22	05	-	-	-	-	-	-	-	-	5	29	0	" "
375	2	3	-	-	-	-	e47	09	-	-	-	-	-	-	-	-	1	53	0	" "
376	2	e 3	51	23	-	-	51	42	e51	42	-	-	-	-	-	-	1	18	0	" "
377	2	4	-	-	-	-	e04	47	-	-	-	-	-	-	-	-	1	12	0	" "
378	2	e 4	07	55	-	-	08	15	-	-	-	-	-	-	-	-	2	26	0	" "
379	2	4	-	-	-	-	e41	31	-	-	-	-	-	-	-	-	2	14	0	" "
380	2	6	22	00	-	-	22	19	e22	19	-	-	-	-	-	-	3	48	0	" "
381	2	e 6	34	07	-	-	e34	29	-	-	-	-	-	-	-	-	2	34	0	" "
382	2	7	-	-	-	-	e04	20	-	-	-	-	-	-	-	-	1	05	0	" "
383	2	e 7	46	11	-	-	46	34	e46	32	-	-	-	-	-	-	3	02	0	" "
384	2	9	-	-	-	-	e06	38	-	-	-	-	-	-	-	-	1	27	0	" "
385	2	9	-	-	-	-	e21	26	-	-	-	-	-	-	-	-	2	01	0	Oga Peninsula

## EARTHQUAKES, 1939.



No.	Date 1939	P				S				L				Maximum Range of Motion				Duration of Total Earthquake	Intensity	Approximate Epicenter
		E	W	N	S	E	W	N	S	E	W	N	S	E	W	N	S			
386	May 2	h	m	s	m	s	m	s	m	s	m	s	m	s	μ	μ	m	s	0	Oga Peninsula
387	2	10			-	-	e26	23	-	-	-	-	-	-	-	-	1	28	0	" "
388	2	11			-	-	e03	56	-	-	-	-	-	-	-	-	1	43	0	" "
389	2	11			-	-	22	31	-	-	-	-	-	-	-	-	2	39	0	" "
390	2	e12	18	05	-	-	e18	23	-	-	-	-	-	-	-	-	2	23	0	" "
391	2	e13	19	10	-	-	e19	32	-	-	-	-	-	-	-	-	2	15	0	" "
392	2	e14	32	14	-	-	32	35	-	-	-	-	-	-	-	-	2	55	0	" "
393	2	15			-	-	e29	14	-	-	-	-	-	-	-	-	2	02	0	" "
394	2	i15	37	39	i37	39	i38	02	38	03	-	-	-	-	-	-	8	52	0	" "
395	2	e15	46	11	-	-	46	32	-	-	-	-	-	-	-	-	3	55	0	" "
396	2	e18	53	39	-	-	54	03	-	-	-	-	-	-	-	-	3	55	0	" "
397	2	i21	39	22	e39	24	39	38	39	41	-	-	-	-	-	-	5	03	0	" "
398	2	e22	58	18	-	-	e58	41	-	-	-	-	-	-	-	-	2	05	0	" "
399	2	e23	27	43	-	-	i28	03	-	-	-	-	-	-	-	-	2	02	0	" "
400	3	e 0	53	48	-	-	i54	10	e54	09	-	-	-	-	-	-	2	39	0	Oga Peninsula
401	3	e 4	50	53	e50	51	51	11	51	12	-	-	-	-	-	-	3	55	0	" "
402	3	e 5	17	14	-	-	e17	35	17	33	-	-	-	-	-	-	2	14	0	" "
403	3	e10	31	51	-	-	e32	12	e32	11	-	-	-	-	-	-	3	04	0	" "
404	3	12			-	-	e29	05	-	-	-	-	-	-	-	-	1	17	0	" "
405	3	e14	25	14	e25	16	e25	35	25	35	-	-	-	-	-	-	4	06	0	" "
406	3	e14	53	06	-	-	e53	24	e53	25	-	-	-	-	-	-	3	03	0	" "
407	3	e16	07	08	-	-	07	26	-	-	-	-	-	-	-	-	1	38	0	" "
408	3	e16	26	15	e26	15	e26	33	26	32	-	-	-	-	-	-	2	10	0	" "
409	3	16			-	-	e28	43	-	-	-	-	-	-	-	-	1	43	0	" "
410	3	e20	19	14	-	-	19	34	e19	34	-	-	-	-	-	-	3	49	0	" "
411	3	e23	09	45	-	-	10	01	10	02	-	-	-	-	-	-	2	46	0	" "
412	3	i23	56	00	i56	00	56	18	56	18	-	-	-	-	-	-	10	47	0	" "
413	4	0			-	-	e48	07	-	-	-	-	-	-	-	-	1	23	0	" "
414	4	1			*	-	e39	24	*	-	-	-	-	-	-	-	1	54	0	" "
415	4	3			*	-	e12	55	*	-	-	-	-	-	-	-	1	33	0	" "
416	4	e 4	32	43	*	-	33	19	*	-	-	-	-	-	-	-	3	52	0	" "
417	4	12			-	-	14	08	-	-	-	-	-	-	-	-	1	03	0	" "
418	4	15	15	26	15	26	i15	46	i15	46	-	-	-	-	-	-	3	55	0	" "
419	4	e16	20	36	-	-	e20	58	-	-	-	-	-	-	-	-	1	54	0	" "
420	5	e 2	30	15	-	-	30	57	e30	55	-	-	-	-	-	-	4	12	0	Near Matuyama (Saitama)
421	5	e 3	59	13	-	-	59	36	e59	36	-	-	-	-	-	-	2	30	0	Oga Peninsula
422	5	e 6	48	28	-	-	e48	46	e48	46	-	-	-	-	-	-	2	20	0	Oga Peninsula
423	5	12			-	-	e21	53	-	-	-	-	-	-	-	-	2	03	0	Oga Peninsula
424	5	e14	50	07	-	-	i50	25	e50	23	-	-	-	-	-	-	3	08	0	Oga Peninsula
425	5	e20	43	20	-	-	i43	46	e43	47	-	-	-	-	-	-	2	13	0	Oga Peninsula
426	6	? 3	25	27	-	-	?27	37	?27	38	-	-	-	-	-	-	11	06	0	" "
427	6	7			-	-	e25	51	-	-	-	-	-	-	-	-	1	09	0	" "
428	6	7			-	-	e33	36	-	-	-	-	-	-	-	-	1	37	0	" "
429	6	e10	54	29	-	-	56	31	e56	28	-	-	-	-	-	-	13	05	0	" "
430	6	12			-	-	e07	31	-	-	-	-	-	-	-	-	1	02	0	Oga Peninsula
431	6	e13	59	29	-	-	59	49	e59	47	-	-	-	-	-	-	2	26	0	" "
432	6	17			-	-	e06	28	-	-	-	-	-	-	-	-	3	15	0	" "
433	6	e18	27	38	-	-	27	56	e27	56	-	-	-	-	-	-	2	37	0	" "
434	7	e 7	12	58	-	-	e14	39	e14	39	-	-	-	-	-	-	9	11	0	" "
435	7	14	17	11	-	-	17	38	-	-	-	-	-	-	-	-	3	36	0	" "
436	8	e 3	46	15	-	-	46	31	-	-	-	-	-	-	-	-	4	41	0	" "
437	8	8 05	37		05	37	i06	17	06	17	-	-	-	-	-	-	11	01	0	Off Cape Inubô
438	8	e20	34	11	-	-	34	31	e34	31	-	-	-	-	-	-	4	22	0	Off the Mouth of R.
439	9	19			-	-	?40	10	-	-	-	-	-	-	-	-	2	07	0	Mabuti
440	10	4			-	-	e12	21	-	-	-	-	-	-	-	-	1	02	0	" "

EARTHQUAKES, 1939.



No.	Date 1939	P				S				L				Maximum Range of Motion				Duration of Total Earthquake		Intensity	Approximate Epicenter	
		E	W	N	S	E	W	N	S	E	W	N	S	E	W	N	S	m	s			
441	May 10	e 5	29	29	-	-	e 30	39	-	-	-	-	-	-	-	-	-	6	58	0	Off the mouth of R. Tokati	
442	10	? 7	48	55	-	-	? 55	35	-	-	-	-	-	-	-	-	-	21	35	0		
443	10	e 16	29	15	-	-	29	56	e 29	56	-	-	-	-	-	-	-	5	13	0		
444	11	4	52	24	-	-	52	42	-	-	-	-	-	-	-	-	-	1	21	0		
445	12	8	-	-	-	-	e 44	46	-	-	-	-	-	-	-	-	-	2	34	0		
446	12	i 14	05	54	i 05	55	i 06	39	i 06	38	-	-	-	-	+	62	-	83	7	15	0	E off Hiroo (Hokkaido)
447	13	e 19	55	45	-	-	56	59	e 56	59	-	-	-	-	-	-	-	5	-	0		
448	13	e 20	27	42	-	-	i 28	00	e 28	03	-	-	-	-	-	-	-	5	-	0		
449	13	21	-	-	-	-	e 44	14	-	-	-	-	-	-	-	-	-	3	12	0		
450	14	e 17	54	09	-	-	e 54	40	e 54	40	-	-	-	-	-	-	-	4	53	0		
451	14	18	-	-	-	-	e 12	11	e 12	08	-	-	-	-	+	2	-	-	2	38	0	
452	15	18	26	02	-	-	26	21	-	-	-	-	-	-	-	-	-	1	34	0		
453	16	e 7	25	17	e 25	15	29	26	29	25	-	-	-	-	-	-	-	18	20	0		
454	16	14	-	-	-	-	? 25	23	-	-	-	-	-	-	-	-	-	2	51	0		
455	16	e 15	19	00	-	-	19	19	-	-	-	-	-	-	-	-	-	1	43	0		
456	16	22	56	36	56	37	57	14	57	13	-	-	-	-	+	5	-	-	4	33	0	Near Ueta (Nagano)
457	17	0	-	-	-	-	? 25	30	-	-	-	-	-	-	-	-	-	3	46	0		
458	17	3	-	-	-	-	e 44	02	-	-	-	-	-	-	-	-	-	1	32	0	Oga Peninsula	
459	17	e 5	20	28	e 20	28	20	48	20	49	-	-	-	-	-	-	-	10	-	23		
460	17	e 12	30	46	-	-	31	03	-	-	-	-	-	-	-	-	-	2	35	0		
461	17	15	-	-	-	-	? 18	30	-	-	-	-	-	-	-	-	-	4	23	0	Distant	
462	17	i 18	34	21	i 34	23	i 37	36	i 37	39	-	-	-	-	-	-	-	114	+	138		
463	17	21	-	-	-	-	e 16	02	-	-	-	-	-	-	-	-	-	4	00	0		
464	18	e 9	32	12	-	-	i 32	51	e 32	50	-	-	-	-	-	-	-	3	15	0		
465	18	21	04	30	04	27	i 04	48	04	47	-	-	-	-	+	39	-	50	7	49		0
466	18	e 23	39	23	-	-	e 39	52	e 39	55	-	-	-	-	-	-	-	3	20	0	SE off Cape Nozima E off Hukusima pref.	
467	19	e 11	55	18	-	-	e 55	35	e 55	36	-	-	-	-	-	-	-	2	47	0		
468	19	e 12	11	30	-	-	12	20	e 12	19	-	-	-	-	-	-	-	4	09	0		
469	20	e 21	39	45	-	-	40	12	e 40	13	-	-	-	-	+	5	-	3	42	0		
470	21	e 14	01	22	-	-	02	04	e 02	00	-	-	-	-	-	25	-	9	41	0		
471	21	e 15	12	44	-	-	e 13	06	e 13	03	-	-	-	-	-	3	-	3	23	0		
472	21	20	-	-	-	-	? 32	20	-	-	-	-	-	-	+	6	-	4	07	0		
473	24	e 13	15	15	-	-	15	37	e 15	37	-	-	-	-	-	5	-	2	55	0		
474	25	21	-	-	-	-	? 37	21	-	-	-	-	-	-	-	-	-	1	53	0		
475	25	? 22	00	39	-	-	01	17	e 01	19	-	-	-	-	-	-	-	2	51	0		
476	26	e 6	54	30	-	-	54	41	e 54	39	-	-	-	-	-	-	-	1	56	0	Distant	
477	26	? 9	49	35	? 49	39	? 53	37	? 53	44	-	-	-	-	-	-	-	15	50	0		
478	26	11	-	-	-	-	e 51	44	e 51	42	-	-	-	-	-	-	-	2	17	0		
479	26	e 12	20	16	-	-	21	36	21	38	-	-	-	-	+	10	+	13	5	51		0
480	26	17	-	-	-	-	? 58	26	-	-	-	-	-	-	-	-	-	4	13	0		
481	26	18	02	58	e 03	00	03	38	03	37	-	-	-	-	-	25	-	43	9	24	0	Near Urakawa
482	26	e 20	57	05	e 57	07	58	03	58	05	-	-	-	-	-	10	-	-	5	17	0	
483	27	e 3	53	34	e 53	34	59	48	59	46	-	-	-	-	-	-	-	23	51	0	Distant	
484	27	14	-	-	-	-	e 21	29	-	-	-	-	-	-	-	-	-	1	34	0		
485	27	e 23	00	29	-	-	01	03	e 01	04	-	-	-	-	-	-	-	3	50	0		
486	27	e 23	05	02	-	-	05	38	e 05	39	-	-	-	-	-	-	-	4	56	0		
487	29	0	-	-	-	-	25	46	e 25	44	-	-	-	-	-	-	-	4	37	0		
488	30	e 17	15	15	e 15	17	? 18	07	? 18	03	-	-	-	-	-	-	-	10	14	0	Near Simotuma	
489	31	e 10	01	50	e 01	50	02	24	e 02	23	-	-	-	-	+	9	-	18	5	06		0
490	31	11	57	01	-	-	57	12	e 57	12	-	-	-	-	-	4	-	-	2	06		0
491	June 31	18	07	16	e 07	13	10	58	e 11	01	-	-	-	-	-	-	-	9	57	0		
492	1	e 0	25	28	-	-	e 26	02	? 26	01	-	-	-	-	-	-	-	3	08	0		
493	1	4	-	-	-	-	e 48	37	48	38	-	-	-	-	-	-	-	1	34	0		
494	1	5	-	-	-	-	e 42	13	e 42	14	-	-	-	-	-	-	-	2	49	0		
495	1	e 11	42	06	e 42	05	42	34	42	33	-	-	-	-	-	45	+	48	5	57		0

## EARTHQUAKES, 1939.



No.	Date 1939	P				S				L				Maximum Range of Motion				Duration of Total Earthquake	Intensity	Approximate Epicenter
		E	W	N	S	E	W	N	S	E	W	N	S	E	W	N	S			
496	June 1	h	m	s	m	s	m	s	m	s	m	s	m	s	μ	μ	m	s	0	Distant
497	2	e17	19	46	-	-	20	13	-	-	-	-	-	-	-	-	4	05	0	
498	3	e 3	40	24	e40	24	e45	58	e46	01	-	-	-	-	-	-	26	48	0	
499	3	9	-	-	-	-	e18	13	-	-	-	-	-	-	-	-	3	20	0	
500	4	15	-	-	-	-	e22	03	-	-	-	-	-	-	-	-	2	06	0	
		22	-	-	-	-	e44	30	-	-	-	-	-	-	-	-	2	40	0	
501	5	e 7	51	30	-	-	e51	48	e51	49	-	-	-	-	-	-	2	56	0	Oga Peninsula
502	5	e13	49	32	-	-	e49	47	-	-	-	-	-	-	-	-	2	23	0	
503	5	e19	49	02	e49	02	e49	19	e49	19	-	-	-	-	8	-	3	28	0	Oga Peninsula
504	5	e20	30	12	-	-	30	35	e30	36	-	-	-	-	6	-	3	12	0	
505	6	e 1	42	16	e42	16	42	34	e42	37	-	-	-	-	8	+ 18	4	16	0	Oga Peninsula
506	6	e16	58	49	-	-	59	18	e59	19	-	-	-	-	5	-	3	05	0	
507	6	19	-	-	-	-	e38	11	-	-	-	-	-	-	-	-	1	03	0	
508	6	e20	53	45	-	-	i54	35	e54	36	-	-	-	-	10	-	7	28	0	SE off Cape Inubô
509	7	e 5	52	55	-	-	53	20	e53	21	-	-	-	-	-	-	3	23	0	
510	7	7	-	-	-	-	e15	51	-	-	-	-	-	-	-	-	1	31	0	
511	8	0	-	-	-	-	e36	19	-	-	-	-	-	-	-	-	4	50	0	
512	8	15	-	-	-	-	e32	15	e32	17	-	-	-	-	-	-	4	41	0	
513	8	20	57	51	e57	53	?66	46	?66	47	-	-	-	-	-	-	27	15	0	Distant
514	8	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	21	0	
515	9	e 3	16	49	-	-	e17	23	e17	26	-	-	-	-	4	-	5	41	0	
516	10	11	-	-	-	-	e11	09	-	-	-	-	-	-	-	-	2	20	0	
517	10	e14	59	22	-	-	e59	35	-	-	-	-	-	-	-	-	2	18	0	
518	11	e 6	21	30	e21	31	21	51	21	52	-	-	-	-	14	-	4	55	0	NE off Cape Sioya
519	11	e11	52	03	-	-	52	15	-	-	-	-	-	-	-	-	2	36	0	
520	11	18	-	-	-	-	e01	56	-	-	-	-	-	-	-	-	1	52	0	
521	11	e19	47	01	-	-	e47	18	-	-	-	-	-	-	3	-	3	19	0	
522	12	e23	39	49	-	-	e40	10	e40	07	-	-	-	-	-	-	3	29	0	
523	13	0	-	-	-	-	e38	08	-	-	-	-	-	-	3	-	2	58	0	
524	13	e 1	31	31	-	-	31	59	-	-	-	-	-	-	3	-	4	07	0	
525	13	e20	47	36	e47	36	i53	38	i53	37	-	-	-	-	5	-	17	13	0	Halmahera (Distant)
526	14	e11	10	58	-	-	11	18	-	-	-	-	-	-	-	-	2	07	0	
527	15	e14	18	16	-	-	18	34	18	35	-	-	-	-	-	-	2	00	0	
528	15	e17	29	37	-	-	29	49	-	-	-	-	-	-	-	-	2	55	0	
529	15	e22	44	15	-	-	44	36	-	-	-	-	-	-	-	-	2	28	0	
530	15	e22	55	38	e55	40	i55	54	55	55	-	-	-	-	3	-	3	00	0	Oga Peninsula
531	16	5	-	-	-	-	?18	49	?18	44	-	-	-	-	-	-	22	44	0	
532	17	e 8	27	08	-	-	27	29	-	-	-	-	-	-	-	-	3	13	0	
533	17	e 8	49	29	-	-	49	45	-	-	-	-	-	-	-	-	3	11	0	
534	17	11	-	-	-	-	e13	05	-	-	-	-	-	-	-	-	2	32	0	
535	17	e16	38	18	-	-	38	50	-	-	-	-	-	-	-	-	3	10	0	
536	17	i18	40	27	i40	28	i40	46	i40	47	-	-	-	-	+ 97	+ 145	8	00	1	ENE off Kinkwasan
537	17	e19	07	51	-	-	08	29	e08	29	-	-	-	-	6	-	7	16	0	Kasima-nada
538	18	i 0	41	07	41	07	i41	21	41	21	-	-	-	-	* + 85	-	5	01	2	Off Cape Hirota (Iwate)
539	18	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	17	0	
540	18	?12	28	40	-	-	?31	26	-	-	-	-	-	-	-	-	6	55	0	
541	19	12	-	-	-	-	e39	17	-	-	-	-	-	-	-	-	1	22	0	
542	20	11	31	40	e31	39	i32	01	i32	02	-	-	-	-	+ 8	- 13	4	32	0	Oga Peninsula
543	21	0	-	-	-	-	e45	19	-	-	-	-	-	-	-	-	1	58	0	
544	21	3	-	-	-	-	e41	00	-	-	-	-	-	-	-	-	1	57	0	
545	21	4	-	-	-	-	e15	07	-	-	-	-	-	-	-	-	1	30	0	
546	21	18	-	-	-	-	e44	00	-	-	-	-	-	-	-	-	2	32	0	
547	21	e21	09	36	-	-	e10	03	e10	07	-	-	-	-	-	-	3	29	0	
548	22	8	-	-	-	-	e41	27	-	-	-	-	-	-	-	-	1	18	0	
549	22	17	19	27	* -	-	19	58	* -	-	-	-	-	-	-	-	1	18	0	
550	22	e18	10	29	* -	-	10	46	* -	-	-	-	-	-	-	-	5	50	0	Near Mito
																	1	56	0	

EARTHQUAKES, 1939.



No.	Date 1939	P				S				L				Maximum Range of Motion				Duration of Total Earthquake		Intensity	Approximate Epicenter
		E	W	N	S	E	W	N	S	E	W	N	S	E	W	N	S	m	s		
551	June 22	h 19	m 44	s 09	m	s	44	31	*	-	-	-	-	-	-	-	2	24	0	Off Cape Inubô SW off Cape Erimo NE off Cape Inubô	
552	24	e 17	25	09	-	-	25	34	e 25	35	-	-	-	-	-	-	3	08	0		
553	25	e 20	15	12	-	-	e 15	57	e 15	55	-	-	-	-	-	-	6	11	0		
554	26	e 1	05	22	e 05	21	05	56	05	56	-	-	-	-	-	-	10	23	0		
555	26	e 13	23	16	e 23	17	24	00	23	58	-	-	-	-	-	-	74	80	0		
556	26	e 22	43	50	-	-	44	28	44	25	-	-	-	-	-	-	3	48	0	Distant	
557	27	14	-	-	-	-	13	56	-	-	-	-	-	-	-	-	2	34	0		
558	27	e 23	11	10	e 11	06	e 16	33	e 16	25	?21	31	?20	58	-	-	24	55	0		
559	28	e 1	33	38	-	-	e 34	14	-	-	-	-	-	-	-	-	4	00	0		
560	28	e 4	37	16	e 37	14	37	48	37	47	-	-	-	-	-	-	25	35	0		
561	28	e 17	21	20	-	-	e 21	58	-	-	-	-	-	-	-	-	3	55	0		N part of Kasima-nada Near Simotuma Oga Peninsula
562	28	19	-	-	-	-	e 15	07	-	-	-	-	-	-	-	-	2	13	0		
563	29	20	60	00	e 59	59	60	27	60	26	-	-	-	-	-	-	17	35	0		
564	30	e 2	47	08	-	-	47	45	e 47	44	-	-	-	-	-	-	8	-	0		
565	July 2	8	30	01	e 29	59	30	17	30	15	-	-	-	-	-	-	6	-	0		
566	3	e 5	38	38	-	-	39	01	-	-	-	-	-	-	-	-	2	29	0	ESE off Cape Nasyappu	
567	3	e 7	39	18	-	-	40	50	e 40	52	-	-	-	-	-	-	9	-	0		
568	3	11	52	16	-	-	52	32	52	32	-	-	-	-	-	-	5	-	0		
569	4	e 18	45	34	e 45	34	-	-	-	-	-	-	-	-	-	-	5	49	0		
570	5	e 4	25	47	-	-	26	13	-	-	-	-	-	-	-	-	2	47	0		
571	5	e 22	51	21	e 51	24	e 59	48	59	49	-	-	-	-	-	-	10	-	0	Fiji Is (deep)	
572	6	7	-	-	-	-	?49	11	?49	11	-	-	-	-	-	-	5	30	0		
573	8	e 17	15	51	-	-	i 16	14	16	15	-	-	-	-	-	-	4	-	0		
574	8	e 19	59	22	-	-	59	52	e 59	52	-	-	-	-	-	-	-	-	0		
575	10	e 5	22	41	-	-	e 23	15	e 23	13	-	-	-	-	-	-	-	-	0		
576	12	20	10	02	e 10	02	i 11	11	i 11	12	-	-	-	-	-	-	46	53	0	ESE off Cape Nasyappu E off Hatinohe Distant	
577	12	21	01	02	e 01	02	i 01	29	i 01	29	-	-	-	-	-	-	23	20	0		
578	12	e 23	06	09	e 06	07	e 12	19	e 12	14	-	-	-	-	-	-	-	-	0		
579	13	e 5	50	49	-	-	e 51	39	-	-	-	-	-	-	-	-	-	-	0		
580	13	e 8	54	25	-	-	54	48	e 54	49	-	-	-	-	-	-	-	-	0		
581	13	e 17	08	12	e 08	14	e 10	20	e 10	24	-	-	-	-	-	-	-	-	0	NE off Titizima Distant Kasima-nada	
582	14	e 8	36	57	e 36	54	e 41	16	e 41	16	-	-	-	-	-	-	-	-	0		
583	14	e 12	46	41	e 46	44	47	17	e 47	17	-	-	-	-	-	-	10	-	0		
584	15	e 22	48	55	-	-	e 49	21	-	-	-	-	-	-	-	-	-	-	0		
585	18	e 7	40	21	-	-	40	57	-	-	-	-	-	-	-	-	-	-	0		
586	18	9	40	59	e 40	58	41	42	41	43	-	-	-	-	-	-	24	43	0	SW part of Tokati E off Cape Sioya Fiji Is (Distant)	
587	19	e 10	06	50	-	-	e 07	18	e 07	18	-	-	-	-	-	-	-	-	0		
588	19	e 20	19	42	e 19	45	i 20	05	i 20	06	-	-	-	-	-	-	18	-	0		
589	20	e 2	33	21	e 33	20	e 41	49	e 41	48	-	-	-	-	-	-	-	-	0		
590	20	16	-	-	-	-	e 11	37	e 11	36	-	-	-	-	-	-	-	-	0		
591	21	e 2	56	50	-	-	e 57	12	e 57	13	-	-	-	-	-	-	-	-	0	ENE off Cape Inubô	
592	21	e 19	45	51	-	-	46	20	46	21	-	-	-	-	-	-	4	-	0		
593	21	e 21	34	27	-	-	35	06	e 35	05	-	-	-	-	-	-	5	-	0		
594	23	e 6	42	38	-	-	43	03	-	-	-	-	-	-	-	-	-	-	0		
595	26	10	-	-	-	-	11	03	-	-	-	-	-	-	-	-	-	-	0		
596	26	e 21	11	05	-	-	11	31	e 11	31	-	-	-	-	-	-	4	-	0	ESE off Hatizyo I. ESE off Cape Nasyappu NE off Cape Sioya	
597	26	e 22	56	39	-	-	57	06	-	-	-	-	-	-	-	-	-	-	0		
598	27	e 5	11	33	-	-	12	42	12	41	-	-	-	-	-	-	10	-	0		
599	27	23	28	38	28	39	29	40	29	42	-	-	-	-	-	-	49	70	0		
600	28	i 1	06	58	06	58	i 07	19	07	21	-	-	-	-	-	-	120	215	1		
601	28	i 5	21	51	i 21	54	i 22	11	22	13	-	-	-	-	-	-	138	158	1		
602	28	e 21	14	21	-	-	14	48	e 14	47	-	-	-	-	-	-	-	-	0		
603	28	e 21	52	37	-	-	52	53	-	-	-	-	-	-	-	-	-	-	0		
604	29	e 0	13	47	*	-	14	27	*	-	-	-	-	-	-	-	-	-	0		
605	29	e 5	10	38	e 10	36	i 10	54	i 10	52	-	-	-	-	-	-	76	80	1	Near Kuzi (Iwate)	

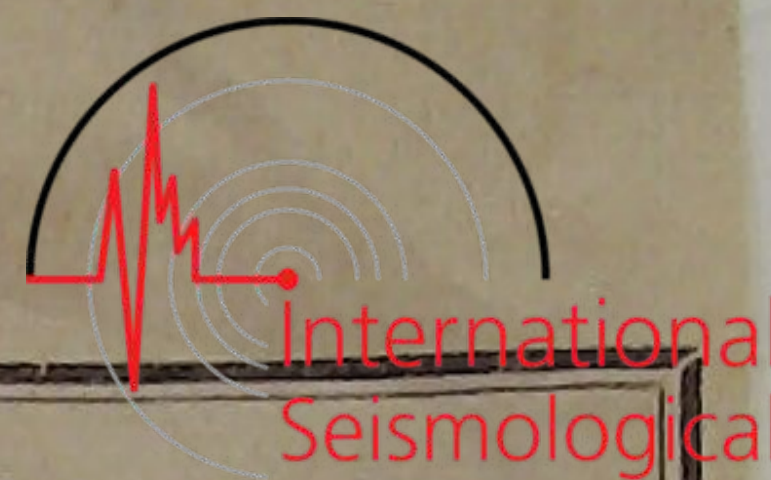
## EARTHQUAKES, 1939.



