

THE
SEISMOLOGICAL
BULLETIN

OF

THE HUKUOKA METEOROLOGICAL OBSERVATORY

OF

JAPAN

VOL. IV

FROM JANUARY TO DECEMBER, 1933.

PUBLISHED BY

THE HUKUOKA METEOROLOGICAL OBSERVATORY

March 1934.

Constants

Position of Observatory :

Longitude :130° 25' .4 E
 Latitude :33° 34' .8 N
 Height from mean sea level : 4.3 m
 Underground : Alluvium.

Seismographs :

Apparatus	Component	T ₀	r T ₀ ²	V
Ômori's Horizontal Seismograph 15kg	E—W	22	0 013	20
Ômori's Tromometer 47kg	N—S	15	0 080	120

Symbols and Notations

1. Phases of the seismogram.

P = First preliminary tremors (longitudinal).

\bar{P} = Individual, or upper first preliminary tremors.

PR_n = Longitudinal waves n times reflected at the earth's surface.

S = Second preliminary tremors (transverse).

\bar{S} = Individual, or upper second preliminary tremors.

SR_n = Transverse waves n times reflected at the earth's surface.

PS = Waves changed from longitudinal to transverse oscillation,
or vice versa, through reflection at the earth's surface.

L = Long waves at the beginning of the surface phase.

M = Maximum Amplitude in principal phase.

C = Waves of the tail or end portion.

F = End of discernible movements.

2. Nature of the motion.

i = Sudden beginning of the motion.

e = Gradual beginning of the motion.

A = Amplitude of the earth's motion in microns.

A_E = E—W component of A.

A_N = N—S component of A.

Period = Time of one complete oscillation.

3. Distance of epicenter.

Δ = Distance of epicenter ; for the near earthquakes calculated by the Ômori's formula
 $\Delta = 7.42t$, and for the distant earthquakes by the Wiechert's, Zoeppritz's and Zeissig's
 time distance curve.

4. Time used. Greenwich mean civil time is adopted for all determinations.

No.	Date	Phase	Time			Period	Amplitude		Δ	Epicenter and Remarks	
			G.	M.	T.		A_E	A_N			
			h	m	s	s	μ	μ	km.		
1	Jan. 3	P	15	30	10.5	14.5	-30		1640	ENE off Miyako, Iwate Prefecture. 144°.0E, 40°.4N. Felt in the Sern part of Hokkaidô and NEern part of Tôhoku district.	
		eS	15	33	00.4						
		M _E	15	35	34.6						
		F	15	46	—						
2	Jan. 4	eP	1	28	03.5				—	SE far off Bonin Is. 145°.0E, 25°.8N.	
		F	1	53	—						
3	Jan. 7	P	4	09	36.3	14.7	-200	-2	1400	ENE off Miyako, Iwate Prefecture. 144°.0E, 40°.3N. Felt in the Sern part of Hokkaidô and over Tôhoku district.	
		S	4	12	02.9						
		M _E	4	16	32.9						
		M _N	4	15	09.0						
		F	4	47	—						
4	Jan. 7	P	10	42	03.7	1.2			244	Near Miyosi, Hirosima Prefecture.	
		S	10	42	36.6						
		M _N	10	42	42.6						
		F	10	44	40.—						
5	Jan. 14	iP	2	10	44.3	1.1	+35	-3	+8	85	Near Volcano Aso, Kumamoto Prefecture.
		iS	2	10	55.7						
		M _E	2	10	56.2						
		M _N	2	10	56.3						
		F	2	15	30.—						
6	Jan. 14	P	6	33	39.0				—	After shock of No. 5.	
		F	6	36	40.—						
7	Jan. 15	P	9	56	05.4	1.6	+9	-1	223	SE off Ariake Bay, Kagosima Prefecture. 131°.3E, 31°.1N. Felt in the SEern part of Kyûsyû.	
		S	9	56	35.4						
		M _E	9	56	55.8						
		M _N	9	56	56.3						
		F	10	04	00.—						
8	Jan. 21	e	19	42	15.0				—	Distant earthquake. All phases could not be distinguished.	
		F	20	55	—						