No.	Date 1939	P				S				L				Maximum Range of Motion				Duration of Total Earthquake	Intensity	Approximate Epicenter	
		E	W	N	S	E	W	N	S	E	W	N	S	E	W	N	S				
606	July 30	e 12	56	23	e 56	22	i 56	57	56	57	-	-	-	-	15	-	25	5	15	0	Near Mt. Tukuba
607	30	e 23	35	03	-	-	35	33	-	-	-	-	-	-	-	-	-	4	11	0	
608	31	0	41	23	-	-	41	44	e 41	44	-	-	-	-	-	-	-	2	51	0	
609	31	e 9	38	46	-	-	39	08	-	-	-	-	-	-	-	-	-	1	43	0	
610	31	11	-	-	-	-	e 11	43	-	-	-	-	-	-	-	-	-	1	19	0	
611	31	e 11	35	33	-	-	35	53	-	-	-	-	-	-	-	-	-	1	23	0	
612	31	e 12	02	23	-	-	02	40	-	-	-	-	-	-	-	-	-	1	24	0	
613	31	15	-	-	-	-	52	29	-	-	-	-	-	-	-	-	-	1	15	0	
614	31	e 19	10	59	-	-	11	20	-	-	-	-	-	-	-	-	-	2	26	0	
615	Aug. 1	4	-	-	-	-	e 10	45	-	-	-	-	-	-	-	-	-	2	11	0	
616	1	e 15	59	36	e 59	35	e 62	15	e 62	19	-	-	-	-	-	-	-	7	15	0	E off Hukusima pref S off Izu-Osima Near Ueda (Nagano) Off Miyako
617	2	14	18	38	e 18	35	18	57	18	57	-	-	-	+	10	-	13	4	56	0	
618	3	6	57	11	e 57	13	58	10	58	11	-	-	-	+	3	-	-	8	18	0	
619	4	e 3	16	22	-	-	17	03	17	05	-	-	-	-	-	-	-	6	07	0	
620	4	e 7	50	46	-	-	51	08	51	07	-	-	-	-	-	-	-	2	36	0	
621	5	1	32	20	e 32	22	32	36	32	37	-	-	-	-	9	-	-	2	48	0	" "
622	7	e 2	28	37	-	-	29	02	-	-	-	-	-	-	-	-	-	3	01	0	
623	7	e 10	51	21	-	-	51	37	51	38	-	-	-	-	-	-	-	2	15	0	
624	7	12	-	-	-	-	e 55	31	-	-	-	-	-	-	-	-	-	1	23	0	
625	7	18	-	-	-	-	e 51	08	-	-	-	-	-	-	-	-	-	1	44	0	
626	7	20	44	35	44	34	45	01	45	01	-	-	-	-	6	-	-	4	05	0	E off Kinkwasan Middle part of Kasima- nada
627	8	0	45	58	-	-	46	23	-	-	-	-	-	+	5	-	-	2	22	0	
628	8	0	48	27	e 48	26	48	59	48	59	-	-	-	-	26	-	40	6	28	0	
629	8	7	-	-	-	-	58	01	57	59	-	-	-	+	10	-	-	3	50	0	
630	10	5	18	10	-	-	e 18	24	e 18	22	-	-	-	-	-	-	-	1	51	0	
631	12	i 2	17	22	i 17	19	i 25	21	e 25	20	-	-	-	+	15	+	25	32	13	0	Fiji Is. SE off Etoroff I.
632	12	e 6	45	10	-	-	e 45	31	-	-	-	-	-	-	-	-	-	2	42	0	
633	12	9	52	12	e 52	10	i 53	48	53	49	-	-	-	+	41	-	55	36	16	0	
634	12	e 15	34	58	-	-	e 35	17	-	-	-	-	-	-	-	-	-	2	22	0	
635	14	e 3	09	10	-	-	e 09	36	-	-	-	-	-	-	-	-	-	3	14	0	
636	14	e 6	49	35	-	-	e 49	55	-	-	-	-	-	-	-	-	-	2	03	0	ENE off Cape Sioya
637	14	e 18	30	24	-	-	e 31	04	-	-	-	-	-	-	-	-	-	4	18	0	
638	16	e 15	13	09	e 13	09	13	42	13	41	-	-	-	-	-	-	-	4	31	0	
639	16	i 16	57	16	e 57	15	i 57	39	57	38	-	-	-	-	41	+	70	6	53	0	
640	16	e 18	44	48	-	-	45	02	e 45	02	-	-	-	-	5	-	-	2	49	0	
641	17	10	38	37	38	41	i 38	57	38	59	-	-	-	-	30	-	48	6	18	0	E off Kinkwasan E off Hukusima Pref.
642	17	i 15	46	02	i 46	01	i 46	21	46	21	-	-	-	-	180	-	425	11	23	1	
643	17	18	04	47	-	-	05	10	e 05	11	-	-	-	-	-	-	-	2	45	0	
644	17	e 20	59	49	-	-	60	09	e 60	09	-	-	-	-	6	-	-	5	10	0	
645	18	e 12	57	24	e 57	25	57	51	57	52	-	-	-	+	12	-	25	3	41	0	
646	18	22	26	28	e 26	28	? 34	55	? 34	52	-	-	-	-	-	-	-	42	38	0	Distant
647	19	4	-	-	-	-	e 34	07	-	-	-	-	-	-	-	-	-	1	58	0	
648	19	5	58	10	-	-	58	27	-	-	-	-	-	-	-	-	-	3	39	0	
649	19	e 22	29	43	-	-	29	58	-	-	-	-	-	-	-	-	-	2	26	0	
650	20	e 11	05	00	-	-	05	19	-	-	-	-	-	-	-	-	-	2	20	0	
651	21	e 15	24	54	e 24	54	e 29	56	e 29	43	-	-	-	-	-	-	-	11	02	0	ESE off Cape Sioya E off Hukusima Pref.
652	21	e 17	59	04	-	-	59	33	59	34	-	-	-	-	10	-	15	6	12	0	
653	21	e 20	53	05	-	-	53	42	-	-	-	-	-	-	5	-	-	4	42	0	
654	22	i 0	06	48	i 06	49	07	06	07	06	-	-	-	-	⊕	-	1608	20	18	1	
655	23	e 0	13	05	-	-	13	31	13	33	-	-	-	-	2	-	-	4	13	0	
656	23	? 21	27	54	-	-	? 28	21	-	-	-	-	-	-	-	-	-	4	17	0	Distant
657	25	3	56	28	56	27	? 60	04	? 60	02	-	-	-	-	-	-	-	16	53	0	
658	26	3	-	-	-	-	e 30	06	-	-	-	-	-	-	-	-	-	2	19	0	
659	26	e 7	10	41	-	-	11	14	e 11	13	-	-	-	-	-	-	-	2	53	0	
660	27	e 8	01	31	-	-	i 01	57	01	57	-	-	-	-	-	-	-	3	25	0	



EARTHQUAKES, 1939.



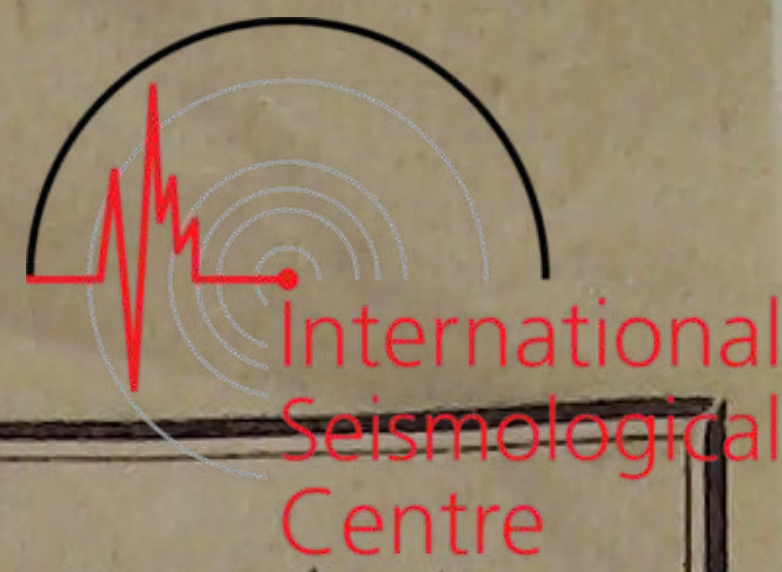
No.	Date 1939	P				S				L				Maximum Range of Motion				Duration of Total Earthquake	Intensity	Approximate Epicenter		
		E	W	N	S	E	W	N	S	E	W	N	S	E	W	N	S					
661	Aug. 27	i 20	15	43	15	42	i 16	04	16	04	-	-	-	-	56	-	125	8	13	1	E off Hukusima Pref.	
662	27	e 20	43	47	e 43	48	i 44	17	44	17	-	-	-	-	20	+	25	5	22	0	E off Cape Siroya	
663	29	e 3	30	58	-	-	31	22	e 31	23	-	-	-	-	-	-	-	2	18	0		
664	29	e 6	08	40	-	-	09	04	e 09	05	-	-	-	-	-	-	-	2	09	0		
665	29	e 9	10	10	-	-	10	42	10	43	-	-	-	-	+	12	-	5	38	0	Middle Part of Kasima- nada.	
666	29	e 9	38	34	-	-	39	01	e 39	01	-	-	-	-	-	-	-	1	48	0		
667	29	? 10	51	35	-	-	e 52	01	-	-	-	-	-	-	-	-	-	2	11	0		
668	29	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
669	29	22	-	-	-	-	e 28	57	e 28	56	-	-	-	-	-	-	-	1	30	0		
670	31	e 19	39	38	-	-	39	55	-	-	-	-	-	-	-	-	-	2	02	0		
671	Sept. 31	21	-	-	-	-	44	39	-	-	-	-	-	-	-	-	-	1	23	0		
672	1	22	-	-	-	-	e 10	25	-	-	-	-	-	-	-	-	-	4	54	0		
673	2	e 19	03	12	-	-	03	44	e 03	42	-	-	-	-	-	-	-	4	14	0		
674	3	7	49	36	e 49	37	? 53	54	53	58	-	-	-	-	-	-	-	11	43	0		
675	4	e 5	23	46	-	-	24	07	e 24	08	-	-	-	-	-	-	-	4	05	0		
676	6	22	20	43	e 20	42	22	45	22	45	-	-	-	-	4	-	-	6	30	0		
677	8	12	10	21	10	22	14	57	14	58	21	02	21	02	+	233	-1180	77	36	0	Kamchatka	
678	9	i 8	11	59	12	01	i 12	17	12	18	-	-	-	-	95	+	203	12	03	1	ENE off Miyako	
679	10	e 9	26	17	-	-	26	52	e 26	49	-	-	-	-	5	-	-	4	51	0	ENE off Cape Siroya	
680	12	e 3	26	34	-	-	26	56	-	-	-	-	-	-	-	-	-	2	08	0		
681	12	5	05	59	06	00	i 06	35	i 06	37	-	-	-	-	+	28	-	50	6	41	0	Near Mizukaido
682	13	2	-	-	-	-	e 36	58	-	-	-	-	-	-	-	-	-	1	50	0		
683	13	e 16	55	10	-	-	55	27	e 55	28	-	-	-	-	-	-	-	1	43	0		
684	13	e 22	35	11	-	-	35	28	e 35	29	-	-	-	-	-	-	-	2	29	0		
685	14	e 3	58	43	-	-	59	03	e 59	01	-	-	-	-	-	-	-	2	54	0		
686	14	e 21	08	14	-	-	08	31	e 08	28	-	-	-	-	-	-	-	3	08	0		
687	16	1	-	-	-	-	19	09	19	10	-	-	-	-	-	-	-	2	38	0		
688	16	6	49	05	e 49	06	i 49	26	i 49	27	-	-	-	-	88	-	118	6	32	0	E off Hukusima Pref.	
689	16	7	-	-	-	-	? 23	34	-	-	-	-	-	-	-	-	-	2	19	0		
690	16	e 18	16	32	e 16	32	16	59	16	59	-	-	-	-	+	17	-	6	02	0	SSE off Kinkwasan	
691	17	e 7	49	32	-	-	50	03	-	-	-	-	-	-	-	-	-	3	12	0		
692	17	e 9	34	30	-	-	34	55	e 34	58	-	-	-	-	+	5	-	3	56	0	NE off Cape Sioya	
693	17	e 15	38	19	-	-	i 38	29	e 38	28	-	-	-	-	10	-	-	3	13	0	Near Hizume (Iwate)	
694	19	i 5	53	15	e 53	14	i 53	33	i 53	31	-	-	-	-	30	-	50	4	49	0	Off Kuzi (Iwate)	
695	21	7	37	49	37	50	38	05	38	03	-	-	-	-	+	262	+	403	8	20	0	Off Kinkwasan
696	21	e 7	59	49	-	-	60	09	e 60	10	-	-	-	-	-	-	-	4	05	0		
697	21	e 13	12	13	e 12	14	12	37	12	39	-	-	-	-	+	11	-	20	4	50	0	Off Kinkwasan
698	21	e 18	30	38	e 30	40	31	13	31	15	-	-	-	-	+	11	+	25	4	35	0	E off Hukusima Pref
699	22	i 3	20	42	i 20	42	21	42	? 21	43	-	-	-	-	5	-	-	6	23	0	W off Noto Peninsula	
700	23	17	-	-	-	-	00	42	-	-	-	-	-	-	-	-	-	2	55	0		
701	24	e 0	17	00	-	-	i 17	16	e 17	16	-	-	-	-	7	-	-	3	57	0		
702	24	e 6	02	23	-	-	02	48	e 02	47	-	-	-	-	5	-	-	2	54	0		
703	24	e 14	31	44	-	-	32	13	32	14	-	-	-	-	-	-	-	5	13	0		
704	25	e 8	47	30	-	-	e 48	06	-	-	-	-	-	-	-	-	-	2	46	0		
705	25	e 10	54	38	-	-	54	50	e 54	48	-	-	-	-	-	-	-	1	39	0		
706	27	e 16	44	55	-	-	e 45	47	e 45	48	-	-	-	-	-	-	-	5	08	0		
707	28	16	-	-	-	-	e 57	38	-	-	-	-	-	-	-	-	-	2	39	0		
708	30	13	-	-	-	-	e 38	55	-	-	-	-	-	-	-	-	-	2	02	0		
709	30	e 14	38	47	-	-	39	17	-	-	-	-	-	-	-	-	-	5	00	0		
710	Oct. 1	e 16	39	10	e 39	11	39	35	e 39	36	-	-	-	-	-	-	-	3	39	0		
711	1	21	01	01	e 01	01	01	17	e 01	17	-	-	-	-	+	8	-	15	3	56	0	Off Kinkwasan
712	1	21	51	19	e 51	18	51	57	51	57	-	-	-	-	10	-	-	4	39	0	Near Yuki (Ibaragi)	
713	2	e 1	42	24	-	-	42	50	e 42	51	-	-	-	-	-	-	-	3	13	0		
714	2	e 4	47	47	-	-	48	19	e 48	17	-	-	-	-	5	-	-	4	08	0		
715	3	e 7	01	13	-	-	e 01	30	-	-	-	-	-	-	-	-	-	2	13	0		

## EARTHQUAKES, 1939.



No.	Date 1939	P				S				L				Maximum Range of Motion				Duration of Total Earthquake	Intensity	Approximate Epicenter						
		E	W	N	S	E	W	N	S	E	W	N	S	E	W	N	S									
716	Oct. 3	h	m	s	m	s	m	s	m	s	m	s	m	s	μ	μ	m	s	0							
717	4	e	0	25	46	-	-	e	04	31	-	-	-	-	-	-	3	09	0							
718	5	e	21	18	31	-	-	e	19	12	e	19	15	-	-	-	4	04	0							
719	6	e	15	-	-	-	-	?04	37	?04	39	-	-	-	-	-	3	29	0							
720	7	e	9	24	54	e	24	53	25	17	25	17	-	-	-	+	4	-	3	14	0					
721	7	e	20	51	33	e	51	33	?58	33	?58	33	-	-	-	-	13	14	0	Distant						
722	7	e	21	05	09	e	05	10	i	05	35	i	05	35	-	-	-	22	+	30	5	59	1	E off Cape Sioya		
723	8	e	1	01	40	e	01	40	02	09	02	09	-	-	-	-	+	16	-	32	5	51	0	" "		
724	8	e	20	53	13	-	-	53	28	e	53	29	-	-	-	-	-	1	-	-	1	49	0			
725	9	e	8	-	-	-	-	?36	22	?36	21	-	-	-	-	-	-	5	-	-	5	41	0			
726	10	e	13	55	23	e	55	22	i	55	40	55	40	-	-	-	-	84	+	148	10	27	1	E off Hukusima Pref.		
727	10	e	14	15	28	e	15	30	i	15	45	15	45	-	-	-	-	+	16	+	25	6	27	0	" "	
728	10	i	18	32	22	i	32	22	⊕	-	⊕	-	-	-	-	-	-	⊕	-	⊕	-	-	3	0	Off Kinkwasan	
729	10	i	18	51	16	i	51	16	51	38	51	39	-	-	-	-	-	⊕	-	878	44	42	2	" "		
730	10	e	21	00	06	-	-	00	17	-	-	-	-	-	-	-	-	-	-	-	1	31	0			
731	10	e	23	-	-	-	-	?09	59	-	-	-	-	-	-	-	-	2	-	-	2	15	0			
732	11	i	10	21	00	e	20	59	i	21	31	21	30	-	-	-	-	+	20	-	25	5	43	0	E off Kinkwasan	
733	12	e	0	29	30	-	-	29	57	-	-	-	-	-	-	-	-	1	-	-	1	47	0			
734	12	e	5	05	05	e	05	06	05	37	05	37	-	-	-	-	-	4	-	-	4	23	0			
735	12	e	17	45	10	-	-	45	29	45	29	-	-	-	-	-	-	+	5	-	2	23	0			
736	13	e	10	36	02	-	-	36	22	e	36	22	-	-	-	-	-	3	-	-	3	54	0			
737	14	e	3	10	24	-	-	10	49	-	-	-	-	-	-	-	-	5	-	-	5	27	0			
738	14	e	10	56	43	-	-	57	05	-	-	-	-	-	-	-	-	3	-	-	3	07	0			
739	14	e	12	29	44	e	29	45	30	04	e	30	03	-	-	-	-	3	-	-	3	22	0			
740	17	e	3	10	20	-	-	10	46	-	-	-	-	-	-	-	-	4	-	-	4	25	0			
741	17	i	6	32	03	e	32	03	39	58	39	57	-	-	-	-	-	+	20	-	28	36	0	Distant		
742	17	e	7	-	-	-	-	?01	52	?01	53	-	-	-	-	-	-	6	-	-	6	47	0			
743	18	? 5	04	23	-	-	-	e	04	47	-	-	-	-	-	-	-	3	-	-	3	07	0			
744	18	e	19	25	40	-	-	25	51	-	-	-	-	-	-	-	-	1	-	-	1	38	0			
745	21	e	10	25	39	-	-	25	58	e	25	59	-	-	-	-	-	2	-	-	2	35	0			
746	21	e	23	43	01	e	42	59	43	19	43	18	-	-	-	-	-	7	-	-	-	-	0	E off Kinkwasan		
747	21	e	23	44	32	-	-	44	46	44	46	-	-	-	-	-	-	+	8	-	4	48	0	" "		
748	22	e	11	-	-	-	-	13	36	-	-	-	-	-	-	-	-	1	-	-	1	14	0			
749	22	e	14	40	41	e	40	42	41	25	41	23	-	-	-	-	-	+	134	+	175	13	00	1	SSW off Kusiro	
750	22	e	22	53	49	-	-	54	10	e	54	12	-	-	-	-	-	3	-	-	3	38	0			
751	24	i	14	45	12	e	45	13	46	33	46	31	-	-	-	-	-	8	-	-	8	03	0	N Part of Japan sea		
752	24	e	17	-	-	-	-	04	13	-	-	-	-	-	-	-	-	0	-	-	0	47	0			
753	24	e	18	09	28	-	-	10	09	e	10	09	-	-	-	-	-	3	-	-	3	58	0			
754	26	e	1	24	09	-	-	?24	23	24	21	-	-	-	-	-	-	+	10	-	4	36	0			
755	26	e	3	52	35	-	-	53	14	53	16	-	-	-	-	-	-	+	10	-	4	02	0	Off the Mouth of R. Niikappu		
756	28	e	17	24	30	e	24	27	24	51	e	24	48	-	-	-	-	+	11	-	5	26	0	E off Hukusima Pref.		
757	29	i	7	09	12	e	09	12	i	09	26	09	27	-	-	-	-	+	5	-	18	3	14	0	Oga Peninsula	
758	31	e	17	22	25	-	-	22	37	-	-	-	-	-	-	-	-	1	-	-	1	28	0			
759	Nov. 3	e	8	17	36	-	-	18	28	18	30	-	-	-	-	-	-	-	6	+	10	6	18	0	Near Kunasiri I.	
760	4	e	8	-	-	-	-	25	12	-	-	-	-	-	-	-	-	0	-	-	0	58	0			
761	6	e	0	19	23	-	-	19	59	e	19	58	-	-	-	-	-	1	-	-	1	27	0			
762	6	e	12	-	-	-	-	50	35	-	-	-	-	-	-	-	-	1	-	-	1	27	0			
763	9	e	12	-	-	-	-	19	55	-	-	-	-	-	-	-	-	2	-	-	2	32	0			
764	10	e	3	15	01	*	-	15	34	*	-	-	-	-	-	-	-	4	-	-	4	35	0			
765	10	? 6	31	22	-	-	-	?32	27	?32	31	-	-	-	-	-	-	+	7	-	13	+	25	6	17	0
766	11	e	7	-	-	-	-	e	27	01	-	-	-	-	-	-	-	2	-	-	2	40	0			
767	11	e	12	-	-	-	-	e	55	28	e	55	29	-	-	-	-	1	-	-	1	38	0			
768	12	e	1	47	12	-	-	e	47	35	-	-	-	-	-	-	-	2	-	-	2	19	0			
799	15	e	19	-	-	-	-	e	22	10	-	-	-	-	-	-	-	1	-	-	1	11	0			
770	16	e	18	15	54	-	-	e	16	15	-	-	-	-	-	-	-	2	-	-	2	44	0			

## EARTHQUAKES, 1939.



No.	Date 1939	P				S				L				Maximum Range of Motion				Duration of Total Earthquake	Intensity	Approximate Epicenter
		E	W	N	S	E	W	N	S	E	W	N	S	E	W	N	S			
771	Nov. 17	h	m	s	m	s	m	s	m	s	m	s	μ	μ	m	s	0	Near Syumusyu I.		
772	17	9	-	-	?10	30	-	-	-	-	-	-	-	3	54	0				
773	18	18	-	-	e49	57	e49	58	-	-	-	-	-	3	37	0				
774	20	1 36	44	36	43	39	37	39	41	-	-	-	-	+ 20	-	13	29		0	
775	21	e 6	05	19	-	-	e05	46	e05	48	-	-	-	-	-	2	14		0	
		e11	01	46	-	-	02	11	02	09	-	-	-	-	-	3	06	0		
776	21	i11	10	52	10	51	18	12	18	10	-	-	-	+ 31	- 30	22	08	0	Distant Off Hatizyo I.	
777	22	e 5	07	01	e07	00	08	14	e08	15	-	-	-	+ 6	-	7	07	0		
778	22	e 5	46	59	-	-	e48	21	?48	20	-	-	-	- 3	-	5	06	0	E off Hatizyo I.	
779	23	e17	15	45	-	-	15	58	-	-	-	-	-	-	-	1	43	0		
780	27	i15	42	16	e42	15	43	00	43	02	-	-	-	- 56	- 115	12	22	0	ENE off Cape Inubô	
781	28	0 30	53	30	53	31	09	31	09	-	-	-	-	- 31	- 40	4	03	1	SE off Kuzi (Iwate)	
782	28	e 2	58	17	-	-	58	39	58	39	-	-	-	-	-	3	54	0	Near Oga Peninsula	
783	29	14	43	07	e43	06	43	26	43	24	-	-	-	- 6	-	4	05	0		
784	29	14	-	-	-	-	?57	42	-	-	-	-	-	-	-	2	48	0	E off Cape Sioya	
785	29	22	21	29	21	28	21	55	21	54	-	-	-	- 54	- 75	8	28	1		
786	Dec. 3	e12	41	14	-	-	41	34	-	-	-	-	-	-	-	2	11	0	E off Hukusima Pref.	
787	5	14	-	-	-	-	29	00	-	-	-	-	-	-	-	2	00	0		
788	5	e17	37	17	-	-	37	36	e37	36	-	-	-	-	-	4	03	0		
789	6	1	-	-	-	-	47	37	-	-	-	-	-	-	-	1	01	0		
790	6	i18	00	31	00	31	00	52	00	53	-	-	-	- 182	- 340	10	09	1		
791	7	e 2	12	44	-	-	13	07	e13	07	-	-	-	-	-	2	40	0	E off Hukusima Pref.	
792	7	e 5	16	18	-	-	16	57	-	-	-	-	-	-	-	3	13	0		
793	7	11	-	-	-	-	e22	49	-	-	-	-	-	-	-	3	20	0		
794	7	e13	40	42	-	-	41	01	41	00	-	-	-	-	-	2	51	0		
795	7	16	-	-	-	-	02	00	-	-	-	-	-	-	-	1	25	0		
796	7	e19	56	33	e56	32	i56	51	56	51	-	-	-	-	-	4	28	0	Off Etoroff I.	
797	8	e19	17	20	-	-	17	44	e17	44	-	-	-	-	-	2	55	0		
798	9	e 4	15	21	-	-	15	40	-	-	-	-	-	-	-	1	59	0		
799	9	20	-	-	-	-	?20	46	-	-	-	-	-	-	-	5	31	0		
800	14	e 5	06	51	e06	52	i08	10	i08	11	-	-	-	- 18	- 25	8	57	0		
801	14	i13	50	28	e50	28	i50	40	i50	39	-	-	-	± 9	-	2	31	0	Near Kuzi (Iwate)	
802	14	i18	03	19	03	21	i03	33	03	35	-	-	-	- 41	- 65	4	06	0		
803	14	e20	15	10	-	-	16	11	e16	10	-	-	-	-	-	3	33	0		
804	16	i10	48	09	i48	09	i49	18	i49	17	-	-	-	- 514	+ 455	36	32	2		
805	16	14	11	40	e11	40	12	49	12	48	-	-	-	+ 20	+ 28	4	44	0		
806	17	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	NE off Miyako	
807	18	? 2	10	20	-	-	?10	44	-	-	-	-	-	-	-	2	11	0		
808	18	9	-	-	-	-	e26	25	e26	27	-	-	-	-	-	1	17	0		
809	18	i11	38	03	38	03	i38	20	i38	20	-	-	-	- 39	+ 58	4	56	1		
810	19	e 2	00	40	-	-	e01	16	e01	13	-	-	-	+ 3	-	5	03	0		
811	20	10	25	11	-	-	i25	47	e25	46	-	-	-	-	-	3	45	0	E off Cape Hirota (Iwate)	
812	20	i18	15	20	i15	20	i15	32	i15	32	-	-	-	± 298	+ 363	12	09	2		
813	21	i21	08	26	i08	26	i14	42	i14	36	-	-	-	⊕ -2585	-	104	32	0		
814	22	e 5	52	16	-	-	52	48	52	49	-	-	-	-	-	3	04	0		
815	22	8	25	25	-	-	25	43	e25	42	-	-	-	-	-	2	50	0		
816	25	e11	21	38	-	-	23	03	e23	05	-	-	-	- 5	-	6	30	0	Turkey	
817	25	21	-	-	-	-	e03	54	-	-	-	-	-	-	-	2	25	0		
818	26	e12	19	17	-	-	19	39	-	-	-	-	-	-	-	3	51	0		
819	26	e19	40	17	-	-	40	44	e40	43	-	-	-	- 6	-	4	45	0		
820	27	e 0	08	52	e08	52	e19	15	e19	19	?36	17	?36	14	+ 174	- 865	135	00		0
821	27	e 3	10	26	e10	26	e16	49	e16	45	-	-	-	+ 8	-	19	35	0	New Guinea	
822	28	e23	15	19	-	-	15	54	15	53	-	-	-	- 5	-	5	23	0		
823	30	e20	05	37	e05	39	06	47	06	46	-	-	-	+ 10	-	4	30	0		
824	31	e 2	41	38	-	-	42	05	42	04	-	-	-	-	-	3	15	0		
825	31	e 6	36	03	e36	03	36	23	e36	21	-	-	-	-	-	3	54	0		

EARTHQUAKES, 1939.



No.	Date 1939	P				S				L				Maximum Range of Motion				Duration of Total Earthquake	Intensity	Approximate Epicenter	
		E	W	N	S	E	W	N	S	E	W	N	S	E	W	N	S				
826 827	Dec. 31 31	h 6	m 53	s 57	m e 53	s 57	m 54	s 46	m e 54	s 44	m -	s -	m -	s -	-	μ 63	+ 100	m 9	s 49	0	Near Tyosi E off Hokusima Pref.
		e 18	28	18	e 28	15	28	35	28	35	-	-	-	-	-	9	+ 18	5	26	0	



# CHIEF EARTHQUAKES OBSERVED WITH NASU'S SEISMOGRAPH, 1939.

Instrument; Nasu's seismograph with three components.

Remarks;

Instrumental constants;

Component	V	T <sub>0</sub>	$\gamma/T_0^2$	Mass
E-W	25	5.0	0.07	7.2 kg.
N-S	25	5.5	0.06	7.2 kg.
Vertical	25	5.5	0.08	4.4 kg.

1. Direction of the earth's displacement is taken to be positive towards north, east, and upward respectively.
2. ⊕ Out of the range of the instrument.
3. × Too feeble to measure.
4. ✕ Out of order of the instrument.

No.	Date	P			S		Maximum Amplitude			First Motion			Epicenter	
		Mean of 3 comp.			Mean of 3 comp.		E-W	N-S	Vertical	E-W	N-S	Vertical	$\lambda^\circ$ (E)	$\phi^\circ$ (N)
		h	m	s	m	s	$\mu$	$\mu$	$\mu$	$\mu$	$\mu$	$\mu$		
31	Jan. 13	22	22	33.7	23	03.4	- 376	+ 192	+ 90	×	×	×	142.0	41.5
38	16	0	10	36.8	10	45.2	+ 530	- 340	- 220	- 48	+ 48	✕	142.0	38.7
59	24	4	2	19.2	2	43.7	- 864	-1144	- 380	+ 4	×	- 28	141.4	37.0
110	Feb. 13	13	33	07.1	33	21.7	+ 210	+ 130	- 82	+ 8	×	- 20	Neighbourhood of Yokote	
114	16	18	51	42.2	52	12.5	⊕	⊕	✕	+ 8	- 20	✕	141.5	36.8
125	18	9	18	56.4	19	13.1	+ 150	+ 96	✕	+ 4	- 12	- 20	141.7	37.8
126	18	11	30	50.5	31	23.7	- 70	- 80	+ 50	×	×	×	E off Hatinohé	
136	23	18	58	04.5	58	41.8	- 90	+ 64	+ 44	- 8	- 8	+ 12	Off Kuzi	
166	Mar. 7	15	17	25.5	17	56.4	+ 306	- 504	+ 86	- 8	- 8	+ 12	144.8	41.0
189	20	3	24	56.9	27	06.2	- 100	+ 140	+ 20	×	×	×	131.8	32.4
203	23	7	39	52.3	40	08.1	+ 190	+ 230	- 84	- 20	+ 36	+ 36	142.2	38.2
221	31	7	19	21.6	20	10.2	- 180	+ 114	+ 184	×	×	×	145.2	42.0
260	Apr. 21	4	31	08.3	32	46.4	⊕	- 866	⊕	+ 20	+ 80	- 96	140.0	47.6
284	May 1	5	58	50.2	59	14.7	⊕	⊕	⊕	+ 72	- 24	+ 60	139.82	39.95
287	1	6	28	43.1	29	03.6	- 424	- 546	+ 210	+ 20	- 16	+ 8	139.8	39.9
296	1	7	28	41.4	29	03.1	-1360	-1096	- 690	- 52	+ 56	- 100	139.6	40.0
319	1	11	51	01.7	51	19.4	- 664	- 704	+ 370	+ 200	- 168	+ 238	139.6	40.0
329	1	13	43	26.3	43	44.7	+ 670	+ 490	- 200	- 40	+ 28	- 36	139.8	39.8
336	1	16	6	15.9	6	37.0	⊕	⊕	⊕	- 12	+ 8	✕ - 4	139.9	39.8
393	2	15	37	39.6	38	03.6	- 290	- 260	+ 120	- 8	+ 12	- 20	139.8	40.0
412	3	23	55	59.9	56	17.9	- 236	- 182	+ 64	+ 16	- 8	+ 12	Near Oga Pen.	
437	8	8	5	38.3	6	20.4	+ 152	+ 80	- 36	×	×	×	141.1	35.6
446	12	14	5	55.0	6	38.4	+ 64	- 106	- 64	×	×	×	Off Tokati	
462	17	18	34	21.4	37	36.6	+ 290	- 100	- 30	×	×	×	Distant	
536	June 17	18	40	27.4	40	46.9	- 100	- 200	+ 88	+ 8	- 16	- 48	142.5	38.6
538	18	0	41	06.7	41	18.4	- 120	- 138	- 76	+ 20	- 8	- 40	142.0	38.8
555	26	13	23	16.4	24	00.3	+ 104	- 120	+ 50	×	×	×	141.2	36.1
576	July 12	20	10	01.8	11	12.9	- 70	+ 52	+ 50	×	×	×	147.3	42.7
599	27	23	28	37.9	29	42.6	+ 60	- 80	- 40	×	×	×	149.0	42.5
600	28	1	6	56.8	7	16.7	- 240	+ 250	+ 86	- 8	+ 32	+ 28	141.6	37.3
601	28	5	21	50.7	22	11.6	- 316	- 212	+ 100	+ 4	+ 4	+ 12	141.6	37.4
605	29	5	10	39.3	10	53.9	+ 90	+ 122	- 60	×	×	×	141.8	40.1
633	Aug. 12	9	52	12.0	53	50.5	- 90	- 90	- 28	×	×	×	150.5	43.7
642	17	15	46	02.0	46	16.5	+ 504	+ 696	+ 164	+ 8	- 16	- 20	141.7	37.6
654	22	0	6	49.8	7	04.9	⊕	⊕	+1032	+ 60	- 116	- 124	141.8	37.7
661	27	20	15	42.3	16	02.3	+ 232	- 140	- 66	- 4	+ 8	+ 8	E off Hukusima	
677	Sept. 8	12	10	22.4	14	58.7	+ 148	+ 192	- 46	×	×	×	Kamchatka	
678	9	8	11	58.5	12	18.1	- 210	+ 274	- 108	- 12	- 8	+ 20	NE off Miyako	
688	16	6	49	04.9	49	29.3	+ 150	- 124	- 64	×	×	×	E off Hukusima	
695	21	7	37	51.1	38	05.1	+ 640	- 462	- 146	- 12	- 20	- 12	Off Kinkwasan	
722	Oct. 7	21	5	09.4	5	35.0	- 42	- 48	✕	×	×	×	141.3	36.9
726	10	13	55	22.1	55	43.2	+ 210	+ 170	- 60	×	×	×	141.6	37.5
728	10	18	32	21.6	32	43.2	⊕	⊕	⊕	+ 76	- 44	- 120	143.0	38.4
749	22	14	40	41.6	41	24.7	+ 216	- 200	+ 84	×	- 12	+ 8	144.2	42.4
780	Nov. 27	15	42	16.8	42	58.4	- 120	- 152	+ 64	×	×	×	ENE off Cape Inubô	
781	28	0	30	54.1	31	09.4	- 62	- 58	+ 26	×	×	- 8	SE off Kuzi	
785	29	22	21	29.4	21	52.8	- 84	+ 94	+ 52	×	×	×	141.3	37.0
790	Dec. 6	18	00	30.6	00	52.5	- 450	- 420	- 240	- 20	+ 32	+ 36	141.8	37.7
804	16	10	48	10.0	49	18.2	-1168	+ 876	+ 236	+ 20	+ 20	- 12	147.2	43.7
809	18	11	38	02.2	38	19.6	- 56	- 38	+ 20	+ 8	×	+ 16	NE off Miyako	
812	20	18	15	20.4	15	30.2	- 350	- 426	✕	+ 124	- 88	✕	142.1	33.9
813	21	21	8	29.7	14	40.9	+ 448	+ 510	- 216	+ 40	- 112	- 60	Distant	
826	31	6	53	57.3	54	30.1	- 144	+ 124	+ 56	×	×	×	140.8	35.6

PULSATORY OSCILLATIONS, 1939. (EW Component)



No.	Beginning			Ending			Maximum				Double Amplitude
	Date			Date			Date				
	Month	Day	Hour	Month	Day	Hour	Day	Hour	Day	Hour	
1	January	2	5	January	3	17	2	16	2	21	10
2		4	13		6	21	5	0	5	19	11
3		7	21		9	17	8	22	9	9	11
4		13	3		14	3	13	11	14	0	5
5		16	3		17	13	17	1	17	5	6
6		18	17		21	20	19	4	19	21	15
7		26	6		28	9	26	10	26	20	6
8		29	17		30	9	29	22	30	5	5
9	February	1	5	February	3	17	2	1	2	13	5
10		5	16		10	19	5	20	7	5	17
11		25	16		28	9	26	18	27	1	7
12	March	2	9	March	4	18	3	0	3	9	5
13		6	12		8	23	6	19	7	7	6
14		11	11		15	0	11	17	12	3	14
15		22	18		24	9	23	16	23	21	5
16		24	21		26	19	25	1	25	5	6
17	April	8	7	April	10	9	9	1	9	11	16
18		13	1		15	4	14	5	14	11	5
19		21	22		23	21	23	9	23	20	6
20		24	0		25	2	24	9	24	12	5
21		26	12		29	11	27	2	27	11	17
22	May	9	7	May	10	9	9	10	9	13	4
23		11	14		14	6	12	22	13	2	8
24		20	6		23	0	20	12	20	18	8
25	June	1	12	June	3	5	1	21	2	2	10
26		25	10		27	12	26	3	26	11	4
27		29	0		30	21	30	0	30	3	4
28	July	13	0	July	13	13	13	4	13	5	2
29	August	4	21	August	8	15	5	6	5	14	12
30		14	22		17	9	16	5	16	7	4
31		20	15		22	9	21	0	21	3	5
32	September	10	17	September	11	17	11	0	11	3	3
33		15	20		16	22	16	1	16	5	7
34		17	15		18	10	18	3	18	6	7
35		20	1		22	0	21	5	21	9	4
36		22	1		24	15	23	11	23	22	4
37		29	0	October	2	2	30	16	30	21	5
38	October	15	23		18	5	16	1	16	6	5
39		19	8		21	21	20	18	21	1	5
40		26	2		29	13	27	7	28	2	17
41	November	4	12	November	6	3	5	3	5	9	12
42		9	17		11	5	10	1	10	9	4
43		12	5		13	13	12	13	13	0	5
44		14	10		17	5	16	10	16	18	4
45		20	12		21	9	20	19	21	1	5
46		22	17		24	5	23	0	23	9	10
47		24	21		27	0	25	12	25	19	10
48		27	2		30	5	29	6	29	11	7
49	December	10	5	December	13	1	10	17	10	23	10
50		13	18		15	9	14	6	14	13	9
51		17	13		19	5	18	0	18	9	4
52		29	21	January (1940)	1	22	31	12	31	17	6

E R R A T A

SEISMOLOGICAL OBSERVATION (1939)

Page		Error	Correction
From	34	Maximum	Maximum
To	49	Range of Motion	Amplitude

# MIZUSAWA JAPAN

## SEISMOLOGICAL BULLETIN

---

International Latitude Observatory of Mizusawa

1 9 3 9

January—March

---

Latitude, 39° 8' 4" N.

Longitude, 141° 7' 52" E.

Height above mean sea level, 61m.

Sub-soil, Diluvial Formation.

Instrument, Omori's Horizontal Pendulum Seismograph.

Instrumental Constants,

Comp.	M kg.	V	T <sub>0</sub> s	$\frac{r}{T_0^2}$
E W	45.0	100	16	0.043
N S	17.6	20	36	0.004



1 9 3 9

1

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
1	Jan. 1	ePE	12	14	20	1.7	+ 6		33	
		iSN		14	53					
		eSE		14	51					
		ME		14	58					
		MN		15	19					
		FE		17	24					
		FN		16	42					
2	1	ePE	18	30	25	0.8	- 15	+ 23	25	
		ePN		30	26					
		iSE,N		30	50					
		ME		31	00					
		MN		31	07					
		FE		34	24					
		FN		33	08					
3	2	ePE	12	04	53				26	
		eSN		05	19					
		ME		05	40					
		FE		07	52					
4	2	ePE	22	52	10	1.3	- 5		29	
		eSE		52	39					
		ME		53	19					
		MN		52	37					
		FE		55	20					
		FN		54	54					
5	3	ePE	4	53	12				16	
		SN		53	28					
		eSE		53	30					
		ME		53	48					
		MN		53	43					
		FE		55	48					
		FN		55	03					
6	3	eSE	6	38	28					
		MN		38	44					
		ME		38	56					
		FE		40	39					
		FN		40	57					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
7	Jan. 3	eSE	15	11	00					
		ME		11	28					
		FE		13	15					
8	4	ePE	4	20	44			28		
		SE		21	12					
		eSN		21	12					
		ME		21	56					
		MN		21	41					
		FE		24	28					
		FN		23	15					
9	4	ePE	6	00	11			25		
		SE		00	36					
		eSN		00	36					
		ME		01	02					
		MN		01	03					
		FE		02	50					
		FN		03	02					
10	4	ePE	9	56	40			27		
		SE		57	07					
		eSN		57	10					
		ME		57	18					
		MN		57	21					
		FE		59	35					
		FN		58	26					
11	5	ePE	8	05	21			31		
		SE		05	52					
		ME		06	30	2.8	+ 11			
		MN		06	05					
		FE		09	39					
		FN		08	12					
12	5	ePE	9	19	58			40		
		SE		20	38					
		eSN		20	40					
		ME		21	26	2.4	- 10			
		MN		20	58					
		FE		25	12					
		FN		23	10					

1 9 3 9

3

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
13	Jan. 5	ePE	11	54	37				35	
		SE		55	12					
		ME		55	41					
		MN		55	37					
		FE		57	50					
		FN		57	52					
14	5	PE	11	04	57				28	
		iSE		05	25					
		eSN		05	26					
		ME		05	39	1.8	+ 10			
		MN		05	36					
		FE		08	55					
		FN		07	37					
15	5	ePE	15	28	44				25	
		iSE		29	09					
		eSN		29	12					
		ME		29	18	1.7	- 18			
		MN		29	26	2.4		+ 25		
		FE		33	22					
		FN		31	52					
16	5	eSE	20	34	58					
		ME		35	08					
		MN		35	00					
		FE		36	55					
		FN		37	12					
17	6	ePE	15	45	27				28	
		iSE		45	55					
		eSN		45	56					
		ME		46	36	1.7	+ 6			
		MN		46	24					
		FE		50	25					
		FN		48	59					
18	6	ePE	18	07	01				28	
		iSE		07	29					
		ME		07	54	1.3	+ 8			
		MN		07	41					
		FE		11	11					
		FN		09	56					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
19	Jan. 7	iPE	13	14	57	1.7 2.4	- 27	- 35	25	
		PN		14	56					
		iSE,N		15	22					
		ME		15	55					
		MN		15	56					
		FE		20	28					
		FN		20	03					
20	7	iPE	13	40	18		+ 7		18	
		ePN		40	18					
		iSE		40	36					
		SN		40	36					
		ME		40	45					
		MN		40	46					
		FE		42	58					
		FN		42	21					
12	8	ePE	1	01	08	2.3	- 10		23	
		SE		01	31					
		eSN		01	30					
		ME		01	51					
		MN		02	00					
		FE		05	05					
		FN		03	46					
22	8	ePE	6	10	26				20	
		SE		10	46					
		ME,N		10	56					
		FE		12	44					
		FN		12	03					
23	8	ePE	14	18	23				22	
		SE		18	45					
		ME		19	15					
		MN		19	01					
		FE		21	54					
		FN		20	41					
24	10	ePE	7	36	41	1.0	- 5		16	
		iSE		36	57					
		ME		37	00					
		MN		37	03					
		FE		38	56					
		FN		38	08					

1 9 3 9

5

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
25	Jan. 10	ePE	12	10	31				1 00	
		ePN		10	35					
		iSE		11	31					
		eSN		11	31					
		ME		11	58	3.6	+ 33			
		MN		12	07	3.3		+ 53		
		FE		19	50					
		FN		17	46					
26	11	ePE,N	2	53	31				35	
		iSE		54	05					
		iSN		54	07					
		ME		55	34	2.4	- 48			
		MN		55	20	3.6		+ 78		
		FE	3	00	59					
		FN	2	59	43					
27	11	PE	5	02	04				20	
		ePN		02	07					
		iSE,N		02	24					
		ME		02	30	0.5	- 11			
		MN		02	34					
		FE		05	37					
		FN		04	17					
28	12	ePE	6	00	39				42	
		SE		01	21					
		eSN		01	22					
		ME		01	58	1.8	+ 7			
		MN		02	08					
		FE		06	41					
		FN		05	45					
29	12	eSE	23	16	10					
		ME		16	14					
		FE		17	03					
30	13	ePE	2	15	38				12	
		SE		15	50					
		ME		15	58					
		FE		17	11					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
31	Jan. 13	PE.N	22	22	34				28	
		iSE		23	02					
		SN		23	01					
		ME		23	58	2.7	-114			
		MN		23	57	2.4		+140		
		FE		32	27					
		FN		30	43					
32	14	PE	10	45	30				32	
		PN		45	33					
		iSE		46	02					
		iSN		46	05					
		ME		47	15	2.1	- 11			
		MN		46	51	2.2		+ 23		
		FE		50	53					
		FN		49	36					
33	14	ePE	11	16	05				24	
		eSE		16	29					
		ME		17	14					
		MN		17	16					
		FE		19	47					
		FN		18	55					
34	14	ePE	14	13	10				20	
		SE		13	30					
		ME		13	39					
		FE		15	00					
35	14	ePE	18	25	05				15	
		SE		25	20					
		ME		25	33					
		FE		26	59					
36	15	?SE	16	16	08					
		ME		16	17					
		MN		16	11					
		FE		18	18					
		FN		17	07					

1 9 3 9

7

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
37	Jan. 15	PE	22	29	23				12	
		iSE		29	35					
		eSN		29	35					
		ME		29	38					
		MN		29	37					
		FE		31	03					
		FN		30	07					
38	16	iPN	0	10	37	1.6	-300		11	Intensity 2
		iSN		10	48					
		MN		11	19					
		FE		18	04					
		FN		15	32					
39	16	ePE	11	32	33				31	
		SE		33	04					
		ME		33	14					
		MN		33	09					
		FE		36	21					
		FN		35	30					
40	18	ePE	0	43	50				15	
		SE		44	05					
		eSN		44	03					
		ME		44	13					
		MN		44	12					
		FE		45	34					
		FN		45	06					
41	18	eSE	14	42	07					
		ME		42	30					
		FE		44	11					
42	19	ePE	0	20	52				36	
		SE		21	28					
		ME		21	49	1.6	- 6			
		FE		24	14					
43	19	?PE	5	34	54				33	
		?SE		35	27					
		ME		35	44					
		FE		37	16					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
44	Jan. 19	?PE	16	15	18				22	
		iSE		15	40					
		eSN		15	40					
		ME		15	47					
		MN		16	00					
		FE		17	28					
		FN		17	15					
45	19	?PE	21	26	46				18	
		?SE		27	04					
		ME		27	20					
		FE		29	14					
46	20	ePE	22	12	38				33	
		iSE		13	11					
		SN		13	10					
		ME		13	31	+ 3				
		MN		13	11					
		FE		15	25					
		FN		14	46					
47	20	ePE	22	16	48				43	
		SE		17	31					
		ME		17	48	- 6				
		MN		17	49					
		FE		23	00					
		FN		20	25					
48	20	?SE	23	14	21					
		ME		14	37					
		FE		15	40					
49	21	ePE	18	51	56				21	
		SE		52	17					
		eSN		52	17					
		ME		52	30	+ 5				
		MN		52	29					
		FE		55	35					
		FN		54	26					
50	22	ePE	3	22	54				28	N-S, Out of order of the instrument.
		SE		23	22					
		ME		23	52					
		FE		26	55					



1 9 3 9

9

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		$\Delta E \mu$	$\Delta N \mu$		
51	Jan. 22	ePE	4	45	36	2.4	+	5	5 12	N-S, Out of order of the instrument.
		?SE		50	48					
		ME		46	26					
		FE		59	33					
52	22	eSE	10	56	29					
		ME		56	49					
		MN		56	44					
		FE		58	27					
		FN		57	53					
53	22	?PE	11	13	18	3.2	+	6		
		?PN		13	22					
		ME		13	33					
		MN		13	48					
		FE		21	21					
		FN		24	32					
54	22	eSE	11	26	44					
		ME		27	16					
		MN		27	07					
		FE		28	59					
		FN		28	05					
55	23	ePE	3	57	37				17	
		iSE		57	54					
		eSN		57	53					
		ME		58	10					
		MN		58	02					
		FE		59	48					
		FN		59	25					
56	23	ePE	13	36	00				21	
		iSE		36	21					
		ME		36	33					
		MN		37	43					
		FE		38	57					
		FN		39	47					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
57	Jan. 23	ePE	16	18	24				26	
		eSE		18	50					
		eSN		18	51					
		ME		19	04					
		MN		19	02					
		FE		20	47					
		FN		20	49					
58	23	cPEN	18	22	37				48	
		SE		23	25					
		SN		23	24					
		ME		24	28	2.0	+ 25			
		MN		23	30	3.5		- 53		
		FE		29	46					
		FN		31	43					
59	24	iPE	4	02	19				26	Intensity 2  First Motion $\left\{ \begin{array}{l} E + 5 \mu \\ N - 40 \end{array} \right.$
		iPN		02	20					
		iSE		02	46					
		iSN		02	45					
		ME		03	09	2.2	-550			
		MN		03	07	2.2		-975		
		FN		17	39					
60	24	ePE	13	18	25				27	
		SE		18	52					
		ME		19	04					
		FE		20	17					
61	24	PE	18	09	17				26	
		ePN		09	16					
		iSE		09	43					
		SN		09	41					
		ME		10	40	2.4	+ 42			
		MN		10	33	2.4		- 43		
		FN		17	35					