No.	Date	Phase	Time			Period	Amplitude		Δ	Epicenter and Remarks
			G.	M.	T.		A_E	A_N		
			h	m	s	s	μ	μ	km.	
9	Jan. 26	iP	13	52	53.0			+ 1	26	Local shock.
		iS	13	52	56.5					
		M_E	13	52	56.7	0.2	+45			
		M_N	13	52	56.7	0.3		-16		
		F	13	53	35.-					
10	Jan. 26	P	18	33	45.7				115	Near Volcano Aso, Kumamoto Prefecture.
		S	18	34	01.2					
		M_N	18	34	01.6	1.0		- 4		
		F	18	35	50.-					
11	Jan. 27	eP	11	44	42.1				84	Ditto.
		S	11	44	53.4					
		M_N	11	44	53.6	0.5		+ 2		
		F	11	45	40.-					
12	Feb. 2	iP	14	27	26.0			- 1	80	Ditto.
		iS	14	27	36.8					
		M_N	14	27	37.7	0.4		- 3		
		F	14	28	15.-					
13	Feb. 3	P	22	16	30.-				2290	N off Uruppu Is. Time is doubtful.
		S	22	20	18.-					
		F	22	37	-					
14	Feb. 6	iP	7	17	19.4		- 3	+ 2	82	Near Volcano Aso, Kumamoto Prefecture.
		iS	7	17	30.4					
		M_E	7	17	30.6	-	+25			
		M_N	7	17	30.8	1.2		+36		
		F	7	20	20.-					
15	Feb. 7	P	1	27	52.1			- 3	102	Ditto.
		S	1	28	05.8					
		M_N	1	28	08.4	-		-37		
		F	1	31	-					

No.	Date	Phase	Time			Period	Amplitude		Δ	Epicenter and Remarks
			G.	M.	T.		A_E	A_N		
			h	m	s	s	μ	μ	km.	
16	Feb. 8	P	21	56	23.2			+ 3	90	Near Volcano Aso, Kumamoto Prefecture.
		iS	21	56	35.3					
		M_E	21	56	36.0	0.3	-12			
		M_N	21	56	36.2	0.3		-17		
		F	21	57	40.—					
17	Feb. 9	P	3	58	37.3				611	SW off Hatizyô Is. 138.°8E, 31.°7N. Focal depth about 250 km. Abnormal felt area in Kwantô district.
		S	3	59	59.7					
		F	4	11	—					
18	Feb. 10	S	19	51	10.0				—	Near Volcano Aso, Kumamoto Prefecture.
		F	19	54	00.—					
19	Feb. 12	eP	0	46	11.0				91	Near the mouth of River Sirakawa, Kumamoto Prefecture.
		S	0	46	23.2					
		F	0	47	25.—					
20	Feb. 13	eP	3	00	57.8				3850	Dzungaria, western Mongolia.
		S	3	06	36.5					
		F	3	24	—					
21	Feb. 13	P	13	01	23.9			+ 2	98	Near Volcano Aso, Kumamoto Prefecture.
		S	13	01	37.1					
		M_N	13	01	37.9	0.5		+ 6		
		F	13	04	20.—					
22	Feb. 14	P	0	37	25.1				18	Local shock.
		S	0	37	27.5					
		M_N	0	37	27.5	0.2		\pm 4		
		F	0	37	35.0					
23	Feb. 18	P	8	18	39.9				417	Upper valley of River Tigusa, Hyôgo Prefecture. Felt in Hyôgo, Okayama, Ôsaka, Kyôto, Tottori, Simane, Hirosima and Kagawa Prefecture.
		S	8	19	36.1					
		M_N	8	19	39.2	2.5		+ 8		
		F	8	22	00.—					

No.	Date	Phase	Time			Period	Amplitude		△	Epicenter and Remarks
			G.	M.	T.		A _E	A _N		
			h	m	s	s	μ	μ	km.	
24	Feb. 23	eP?	8	26	22.—				—	Chile, South America. All phases not distinct.
		eS?	8	39	35.—					
		M _E	9	28	22.—	22.5	+48			
		F	10	23	—					
25	Mar. 2	P	17	34	02.8				1310	By the low magnification seismometer. E off Kamaisi, Iwate Prefecture. 144°.7E, 39°.1N. Accompanied with the great Tunami at the Pacific coasts of Oou (Sanriku).
		eS	17	36	21.3					
		eL?	17	36	53.6					
		M _E	17	39	03.0	18.0	-1800			
		M _N	17	38	15.2	15.0		+1950		
		F	19	14	—					
26	Mar. 2	P	19	46	04.—				1290	After shock of No. 25.
		eS	19	48	21.—					
		F	20	02	—					
27	Mar. 2	P	20	45	55.—				1330	After shock of No.25. Time is doubtful.
		eS	20	48	16.—					
		F	21	03	—					
28	Mar. 3	P	9	15	39.7				1320	After shock of No. 25.
		eS	9	17	59.9					
		L?	9	19	09.5					
		M _E	9	20	54.8	13.7	+75			
		F	9	41	—					
29	Mar. 3	eP	9	41	36.6				—	Ditto. S phase. could not be distinguished.
		e	9	44	54.3					
		M _E	9	47	13.4	12.8	+28			
		F	10	07	—					
30	Mar. 6	P	22	46	09.3				392	In the Wakanoura Bay, Wakayama Prefecture. 135°.1E, 34°.2N. Felt. in the greater part of Kinki district.
		S	22	47	02.1					
		F	22	49	50.—					
31	Mar. 8	P	10	27	54.0				138	In the Iyo-nada, Inland Sea. 132°.4E, 33°.7N. Felt in the
		S	10	28	12.6					

No.	Date	Phase	Time			Period	Amplitude		Δ	Epicenter and Remarks
			G.	M.	T.		A_E	A_N		
			h	m	s	s	μ	μ	km.	
	Mar. 8	M_N	10	28	17.3	1.4		+ 8		greater parts of Sanyô and Sikoku district.
		F	10	30	40.—					
32	Mar. 10	P	11	54	49.4				91	Near Kumamoto City.
		S	11	55	01.6					
		F	11	55	50.—					
33	Mar. 10	P	12	25	33.3				76	Ditto.
		S	12	25	43.6					
		F	12	26	28.—					
34	Mar. 11	iP	19	35	11.7			— 2	876	WNW off Bonin Is. 140°E, 28°N.
		iS	19	37	09.8			—30		Focal depth about 350 km.
		M_N	19	37	18.1	10.2		+144		Abnormal felt area in Kwantô and Tôhoku district.
		F	19	55	—					
35	Mar. 17	eP	16	01	17.7				3545	E off Kamtchatka. 166°E, 51°N.
		S	16	06	37.6					
		F	16	46	—					
36	Mar. 17	eP	19	37	49.7				2930	Neighbourhood of Mindanao Is, South Sea. 128°E, 7°N.
		eS	19	42	27.4					
		M_E	19	50	27.6	19.3		+28		
		F	20	30	—					
37	Mar. 18	iP	15	53	24.5			+14	633	S off Hatizyô Is. 139°.7E, 32°.4N.
		iS	15	54	49.8			— 5		Abnormal felt area in Kwantô district. Record is deep focus type.
		M_E	15	55	27.3	4.0		+20		
		M_N	15	55	09.0	8.4		+43		
		C_N	15	56	06.6					
		F	16	02	—					
38	Mar. 20	P	17	09	22.0				128	In the Bungo channel.
		S	17	09	39.2					
		M_N	17	09	39.3	0.5		+ 4		
		F	17	10	42.—					