1 9 3 9

11

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
62	Jan. 25	PE	3	52	08				9 57	
		ePN		52	11					
		SE	4	02	05					
		?LE		41	44					
		?LN		42	54					
		ME	3	53	09					
		MN		53	12					
		FE	5	59	01					
		FN		47	44					
63	25	ePE	9	08	35				17	
		eSE		08	52					
		ME		09	00					
		FE		10	02					
64	25	ePE	12	46	35				34	
		eSE		47	09					
		ME		47	42					
		FE		49	52					
65	25	eSE	14	58	04					
		ME		58	16					
		FE		59	50					
66	25	ePE	17	27	35				39	
		eSE		28	14					
		ME		28	44		— 3			
		FE		31	43					
67	26	ePE	0	55	10				16	
		eSE		55	26					
		ME		55	41					
		FE		56	47					
68	26	ePE	12	31	43				26	
		SE		32	09					
		ME		32	25		— 3			
		FE		34	02					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		$\Delta E \mu$	$\Delta N \mu$		
69	Jan. 26	iPE	15	54	31				17	
		ePN		54	33					
		iSE		54	48					
		iSN		54	49					
		ME		54	49		$\pm 31$			
		MN		54	50					
		FE		58	34					
		FN		56	23					
70	26	ME	23	54	53					
		FE		55	36					
71	27	ePE	10	39	21				1 24	
		ePN		39	23					
		SE		40	45					
		eSN		40	46					
		ME		41	58	2.4	+ 10			
		MN		42	56					
		FE		47	46					
		FN		48	36					
72	28	ePE	11	20	42				12	
		iSE		20	54					
		eSN		20	53					
		ME,N		20	57					
		FE		22	19					
		FN		21	56					
73	28	eSE	18	40	44					
		ME		40	52					
		FE		41	59					
74	28	PE	23	06	44				1 14	
		PN		06	41					
		iSE		07	58					
		iSN		07	56					
		ME		08	04	1.2	+ 17			
		MN		08	01	0.7		- 23		
		FE		12	04					
		FN		10	05					

1 9 3 9

13

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
75	Jan. 29	eSE	7	52	40					
		ME		52	47					
		MN		53	13					
		FE		55	18					
		FN		54	44					
76	29	ePE	11	39	03			34		
		eSE		39	37					
		ME		40	03					
		MN		39	57					
		FE		42	38					
		FN		41	29					
77	29	PE	16	54	24			24		
		ePN		54	28					
		iSE		54	48					
		iSN		54	50					
		ME		54	55					
		MN		54	54	1.8	+ 18			
		FE		58	58	1.0		- 58		
		FN		56	57					
78	30	PE	2	27	10			6 51		
		PN		27	08					
		SE		34	01					
		SN		34	00					
		LE		37	52					
		LN		37	44					
		MN		41	57	28.9		-2248		
		FN		53	36					
79	30	ePE	4	09	57			19		
		SE,N		10	16					
		ME		10	21		+ 6			
		MN		10	22					
		FE		12	20					
		FN		12	55					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
80	Jan. 30	ePE	6	26	42	1.0	-	6	25	
		SE		27	07					
		eSN		27	12					
		ME		27	34					
		MN		27	36					
		FE		30	45					
		FN		30	04					
81	30	ePE	19	21	26				20	
		SE		21	46					
		eSN		21	46					
		ME		22	06					
		MN		22	23					
		FE		24	59					
		FN		24	41					
82	30	SE	19	26	46					
		ME		26	51					
		MN		26	57					
		FE		28	13					
83	30	PE	23	58	28				6 22	
		PN		58	27					
		iSE	24	04	50					
		iSN		04	50					
		LE		09	27					
		LN		09	42					
		ME		06	34					
		FE		20	45					
FN		24	28							
84	31	eSE	5	32	31					
		ME		34	02					
		FE		35	20					
85	31	iPE	16	51	34				20	
		PN		51	36					
		iSE		51	54					
		iSN		51	55					
		ME		52	10					
		MN		52	14					
		FE		56	50					
		FN		55	11					

1 9 3 9

15

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
86	Feb. 1	ePE	5	26	09	1.5	+	8	36	
		SE		26	45					
		ME		26	57					
		MN		26	47					
		FE		30	40					
		FN		28	17					
87	1	PE	11	22	53	1.6	+	19	27	
		ePN		22	53					
		iSE		23	19					
		SN		23	21					
		ME		23	37					
		MN		23	26					
		FE		28	04					
		FN		26	00					
88	1	ePE	11	44	22				34	
		SE		44	56					
		ME		45	14					
		MN		45	16					
		FE		46	54					
		FN		46	56					
89	1	ePE	14	34	08				19	
		SE		34	27					
		ME		34	45					
		MN		34	48					
		FE		36	22					
		FN		36	15					
90	2	eSE	5	04	57					
		ME		05	17					
		FE		06	43					
91	2	ePE	15	53	10	1.4	-	11	24	
		ePN		53	12					
		iSE		53	35					
		iSN		53	35					
		MN		54	10					
		ME		53	55					
		FE		57	58					
		FN		56	15					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
92	Feb. 2	ePE	16	09	21				22	
		SE		09	43					
		ME		09	58					
		MN		09	50					
		FE		11	09					
		FN		10	54					
93	3	PE	5	35	22				7 16	
		ePN		35	21					
		SE		42	38					
		SN		42	41					
		LE		48	31					
		LN		48	40					
		ME		52	35	19.2	+ 15			
		MN		55	54	18.1		+130		
		FE	6	23	40					
		FN		45	06					
94	5	iPE	18	42	02				16	
		ePN		42	01					
		iSE		42	18					
		iSN		42	18					
		ME		42	20	0.9	+ 35			
		MN		42	20	0.5		- 50		
		FE		46	01					
		FN		44	05					
95	6	ePE	17	10	32				54	
		SE		11	26					
		ME		12	15		+ 9			
		MN		11	40					
		FE		15	07					
		FN		14	08					
96	7	?PE	14	11	42				1 17	
		SE		12	59					
		?SN		12	57					
		ME		13	30	2.4	+ 10			
		MN		16	28					
		FE		19	17					
		FN		25	19					



1 9 3 9

17

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
97	Feb. 7	?PE	10	09	29				27	
		SE		09	56					
		ME		10	22					
		MN		10	30					
		FE		13	10					
		FN		13	22					
98	7	ePE	18	31	52				32	
		SE		32	24					
		ME		33	37	2.2	- 10			
		MN		33	14					
		FE		37	51					
		FN		37	09					
99	8	ePE	15	17	23				36	
		ePN		17	22					
		iSE		17	59					
		SN		17	58					
		ME		18	58	2.6	- 52			
		MN		18	41	2.4		+ 75		
		FE		25	39					
		FN		23	41					
100	9	ePE	0	20	54				32	
		SE		21	26					
		ME		21	44					
		MN		21	40					
		FE		23	41					
		FN		23	21					
101	9	ePE	11	01	26				15	
		SE		01	41					
		eSN		01	44					
		ME		01	57					
		MN		01	54					
		FE		04	18					
		FN		03	33					
102	10	ePE	12	27	06				1 27	
		iSE		28	33					
		eSN		28	32					
		ME		29	04	1.7	- 6			
		MN		29	18					
		FE		33	18					
		FN		32	03					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
103	Feb. 10	ePE	15	49	53	0.7	+ 13	22		
		ePN		49	54					
		iSE		50	15					
		SN		50	16					
		ME		50	20					
		MN		50	26					
		FE		54	04					
		FN		53	11					
104	11	ePE	0	06	53			33		
		SE		07	26					
		ME		07	49					
		MN		07	17					
		FE		09	31					
		FN		09	40					
105	11	ePE	3	31	04			21		
		SE		31	25					
		ME		31	30					
		MN		31	45					
		FE		33	29					
		FN		34	01					
106	11	ePE	20	31	34	2.4	+ 10	1 04		
		ePN		31	33					
		iSE		32	38					
		SN		32	38					
		ME		33	05					
		MN		33	22					
		FE		37	18					
		FN		37	37					
107	12	ePE	0	55	57			7		
		eSE		56	04					
		ME		56	11					
		MN		56	11					
		FE		57	30					
		FN		57	12					
108	12	ePE	8	51	08	1.3	+ 4	31		
		SE		51	39					
		ME		51	51					
		MN		51	50					
		FE		54	40					
		FN		53	19					

1 9 3 9

19

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
109	Feb. 12	ePE	21	51	15				12	
		iSE		51	27					
		eSN		51	25					
		ME		51	32					
		MN		51	32					
		FE		52	42					
		FN		52	20					
110	12	iPE	13	33	08				12	
		PN		33	07					
		iSE		33	20					
		iSN		33	18					
		ME		33	22	2.4	-125			
		MN		33	23	1.7		+108		
		FN		37	23					
111	13	eSE	18	10	55					
		ME		11	05					
		FE		12	07					
112	14	eSE	14	14	57					
		ME		15	04					
		FE		16	36					
113	15	ePE	9	59	51				20	
		SE	10	00	11					
		eSN		00	11					
		ME		00	15	1.0	+ 4			
		MN		00	34					
		FE		01	46					
		FN		02	03					
114	16	iPE	18	51	43				28	Intensity 1 First Motion E 3 $\mu$ S 18 $\mu$
		iPN		51	42					
		iSE		52	09					
		iSN		52	12					
		MN		52	47	3.0		+2688		
		FN		19	27	22				

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
115	Feb. 16	ePE	22	22	37	1.2	-	8	21	
		iSE		22	58					
		SN		22	57					
		ME		23	04					
		MN		23	03					
		FE		25	53					
		FN		25	43					
116	16	ePE	23	39	22				14	
		ePN		39	23					
		iSE		39	36					
		SN		39	36					
		ME		39	37					
		MN		39	46					
		FE		42	<sup>3</sup> 42					
		FN		41	06					
117	17	ePE	0	22	39				23	
		iSE		23	02					
		eSN		23	02					
		ME		23	28					
		MN		23	51 <sup>5</sup>					
		FE		25	35					
		FN		24	59					
118	17	ePE	4	20	54				21	
		iSE		21	15					
		eSE		21	14					
		ME		21	41					
		MN		21	33					
		FE		23	37					
		FN		23	17					
119	17	ePE	6	46	13				19	
		ePN		46	14					
		iSE		46	32					
		SN		46	34					
		ME		47	09					
		MN		47	19					
		FE		51	01					
		FN		52	42					

1 9 3 9

21

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
120	Feb. 17	ePE	10	10	40				18	
		SE		10	58					
		ME		11	14					
		MN		11	17					
		FE		12	27					
		FN		12	50					
121	17	ePE	19	13	57				18	
		SE		14	15					
		eSN		14	17					
		ME		14	26		- 5			
		MN		14	35					
		FE		16	53					
		FN		17	12					
122	17	ePE	20	58	57				33	
		ePN		58	57					
		SE		59	30					
		eSN		59	31					
		ME		59	43	1.2	- 6			
		MN		59	40					
		FN	21	02	09					
123	17	ePE	21	42	54				12	
		SE		43	06					
		ME		43	24					
		MN		43	27					
		FE		44	54					
		FN		44	43					
124	18	ePE	9	14	15				17	
		SE		14	32					
		eSN		14	33					
		ME		14	40					
		MN		14	55					
		FE		16	18					
		FN		16	26					
125	18	iPE	9	18	56				18	Intensity 1
		iPN		18	55					
		iSE		19	13					
		iSN		19	14					
		ME		19	27		+ 68			
		MN		19	27	1.3		+ 95		
		FE		25	57					
		FN		24	45					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
126	Feb. 18	iPE	11	30	50				32	
		iPN		30	52					
		iSE		31	22					
		iSN		31	23					
		ME		32	15	2.0	- 50			
		MN		32	18	1.9		- 58		
		FE		38	48					
		FN		38	43					
127	18	ePE	13	13	30				29	
		SE		13	59					
		ME		14	13					
		MN		14	15					
		FE		16	22					
		FN		16	21					
128	18	ePE	17	53	36				23	
		ePN		53	39					
		iSE		53	59					
		iSN		53	59					
		ME		54	07		+ 25			
		MN		54	08	1.2		+ 35		
		FE		58	46					
		FN		58	12					
129	19	ePE	8	16	12				35	
		SE		16	47					
		SN		16	46					
		ME		16	57		- 9			
		MN		16	56					
		FE		21	27					
		FN		19	58					
130	20	ePE	22	09	01				31	
		iSE		09	32					
		eSN		09	32					
		ME		09	53	1.5	- 6			
		MN		09	49					
		FE		12	14					
		FN		11	35					
131	20	?PE	23	57	08				20	
		SE		57	28					
		ME		57	48					
		FE		58	43					

1 9 3 9

23

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
132	Feb. 21	eSE	4	14	07					
		ME		14	18					
		FE		15	27					
133	22	ePE	0	29	47			22		
		SE		30	09					
		eSE		30	10					
		ME		30	44					
		MN		30	47					
		FE		32	22					
		FN		32	03					
134	22	?SE	11	37	10					
		ME		37	25					
		FE		38	10					
135	23	eSE	5	46	50					
		ME		47	02					
		MN		47	29					
		FE		48	07					
		FN		48	17					
136	23	iPE	18	58	04			37		
		iPN		58	03					
		iSE		58	41					
		iSN		58	39					
		ME		58	50	1.2	- 66			
		MN		59	08	1.2		+ 85		
		FE	19	06	55					
		FN		03	40					
137	23	ePE	19	26	31			27		
		SE		26	58					
		eSN		26	58					
		ME		27	06	0.8	- 5			
		MN		27	29					
		FE		29	23					
		FN		28	42					
138	24	?PE	1	24	33			1 30		
		?SE		26	03					
		?SN		26	03					
		ME		26	06					
		MN		26	19					
		FE		29	18					
		FN		28	51					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
139	Feb. 24	ePE	9	56	03				22	
		SE		56	25					
		ME		56	41					
		FE		58	34					
140	24	?SE	13	09	04					
		ME		09	19					
		FE		10	28					
141	24	PE	14	23	28				2 55?	
		ePN		23	30					
		?SE		26	20					
		?SN		26	27					
		FE		31	54					
		FN		30	24					
142	24	eSE	16	49	47					
		ME		50	09					
		FE		51	21					
143	25	ePE	6	54	19				23	
		SE		54	42					
		ME		54	52					
		MN		54	59					
		FE		56	22					
		FN		55	53					
144	25	ePE	22	40	24				17	
		eSE		40	41					
		ME		40	55					
		FE		42	24					
145	26	ePE	14	10	11				27	
		ePN		10	11					
		iSE		10	38					
		eSN		10	37					
		ME		10	55	1.2	- 15			
		MN		10	59					
		FE		14	39					
		FN		13	22					
146	26	eSE	16	20	19					
		ME		20	58					
		MN		20	26					
		FE		22	59					
		FN		21	56					



1 9 3 9

25

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
147	Feb. 28	?PE	2	43	58				3 46?	
		?PN		43	55					
		?SE		47	36					
		?SE		47	48					
		ME		44	57					
		FE		56	38					
		FN		56	51					
148	28	ePE	17	19	27				27	
		SE		19	54					
		eSN		19	53					
		ME		20	14					
		MN		20	52					
		FE		23	41					
		FN		23	35					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
149	Mar. 1	ePE	6	51	55	1.1	+ 10	39		
		iSE		52	34					
		eSN		52	32					
		ME		52	42					
		MN		52	37					
		FE		57	48					
		FN		56	32					
150	1	ePE	15	22	37	1.7	- 11	24		
		ePN		22	37					
		SE		23	00					
		SN		23	02					
		ME		23	19					
		MN		23	40					
		FE		27	37					
		FN		26	06					
151	1	ePE	15	36	37	1.6	- 8	25		
		SE		37	02					
		eSN		37	04					
		ME		37	45					
		MN		37	20					
		FE		41	02					
		FN		39	53					
152	2	eSE	4	16	42		+ 4			
		ME		16	46					
		FE		19	39					
153	2	PE	7	08	19	1.7	+ 7	6 02		
		?PN		08	13					
		eSE		14	21					
		?SN		14	29					
		ME		08	24					
		FE		22	48					
		FN		29	31					
154	2	eSE	22	37	45					
		ME		37	57					
		FE		38	54					

1 9 3 9

27

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
155	Mar. 2	ePE	23	12	05	1.8	—	5	25	
		SE		12	30					
		eSN		12	29					
		ME		13	18					
		MN		12	41					
		FE		16	59					
		FN		16	44					
156	3	PE	22	52	49	2.1	—	10	33	
		ePN		52	48					
		iSE		53	21					
		eSN		53	22					
		ME		53	28					
		MN		53	38					
		FE		57	35					
FN		56	18							
157	4	iPE	8	49	47	?	±	15	9	
		iPN		49	47					
		iSE		49	56					
		iSN		49	56					
		ME		49	59					
		MN		49	57					
		FE		52	40					
FN		51	25							
158	4	ePE	9	10	11	1.8	—	4	35	
		iSE		10	46					
		ME		11	24					
		MN		11	00					
		FE		14	12					
		FN		12	35					
159	4	ePE	10	19	56	1.1	—	14	44	
		iSE		20	40					
		iSN		20	41					
		ME		20	46					
		MN		20	49					
		FE		24	35					
		FN		22	43					
160	4	ePE	14	03	36				25	
		eSE		04	01					
		ME		04	17					
		FE		06	29					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
161	Mar. 5	SE ME FE	5	11	06 14 19					
162	5	PE ePN iSE SN ME MN FE FN	6	19	16 19 36 36 12 53 49 10	1.9	- 6	19		
163	6	ePE SE ME MN FE FN	3	12	35 54 01 37 01 38	0.6	- 5	19		
164	6	?PE eSE ME MN FE FN	14	10	37 57 25 35 55 34			20		
165	6	ePE iSE eSN ME MN FE FN	22	09	11 43 43 46 49 54 46	?	- 8	22		
166	7	iPE iPN iSE iSN ME MN FE FN	15	17	25 26 55 55 02 19 42 07	2.4	+166 -272	30		

1 9 3 9

29

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
167	Mar. 7	ePE	23	58	46				34	
		iSE		59	20					
		SN		59	21					
		ME		59	49	1.7	+ 28			
		MN		59	50	2.1		- 45		
		FE	24	05	49					
		FN		04	07					
168	8	eSE	6	58	09					
		ME		58	37					
		FE	7	01	06					
169	8	eSE	16	39	25					
		ME		39	44					
		FE		41	51					
170	8	ePE	22	07	01				7 21?	
		?PN		06	33					
		SE		14	08					
		?SN		14	08					
		FE		24	41					
		FN		26	26					
171	9	PE	1	27	10				23	
		ePN		27	09					
		iSE		27	33					
		iSN		27	32					
		ME		27	45	0.7	- 41			
		MN		27	40	?		+ 53		
		FE		33	36					
		FN		32	47					
172	9	eSE	5	15	20					
		ME		15	22					
		FE		16	29					
173	9	PE	18	13	22				35	
		PN		13	24					
		iSE		13	58					
		iSN		13	58					
		ME		14	31	2.3	+ 31			
		MN		14	06	2.1		+ 50		
		FE		20	32					
		FN		18	09					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
174	Mar. 9	?PE	22	11	52			8		
		?SE		12	00					
		ME		12	08					
		FE		13	12					
175	10	ePE	2	48	16			4 12?		
		?PN		48	18					
		eSE		52	28					
		?SN		52	29					
		FE		59	16					
		FN		56	19					
176	10	ePE	3	02	21			4 26?		
		ePN		02	24					
		eSE		06	59					
		?SN		06	38					
		FE		43	47					
		FN		17	15					
177	10	ePE	19	45	13			25		
		SE		45	38					
		eSN		45	37					
		ME		45	54	- 7				
		MN		45	55					
		FE		48	31					
		FN		50	31					
178	10	PE	21	59	26			1 16		
		iSE	22	00	42					
		eSN		00	45					
		ME		01	05	- 11				
		MN		01	14					
		FE		05	05					
		FN		15	01					
179	10	PE	23	28	10			25		
		iSE		28	35					
		eSN		28	34					
		ME		28	41	- 10				
		MN		28	41					
		FE		32	17					
		FN		31	51					

1 9 3 9

31

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
180	Mar. 11	PE	13	43	54				30	
		iSE		44	24					
		eSN		44	24					
		ME		44	59	2.0	+ 11			
		MN		45	08	1.3		- 10		
		FE		50	30					
		FN		49	36					
181	12	PE	16	55	07				30	
		iSE		55	37					
		SN		55	38					
		ME		56	19	2.8	- 18			
		MN		56	41	2.4		+ 25		
		FE	17	02	05					
		FN		03	30					
182	15	ePE	0	56	43				47	
		iSE		57	30					
		eSN		57	31					
		ME		58	06	1.9	+ 14			
		MN		57	47	1.2		- 25		
		FE	1	01	18					
		FN		00	10					
183	15	ePE	1	35	40				28	
		ePN		35	40					
		SE		36	08					
		eSN		36	07					
		ME		36	45	2.1	- 9			
		MN		36	32					
		FE		41	18					
		FN		40	12					
184	16	ePE	14	42	43				23	
		SE		43	06					
		eSN		43	07					
		ME		43	15					
		MN		43	48					
		FE		45	27					
		FN		45	39					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
185	Mar. 16	ePE	22	15	40	1.9	+ 5		39	
		SE		16	19					
		eSN		16	17					
		ME		16	45					
		MN		16	21					
		FE		19	36					
		FN		20	13					
186	19	ePE	9	04	43	2.5	- 4		48	
		SE		05	31					
		SN		05	33					
		ME		05	41					
		MN		06	01					
		FE		09	58					
		FN		08	40					
187	19	ePE	11	20	50	2.3	+ 11		54	
		ePN		20	50					
		iSE		21	44					
		SN		21	42					
		ME		23	10					
		MN		22	55					
		FE		27	17					
FN		26	59							
188	19	eSE	13	56	18					
		ME		57	06					
		MN		56	37					
		FE		58	55					
		FN		58	58					
189	20	iPE	3	24	57				2 11	
		iPN		24	57					
		iSE		27	09					
		iSN		27	07					
		ME		28	41					
		MN		29	27					
		FE		53	34					
FN		56	43							



1 9 3 9

33

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
190	Mar. 20	PE	6	52	43	2.4 1.6	- 25	+ 28	32	
		ePN		52	44					
		iSE		53	16					
		SN		53	15					
		ME		54	08					
		MN		53	57					
		FE	7	00	42					
FN	6	58	33							
191	20	eSE	7	04	00					
		ME		04	31					
		FE		07	08					
192	21	iPE	1	21	28	18.0 14.7	- 10	-165	8 28	Time is not accurate
		ePN		21	27					
		SE		29	56					
		SN		29	55					
		LE		37	17					
		LN		37	05					
		ME		50	38					
		MN		50	55					
		FE	2	12	05					
		FN		12	32					
193	21	ePE	9	34	33				10	
		eSE		34	43					
		ME		34	55					
		MN		34	51					
		FE		36	01					
		FN		35	30					
194	21	PE	10	05	54	0.8	- 15		16	
		ePN		05	53					
		iSE		06	10					
		eSN		06	10					
		ME		06	18					
		MN		06	14					
		FE		09	38					
		FN		08	19					
195	21	ePE	17	58	18				25	
		SE		58	43					
		ME		58	56					
		MN		59	03					
		FE	18	01	15					
		FN		00	21					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks		
			h	m	s		AE $\mu$	AN $\mu$				
196	Mar. 22	ePE	3	26	42	0.8	+ 5		20			
		SE		27	02							
		eSN		27	03							
		ME		27	18							
		MN		27	29							
		FE		30	18							
		FN		29	43							
197	22	PE	3	53	48				6 36			
		ePN		53	46							
		SE	4	00	23							
		SN		00	24							
		FE		11	15							
		FN		12	06							
198	22	PE	4	40	01				36			
		PN		39	59							
		iSE		40	36							
		eSN		40	36							
		ME		41	09						2.4	+ 15
		MN		41	22						2.2	- 20
		FE		45	57							
		FN		45	39							
199	22	ePE	9	04	06				11			
		SE		04	17							
		eSN		04	14							
		ME		04	27							
		MN		04	29							
		FE		05	54							
		FN		05	32							
200	22	ePE	13	33	26				24			
		SE		33	50							
		eSN		33	51							
		ME		34	22							
		MN		34	04							
		FE		36	38							
		FN		35	36							

1 9 3 9

35

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
201	Mar. 22	ePE	15	50	37				21	
		iSE		50	58					
		eSN		51	00					
		ME		51	13					
		MN		51	17					
		FE		53	52					
		FN		53	01					
202	22	ePE	22	02	36				23	
		iSE		02	59					
		ME		03	27					
		MN		03	23					
		FE		05	22					
		FN		05	01					
203	23	iPE	7	39	53				15	
		PN		39	53					
		iSE		40	08					
		iSN		40	09					
		ME		40	59	2.4	+130			
		MN		40	25	2.4		-188		
		FE		47	39					
		FN		45	29					
204	23	ePE	10	30	24				20	
		SE		30	44					
		ME		30	57					
		FE		33	23					
205	23	eSE	11	06	54					
		ME		07	03					
		FE		07	59					
206	23	ePE	23	49	47				21	
		SE		50	08					
		ME		50	14	0.9	- 4			
		MN		50	17					
		FE		53	26					
		FN		55	05					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
207	Mar. 24	PE	4	14	26	2.0	+ 16	+ 23	30	
		ePN		14	27					
		iSE		14	56					
		iSN		14	56					
		ME		15	25					
		MN		15	07					
		FE		19	18					
		FN		19	36					
208	24	PE	4	34	58	2.4 1.0	+ 25	- 25	29	
		ePN		34	57					
		iSE		35	27					
		SN		35	26					
		ME		36	37					
		MN		35	49					
		FE		41	09					
		FN		39	01					
209	24	PE	5	30	01	2.0	- 7		30	
		ePN		29	59					
		iSE		30	30					
		SN		30	31					
		ME		31	20					
		MN		30	58					
		FE		34	22					
		FN		34	07					
210	24	ePE	7	00	38	?	- 3		30	
		SE		01	08					
		eSN		01	10					
		ME		01	15					
		MN		01	23					
		FE		03	37					
		FN		03	29					
		211	24	ePE	12					
SE				32	11					
ME				32	16					
MN				32	26					
FE				33	55					
FN				35	01					

1 9 3 9

37

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
212	Mar. 25	ePE	2	27	46				21	
		SE		28	07					
		ME		28	39		- 6			
		MN		28	25					
		FE		31	05					
		FN		30	25					
213	26	ePE	0	52	30				1 00	
		ePN		52	28					
		iSE		53	29					
		iSN		53	30					
		ME		53	39	2.4	- 14			
		MN		54	33	2.5		+ 25		
		FE	1	00	03					
		FN	0	57	59					
214	27	ePE	15	02	03				25	
		SE		02	28					
		ME		02	39					
		MN		02	37					
		FE		04	08					
		FN		03	56					
215	28	ePE	0	53	04				12	
		SE		53	16					
		ME		53	19					
		FE		54	18					
216	28	ePE	13	29	16				34	
		SE		29	50					
		eSN		29	52					
		ME		30	18					
		MN		30	09					
		FE		32	37					
		FN		32	15					
217	28	eSE	17	57	00					
		ME		57	15					
		MN		57	05					
		FE		59	03					
		FN		58	39					
218	29	ePE	0	26	16				6 28	
		eSE		32	44					
		FE		39	54					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
219	Mar. 29	ePE	11	17	13	?	-	5	33	
		iSE		17	46					
		eSN		17	43					
		ME		18	40					
		MN		18	14					
		FE		21	16					
		FN		21	10					
220	29	ePE	14	50	01				25	
		SE		50	26					
		ME		50	33					
		MN		50	47					
		FE		53	22					
		FN		53	31					
221	31	PE	7	19	22	1.8	-	130	50	
		PN		19	21					
		iSE		20	12					
		iSN		20	11					
		ME		20	14					
		MN		20	21					
		FE		26	59					
		FN		26	09					

昭和十四年八月十二日印刷  
昭和十四年八月十五日發行

緯 度 觀 測 所

岩 手 縣 水 澤 町

岩手縣水澤町表小路十二番地

印刷人 佐々木 正 藏

岩手縣水澤町裏町四番地

印刷所 水澤印刷株式會社

# MIZUSAWA JAPAN

## SEISMOLOGICAL BULLETIN

---

International Latitude Observatory of Mizusawa

1939

April—June

---

Latitude, 39° 8' 4" N.