No.	Date	Phase	Time			Period	Amplitude		Δ	Epicenter and Remarks
			G.	M.	T.		A_E	A_N		
			h	m	s	s	μ	μ	km.	
39	Mar. 21	P	21	13	23.5				69	Near Volcano Aso, Kumamoto Prefecture.
		S	21	13	32.8					
		F	21	14	20.—					
40	Mar. 21	P	23	18	31.6		to W	to N	89	Ditto.
		iS	23	18	43.6		+40	-13		
		M_E	23	18	49.0	5.9	-105			
		M_N	23	18	48.9	4.8		-60		
		F	23	25	—					
41	Mar. 22	P	20	49	44.2				72	Ditto.
		S	20	49	53.9					
		F	20	50	45.—					
42	Mar. 22	eP	20	50	41.3				77	Ditto.
		S	20	50	51.7					
		F	20	51	30.—					
43	Mar. 23	S	17	50	37.4				—	Distant earthquake. Small amplitudes.
		F	18	04	—					
44	Mar. 25	P	12	50	35.4		to W	+ 1	89	Near Volcano Aso, Kumamoto Prefecture. 131°.1E, 32°.9N. Felt in the greater part of Kyûsyû. At Hukuoka slightly.
		i	12	50	35.9		-23	+19		
		iS	12	50	47.4					
		M_E	12	50	53.4	5.6	-325			
		M_N	12	50	51.4	4.0		-217		
		F	13	00	—					
45	Mar. 26	eP	2	21	39.8				79	After shock of No. 44.
		S	2	21	50.4					
		F	2	22	20.—					
46	Mar. 26	eP	3	59	38.8				82	Ditto.
		S	3	59	49.8					
		F	4	00	40.—					

No.	Date	Phase	Time			Period	Amplitude		△	Epicenter and Remarks
			G.	M.	T.		A _E	A _N		
			h	m	s	s	μ	μ	km.	
47	Mar. 27	eP	8	16	39.4				74	After shock of No. 44.
		S	8	16	49.3					
		F	8	17	30.—					
48	Mar. 30	S	17	34	34.0				—	In the Hiuga-nada.
		M _N	17	34	34.2	0.5		+ 3		
		F	17	35	20.—					
49	Apr. 1	P	16	01	59.9				1650	E off the coast of Sanriku. 143°.5E, 39°.5N. Felt in the Eern part of Tôhoku district and Sern part of Hokkaidô.
		S	16	04	50.6					
		M _E	16	07	27.5	12.5		+15		
		F	16	21	—					
50	Apr. 2	P	12	44	28.8				76	Near Volcano Aso, Kumamoto Prefecture.
		S	12	44	39.1			+ 1		
		M _N	12	44	39.7	0.4		+ 6		
		F	12	45	30.—					
51	Apr. 8	P	11	54	42.8				89	Near Kumamoto City. Felt at places in Hukuoka Prefecture.
		S	11	54	54.8					
		M _N	11	54	56.5	0.5		+17		
		F	11	57	—					
52	Apr. 9	P _N	2	49	19.0				1530	E off the coast of Sanriku. 144°.0E, 39°.2N. Felt in Tôhoku, Kwantô and Hokkaidô district.
		S _E	2	51	52.7					
		S _N	2	51	59.3					
		L	2	53	00.7					
		M _E	2	54	46.4	15.5		+320		
		M _N	2	54	57.3	13.5		+150		
		C _E	2	57	42.2					
		F	3	22	—					
53	Apr. 13	iP	3	53	10.8		to W	+ 3	75	Near Volcano Aso, Kumamoto Prefecture.
		iS	3	53	20.9					
		M _E	3	53	23.9	1.2		-25		
		M _N	3	53	32.5	2.4		-37		
		F	3	57	10.—					