Longitude, 141° 7' 52" E.

Height above mean sea level, 61m.

Sub-soil, Diluvial Formation.

Instrument, Omori's Horizontal Pendulum Seismograph.

Instrumental Constants,

Comp.	M kg.	V	T <sub>0</sub> s	$\frac{r}{T_0^2}$
E W	45.0	100	16	0.043
N S	17.6	20	36	0.004



1939

39

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
222	Apr. 2	eSE	7	33	13					
		ME		33	22					
		FE		34	52					
223	3	ePE	1	29	03	1.0	-3	17		
		SE		29	20					
		ME		29	46					
		MN		29	40					
		FE		32	15					
		FN		32	56					
224	3	ePE	11	19	55			31		
		eSE		20	26					
		eSN		20	28					
		ME		21	00					
		MN		21	06					
		FE		22	47					
		FN		23	19					
225	4	ePE	3	26	48			28		
		SE		27	16					
		ME		27	52					
		MN		27	59					
		FE		30	15					
		FN		29	40					
226	4	eSE	6	34	21					
		ME		34	31					
		FE		35	29					
227	4	ePE	7	01	52			21		
		SE		02	13					
		eSN		02	13					
		ME		02	29					
		MN		02	21					
		FE		04	15					
		FN		03	50					
228		5	ePE	1	25	39				25
	ePN			25	42					
	SE			26	04					
	eSN			26	04					
	ME			26	18					
	MN			26	27					
	FE			28	52					
	FN			28	19					

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
229	Apr. 5	ePE	16	53	18				8 35	
		ePN		53	17					
		eSE	17	01	53					
		eSN		01	51					
		eLE,N		09	04					
		ME		16	46	20.7	-6			
		MN		16	28	19.5		+68		
		FE		40	32					
230	6	?SE	2	35	19					
		ME		35	49					
		FE		38	34					
231	6	?PE	3	19	25				1 00	
		SE		20	25					
		ME		20	48					
		MN		20	51					
		FE		23	36					
232	6	ePE	5	04	03				25	
		SE		04	28					
		eSN		04	28					
		ME		04	39					
		MN		04	36					
		FE		06	28					
		FN		06	04					
233	6	?SE	8	32	08					
		ME		32	14					
		FE		33	38					
234	7	ePE	6	30	57				30	
		SE		31	27					
		eSN		31	26					
		ME		31	33					
		MN		31	43					
		FE		33	36					
		FN		33	21					
235	7	PE	16	05	13				43	
		ePN		05	12					
		SE		05	56					
		SN		05	57					
		ME		06	46	2.9	+16			
		MN		07	01					
		FE		12	35					
		FN		12	57					

1939

41

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
236	Apr. 8	?PE	12	02	30				19	
		SE		02	49					
		ME		02	55					
		FE		04	29					
237	9	ePE	8	16	04				32	
		iSE		16	36					
		eSN		16	37					
		ME		16	54		+10			
		MN		16	59					
		FE		20	00					
		FN		19	08					
238	9	?PE	15	18	58				28	
		?SE		19	26					
		ME		19	52					
		FE		21	34					
239	9	ePE	15	46	14				13	
		iSE		46	27					
		ME		46	35					
		FE		47	56					
240	10	ePE	11	26	13				54	
		ePN		26	13					
		iSE		27	07					
		SN		27	07					
		ME		27	15		-14			
		MN		27	12					
		FE		31	12					
		FN		29	45					
241	10	PE	12	46	45				21	
		iSE		47	06					
		ME		47	24		-3			
		MN		47	18					
		FE		49	01					
		FN		48	53					
242	10	eSE	19	29	17					
		ME		29	23					
		FE		30	49					

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
243	Apr. 11	ePE	21	49	50				51	
		iSE		50	41					
		SE		50	40					
		ME		50	49					
		MN		50	48					
		FE		53	26					
		FN		53	00					
244	11	PE	22	01	51				18	
		ePN		01	52					
		iSE		02	09					
		SN		02	08					
		ME		02	33	2.4	-14			
		MN		02	14					
		FE		05	29					
		FN		04	46					
245	12	PE	17	15	42				22	
		ePN		15	42					
		iSE		16	04					
		SN		16	06					
		ME		16	37	2.1	-16			
		MN		16	48	1.7		+28		
		FE		21	42					
		FN		20	48					
246	12	eSE	23	13	24					
		ME		13	37					
		FE		15	04					
247	13	?SE	8	11	30					
		ME		11	40					
		FE		13	02					
248	13	eSE	15	25	22					
		ME		25	52					
		FE		27	35					
249	14	ePE,N	3	23	02				32	
		iSE		23	34					
		SN		23	34					
		ME		23	50	2.1	+23			
		MN		24	15	2.4		-25		
		FE		29	24					
		FN		28	21					

1939

43

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
250	Apr. 14	ePE	7	14	21				20	
		eSE		14	41					
		ME		14	52					
		FE		17	14					
251	14	ePE	17	29	43				22	
		SE		30	05					
		eSN		30	05					
		ME		30	38	2.4	+6			
		MN		30	31					
		FE		34	00					
		FN		32	27					
252	15	ePE	9	06	59				1 05	
		eSE,N		08	04					
		ME		09	06					
		MN		09	25					
		FE		13	50					
		FN		20	26					
253	15	ePE	11	21	36				11	
		SE		21	47					
		SN		21	48					
		ME		21	50					
		MN		21	51					
		FE		23	05					
		FN		22	42					
254	16	?SE	16	05	47					
		ME		05	59					
		FE		07	29					
255	18	PE	3	50	50				33	
		SE		51	23					
		ME		51	55					
		FE		54	20					
256	18	PE,N	6	42	35				11 45	
		?SE		54	20					
		?SN		54	30					
		ME	7	43	35	18.6	+11			
		MN		40	04	20.2		-50		
		FE	8	51	14					
		FN		34	01					

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
257	Apr. 20	ePE	8	06	35				7	
		ePN		06	35					
		iSE		06	42					
		SN		06	43					
		ME		06	47		+6			
		ME		06	44					
		FE		08	35					
258	21	FN		07	44				31	
		ePE	1	18	40					
		eSE		19	11					
		ME		19	27					
		MN		19	38					
		FE		21	46					
259	21	FN		21	46				33	
		ePE	3	13	55					
		iSE		14	28					
		eSN		14	28					
		ME		15	07		-5			
		MN		15	01					
		FE		18	46					
260	21	FN		17	50				1 37	
		iPE	4	31	09					
		iPN		31	09					
		iSE		32	46					
		iSN		32	47					
		MN		32	54	2.3	+748			
		FE		49	51					
261	21	FN		51	04				15	ME Out of the range of the instrument
		iPE	17	19	24					
		ePN		19	21					
		iSE		19	39					
		iSN		19	38					
		ME		19	42	2.4	-30			
		MN		19	43					
		FE		24	12					
262	22	FN		23	22					
		eSE	10	53	27					
		ME		53	37					
263	22	FE		55	40					
		eSE	11	31	44					
		ME		32	11					
		MN		32	13					
		FE		34	55					
		FN		35	02					

1939

45

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
264	Apr. 22	ePE	12	27	33				30	
		eSE		28	03					
		ME		28	15					
		MN		28	17					
		FE		30	45					
		FN		30	55					
265	23	ePE	9	07	48				33	
		SE		08	21					
		eSN		08	19					
		ME		09	01	2.0	-5			
		MN		08	40					
		FE		13	14					
		FN		10	54					
266	23	eSE	9	19	15					
		ME		19	26					
		FE		20	53					
267	23	ePE	17	40	14				44	
		iSE		40	58					
		eSN		40	56					
		ME		41	15	2.6	-11			
		MN		41	35	2.5		-20		
		FE		47	05					
268	23	ePE	21	01	04				31	
		iSE		01	35					
		ME		02	03	2.5	-5			
		MN		02	50					
		FE		05	23					
		FN		05	35					
269	24	PE	8	11	14				27	
		SE		11	41					
		ME		12	04					
		FE		14	30					
270	24	PE	9	41	18				22	
		ePN		41	19					
		iSE		41	40					
		SN		41	40					
		ME		41	48		+43			
		MN		41	52			+38		
		FE		48	08					
FN		46	15							

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
271	Apr. 24	ePE	10	56	49	2.1	+10		21	
		SE		57	10					
		SN		57	10					
		ME		57	57					
		MN		57	26					
		FE	11	00	56					
		FN	10	59	53					
272	24	ePE	12	33	11	3.0	-14		29	
		SE		33	40					
		SN		33	40					
		ME		33	47					
		MN		33	53					
		FE		37	23					
		FN		36	02					
273	24	eSE	13	45	14					
		ME		45	19					
		FE		47	13					
274	24	ePE	23	05	34	2.4	+26		48	
		ePN		05	35					
		SE		06	22					
		eSN		06	22					
		ME		06	34					
		MN		07	06					
		FE		14	12					
275	25	ePE	4	51	34	1.0	-7		1 16	
		iSE		52	50					
		SN		52	50					
		ME		53	19					
		MN		53	21					
		FE		58	29					
		FN		58	36					
276	26	ePE	1	42	52				35	
		SE		43	27					
		ME		43	42					
		FE		46	26					
277	26	ePE	11	21	41	2.7	+8		1 08	
		SE		22	49					
		eSN		22	50					
		ME		23	01					
		MN		23	17					
		FE		29	42					
		FN		32	29					



1939

47

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
278	Apr. 26	?SE	18	36	40					
		eSN		36	40					
		ME		36	52		-6			
		MN		36	58					
		FE		39	43					
		FN		39	41					
279	29	ePE	7	13	07				23	
		ePN		13	09					
		iSE		13	30					
		SN		13	31					
		ME		13	39	0.7	-10			
		MN		13	38					
		FE		18	02					
		FN		15	52					
280	29	ePE	16	46	09				15	
		SE		46	24					
		ME		46	37					
		FE		48	15					
281	30	ePE	3	04	36				7 38	
		ePN		04	36					
		SE		12	21					
		SN		12	07					
		LE		17	22					
		LN		17	20					
		FE	4	53	34					
		FN	5	47	14					

 ME, MN Out of the range  
of the instrument

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
282	May 1	ePE	5	17	37				21	
		SE		17	58					
		ME		18	03					
		FE		19	46					
283	1	ePE	5	48	18				16	
		SE		48	34					
		ME		49	00					
		FE		51	23					
284	1	iPE	5	58	51					Intensity 4. Near the mouth of R. Nosiro. Main part was out of the range of the instru- ments.
		PN		58	51					
285	1	?SE	6	19	26					
		?SN		19	26					
		ME		19	39		+13			
		MN		20	03					
		FE		23	01					
		FN		21	41					
286	1	?SE	6	26	07					
		ME		26	33					
		FE		28	10					
287	1	PE	6	28	44				22	Intensity 2.
		PN		28	43					
		SE		29	06					
		SN		29	06					
		ME		29	32	4.1	+240			
		MN		29	08			+223		
288	1	?SE	6	38	32					
		ME		38	41					
		FE		41	24					
289	1	ePE	6	43	28				1 23	
		SE		44	51					
		SN		44	51					
		ME		45	01	1.4	+6			
		MN		45	09					
		FE		48	22					
		FN		47	02					
290	1	ePE	6	49	27				18	
		SE		49	45					
		ME		49	58					
		MN		50	03					
		FE		52	25					
		FN		50	44					

1939

49

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
291	May 1	ePE	6	55	49				16	
		eSE		56	05					
		ME		56	20					
		FE		57	30					
292	1	PE	7	03	20				25	
		ePN		03	17					
		iSE		03	46					
		iSN		03	44					
293	1	ME		04	36	2.4	+59		17	
		MN		04	14	2.1		+123		
		iPE	7	09	16					
		iPN		09	15					
294	1	iSE		09	33				22	
		iSN		09	33					
		ME		09	56	2.2	+80			
		MN		09	44	1.9		-113		
295	1	FE		15	13				17	
		FN		13	40					
		ePE	7	16	04					
		ePN		16	04					
296	1	iSE		16	27				20	Intensity 2. ME Out of the range of the instrument.
		SN		16	25					
		ME		16	41	1.3	+11			
		MN		16	38	1.9		+25		
297	1	FE		19	17				17	
		FN		19	26					
		PE	7	24	01					
		ePN		23	59					
296	1	iSE		24	18				20	Intensity 2. ME Out of the range of the instrument.
		SN		24	16					
		ME		24	34	1.4	-12			
		MN		24	27					
297	1	FN		27	07				20	Intensity 2. ME Out of the range of the instrument.
		iPE	7	28	42					
		iPN		28	40					
		SE		29	01					
297	1	SN		29	02				20	Intensity 2. ME Out of the range of the instrument.
		MN		29	12	2.4		-1375		
		FE		44	40					
		eSE	7	45	58					
297	1	ME		46	10				20	Intensity 2. ME Out of the range of the instrument.
		FE		47	04					

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
298	May 1	eSE	7	52	40					
		ME		52	52					
		FE		53	46					
299	1	eSE	7	55	04					
		ME		55	36					
		FE		57	14					
300	1	eSE	8	00	37					
		SN		00	39					
		ME		00	50					
		MN		00	57					
		FE		02	46					
		FN		01	48					
301	1	eSE	8	03	44					
		ME		03	55					
		FE		05	02					
302	1	eSE	8	13	02					
		ME		13	12					
		FE		14	47					
303	1	ePE	8	29	58			16		
		eSE		30	14					
		ME		30	29					
		MN		30	29					
304	1	eSE	8	31	13					
		eSN		31	11					
		ME		31	45					
		MN		31	29					
		FE		33	15					
		FN		32	38					
305	1	eSE	8	44	56					
		ME		45	03					
		FE		45	53					
306	1	iPE	8	56	23			18		
		PN		56	22					
		iSE		56	42					
		SN		56	40	1.5	+41			
		ME		56	52	1.7		+78		
		MN		56	51					
		FE	9	02	03					
		FN		00	11					

1939

51

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks	
			h	m	s		AE $\mu$	AN $\mu$			
307	May 1	eSE	9	07	13						
		ME		07	32						
		MN		07	26						
		FE		09	08						
		FN		08	41						
308	1	PE	9	15	21				17		
		ePN		15	22						
		SE		15	39						
		SN		15	38						
		ME		15	53						
		MN		15	56						
		FE		19	22						
		FN		17	52						
		309	1	ePE	9	22	59				19
				SE		23	18				
eSN				23	18						
ME				23	28	1.0	+5				
MN				23	21						
FE				25	53						
FN				26	28						
310	1	PE	9	53	44				14		
		SE		53	58						
		ME		54	04						
		FE		55	26						
311	1	ePE	9	59	07				15		
		ePN		59	09						
		SE		59	23						
		eSN		59	22						
		ME		59	41	1.3	-30				
312	1	MN		59	56	1.5		+60			
		PE	10	04	10				17		
		PN		04	09						
		iSE		04	27						
		SN		04	27						
		ME		04	50	2.4	+28				
		MN		04	57	2.0		+40			
		FE		09	47						
		FN		07	44						
		313	1	eSE	10	32	19				
ME				32	34						
MN				32	37						
FE				32	56						
FN				33	10						

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
314	May 1	ePE	10	33	04				22	
		eSE		33	26					
		ME		33	57					
		MN		33	38					
		FE		35	22					
		FN		34	11					
315	1	eSE	10	37	44					
		ME		37	58					
		MN		37	57					
		FE		38	57					
		FN		38	46					
316	1	ePE	10	52	55				20	
		eSE		53	15					
		ME		53	30					
		FE		54	52					
317	1	iPE	11	43	45				18	
		iPN		43	47					
		SE		44	04					
		SN		44	04					
		ME		44	17		-84			
		MN		44	20	2.3		+123		
		FN		49	22					
318	1	PE	11	49	46				17	
		ePN		49	45					
		iSE		50	03					
		iSN		50	02					
		ME		50	15		-18			
		MN		50	07	1.3		-25		
319	1	PE	11	50	58				21	
		PN		50	59					
		SE		51	19					
		SN		51	20					
		ME		52	01	2.8	-415			
		MN		52	04	2.4		+550		
		FE	12	05	43					
320	1	ePE	12	06	23				21	
		eSE		06	44					
		ME		07	01					
		FE		08	57					

1939

53

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
321	May 1	PE	12	12	16				18	
		PN		12	18					
		iSE		12	34					
		iSN		12	35					
		ME		12	38	0.9	-42			
		MN		12	47	1.7		+90		
		FE		17	48					
		FN		16	15					
322	1	PE	12	18	23				21	
		ePN		18	24					
		iSE		18	44					
		SN		18	44					
		ME		19	16	1.9	-11			
		MN		18	56	2.2		-28		
		FE		23	03					
		FN		20	47					
323	1	ePE	12	23	30				12	
		SE		23	42					
		ME		23	45					
		MN		23	59					
		FE		25	27					
		FN		25	15					
324	1	SE	12	27	29					
		ME		27	37					
		FE		28	55					
325	1	eSE	12	39	43					
		ME		40	03					
		FE		41	13					
326	1	eSE	12	54	28					
		ME		54	38					
		FE		55	39					
327	1	iPE	13	01	00				19	
		ePN		00	57					
		iSE		01	18					
		iSN		01	17					
		ME		01	30		-25			
		MN		01	29	2.1		+35		
		FE		06	40					
		FN		05	29					

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
328	May 1	PE	13	18	55	1.7	-5		15	
		iSE		19	11					
		eSN		19	09					
		ME		19	49					
		MN		19	29					
		FE		21	53					
		FN		20	46					
329	1	iPE	13	43	25	2.7	+299		18	Intensity 2
		iPN		43	26					
		iSE		43	44					
		iSN		43	43					
		ME		44	34					
		MN		43	55					
		FE		52	54					
330	1	FN		53	09	?	-5		21	
		ePE	13	53	24					
		SE		53	45					
		eSN		53	44					
		ME		53	59					
		MN		53	53					
		FE		56	42					
331	1	FN		55	50	2.0	-5		24	
		ePE	14	14	22					
		SE		14	46					
		SN		14	45					
		ME		15	12					
		MN		15	01					
		FE		17	57					
332	1	FN		16	10					
		eSE	14	39	13					
		ME		39	24					
333	1	FE		40	17				15	
		ePE	15	43	27					
		SE		43	42					
334	1	ME		44	29				26	
		MN		44	05					
		FE		48	10					
		FN		45	30					
		ePE	15	55	01					
		eSE		55	27					
		ME		55	52					
MN		55	55							
FE		57	59							
FN		56	27							



1939

55

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
335	May 1	ePE	16	02	53				18	
		SE		03	11					
		ME		03	18					
		FE		05	32					
336	1	PE	16	06	14				17	Intensity 3 Main part was out of the range of the instruments
		iPN		06	14					
		?SN		06	31					
337	1	PE	16	18	44				16	
		ePN		18	43					
		SE		18	59					
		SN		19	01					
		ME		19	33	1.8	-63			
		MN		19	45	2.7		+80		
		FE		28	45					
		FN		29	12					
338	1	ePE	16	29	22				16	
		eSE		29	38					
		ME		29	59					
		MN		30	16					
		FE		31	12					
		FN		31	14					
339	1	ePE	16	37	50				15	
		SE		38	05					
		ME		38	13					
		FE		39	51					
340	1	iPE	17	05	37				18	
		PN		05	38					
		iSE		05	54					
		SN		05	57					
		ME		05	56	0.7	+68			
		MN		06	08	1.3		-105		
		FE		12	29					
		FN		09	48					
341	1	ePE	17	15	29				19	
		SE		15	48					
		ME		15	53					
		MN		15	51					
		FE		17	50					
		FN		16	44					

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
342	May 1	ePE	17	25	28	1.5	-9	16		
		SE		25	44					
		ME		25	58					
		MN		25	56					
		FE		27	52					
		FN		26	45					
343	1	iPE	17	28	06		+9	18		
		SE		28	24					
		eSN		28	23					
		ME		28	59					
		MN		28	47					
		FE		32	13					
		FN		30	49					
344	1	ePE	17	32	41			21		
		SE		33	02					
		ME		33	12					
		FE		34	59					
345	1	ePE	17	36	59			19		
		SE		37	18					
		ME		37	39					
		FE		39	10					
346	1	ePE	17	49	43			17		
		eSE		50	00					
		ME		50	20					
		FE		51	57					
347	1	eSE	18	07	20					
		ME		07	26					
		FE		08	13					
348	1	ePE	18	08	34			13		
		eSE		08	47					
		ME		09	01					
		FE		10	26					
349	1	eSE	18	12	47					
		ME		12	52					
		FE		13	29					
350	1	ePE	18	13	36			14		
		SE		13	50					
		ME		14	17					
		FE		15	37					

1 9 3 9

57

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
351	May 1	ePE	18	16	20	1.6	+11	19		
		SE		16	39					
		eSN		16	40					
		ME		17	04					
		MN		16	53					
		FE		18	57					
		FN		18	15					
352	1	ePE	18	19	15	2.0	-8	21		
		SE		19	36					
		ME		20	07					
		MN		19	47					
		FE		22	43					
		FN		20	53					
353	1	ePE	18	24	59			18		
		SE		25	17					
		ME		25	40					
		FE		27	11					
354	1	ePE	18	39	01	1.7	+8	22		
		?SE		39	23					
		ME		40	22					
		MN		40	19					
		FE		43	13					
		FN		42	24					
355	1	ePE	18	55	41	1.2	+6	20		
		SE		56	01					
		ME		56	24					
		FE		58	14					
356	1	ePE	19	02	40			21		
		SE		03	01					
		ME		03	18					
		FE		04	59					
357	1	ePE	19	13	21			18		
		SE		13	39					
		ME		14	00					
		MN		13	42					
		FE		15	39					
		FN		14	42					
358	1	eSE	19	17	01					
		ME		17	12					
		FE		18	32					

No.	Date	Phase	Time G.C.T			Period s	Max. Mmp.		P-S m s	Remarks
			<i>h</i>	<i>m</i>	<i>s</i>		AE $\mu$	AN $\mu$		
359	May 1	eSE	19	38	32					
		ME		38	42					
		FE		39	37					
360	1	ePE	19	41	02				18	
		SE		41	20					
		ME		41	31					
		FE		43	06					
361	1	ePE	19	45	47				18	
		SE		46	05					
		ME		46	17					
		FE		47	47					
362	1	ePE	20	03	53				16	
		SE		04	09					
		ME		04	34					
		FE		06	26					
363	1	ePE	20	41	27				23	
		eSE		41	50					
		ME		42	05					
		FE		43	21					
364	1	ePE	21	28	09				25	
		eSE		28	34					
		ME		29	04					
		FE		30	27					
365	1	ePE	22	12	24				24	
		eSE		12	48					
		ME		13	05					
		FE		14	18					
366	1	ePE	22	31	02				20	
		eSE		31	22					
		ME		31	45					
		FE		33	37					
367	1	eSE	22	49	17					
		ME		49	32					
		FE		51	02					
368	1	eSE	23	08	42					
		ME		08	57					
		FE		10	17					

1939

59

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
369	May 1	eSE	23	36	43					
		ME		37	05					
		FE		38	05					
370	1	ePE	23	45	57			16		
		SE		46	13					
		ME		46	26					
		MN		46	22					
		FE		48	11					
		FN		47	07					
371	1	ePE	23	55	35			21		
		eSE		55	56					
		ME		56	12					
		FE		57	12					
372	1	iPE	23	59	39			20		
		iSE		59	59					
		ME	24	00	10		-47			
		FE		05	01					
373	2	ePE	0	51	43			21		
		SE,N		52	04					
		ME		53	00	3.0	-12			
		MN		52	28					
		FE		57	12					
		FN		55	12					
374	2	ePE	1	21	51			14		
		SE		22	05					
		ME		22	20					
		FN		23	44					
375	2	eSE	3	47	09					
		ME		47	17					
		FE		48	27					
376	2	ePE	3	51	23			19		
		SE		51	42					
		eSE		51	42					
		ME		51	58	1.6	-4			
		MN		52	01					
		FE		54	23					
		FN		53	34					
377	2	eSE	4	04	47					
		ME		05	06					
		FN		05	59					

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
378	May 2	ePE	4	07	55	1.1	-4	20		
		SE		08	15					
		ME		08	45					
		MN		08	22					
		FE		10	21					
		FN		09	02					
379	2	eSE	4	41	31					
		ME		41	46					
		FE		43	45					
380	2	PE	6	22	00			19		
		SE		22	19					
		eSE		22	19					
		ME		22	38					
		MN		22	30					
		FE		25	48					
		FN		24	18					
381	2	ePE	6	34	07			22		
		eSE		34	29					
		ME		34	40					
		FE		36	41					
382	2	eSE	7	04	20					
		ME		04	37					
		FE		05	25					
383	2	ePE	7	46	11			23		
		SE		46	34					
		eSN		46	32					
		ME		47	03					
		MN		46	43					
		FE		49	13					
		FN		48	17					
384	2	eSE	9	06	38					
		ME		06	55					
		FE		08	05					
385	2	eSE	9	21	26					
		ME		21	39					
		FE		23	27					
336	2	eSE	10	26	23					
		ME		26	39					
		FE		27	51					

1939

61

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
387	May 2	eSE	11	03	56					
		ME		04	17					
		FE		05	39					
388	2	SE	11	22	31					
		ME		22	48					
		FE		25	10					
389	2	ePE	12	18	05			18		
		eSE		18	23					
		ME		18	37					
		FE		20	28					
390	2	ePE	13	19	10			22		
		eSE		19	32					
		ME		19	39					
		FE		21	25					
391	2	ePE	14	32	14			21		
		SE		32	35					
		ME		33	01					
		MN		33	24					
		FE		35	09					
		FN		34	25					
392	2	eSE	15	29	14					
		ME		29	39					
		FE		31	16					
393	2	iPE,N	15	37	39			23		
		iSE		38	02					
		SN		38	03					
		ME		38	12	2.4	-154			
		MN		38	47	2.4		-230		
		FE		46	00					
		FN		46	31					
394	2	ePE	15	46	11			21		
		SE		46	32					
		ME		46	57					
		MN		47	19					
		FE		49	33					
		FN		50	06					
395		ePE	18	53	39			24		
		SE		54	03					
		ME		54	42					
		FE		57	34					

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
396	May 2	iPE	21	39	22	1.8	-18	16		
		ePN		39	24					
		SE		39	38					
		SN		39	41					
		ME		39	56					
		MN		40	01					
		FE		44	25					
		FN		43	26					
397	2	ePE	22	58	18			23		
		eSE		58	41					
		ME		59	01					
		MN		59	39					
		FE	23	00	05					
		FN		00	23					
398	2	ePE	23	27	43			20		
		iSE		28	03					
		ME		28	12					
		MN		28	10					
		FE		29	45					
		FN		29	01					
399	3	ePE	0	53	48			22		
		iSE		54	10					
		eSN		54	09					
		ME		54	39					
		MN		54	23					
		FE		56	10					
		FN		56	27					
400	3	ePE	4	50	53	1.7	-6	19		
		ePN		50	51					
		SE		51	11					
		SN		51	12					
		ME		51	49					
		MN		51	41					
		FE		54	23					
		FN		54	48					
401	3	ePE	5	17	14		-5	21		
		eSE		17	35					
		SN		17	33					
		ME		17	49					
		MN		17	42					
		FE		19	28					
		FN		19	08					



1939

63

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
402	May 3	ePE	10	31	51				21	
		eSE		32	12					
		eSN		32	11					
		ME		32	37					
		MN		32	42					
		FE		34	55					
		FN		33	33					
403	3	eSE	12	29	05					
		ME		29	16					
		FE		30	22					
404	3	ePE	14	25	14				20	
		ePN		25	16					
		eSE		25	35					
		SN		25	35					
		ME		26	14	1.8	-6			
		MN		25	50					
		FE		29	20					
405	3	ePE	14	53	06				18	
		eSE		53	24					
		eSN		53	25					
		ME		53	47	1.4	+3			
		MN		53	38					
		FE		56	09					
		FN		55	01					
406	3	ePE	16	07	08				18	
		SE		07	26					
		ME		07	34					
		FE		08	46					
407	3	ePE	16	26	15				18	
		ePN		26	15					
		eSE		26	33					
		SN		26	32					
		ME		26	55	1.6	+4			
		MN		26	51					
		FE		28	25					
408	3	eSE	16	28	43					
		ME		28	51					
		MN		28	57					
		FE		30	26					
		FN		30	03					

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
409	May 3	ePE	20	19	14	2.1	-5	20		
		SE		19	34					
		eSN		19	34					
		ME		20	13					
		MN		19	46					
		FE		23	03					
		FN		21	25					
410	3	eSE	21	05	52					
		eSN		05	53					
		ME		06	21					
		MN		06	29					
		FE		08	12					
		FN		07	44					
		411	3	ePE	23					09
SE				10	01					
SN				10	02					
ME				10	27					
MN				10	18					
FE				12	31					
FN				12	25					
410	3	iPE	23	56	00	2.3	+86	18		
		iPN		56	00					
		SE		56	18					
		SN		56	18					
		ME		56	43					
		MN		56	29					
		FE	24	06	47					
		FN		05	47					
413	4	eSE	0	48	07					
		ME		48	20					
		FE		49	30					
414	4	eSE	1	39	24					
		ME		39	34					
		FE		41	18					
415	4	eSE	3	12	55					
		ME		13	08					
		FE		14	28					
416	4	ePE	4	32	43	1.3	+5	36		
		SE		33	19					
		ME		34	08					
		FE		36	35					

1939

65

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
417	May 4	SE	12	14	08					
		ME		14	19					
		FE		15	11					
418	4	PE	15	15	26			20		
		PN		15	26					
		iSE		15	46					
		iSN		15	46					
		ME		15	49	0.5	+25			
		MN		15	56	1.7		-43		
		FE		19	21					
		FN		18	56					
419	4	ePE	16	20	36			22		
		eSE		20	58					
		ME		21	08					
		FE		22	30					
420	5	ePE	2	30	15			42		
		SE		30	57					
		eSN		30	55					
		ME		31	13					
		MN		31	22					
		FE		34	27					
		FN		34	06					
421	5	ePE	3	59	13			23		
		SE		59	36					
		eSN		59	36					
		ME		59	40					
		MN		59	46					
		FE	4	01	43					
		FN		00	39					
422	5	ePE	6 <sup>o</sup>	48	28			18		
		eSE		48	46					
		eSN		48	46					
		ME		48	58					
		MN		48	59					
		FE		50	48					
		FN		50	17					
423	5	eSE	12	21	53					
		ME		22	12					
		MN		22	33					
		FE		23	56					
		FN		23	24					

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
424	May 5	ePE	14	50	07	1.7	+5	18		
		iSE		50	25					
		eSN		50	23					
		ME		51	06					
		MN		50	39					
		FE		53	15					
		FN		52	55					
425	5	ePE	20	43	20			26		
		iSE		43	46					
		eSN		43	47					
		ME		43	52					
		MN		43	56					
		FE		45	33					
		FN		44	52					
426	6	?PE	3	25	27			2 10		
		?SE		27	37					
		?SN		27	38					
		ME		28	01					
		MN		28	00					
		FE		31	47					
		FN		36	33					
427	6	eSE	7	25	51					
		ME		25	59					
		FE		27	00					
428	6	eSE	7	33	36					
		ME		33	48					
		FE		35	13					
429	6	ePE	10	54	29	2.4	-6	2 02		
		SE		56	31					
		eSN		56	28					
		ME		56	58					
		FE	11	04	08					
		FN		07	34					
430	6	eSE	12	07	31					
		ME		07	44					
		FE		08	33					
431	6	ePE	13	59	29			20		
		SE		59	49					
		eSN		59	47					
		ME	14	00	09					
		MN		00	06					
		FE		01	55					
		FN		01	40					

1939

67

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
432	May 6	eSE	17	06	28					
		ME		06	51					
		MN		07	20					
		FE		09	06					
		FN		09	43					
433	6	ePE	18	27	38				18	
		SE		27	56					
		eSN		27	56					
		ME		28	23					
		MN		28	12					
		FE		30	15					
		FN		29	30					
434	7	ePE	7	12	58				1 41	
		eSE		14	39					
		eSN		14	39					
		ME		15	16					
		MN		15	18					
		FE		21	34					
		FN		22	09					
435	7	PE	14	17	11				27	
		SE		17	38					
		ME		17	57					
		FE		20	47					
436	8	ePE	3	46	15				16	
		SE		46	31					
		ME		46	45					
		MN		46	45					
		FE		50	56					
437	8	FN		49	19					
		PE	8	05	37				40	
		PN		05	37					
		iSE		06	17					
		SN		06	17					
		ME		07	09	4.5	-66			
		MN		07	01	2.9		-70		
		FE		16	38					
		FN		16	00					
438	8	ePE	20	34	11				20	
		SE		34	31					
		eSN		34	31					
		ME		35	09					
		MN		34	42	2.0	-6			
		FE		38	33					
		FN		36	36					

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
439	May 9	?SE	19	40	10					
		ME		40	26					
		FE		42	17					
440	10	eSE	4	12	21					
		ME		12	26					
		FE		13	23					
441	10	ePE	5	29	29			1 10		
		eSE		30	39					
		ME		31	19					
		FE		36	27					
442	10	?PE	7	48	55			6 40		
		?SE		55	35					
		FE	8	10	30					
443	10	ePE	16	29	15			41		
		SE		29	56					
		eSN		29	56					
		ME		30	24	1.2	-7			
		MN		30	12					
		FE		34	33					
		FN		34	47					
444	11	PE	4	52	24			18		
		SE		52	42					
		ME		52	51					
		FE		53	45					
445	12	eSE	8	44	46					
		ME		44	57					
		FE		47	20					
446	12	iPE	14	05	54			44		
		iPN		05	55					
		iSE		06	39					
		iSN		06	38					
		ME		07	06	2.1	+62			
		MN		06	49	1.6		#83		
		FE		13	09					
		FN		12	40					
447	13	ePE	19	55	45			1 14		
		SE		56	59					
		eSN		56	59					
		ME		57	44	2.0	-5			
		MN		57	26					
		FE	20	02	37					
		FN		02	05					

1939

69

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
448	May 13	ePE	20	27	42	1.2	-5	18		
		iSE		28	00					
		eSN		28	03					
		ME		28	12					
		MN		28	09					
		FE		31	17					
		FN		29	11					
449	13	eSE	21	44	14					
		ME		44	31					
		FE		47	25					
450	14	ePE	17	54	09			31		
		eSE		54	40					
		eSN		54	40					
		ME		55	02					
		MN		54	53					
		FE		59	01					
		FN		57	05					
451	14	eSE	18	12	11		+2			
		eSN		12	08					
		ME		12	16					
		MN		12	20					
		FE		14	04					
		FN		14	47					
		452	15	PE	18					26
SE				26	21					
ME				26	38					
MN				26	32					
FE				27	36					
FN				27	34					
453	16			ePE	7	25	17			4 09
		ePN		25	15					
		SE		29	26					
		SN		29	25					
		ME		30	13					
		MN		29	39					
		FE		39	32					
		FN		43	35					
454	16	?SE	14	25	23					
		ME		25	32					
		FE		28	14					

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
455	May 16	ePE	15	19	00				19	
		SE		19	19					
		ME		19	29					
		FE		20	44					
456	16	PE	22	56	36				37	
		PN		56	37					
		SE		57	14					
		SN		57	13					
		ME		57	29	1.4	+5			
		MN		57	21					
		FE	23	01	09					
		FN		00	03					
457	17	?SE	0	25	30					
		ME		25	59					
		MN		26	12					
		FE		29	15					
		FN		27	30					
458	17	eSE	3	44	02					
		ME		44	09					
		FE		45	34					
459	17	ePE	5	20	28				20	
		ePN		20	28					
		SE		20	48					
		SN		20	49					
		ME		20	59	1.4	-10			
		MN		21	01	2.0		-23		
		FE		24	47					
		FN		23	52					
469	17	ePE	12	30	46				16	
		SE		31	03					
		ME		31	12					
		MN		31	24					
		FE		32	35					
		FN		33	20					
461	17	?SE	15	18	30					
		MN		18	44					
		FE		22	53					
		FN		21	58					



1939

71

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
462	May 17	iPE	18	34	21				3 15	
		iPN		34	23					
		iSE		37	36					
		iSN		37	39					
		ME		37	47	4.2	-114			
		MN		40	51	12.9		+138		
		FE	19	23	28					
463	17	FN		20	54					
		eSE	21	16	02					
		ME		16	08					
		MN		17	27					
		FE		20	03					
464	18	FN		19	11				25	
		ePE	9	32	26					
		iSE		32	51					
		eSN		32	50					
		ME		33	17					
		MN		33	04					
		FE		35	35					
465	18	FN		35	41				18	
		PE	21	04	30					
		PN		04	27					
		iSE		04	48					
		SN		04	47					
		ME		05	07	1.9	+39			
		MN		05	05	1.7		-50		
466	18	FE		12	16				29	
		FN		09	36					
		ePE	23	39	23					
		eSE		39	52					
		eSN		39	55					
		ME		40	03					
		MN		40	25					
467	19	FE		42	43				18	
		FN		42	10					
		ePE	11	55	18					
		eSE		55	35					
		eSN		55	36					
		ME		55	50					
		MN		56	06					
FE		58	04							
FN		58	05							

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
468	May 19	ePE	12	11	30				50	
		SE		12	20					
		eSN		12	19					
		ME		12	31					
		MN		12	47					
		FE		15	39					
		FN		15	14					
469	20	ePE	21	39	45				27	
		SE		40	12					
		eSN		40	13					
		ME		40	30	1.5	+5			
		MN		40	31					
		FE		43	27					
		FN		42	31					
470	21	ePE	14	01	22				42	
		SE		02	04					
		eSN		02	00					
		ME		02	35	2.7	-25			
		FE		10	10					
		FN		11	04					
		FN		11	04					
471	21	ePE	15	12	44				21	
		eSE		13	06					
		eSN		13	03					
		ME		13	27		-3			
		MN		13	22					
		FE		16	07					
		FN		15	13					
472	21	?SE	20	32	20				23	
		ME		33	23	2.4	+6			
		FE		36	27					
473	24	ePE	13	15	15				23	
		SE		15	37					
		eSE		15	37					
		ME		15	54		-5			
		MN		15	59					
		FE		18	10					
		FN		16	54					
474	25	?SE	21	37	21				23	
		ME		37	29					
		MN		37	26					
		FE		39	14					
		FN		39	09					

1939

73

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
475	May 25	?PE	22	00	39				39	
		SE		01	17					
		eSN		01	19					
		ME		01	36					
		MN		01	46					
		FE		03	30					
		FN		03	28					
476	26	ePE	6	54	30				10	
		SE		54	41					
		eSN		54	39					
		ME		54	43					
		MN		54	43					
		FE		56	06					
		FN		56	27					
477	26	?PE	9	49	35				4 04	
		?PN		49	39					
		?SE		53	37					
		?SN		53	44					
		FE	10	05	27					
		FN		05	19					
478	26	eSE	11	51	44					
		eSN		51	42					
		ME		51	53					
		MN		51	46					
		FE		54	01					
		FN		52	48					
779	26	eSE	12	20	16				20	
		SE		21	36					
		SN		21	38					
		ME		22	01	1.5	+10			
		MN		21	54	1.5		+13		
		FE		26	07					
		FN		24	11					
480	26	?SE	17	58	26					
		ME		58	59					
		MN		59	40					
		FE	18	01	39					
		FN		02	39					

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
481	May 26	PE	18	02	58				39	
		ePN		03	00					
		SE		03	38					
		SN		03	37					
		ME		03	53	1.8	-25			
		MN		04	04	1.7		-43		
		FE		10	31					
482	26	FN		12	23				58	
		ePE	20	57	05					
		ePN		57	07					
		SE		58	03					
		SN		58	05					
		ME		58	11	2.2	-10			
		MN		58	16					
483	27	FE	21	02	23				6 12	
		FN		01	13					
		ePE,N	3	53	34					
		SE		59	48					
		SN		59	46					
484	27	FE	4	10	59					
		FN		17	25					
		eSE	14	21	29					
485	27	ME		21	37				34	
		FE		23	03					
		ePE	23	00	29					
		SE		01	03					
		eSN		01	04					
		ME		01	21					
		MN		01	40					
486	27	FE		04	18				26	
		FN		04	12					
		ePE	23	05	02					
		SE		05	38					
		eSN		05	39					
		ME		06	06					
		MN		06	30					
487	29	FE		09	58					
		FN		09	29					
		SE	0	25	46					
		eSN		25	44					
		ME		25	50					
		MN		26	01					
		FE		30	23					
FN		28	02							

1939

75

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
488	May 30	ePE	17	15	15				2 52	
		ePN		15	17					
		?SE		18	07					
		?SN		18	03					
		FE		23	17					
		FN		25	29					
489	31	ePE,N	10	01	50				34	
		SE		02	24					
		eSN		02	23					
		ME		03	08	2.4	+9			
		MN		02	52	2.0		-18		
		FE		06	56					
		FN		05	26					
490	31	PE	11	57	01				11	
		SE		57	12					
		eSN		57	12					
		ME		57	16		-4			
		MN		57	24					
		FE		59	07					
		FN		59	01					
491	31	PE	18	07	16				3 42	
		ePN		07	13					
		SE		10	58					
		eSN		11	01					
		ME		11	18					
		FE		17	13					
		FN		16	53					

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
492	June 1	ePE	0	25	28				34	
		eSE		26	02					
		?SN		26	01					
		ME		26	20					
		MN		26	22					
		FE		28	36					
		FN		28	29					
493	1	eSE	4	48	37					
		SN		48	38					
		ME		48	49					
		MN		48	44					
		FE		50	11					
		FN		50	07					
494	1	eSE	5	42	13					
		eSE		42	14					
		ME		42	27					
		MN		42	32					
		FE		44	24					
		FN		45	02					
495	1	ePE	11	42	06				28	
		ePN		42	05					
		SE		42	34					
		SN		42	33					
		ME		42	37	1.3	-45			
		MN		42	59	1.7		+48		
		FE		48	03					
		FN		46	34					
496	1	ePE	17	19	46				27	
		SE		20	13					
		ME		20	29					
		MN		20	30					
		FE		23	51					
		FN		21	59					
497	2	ePE,N	3	40	24				5 34	
		eSE		45	58					
		eSN		46	01					
		FE	4	07	12					
		FN	3	59	35					
498	3	eSE	9	18	13					
		ME		18	26					
		MN		18	23					
		FE		20	22					
		FN		21	33					

1939

77

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
499	June 3	eSE	15	22	03					
		ME		22	15					
		FE		24	09					
500	4	eSE	22	44	30					
		ME		44	52					
		MN		44	50					
		FE		47	10					
		FN		46	18					
501	5	ePE	7	51	30			18		
		eSE		51	48					
		eSN		51	49					
		ME		52	14					
		MN		52	08					
		FE		54	26					
		FN		54	05					
502	5	ePE	13	49	32			15		
		eSE		49	47					
		ME		49	56					
		MN		50	06					
		FE		51	55					
		FN		51	31					
503	5	ePE,N	19	49	02			17		
		eSE,N		49	19					
		ME		49	42					
		MN		49	32	1.5	-8			
		FE		52	30					
		FN		51	23					
504	5	ePE	20	30	12			23		
		SE		30	35					
		eSN		30	36					
		ME		30	41	1.3	-6			
		MN		31	04					
		FE		33	24					
		FN		33	21					
505	6	ePE,N	1	42	16			18		
		SE		42	34					
		eSN		42	37					
		ME		43	08	1.6	-8			
		MN		42	49	1.7		+18		
		FE		46	32					
		FN		45	18					

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
506	June 6	ePE	16	58	49				29	
		SE		59	18					
		eSN		59	19					
		ME		59	21					
		MN		59	23					
		FE	17	01	54					
		FN		00	54					
507	6	eSE	19	38	11					
		ME		38	18					
		FE		39	14					
508	6	ePE	20	53	45	2.8			50	
		iSE		54	35					
		eSN		54	36					
		ME		55	05					
		MN		55	08					
		FE	21	01	13					
		FN	20	59	02					
509	7	ePE	5	52	55				25	
		SE		53	20					
		eSN		53	21					
		ME		53	33					
		MN		53	50					
		FE		56	00					
		FN		56	18					
510	7	eSE	7	15	51					
		ME		16	02					
		MN		15	53					
		FE		17	04					
		FN		17	22					
511	8	eSE	0	36	19					
		ME		36	57					
		MN		37	05					
		FE		40	09					
		FN		41	09					
512	8	eSE	15	32	15					
		eSN		32	17					
		ME		32	47					
		MN		33	00					
		FE		36	56					
		FN		35	59					



1939

79

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
513	June 8	PE	20	57	51				8 55	
		ePN		57	53					
		?SE	21	06	46					
		?SN		06	47					
		FE		25	06					
		FN		15	27					
514	8	ME	21	27	08					
		MN		26	56					
		FE		30	29					
		FN		30	19					
515	9	ePE	3	16	49				34	
		eSN		17	23					
		eSE		17	26					
		ME		18	05	1.9	-4			
		MN		18	06					
		FE		22	30					
		FN		21	28					
516	10	eSE	11	11	09					
		ME		11	19					
		MN		11	21					
		FE		13	25					
		FN		13	29					
517	10	ePE	14	59	22				13	
		eSE		59	35					
		ME		59	52					
		MN		59	41					
		FE	15	01	40					
		FN		01	35					
518	11	ePE	6	21	30				21	
		ePN		21	31					
		SE		21	51					
		SN		21	52					
		ME		21	57		-14			
		MN		21	58					
		FE		26	25					
		FN		24	10					
519	11	ePE	11	52	03				12	
		SE		52	15					
		ME		52	26					
		MN		52	27					
		FE		54	02					
		FN		54	39					

No.	Date	Phase	Time G.C.T			Period ,s	Max. Amp.		P-S m s	Remarks
			<i>h</i>	<i>m</i>	<i>s</i>		AE $\mu$	AN $\mu$		
520	June 11	eSE ME FE	18	01	56 08 49					
521	11	ePE eSE ME MN FE FN	19	47	01 18 53 40 21 36	1.2	-3	17		
522	12	ePE eSE eSN ME MN FE FN	23	39	49 10 07 22 30 47 18			21		
523	13	eSE ME MN FE FN	0	38	08 12 17 05 06	1.0	+3			
524	13	ePE SE ME MN FE FN	1	31	31 59 13 19 02 39	1.0	+3	28		
525	13	ePE,N iSE iSN ME MN FE FN	20	47	36 38 37 53 49 50 18	2.8	+5	6 01		
526	14	ePE SE ME FE	11	10	53 18 28 05			20		

1939

81

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
527	June 15	ePE	14	18	16				18	
		SE		18	34					
		SN		18	35					
		ME		18	43					
		MN		18	41					
		FE		20	16					
		FN		20	11					
528	15	ePE	17	29	37				12	
		SE		29	49					
		ME		30	10					
		MN		30	17					
		FE		32	08					
		FN		32	32					
529	15	ePE	22	44	15				21	
		SE		44	36					
		ME		44	42					
		MN		44	40					
		FE		46	43					
		FN		46	10					
530	15	ePE	22	55	38				16	
		ePN		55	40					
		iSE		55	54					
		SN		55	55					
		ME		56	09	1.1	+3			
		MN		56	14					
		FE		58	10					
		FN		58	38					
531	16	?PE	5	09	11				9 38	
		?PN		09	12					
		?SE		18	49					
		?SN		18	44					
		FE		31	15					
		FN		31	56					
532	17	ePE	8	27	08				21	
		SE		27	29					
		ME		27	46					
		MN		27	44					
		FE		29	42					
		FN		30	21					

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
533	June 17	ePE	8	49	29				16	
		SE		49	45					
		ME		49	55					
		MN		50	42					
		FE		52	07					
		FN		52	39					
534	17	eSE	11	13	05					
		ME		13	26					
		FE		15	40					
535	17	ePE	16	38	18				32	
		SE		38	50					
		ME		39	09					
		FE		41	28					
536	17	iPE	18	40	27				19	Intensity 1
		iPN		40	28					
		iSE		40	46					
		iSN		40	47					
		ME		40	55		+97			
		MN		41	14	2.4		+145		
		FE		48	14					
		FN		46	27					
537	17	ePE	19	07	51				38	
		SE		08	29					
		eSN		08	29					
		ME		09	12	2.5	-6			
		MN		08	59					
		FE		15	06					
		FN		11	38					
538	18	iPE	0	41	07				14	Intensity 2
		PN		41	07					
		iSE		41	21					
		SN		41	21					
		MN		41	27	0.8		+85		
		FE		46	08					
		FN		45	08					
539	18	ME	5	22	24					
		FE		27	41					
540	18	?PE	12	28	40				2 46	
		?SE		31	26					
		ME		31	37					
		FE		35	35					

1939

83

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
541	June 19	eSE	12	39	17					
		ME		39	21					
		MN		39	22					
		FE		40	31					
		FN		40	39					
542	20	PE	11	31	40				21	
		ePN		31	39					
		iSE		32	01					
		iSN		32	02					
		ME		32	02	0.9	+8			
		MN		32	07	1.2		-13		
		FE		36	11					
		FN		34	45					
543	21	eSE	0	45	19					
		ME		45	40					
		MN		45	31					
		FE		47	17					
		FN		46	20					
544	21	eSE	3	41	00					
		ME		41	23					
		FE		42	57					
545	21	eSE	4	15	07					
		ME		15	22					
		FE		16	37					
546	21	eSE	18	44	00					
		ME		44	08					
		MN		44	22					
		FE		45	38					
		FN		46	32					
547	21	ePE	21	09	36				27	
		eSE		10	03					
		eSN		10	07					
		ME		10	23					
		MN		10	23					
		FE		13	05					
		FN		12	39					
548	22	eSE	8	41	27					
		ME		41	44					
		FE		42	45					

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			k	m	s		AE $\mu$	AN $\mu$		
549	June 22	PE	17	19	27	0.6	-13		31	
		SE		19	58					
		ME		20	09					
		FE		25	17					
550	22	ePE	18	10	29				17	
		SE		10	46					
		ME		10	51					
		FE		12	25					
551	22	ePE	19	44	09				22	
		SE		44	31					
		ME		44	39					
		FE		46	33					
552	24	ePE	17	25	09				25	
		SE		25	34					
		eSN		25	35					
		ME		25	41					
		MN		25	45					
		FE		28	17					
		FN		28	05					
553	25	ePE	20	15	12	2.1	-6		45	
		eSE		15	57					
		eSN		15	55					
		ME		16	45					
		MN		16	20					
		FE		21	23					
		FN		21	18					
554	26	ePE	1	05	22	1.0	+10		34	
		ePN		05	21					
		SE,N		05	56					
		ME		06	21					
		MN		06	05					
		FE		10	53					
		FN		09	13					
555	26	ePE	13	23	16	2.8	+74		43	
		ePN		23	17					
		SE		24	00					
		SN		23	58					
		ME		24	43					
		MN		24	32					
		FE		33	01					
		FN		30	20					

1939

85

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
556	June 26	ePE	22	43	50				38	
		SE		44	28					
		SN		44	25					
		ME		44	43					
		MN		44	43					
		FE		47	38					
		FN		47	20					
557	27	SE	14	13	56					
		ME		14	14					
		MN		14	21					
		FE		16	30					
		FN		16	08					
558	27	ePE	23	11	10				5 21	
		ePN		11	06					
		eSE		16	33					
		eSN		16	25					
		?LE		21	31					
		?LN		20	58					
		FE		32	36					
		FN		36	01					
559	28	ePE	1	33	38				36	
		eSE		34	14					
		ME		34	36					
		MN		34	21					
		FE		37	38					
		FN		36	17					
560	28	PE	4	37	16				34	
		PN		37	14					
		SE		37	48					
		SN		37	47					
		ME		39	28	2.8	-25			
		MN		38	49	2.4		+35		
		FE		47	02					
		FN		43	26					
561	28	ePE	17	21	20				38	
		eSE		21	58					
		ME		22	28					
		FE		25	15					

No.	Date	Phase	Time G.C.T			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
562	June 28	eSE	19	15	07					
		ME		15	17					
		MN		15	18					
		FE		17	19					
		FN		17	20					
563	29	PE	21	00	00				27	
		ePN	20	59	59					
		SE	21	00	27					
		SN		00	26					
		ME		00	39	0.7	-17			
		MN		00	54	1.5		-35		
		FE		06	03					
		FN		04	36					
564	30	ePE	2	47	08				37	
		SE		47	45					
		eSN		47	44					
		ME		48	27	2.0	-8			
		MN		48	36					
		FE		51	21					
		FN		51	20					



昭和十四年十一月十九日 印刷  
昭和十四年十一月廿三日 發行

緯 度 觀 測 所

岩 手 縣 水 澤 町

印 刷 者 笠 井 重 治

東京市京橋區新富町三丁目十七番地

印 刷 所 國 際 出 版 印 刷 社

東京市京橋區新富町三丁目十七番地

# MIZUSAWA JAPAN

## SEISMOLOGICAL BULLETIN

---

International Latitude Observatory of Mizusawa

1 9 3 9

July

---

Latitude, 39° 8' 4" N.

Longitude, 141° 7' 52" E.

Height above mean sea level, 61m.

Sub-soil, Diluvial Formation.

Instrument, Omori's Horizontal Pendulum Seismograph.

Instrumental Constants,

Comp.	M kg.	V	T <sub>0</sub> s	$\frac{r}{T_0^2}$
E W	45.0	100	16	0.043
N S	17.6	20	36	0.004

1 9 3 9

87

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
565	July 2	PE	8	30	01	1.2	—	6	16	
		ePN		29	59					
		SE		30	17					
		SN		30	15					
		ME		30	42					
		MN		30	34					
		FE		33	03					
FN		32	18							
566	3	ePE	5	38	38				23	
		SE		39	01					
		ME		39	16					
		MN		39	18					
		FE		41	07					
		FN		41	01					
567	3	ePE	7	39	18	1.0	—	9	1 32	
		SE		40	50					
		eSN		40	52					
		ME		40	56					
		MN		41	13					
		FE		46	25					
		FN		44	23					
568	3	PE	11	52	16	0.9	—	5	16	
		SE,N		52	32					
		ME		52	46					
		MN		52	38					
		FE		55	14					
		FN		55	23					
569	4	ePE,N	18	45	34	1.6	—	5	31	
		?SE		46	06					
		?SN		46	04					
		ME		46	29					
		MN		46	29					
		FE		51	23					
		FN		49	42					
570	5	PE	4	25	47				26	
		SE		26	13					
		ME		26	23					
		MN		26	25					
		FE		28	34					
		FN		27	16					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks		
			h	m	s		AE $\mu$	AN $\mu$				
571	July 5	ePE	22	51	21	3.0	+ 10		8 27			
		ePN		51	24							
		eSE		59	48							
		SN		59	49							
		ME		59	54							
		FE	23	22	31							
		FN		22	35							
572	6	?SE,N	7	49	11							
		ME		49	16							
		MN		49	46							
		FE		54	41							
		FN		53	20							
573	8	ePE	17	15	51				23			
		iSE		16	14							
		SN		16	15							
		ME		16	27						+ 4	
		MN		16	19							
		FE		18	31							
		FN		18	58							
574	8	ePE	19	59	22				30			
		SE		59	52							
		eSN		59	52							
		ME		59	55							
		MN	20	00	35							
		FE		02	37							
		FN		03	22							
575	10	ePE	5	22	41				34			
		eSE		23	15							
		eSN		23	13							
		ME		23	44							
		MN		23	58							
		FE		26	37							
		FN		25	52							
576	12	PE	20	10	02				1 09			
		ePN		10	02							
		iSE		11	11							
		iSN		11	12							
		ME		11	30						1.0	+ 46
		MN		12	17						2.4	- 53
		FE		21	41							
FN		22	26									

1 9 3 9

89

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
577	July 12	PE	21	01	02				27	
		ePN		01	02					
		iSE,N		01	29					
		ME		01	33	1.2	- 23			
		MN		01	50	1.2		- 20		
		FE		06	41					
		FN		05	24					
578	12	ePE	2	06	09				6 09	
		ePN	13	06	07					
		eSE		12	19					
		eSN		12	14					
		ME		16	12					
		MN		16	03					
		FE		35	38					
		FN		40	29					
579	13	ePE	5	50	49				50	
		eSE		51	39					
		ME		51	55					
		FE		54	30					
580	13	ePE	8	54	25				23	
		SE		54	48					
		eSN		54	49					
		ME		55	17					
		MN		55	11					
		FE		58	35					
		FN		58	04					
581	13	ePE	17	08	12				2 08	
		ePN		08	14					
		eSE		10	20					
		eSN		10	24					
		ME		10	57					
		MN		12	11					
		FE		22	21					
		FN		41	13					
582	14	ePE	8	36	57				4 20	
		ePN		36	54					
		eSE,N		41	16					
		ME		41	56					
		MN		41	32					
		FE		47	40					
		FN		47	36					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		$\Delta E \mu$	$\Delta N \mu$		
583	July 14	ePE	12	46	41	2.0	+ 10		35	
		ePN		46	44					
		SE		47	17					
		eSN		47	17					
		ME		48	12					
		MN		47	52					
		FE		52	27					
		FN		51	22					
584	15	ePE	22	48	55				26	
		eSE		49	21					
		ME		49	35					
		MN		49	36					
		FE		52	14					
		FN		51	55					
585	18	ePE	7	40	21				36	
		SE		40	57					
		ME		41	56					
		MN		41	27					
		FE		44	53					
		FN		43	29					
586	18	PE	9	40	59	1.5 1.7	- 24	- 43	44	
		ePN		40	58					
		SE		41	42					
		SN		41	43					
		ME		41	53					
		MN		42	04					
		FE		48	25					
		FN		47	19					
587	19	ePE	10	06	50				28	
		eSE,N		07	18					
		ME		07	34					
		MN		07	30					
		FE		09	43					
		FN		08	55					
588	19	ePE	20	19	42		- 18		22	
		ePN		19	45					
		iSE		20	05					
		iSN		20	06					
		ME		20	13					
		MN		20	16					
		FE		25	13					
		FN		22	25					

1 9 3 9

91

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
589	July 20	ePE	2	33	21				8 28	
		ePN		33	20					
		eSE		41	49					
		eSN		41	48					
		FE		49	44					
		FN		50	23					
590	20	eSE	16	11	37					
		eSN		11	36					
		ME		11	58					
		MN		11	49					
		FE		13	32					
		FN		12	55					
591	21	ePE	2	56	50				22	
		eSE		57	12					
		eSN		57	13					
		ME		57	50					
		MN		57	23					
		FE	3	00	23					
FN		00	25							
592	21	ePE	19	45	51				29	
		SE		46	20					
		SN		46	21					
		ME		46	29	?	+ 4			
		MN		46	35					
		FE		48	41					
FN		48	15							
593	21	ePE	21	34	27				39	
		SE		35	06					
		eSN		35	05					
		ME		35	54	2.2	+ 5			
		MN		35	33					
		FE		39	42					
FN		38	18							
594	23	ePE	6	42	38				27	
		SE		43	03					
		ME		43	15					
		MN		43	13					
		FE		44	56					
		FN		44	45					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		$\Delta E \mu$	$\Delta N \mu$		
595	July 26	SE ME FE	10	11	03 08 46					
596	26	ePE SE eSN ME MN FE FN	21	11	05 31 31 40 01 46 20	0.7	- 4	26		
597	26	ePE SE ME MN FE FN	22	56	39 06 10 20 55 48			27		
598	27	PE SE SN ME MN FE FN	5	11	33 42 41 12 33 51 59	2.4	- 10	1 09		
599	27	PE PN SE SN ME MN FE FN	23	28	38 39 40 42 54 03 55 38	2.2 2.4	+ 49 - 70	1 02		
600	28	iPE PN iSE SN ME MN FE FN	1	06	58 58 19 21 37 45 49 28	1.9 1.9	+120 +215	22	Intensity 1	



1 9 3 9

93

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
601	July 28	iPE	5	21	51				20	Intensity 1
		iPN		21	54					
		iSE		22	11					
		SN		22	13					
		ME		22	56	2.4	+138			
		MN		22	37	2.0		-158		
		FE		31	19					
		FN		31	41					
602	28	ePE	21	14	21				27	
		SE		14	48					
		eSN		14	47					
		ME		15	05					
		MN		15	09					
		FE		17	40					
		FN		17	31					
		603	28	ePE	21	52	37			
SE				52	53					
ME				53	00					
MN				53	07					
FE				54	08					
FN				55	26					
604	29			ePE	0	13	47			
		SE		14	27					
		ME		14	44					
		FE		17	55					
605	29	ePE	5	10	38				16	Intensity 1
		ePN		10	36					
		iSE		10	54					
		iSN		10	52					
		ME		11	01	?	$\pm 76$			
		MN		10	55	?		+ 80		
		FE		16	35					
		FN		14	49					
606	30	ePE	12	56	23				34	
		ePN		56	22					
		iSE		56	57					
		SN		56	57					
		ME		57	21	2.0	- 15			
		MN		57	22	2.4		- 25		
		FE	13	01	38					
		FN		01	17					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
607	July 30	ePE	23	35	03				30	
		SE		35	33					
		ME		36	13					
		MN		36	47					
		FE		39	14					
		FN		39	47					
608	31	PE	0	41	23				21	
		SE		41	44					
		eSN		41	44					
		ME		41	46					
		MN		41	54					
		FE		44	14					
		FN		43	46					
609	31	ePE	9	38	46				22	
		SE		39	08					
		ME		39	15					
		FE		40	29					
610	31	eSE	11	11	43					
		ME		11	56					
		FE		13	02					
611	31	ePE	11	35	33				20	
		SE		35	53					
		ME		36	00					
		FE		36	56					
612	31	ePE	12	02	23				17	
		SE		02	40					
		ME		02	48					
		FE		03	47					
613	31	SE	15	52	29					
		ME		52	42					
		MN		52	40					
		FE		53	44					
614	31	ePE	19	10	59				21	
		SE		11	20					
		ME		11	38					
		FE		13	25					

緯  
度  
觀  
測  
所

岩  
手  
縣  
水  
澤  
町

岩手縣水澤町表小路十二番地

印刷人 佐々木 正 藏

岩手縣水澤町裏町四番地

印刷所 水澤印刷株式會社

# MIZUSAWA JAPAN

## SEISMOLOGICAL BULLETIN

---

International Latitude Observatory of Mizusawa

1 9 3 9

August

---

Latitude, 39° 8' 4" N.

Longitude, 141° 7' 52" E.

Height above mean sea level, 61m.

Sub-soil, Diluvial Formation.

Instrument, Omori's Horizontal Pendulum Seismograph.

Instrumental Constants,

Comp.	M kg.	V	T <sub>0</sub> s	$\frac{r}{T_0^2}$
E W	45.0	100	16	0.050
N S	17.6	20	36	0.005

1 9 3 9

95

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
615	Aug. 1	eSE	4	10	45					
		ME		11	04					
		MN		10	57					
		FE		12	38					
		FN		12	56					
616	1	ePE	15	59	36			2 41		
		ePN		59	35					
		eSE	16	02	15					
		eSN		02	19					
		ME		02	38					
		MN		02	50					
		FE		06	51					
		FN		06	33					
617	2	PE	14	18	38			20		
		ePN		18	35					
		SE,N		18	57					
		ME		19	04	1.0	+ 10			
		MN		19	08	0.7		- 13		
		FE		23	34					
		FN		21	50					
618	3	PE	6	57	11			59		
		ePN		57	13					
		SE		58	10					
		SN		58	11					
		ME		58	29	1.0	+ 3			
		MN		59	10					
		FE	7	05	29					
		FN		04	26					
619	4	ePE	3	16	22			41		
		SE		17	03					
		SN		17	05					
		ME		17	31					
		MN		17	17					
		FE		22	29					
		FN		18	48					
620	4	ePE	7	50	46			22		
		SE		51	08					
		SN		51	07					
		ME		51	14					
		MN		51	17					
		FE		53	22					
		FN		51	58					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
621	Aug. 5	PE	1	32	20	1.1	-	9	16	
		ePN		32	22					
		SE		32	36					
		SN		32	37					
		ME		32	47					
		MN		32	43					
		FE		35	08					
		FN		34	21					
622	7	ePE	2	28	37				25	
		SE		29	02					
		ME		29	21					
		FE		31	38					
623	7	ePE	10	51	21				16	
		SE		51	37					
		SN		51	38					
		ME		51	44					
		MN		51	45					
		FE		53	36					
		FN		53	15					
		624	7	eSE	12					
ME				55	38					
MN				55	37					
FE				56	42					
FN				56	54					
625	7	eSE	18	51	08					
		ME		51	20					
		MN		51	22					
		FE		52	44					
		FN		52	52					
626	7	PE	20	44	35	1.6	-	6	26	
		PN		44	34					
		SE,N		45	01					
		ME		45	08					
		MN		45	08					
		FE		48	40					
		FN		47	47					
		627	8	PE	0					
SE				46	23					
ME				46	57					
MN				46	47					
FE				48	20					

1 9 3 9

97

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
628	Aug. 8	PE	0	48	<sup>2</sup> <del>07</del>				32	
		ePN		48	26					
		SE		48	59					
		SN		48	59					
		ME		49	56	2.0	- 26			
		MN		49	21	1.8		- 40		
		FE		54	55					
		FN		54	32					
629	8	PE	7	58	01				46	
		PN		57	59					
		SE		58	46					
		SN		58	46					
		ME		58	55	2.2	+ 10			
		FE	8	01	51					
		FN		01	17					
630	10	PE	5	18	10				14	
		eSE		18	24					
		eSN		18	22					
		ME		18	34					
		MN		18	25					
		FE		20	01					
		FN		19	25					
631	12	iPE	2	17	22				7 59	
		iPN		17	19					
		iSE		25	21					
		eSN		25	20					
		?LE		31	35					
		ME		17	54	2.2	+ 15			
		MN		17	56	2.0		+ 25		
		FE		46	47					
FN		49	35							
632	12	ePE	6	45	10				21	
		eSE		45	31					
		ME		45	49					
		MN		45	45					
		FE		47	52					
		FN		47	27					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
633	Aug. 12	PE	9	52	12				1 16	
		ePN		52	10					
		iSE		53	48					
		SN		53	48					
		ME		54	39	3.0	+ 41			
		MN		54	01	2.1		- 55		
		FE	10	13	21					
		FN		27	28					
634	12	ePE	15	34	58				19	
		eSE		35	17					
		ME		35	42					
		MN		36	05					
		FE		37	20					
		FN		37	13					
635	14	ePE	3	09	10				26	
		eSE		09	36					
		ME		09	48					
		FE		12	14					
636	14	ePE	6	49	35				20	
		eSE		49	55					
		ME		50	06					
		MN		50	01					
		FE		51	38					
		FN		51	43					
637	14	ePE	18	30	24				40	
		eSE		31	04					
		ME		31	15					
		FE		34	42					
638	16	ePE	15	13	09				33	
		ePN		13	09					
		SE		13	42					
		SN		13	41					
		ME		13	59					
		MN		14	02					
		FE		17	40					
		FN		16	37					
639	16	iPE	16	57	16				23	
		ePN		57	15					
		iSE		57	39					
		SN		57	38					
		ME		58	12	1.5	- 41			
		MN		58	00	2.0		+ 70		
		FE	17	04	09					
		FN		02	57					



1 9 3 9

99

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
640	Aug. 16	ePE	18	44	48	0.9	-	5	14	
		SE		45	02					
		eSN		45	02					
		ME		45	11					
		MN		45	14					
		FE		47	37					
		FN		46	57					
641	17	PE	10	38	37	2.0 1.7	-	30	20	
		PN		38	41					
		iSE		38	57					
		SN		38	59					
		ME		39	20					
		MN		39	12					
		FE		44	55					
FN		43	04							
642	17	iPE	15	46	02	1.7 ?	-	180	19	Intensity 1
		iPN		46	01					
		iSE		46	21					
		SN		46	21					
		ME		46	55					
		MN		46	37					
		FE		57	25					
FN		55	21							
643	17	PE	18	04	47				23	
		SE		05	10					
		eSN		05	11					
		ME		05	29					
		MN		05	31					
		FE		07	32					
		FN		07	59					
644	17	ePE	20	59	49	2.0	-	6	20	
		SE	21	00	09					
		eSN		00	09					
		ME		01	51					
		MN		01	16					
		FE		04	49					
		FN		04	59					
645	18	ePE	12	57	24	1.0 1.4	+	12	27	
		ePN		57	25					
		SE		57	51					
		SN		57	52					
		ME		57	56					
		MN		57	58					
		FE	13	01	05					
FN		00	38							

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
646	Aug. 18	PE	22	26	28				8 27	
		ePN		26	28					
		?SE		34	55					
		?SN		34	52					
		FE		56	17					
		FN	23	09	06					
647	19	eSE	4	34	07					
		ME		34	16					
		FE		36	05					
648	19	PE	5	58	10				17	
		SE		58	27					
		ME		58	44					
		MN		58	37					
		FE	6	01	00					
		FN		01	50					
649	19	ePE	22	29	43				15	
		SE		29	58					
		ME		30	13					
		FE		32	09					
650	20	ePE	11	05	00				19	
		SE		05	19					
		ME		05	29					
		MN		05	28					
		FE		07	20					
		FN		06	57					
651	21	ePE	15	24	54				4 55	
		ePN		24	54					
		eSE		29	56					
		eSN		29	43					
		FE		35	57					
		FN		35	36					
652	21	ePE	17	59	04				29	
		SE		59	33					
		SN		59	34					
		ME		59	59	2.4	- 10			
		MN	18	00	13	2.4		- 15		
		FE		05	17					
		FN		04	18					
653	21	ePE	20	53	05				36	
		SE		53	42					
		ME		54	27	1.2	- 5			
		MN		54	34					
		FE		57	48					
		FN		57	32					

1 9 3 9

101

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
654	Aug. 22	iPE	0	06	48	4.0	-1608	17	Intensity 1	
		iPN		06	49					
		SE		07	06					
		SN		07	06					
		MN		07	23					
		FE		27	07					
		FN		23	49					
655	23	ePE	0	13	05	0.7	- 2	27		
		SE		13	31					
		SN		13	33					
		ME		13	50					
		MN		13	50					
		FE		17	18					
		FN		16	36					
656	23	?PE	21	27	54			27		
		?SE		28	21					
		ME		28	43					
		MN		28	59					
		FE		31	11					
		FN		30	58					
657	25	PE	3	56	28			3 36		
		PN		56	27					
		?SE	4	00	04					
		?SN		00	02					
		FE		13	20					
		FN		12	57					
658	26	eSE	3	30	06					
		ME		30	21					
		MN		30	20					
		FE		32	10					
		FN		32	25					
659	26	ePE	7	10	41			33		
		SE		11	14					
		eSN		11	13					
		ME		11	20					
		MN		11	49					
		FE		13	28					
		FN		13	34					
660	27	ePE	8	01	31			26		
		iSE		01	57					
		SN		01	57					
		ME		02	12					
		MN		02	03					
		FE		04	56					
		FN		04	19					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
661	Aug. 27	iPE	20	15	43				21	Intensity 1
		PN		15	42					
		iSE		16	04					
		SN		16	04					
		ME		16	31	1.6	- 56			
		MN		16	22	2.4		-125		
		FE		23	57					
		FN		22	32					
662	27	ePE	20	43	47				30	
		ePN		43	48					
		iSE		44	17					
		SN		44	17					
		ME		44	26	1.1	- 20			
		MN		44	34	1.1		+ 25		
		FE		49	09					
		FN		47	54					
663	29	ePE	3	30	58				24	
		SE		31	22					
		eSN		31	23					
		ME		31	35					
		MN		31	33					
		FE		33	17					
		FN		32	24					
664	29	ePE	6	08	40				24	
		SE		09	04					
		SN		09	05					
		ME		09	31					
		MN		09	25					
		FE		11	49					
		FN		11	02					
665	29	ePE	9	10	10				32	
		SE		10	42					
		SN		10	43					
		ME		11	20	1.6	+ 12			
		MN		11	10					
		FE		15	49					
		FN		14	35					
666	29	ePE	9	38	34				27	
		SE		39	01					
		eSN		39	01					
		ME		39	14					
		MN		39	19					
		FE		40	23					
		FN		40	32					

1 9 3 9

103

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
667	Aug. 29	?PE	10	51	35			26		
		eSE		52	01					
		ME		52	19					
		FE		53	46					
668	29	ME	12	59	15					
		FE	13	00	10					
669	29	eSE	22	28	57					
		eSN		28	56					
		ME		29	05					
		MN		29	04					
		FE		30	27					
		FN		30	13					
670	31	ePE	19	39	38			17		
		SE		39	55					
		ME		40	02					
		FE		41	40					
671	31	SE	21	44	39					
		ME		44	44					
		FE		46	02					

緯  
度  
觀  
測  
所

岩  
手  
縣  
水  
澤  
町

岩手縣水澤町表小路十二番地

印刷人 佐々木 正 藏

岩手縣水澤町裏町四番地

印刷所 水澤印刷株式會社

# MIZUSAWA JAPAN

## SEISMOLOGICAL BULLETIN

---

International Latitude Observatory of Mizusawa

1 9 3 9

September

---

Latitude,            39° 8' 4" N.  
Longitude,         141° 7' 52" E.  
Height above mean sea level,         61m.  
Sub-soil,            Diluvial Formation.  
Instrument,        Omori's Horizontal Pendulum Seismograph.  
Instrumental Constants,

Comp.	M kg.	V	T <sub>0</sub> s	$\frac{r}{T_0^2}$
E W	45.0	100	16	0.050
N S	17.6	20	36	0.005

1 9 3 9

104

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
672	Sept. 1	eSE	22	10	25					
		ME		10	54					
		FE		15	19					
673	2	ePE	19	03	12			32		
		SE		03	44					
		eSN		03	42					
		ME		04	36					
		MN		04	12					
		FE		07	26					
		FN		07	50					
674	3	PE	7	49	36			4 18		
		ePN		49	37					
		?SE		53	54					
		SN		53	58					
		FE	8	01	19					
		FN		01	26					
675	4	ePE	5	23	46			21		
		SE		24	07					
		eSN		24	08					
		ME		24	31					
		MN		24	44					
		FE		27	51					
		FN		27	15					
676	6	PE	22	20	43			2 02		
		ePN		20	42					
		SE		22	45					
		SN		22	45					
		ME		23	01	?	- 4			
		MN		22	49					
		FE		27	13					
		FN		27	02					
677	8	PE	12	10	21			4 36		
		PN		10	22					
		SE		14	57					
		SN		14	58					
		LE		21	02					
		LN		21	02					
		ME		16	14	13.8	+233			
		MN		16	35	25.6		-1180		
		FE	13	27	57					
FN		23	46							



No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
678	Sept. 9	iPE	8	11	59				18	Intensity 1
		PN		12	01					
		iSE		12	17					
		SN		12	18					
		ME		12	25	1.2	- 95			
		MN		12	36	2.4		+203		
		FE		24	02					
		FN		19	46					
679	10	ePE	9	26	17				35	
		SE		26	52					
		eSN		26	49					
		ME		27	01	1.9	- 05			
		MN		27	11					
		FE		31	08					
		FN		30	24					
		680	12	ePE	3	26	34			
SE				26	56					
ME				27	01					
MN				27	15					
FE				28	42					
FN				28	38					
681	12			PE	5	05	59			
		PN		06	00					
		iSE		06	35					
		iSN		06	37					
		ME		07	19	2.1	+ 28			
		MN		06	44	1.5		- 50		
		FE		12	40					
		FN		11	26					
682	13	eSE	2	36	58					
		ME		37	13					
		FE		38	48					
683	13	ePE	16	55	10				17	
		SE		55	27					
		eSN		55	28					
		ME		55	33					
		MN		55	35					
		FE		56	53					
		FN		56	45					

1 9 3 9

106

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
684	Sept. 13	ePE	22	35	11				17	
		SE		35	28					
		eSN		35	29					
		ME		35	38					
		MN		35	33					
		FE		37	40					
		FN		37	19					
685	14	ePE	3	58	43				20	
		SE		59	03					
		eSN		59	01					
		ME		59	12					
		MN		59	15					
		FE	4	01	37					
		FN		00	40					
686	14	ePE	21	08	14				17	
		SE		08	31					
		eSN		08	28					
		ME		08	45					
		MN		08	46					
		FE		11	22					
		FN		10	33					
687	16	SE	1	19	09					
		SN		19	10					
		ME		19	30					
		MN		19	42					
		FE		21	47					
		FN		21	34					
688	16	PE	6	49	05				21	
		ePN		49	06					
		iSE		49	26					
		iSN		49	27					
		ME		49	43	2.1	- 88			
		MN		49	48	2.4		-118		
		FE		55	37					
		FN		55	35					
689	16	?SE	7	23	34					
		ME		23	47					
		MN		23	50					
		FE		25	53					
		FN		25	47					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P-S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
690	Sept. 16	ePE	18	16	32	1.4	+ 17		27	
		ePN		16	32					
		SE		16	59					
		SN		16	59					
		ME		17	10					
		MN		17	20					
		FE		22	34					
		FN		19	56					
691	17	ePE	7	49	32				31	
		SE		50	03					
		ME		50	09					
		MN		50	12					
		FE		52	44					
		FN		51	08					
692	17	ePE	9	34	30	1.4	+ 5		25	
		SE		34	55					
		eSE		34	58					
		ME		35	03					
		MN		35	08					
		FE		38	26					
		FN		38	15					
693	17	ePE	15	38	19		- 10		10	
		iSE		38	29					
		eSN		38	28					
		ME		38	30					
		MN		38	34					
		FE		41	32					
		FN		40	51					
694	19	iPE	5	53	15	0.8	- 30		18	
		ePN		53	14					
		iSE		53	33					
		iSN		53	31					
		ME		53	39					
		MN		53	40					
		FE		58	04					
		FN		57	13					
695	21	PE	7	37	49	2.5	+262		15	
		PN		37	50					
		SE		38	05					
		SN		38	03					
		ME		38	17					
		MN		38	34					
		FE		46	09					
		FN		45	07					

1 9 3 9

108

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
696	Sept. 21	ePE	7	59	49				20	
		SE	8	00	09					
		eSN		00	10					
		ME		00	39					
		MN		00	34					
		FE		03	54					
		FN		02	18					
697	21	ePE	13	12	13				24	
		ePN		12	14					
		SE		12	37					
		SN		12	39					
		ME		13	00	2.4	+ 11			
		MN		13	11	2.4		- 20		
		FE		17	02					
		FN		16	01					
698	21	ePE	18	30	38				35	
		ePN		30	40					
		SE		31	13					
		SN		31	15					
		ME		31	23	2.4	+ 11			
		MN		31	21	2.4		+ 25		
		FE		35	13					
		FN		34	35					
699	22	iPE	3	20	42				1 00	
		iPN		20	42					
		SE		21	42					
		?SN		21	43					
		ME		21	53	1.3	- 5			
		MN		21	59					
		FE		27	05					
		FN		27	06					
700	23	SE	17	00	42					
		ME		00	49					
		MN		00	49					
		FE		03	20					
		FN		03	37					
701	24	ePE	0	17	00				16	
		iSE		17	16					
		eSN		17	16					
		ME		17	20	1.5	- 7			
		MN		17	19					
		FE		20	57					
		FN		20	13					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
702	Sept. 24	ePE	6	02	23	1.4	—	5	25	
		SE		02	48					
		eSN		02	47					
		ME		02	51					
		MN		03	13					
		FE		05	10					
		FN		05	17					
703	24	ePE	14	31	44				29	
		SE		32	13					
		SN		32	14					
		ME		33	01					
		MN		32	51					
		FE		36	56					
		FN		35	14					
704	25	ePE	8	47	30				36	
		eSE		48	06					
		ME		48	30					
		FE		50	16					
705	25	ePE	10	54	38				12	
		SE		54	50					
		eSN		54	48					
		ME		54	56					
		MN		54	58					
		FE		56	17					
		FN		56	02					
706	27	ePE	16	44	55				52	
		eSE		45	47					
		eSN		45	48					
		ME		46	21					
		MN		46	30					
		FE		49	55					
		FN		50	02					
707	28	eSE	16	57	38					
		ME		58	03					
		FE	17	00	17					
708	30	eSE	13	38	55					
		ME		39	13					
		MN		39	01					
		FE		41	35					
		FN		40	56					

1 9 3 9

110

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
709	Sept. 30	ePE	14	38	47				30	
		SE		39	17					
		ME		39	31					
		MN		39	38					
		FE		43	47					
		FN		42	17					

緯  
度  
觀  
測  
所

岩  
手  
縣  
水  
澤  
町

岩手縣水澤町表小路十二番地

印刷人 佐々木 正 藏

岩手縣水澤町裏町四番地

印刷所 水澤印刷株式會社

# MIZUSAWA JAPAN

## SEISMOLOGICAL BULLETIN

---

International Latitude Observatory of Mizusawa

1 9 3 9

October

---

Latitude,           39° 8' 4" N.  
Longitude,        141° 7' 52" E.  
Height above mean sea level,       61m.  
Sub-soil,         Diluvial Formation.  
Instrument,      Omori's Horizontal Pendulum Seismograph.  
Instrumental Constants,

Comp.	M kg.	V	T <sub>0</sub> s	$\frac{r}{T_0^2}$
E W	45.0	100	16	0.055
N S	17.6	20	36	0.007



No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
710	Oct. 1	ePE	16	39	10				25	
		ePE		39	11					
		SE		39	35					
		eSN		39	36					
		ME		39	54					
		MN		39	53					
		FE		42	49					
		FN		41	40					
711	1	PE	21	01	01				16	
		ePN		01	01					
		SE		01	17					
		eSN		01	17					
		ME		01	37	2.4	+ 8			
		MN		01	32	2.4		- 15		
		FE		04	57					
		FN		04	14					
712	1	PE	21	51	19				38	
		ePN		51	18					
		SE		51	57					
		SN		51	57					
		ME		52	16	1.9	- 10			
		MN		52	08					
		FE		55	58					
		FN		54	27					
713	2	ePE	1	42	24				26	
		SE		42	50					
		eSN		42	51					
		ME		43	11					
		MN		43	15					
		FE		45	37					
		FN		45	50					
		714	2	ePE	4	47	47			
SE				48	19					
eSN				48	17					
ME				48	36	1.6	- 5			
MN				48	26					
FE				51	55					
FN				50	57					
715	3			ePE	7	01	13			
		eSE		01	30					
		ME		01	43					
		FN		03	26					



1 9 3 9

113

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
723	Oct. 8	ePE	1	01	40				29	
		ePN		01	40					
		SE		02	09					
		SN		02	09					
		ME		02	46	1.9	+ 16			
		MN		02	47	2.4		- 32		
		FE		07	31					
		FN		07	07					
724	8	ePE	20	53	13				15	
		SE		53	28					
		eSN		53	29					
		ME		53	36					
		MN		53	38					
		FE		55	02					
		FN		54	51					
		725	9	?SE	8	36	22			
?SN				36	21					
ME				36	59					
MN				36	57					
FE				39	37					
FN				42	03					
726	10			PE	13	55	23			
		PN		55	22					
		iSE		55	40					
		SN		55	40					
		ME		55	54	2.4	- 84			
		MN		56	04	2.4		+148		
		FE	14	05	50					
		FN		05	38					
727	10	PE	14	15	28				17	
		PN		15	30					
		iSE		15	45					
		SN		15	46					
		ME		15	59	1.2	+ 16			
		MN		16	02	?		+ 25		
		FE		21	55					
		FN		20	26					
728	10	iPE	18	32	22					Intensity 3
		PE		32	22					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
729	Oct. 10	iPE	18	51	16	2.4		-878	22	Intensity 2
		iPN		51	16					
		SE		51	38					
		SN		51	39					
		MN		51	54					
		FE	19	32	08					
		FN		35	58					
730	10	PE	21	00	06				11	
		SE		00	17					
		ME		00	22					
		FE		01	37					
731	10	?SE	23	09	59					
		ME		10	26					
		FE		12	14					
732	11	iPE	10	21	00	2.0 1.9	+ 20	- 25	31	
		ePN		20	59					
		iSE		21	31					
		SN		21	30					
		ME		22	12					
		MN		21	43					
		FE		26	43					
		FN		26	00					
733	12	ePE	0	29	30				27	
		SE		29	57					
		ME		30	06					
		FE		31	17					
734	12	PE	5	05	05				31	
		ePN		05	06					
		SE		05	37					
		SN		05	37					
		ME		06	00					
		MN		05	51					
		FE		09	28					
		FN		08	20					
735	12	ePE	17	45	10		+ 5		19	
		SE		45	29					
		SN		45	29					
		ME		45	32					
		MN		45	36					
		FE		47	25					
		FN		47	33					

1 9 3 9

115

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
736	Oct. 13	ePE	10	36	02				20	
		SE		36	22					
		eSN		36	22					
		ME		36	30					
		MN		36	42					
		FE		39	29					
		FN		39	55					
737	14	ePE	3	10	24				25	
		SE		10	49					
		ME		11	06					
		MN		11	10					
		FE		15	51					
		FN		14	26					
738	14	ePE	10	56	43				22	
		SN		57	05					
		ME		57	18					
		MN		57	13					
		FE		59	50					
		FN		58	30					
739	14	PE	12	29	44				20	
		PN		29	45					
		SE		30	04					
		eSN		30	03					
		ME		30	15					
		MN		30	14					
		FE		33	06					
		FN		31	53					
740	17	ePE	3	10	20				26	
		SE		10	46					
		ME		11	02					
		MN		10	55					
		FE		13	54					
		FN		15	05					
741	17	iPE	6	32	03				7 55	
		ePE		32	03					
		SE		39	58					
		SN		39	57					
		ME		32	29	2.5	+ 20			
		FE		53	47					
		FN	7	00	39					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
742	Oct. 17	?SE	7	01	52					
		?SN		01	53					
		MN		02	13					
		FE		08	39					
		FN		06	58					
743	18	?PE	5	04	23			24		
		eSE		04	47					
		ME		05	16					
		MN		05	06					
		FE		07	30					
		FN		06	50					
744	18	ePE	19	25	40			11		
		SE		25	51					
		ME		25	57					
		MN		25	57					
		FE		26	48					
		FN		27	18					
745	21	ePE	10	25	39			19		
		SE		25	58					
		eSN		25	59					
		ME		26	19					
		MN		26	11					
		FE		28	14					
		FN		28	02					
746	21	PE	23	43	01			18		
		ePN		42	59					
		SE		43	19					
		SN		43	18					
		ME		43	31	1.1	-	7		
		MN		43	44					
747	21	ePE	23	44	32			14		
		SE		44	46					
		SN		44	46					
		ME		45	14	1.5	+	8		
		MN		45	01					
		FE		49	20					
		FN		47	39					
748	22	SE	11	13	36					
		ME		13	48					
		MN		13	44					
		FE		14	50					
		FN		14	32					

1 9 3 9

117

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
749	Oct. 22	PE	14	40	41				44	Intensity 1
		PN		40	42					
		SE		41	25					
		SN		41	23					
		ME		41	57	1.8	+134			
		MN		41	33	2.0		+175		
		FE		53	41					
		FN		52	17					
750	22	ePE	22	53	49				21	
		SE		54	10					
		eSN		54	12					
		ME		54	16					
		MN		54	21					
		FE		57	27					
		FN		56	26					
751	24	iPE	14	45	12				1 21	
		PN		45	13					
		SE		46	33					
		SN		46	31					
		FE		52	23					
		FN		53	15					
752	24	SE	17	04	13					
		ME		04	17					
		FE		05	00					
753	24	ePE	18	09	28				41	
		SE		10	09					
		eSN		10	09					
		ME		10	27					
		MN		10	30					
		FE		13	26					
		FN		14	48					
754	26	ePE	1	24	09				14	
		?SE		24	23					
		SN		24	21					
		ME		24	48	1.6	+ 10			
		MN		24	49					
		FE		28	45					
		FN		28	04					
755	26	ePE	3	52	35				39	
		SE		53	14					
		SN		53	16					
		ME		53	17	1.2	+ 10			
		MN		53	27					
		FE		56	37					
		FN		55	43					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
756	Oct. 28	ePE	17	24	30	1.6	+ 11		21	
		ePN		24	27					
		SE		24	51					
		eSN		24	48					
		ME		25	56					
		MN		25	50					
		FE		29	56					
		FN		28	14					
757	29	iPE	7	09	12	0.7 1.7	+ 5	- 18	14	
		ePN		09	12					
		iSE		09	26					
		SN		09	27					
		ME		09	34					
		MN		09	41					
		FE		12	26					
		FN		11	51					
758	31	ePE	17	22	25				12	
		SE		22	37					
		ME		22	46					
		FE		23	53					



緯  
度  
觀  
測  
所

岩  
手  
縣  
水  
澤  
町

岩手縣水澤町表小路十二番地

印刷人 佐々木 正 藏

岩手縣水澤町裏町四番地

印刷所 水澤印刷株式會社

# MIZUSAWA JAPAN

## SEISMOLOGICAL BULLETIN

---

International Latitude Observatory of Mizusawa

1 9 3 9

November

---

Latitude,           39° 8' 4" N.  
Longitude,        141° 7' 52" E.  
Height above mean sea level,       61m.  
Sub-soil,         Diluvial Formation.  
Instrument,      Omori's Horizontal Pendulum Seismograph.  
Instrumental Constants,

Comp.	M kg.	V	T <sub>0</sub> s	$\frac{r}{T_0^2}$
E W	45.0	100	16	0.055
N S	17.6	20	36	0.007

1 9 3 9

119

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
759	Nov. 3	ePE	8	17	36	1.6 1.9	- 6	+ 10	52	
		SE		18	28					
		SN		18	30					
		ME		18	53					
		MN		18	56					
		FE		23	54					
		FN		21	56					
760	4	SE	8	25	12					
		ME		25	17					
		FE		26	10					
761	6	ePE	0	19	23				37	
		SE		19	59					
		eSN		19	58					
		ME		20	22					
		MN		20	02					
		FE		24	12					
		FN		22	42					
762	6	SE	12	50	35					
		ME		50	38					
		FE		52	02					
763	9	SE	12	19	55					
		ME		20	13					
		MN		20	38					
		FE		22	27					
		FN		22	42					
764	10	ePE	3	15	01	1.3	+ 7		33	
		SE		15	34					
		ME		15	37					
		FE		19	36					
765	10	?PE	6	31	22	2.5 2.4	- 13	+ 25	1 05	
		?SE		32	27					
		?SN		32	31					
		ME		33	02					
		MN		32	40					
		FE		37	39					
		FN		35	44					
766	11	eSE	7	27	01					
		ME		27	19					
		MN		27	27					
		FE		29	41					
		FN		28	55					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
767	Nov. 11	eSE	12	55	28					
		eSN		55	29					
		MN		55	34					
		FE		57	06					
		FN		56	51					
768	12	ePE	1	47	12			23		
		eSE		47	35					
		ME		47	50					
		MN		47	38					
		FE		49	30					
		FN		49	31					
769	15	eSE	19	22	10					
		ME		22	18					
		MN		22	12					
		FE		23	21					
		FN		22	32					
770	16	ePE	18	15	54			21		
		eSE		16	15					
		ME		16	36					
		MN		16	42					
		FE		18	25					
		FN		18	38					
771	17	?SE	9	10	30					
		ME		11	03					
		MN		10	45					
		FE		14	24					
		FN		13	10					
772	17	eSE	18	49	57					
		eSN		49	58					
		ME		50	31					
		MN		50	49					
		FE		53	00					
		FN		53	34					
773	18	PE	1	36	44			2 53		
		PN		36	43					
		SE		39	37					
		SN		39	41					
		ME		40	39	2.4	+ 20			
		MN		40	40					
		FE		49	50					
		FN		50	13					

1939

121

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
774	Nov. 20	ePE	6	05	19				27	
		eSE		05	46					
		eSN		05	48					
		ME		06	14					
		MN		06	05					
		FE		07	33					
		FN		06	58					
775	21	ePE	11	01	46				25	
		SE		02	11					
		SN		02	09					
		ME		02	14					
		MN		02	13					
		FE		04	52					
		FN		03	26					
776	21	iPE	11	10	52				7 20	
		PN		10	51					
		SE		18	12					
		SN		18	10					
		ME		11	53	2.4	+ 31			
		MN		13	09	2.8		- 30		
		FE		33	00					
FN		30	15							
777	22	ePE	5	07	01				1 13	
		ePN		07	00					
		SE		08	14					
		eSN		08	15					
		ME		08	44	1.0	+ 6			
		MN		08	49					
		FE		14	08					
FN		12	01							
778	22	ePE	5	46	59				1 22	
		eSE		48	21					
		?SN		48	20					
		ME		48	46	1.1	- 3			
		MN		49	06					
		FE		52	05					
		FN		51	45					
779	23	ePE	17	15	45				13	
		SE		15	58					
		ME		16	06					
		FE		17	28					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
780	Nov. 27	iPE	15	42	16				45	
		ePN		42	15					
		SE		43	00					
		SN		43	02					
		ME		43	04	2.4	- 56			
		MN		43	12	3.0		-115		
		FE		54	38					
		FN		54	34					
781	28	PE	0	30	53				16	Intensity 1
		PN		30	53					
		SE		31	09					
		SN		31	09					
		ME		31	10	0.8	- 31			
		MN		31	13	0.9		- 40		
		FE		34	56					
		FN		33	47					
782	28	ePE	2	58	17				22	
		SE		58	39					
		SN		58	39					
		ME		59	00					
		MN		58	50					
		FE	3	02	11					
		FN		01	17					
783	29	PE	14	43	07				19	
		ePN		43	06					
		SE		43	26					
		SN		43	24					
		ME		43	58	2.0	- 6			
		MN		43	40					
		FE		47	12					
		FN		45	43					
784	29	?SE	14	57	42					
		ME		57	55					
		MN		57	57					
		FE	15	00	30					
		FN	14	59	48					
785	29	PE	22	21	29				26	Intensity 1
		PN		21	28					
		SE		21	55					
		SN		21	54					
		ME		22	04	0.5	- 54			
		MN		21	57	1.4		- 75		
		FE		29	57					
		FN		27	22					

緯  
度  
觀  
測  
所

岩  
手  
縣  
水  
澤  
町

岩手縣水澤町表小路十二番地

印刷人 佐々木 正 藏

岩手縣水澤町裏町四番地

印刷所 水澤印刷株式會社

# MIZUSAWA JAPAN

## SEISMOLOGICAL BULLETIN

---

International Latitude Observatory of Mizusawa

1 9 3 9

December

---

Latitude, 39° 8' 4" N.

Longitude, 141° 7' 52" E.

Height above mean sea level, 61m.

Sub-soil, Diluvial Formation.

Instrument, Omori's Horizontal Pendulum Seismograph.

Instrumental Constants,

Comp.	M kg.	V	T <sub>0</sub> s	$\frac{r}{T_0^2}$
E W	45.0	100	16	0.070
N S	17.6	20	35	0.006



1 9 3 9

123

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
786	Dec. 3	ePE	12	41	14				20	
		SE		41	34					
		ME		41	44					
		FE		43	25					
787	5	SE	14	29	00					
		ME		29	06					
		MN		29	13					
		FE		31	00					
		FN		29	58					
788	5	ePE	17	37	17				19	
		SE		37	36					
		eSN		37	36					
		ME		37	57					
		MN		38	08					
		FE		41	20					
		FN		40	49					
789	6	SE	1	47	37					
		ME		47	40					
		FE		48	38					
790	6	iPE	18	00	31				20	Intensity 1 First motion { E, -15 $\mu$ N, +50 $\mu$
		PN		00	31					
		SE		00	52					
		SN		00	53					
		ME		01	08	2.0	-182			
		MN		00	54	1.7		-340		
		FE		10	40					
		FN		09	24					
791	7	ePE	2	12	44				23	
		SE		13	07					
		eSN		13	07					
		ME		13	21					
		MN		13	12					
		FE		15	24					
		FN		14	37					
792	7	ePE	5	16	18				39	
		SE		16	57					
		ME		17	06					
		MN		17	08					
		FE		19	31					
		FN		18	53					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
793	Dec. 7	eSE	11	22	49					
		ME		23	24					
		FE		26	09					
794	7	ePE	13	40	42				19	
		SE		41	01					
		SN		41	00					
		ME		41	07					
		MN		41	10					
		FE		43	33					
		FN		42	34					
795	7	SE	16	02	00					
		ME		02	04					
		FE		03	25					
796	7	ePE	19	56	33				18	
		ePN		56	32					
		iSE		56	51					
		SN		56	51					
		ME		57	28					
		MN		57	23					
		FE	20	01	01					
		FN	19	59	34					
797	8	ePE	19	17	20				24	
		SE		17	44					
		eSN		17	44					
		ME		17	49					
		MN		17	49					
		FE	20	15						
		FN	19	29						
798	9	ePE	4	15	21				19	
		SE		15	40					
		ME		15	51					
		MN		15	55					
		FE	17	19						
		FN	17	20						
799	9	?SE	20	20	46					
		ME		21	51					
		MN		21	22					
		FE	26	17						
		FN	25	07						

1 9 3 9

125

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
800	Dec. 14	ePE	5	06	51				19	
		ePN		06	52					
		iSE		08	10					
		iSN		08	11					
		ME		09	12	1.8	- 18			
		MN		09	03	2.2		- 25		
		FE		15	23					
		FN		15	48					
801	14	iPE	13	50	28				12	
		ePN		50	28					
		iSE		50	40					
		iSN		50	39					
		ME		50	43	?	$\pm$ 9			
		MN		50	41					
		FE		52	59					
		FN		52	12					
802	14	iPE	18	03	19				14	
		PN		03	21					
		iSE		03	33					
		SN		03	35					
		ME		03	38	0.6	- 41			
		MN		03	39	1.2		- 65		
		FE		07	25					
		FN		06	26					
803	14	ePE	20	15	10				1 01	
		SE		16	11					
		eSN		16	10					
		ME		16	21					
		MN		16	24					
		FE		18	17					
		FN		18	43					
		804	16	iPE	10	48	09			
iPN				48	09					
iSE				49	18					
iSN				49	17					
ME				49	24	2.4	-514			
MN				49	36	2.4		+455		
FE	11			17	36					
FN				24	41					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
805	Dec. 16	PE	14	11	40				1 09	
		ePN		11	40					
		SE		12	49					
		SN		12	48					
		ME		12	58	1.1	+ 20			
		MN		12	59	1.7		+ 28		
		FE		16	24					
		FN		15	55					
806	17	ME	7	58	15					
		MN		58	06					
		FE		59	52					
		FN	8	01	08					
807	18	?PE	2	10	20				24	
		?SE		10	44					
		ME		10	54					
		MN		10	52					
		FE		12	31					
		FN		11	55					
808	18	eSE	9	26	25					
		eSN		26	27					
		ME		26	36					
		MN		26	31					
		FE		27	42					
		FN		27	17					
809	18	iPE	11	38	03				17	Intensity 1
		PN		38	03					
		iSE		38	20					
		iSN		38	20					
		ME		38	28	0.9	- 39			
		MN		38	26	?		+ 58		
		FE		42	59					
		FN		41	38					
810	19	ePE	2	00	40				36	
		eSE		01	16					
		eSN		01	13					
		ME		02	08	2.4	+ 3			
		MN		02	05					
		FE		05	43					
		FN		05	11					

1 9 3 9

127

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
811	Dec. 20	PE	10	25	11				36	
		iSE		25	47					
		eSN		25	46					
		ME		25	57					
		MN		25	58					
		FE		28	56					
		FN		27	46					
812	20	iPE	18	15	20				12	Intensity 2 First motion { E, + 136 $\mu$ N, - 120 $\mu$ Epicenter, Off Yosihama Bay
		iPN		15	20					
		iSE		15	32					
		iSN		15	32					
		ME		15	39		$\pm 298$			
		MN		16	05	2.1		+363		
		FE		27	29					
		FN		26	04					
813	21	iPE	21	08	26				6 16	
		iPN		08	26					
		iSE		14	42					
		iSN		14	36					
		MN		21	53	40.8		-2585		
		FE	22	46	52					
FN		52	58							
814	22	ePE	5	52	16				32	
		SE		52	48					
		SN		52	49					
		ME		53	00					
		MN		52	53					
		FE		55	20					
		FN		54	02					
815	22	PE	8	25	25				18	
		SE		25	43					
		eSN		25	42					
		ME		25	52					
		MN		25	50					
		FE		28	15					
		FN		27	16					
816	25	ePE	11	21	38				1 25	
		SE		23	03					
		eSN		23	05					
		ME		23	08	1.5		- 5		
		MN		23	28					
		FE		28	08					
		FN		27	10					

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
817	Dec. 25	eSE	21	03	54					
		ME		04	14					
		FE		06	19					
818	26	ePE	12	19	17			22		
		SE		19	39					
		ME		19	47					
		MN		20	03					
		FE		22	13					
		FN		23	08					
819	26	ePE	19	40	17			27		
		SE		40	44					
		eSN		40	43					
		ME		41	16	1.1	-- 6			
		MN		41	02					
		FE		45	02					
		FN		44	01					
820	27	ePE	0	08	52			10 25	Great earthquake of Turkey.	
		ePN		08	52					
		eSE		19	15					
		eSN		19	19					
		?LE		36	17					
		?LN		36	14					
		ME		54	44	20.4	+174			
		MN		43	39	24.6		-865		
		FE	1	26	14					
		FN	2	23	52					
821	27	ePE	3	10	26			6 21		
		ePN		10	26					
		eSE		16	49					
		eSN		16	45					
		ME		17	20	3.2	+ 8			
		MN		17	22					
		FE		24	06					
		FN		30	01					
822	28	ePE	23	15	19			35		
		SE		15	54					
		SN		15	53					
		ME		16	15	2.2	- 5			
		MN		16	20					
		FE		20	42					
		FN		18	23					

1 9 3 9

129

No.	Date	Phase	Time (G.C.T.)			Period s	Max. Amp.		P - S m s	Remarks
			h	m	s		AE $\mu$	AN $\mu$		
823	Dec. 30	ePE	20	05	37	1.2	+ 10		1 10	
		ePN		05	39					
		SE		06	47					
		SN		06	46					
		ME		06	55					
		MN		06	57					
		FE		10	07					
		FN		09	20					
824	31	ePE	2	41	38				27	
		SE		42	05					
		SN		42	04					
		ME		42	26					
		MN		42	13					
		FE		44	37					
		FN		44	53					
		825	31	ePE	6					
ePN				36	03					
SE				36	23					
eSN				36	21					
ME				36	44					
MN				36	43					
FE				39	57					
FN				38	27					
826	31	PE	6	53	57	2.7	- 63		49	
		ePN		53	57					
		SE		54	46					
		eSN		54	44					
		ME		56	16					
		MN		55	30					
		FE	7	03	46					
		FN		01	57					
827	31	ePE	18	28	18	1.9	- 9		18	
		ePN		28	15					
		SE		28	35					
		SN		28	35					
		ME		29	12					
		MN		29	22					
		FE		33	44					
		FN		31	00					

緯  
度  
觀  
測  
所

岩  
手  
縣  
水  
澤  
町

岩手縣水澤町表小路十二番地

印刷人 佐々木 正 藏

岩手縣水澤町裏町四番地

印刷所 水澤印刷株式會社