No.	Date	Phase	Time			Period	Amplitude		Δ	Epicenter and Remarks
			G.	M.	T.		A_E	A_N		
			h	m	s	s	μ	μ	km.	
54	Apr. 13	P	5	14	47.9	0.6			76	Near Volcano Aso, Kumamoto Prefecture.
		S	5	14	58.2					
		M_N	5	14	59.3					
		F	5	16	40.—					
55	Apr. 13	eP	6	44	56.7				72	Ditto.
		S	6	45	06.4					
		F	6	45	37.—					
56	Apr. 13	eP	6	55	39.1				77	Ditto.
		S	6	55	49.5					
		F	6	56	30.—					
57	Apr. 15	P	19	43	31.6	0.4			73	Ditto.
		S	19	43	41.4					
		M_N	19	43	41.6					
		F	19	45	00.—					
58	Apr. 15	P	19	45	39.6	0.5			73	Ditto.
		S	19	45	49.4					
		M_N	19	45	49.6					
		F	19	47	25.—					
✓ 59	Apr. 19	iP	6	47	38.3	12.3	+25	+7	1280	Near the mouth of River Taidakusui-kei, Formosa. 121°.7E, 24°.3N. Felt over Formosa.
		S	6	49	54.1					
		eN	6	51	32.9					
		M_E	6	53	59.0					
		M_N	6	55	20.5					
		F	7	32	—					
✓ 60	Apr. 23	P	7	16	36.6	16.4	+75		1390	E off the coast of Sanriku. 143°.6E, 39°.7N. Felt in Tôhoku and a part of Hokkaidô district.
		S	7	19	02.5					
		M_E	7	20	52.6					
		M_N	7	20	57.8					
		F	7	41	—					
61	Apr. 24	P	17	58	02.7				81	Near Volcano Aso, Kumamoto

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No.	Date	Phase	Time			Period	Amplitude		Δ	Epicenter and Remarks
			G.	M.	T.		A _E	A _N		
			h	m	s	s	μ	μ	km.	
	Apr. 24	S	17	58	13.6					Prefecture.
		M _N	17	58	13.7	0.4		+ 4		
		F	17	59	05.—					
62	Apr. 24	P	18	01	24.7		- 1	+ 1	85	Near Volcano Aso, Kumamoto Prefecture.
		S	18	01	36.2					
		M _E	18	01	36.8	0.6	+ 6			
		M _N	18	01	36.3	0.4		+15		
		F	18	03	35.—					
63	Apr. 27	P	2	45	41.6				6240	Alaska.
		S	2	53	30.9					
		M _E	3	15	11.8	13.0	+95			
		M _N	3	15	01.4	11.5		-32		
		F	4	03	—					
64	May 5	P	11	38	34.3				98	Near Volcano Aso, Kumamoto Prefecture.
		eS	11	38	47.5					
		M _N	11	38	55.1	4.0		- 6		
		F	11	40	40.—					
65	May 5	eP	11	54	52.6				95	Ditto.
		eS	11	55	05.4					
		F	11	56	50.—					
66	May 5	eP	11	56	44.3				90	Ditto.
		S	11	56	56.4					
		F	11	58	10.—					
67	May 5	P	12	04	18.8				100	Ditto.
		S	12	04	32.3					
		F	12	06	—					
68	May 5	P	12	41	46.8				98	Near Volcano Aso, Kumamoto Prefecture.
		S	12	42	00.0					
		F	12	43	—					

No.	Date	Phase	Time			Period	Amplitude		△	Epicenter and Remarks
			G.	M.	T.		A _E	A _N		
			h	m	s	s	μ	μ	km.	
69 ✓	May 16	eP	1	20	14.0	18.8	-20		4520	In the South Sea.
		eS	1	26	29.9					
		eL	1	34	21.3					
		M _E	1	40	34.0					
		F	2	35	—					
70	May 16	eP	3	42	34.5				248	Near Miyosi, Hiroshima Prefecture.
		S	3	43	07.9					
		F	3	44	35.0					
71	May 22	P	20	44	40.7	1.9		-22	198	In the Hiuga-nada. 131°.8E, 31°.9N. Felt at the SEern coast of Kyûsyû.
		S	20	45	07.4					
		M _N	20	45	15.9					
		F	20	47	10.—					
72	May 23	P	16	37	16.6	1.6		+ 7	269	In the Hiuga-nada. 131°.7E, 31°.4N. Felt at the SEern coast of Kyûsyû.
		\bar{P}	16	37	24.2					
		iS	16	37	52.8					
		M _N	16	38	21.0					
		C _N	16	39	09.9					
		F	16	44	20.—					
73	May 23	P	16	52	31.8	1.4		+ 3	286	In the Hiuga-nada. 131.4E, 31.2N. Felt at the SEern coast of Kyûsyû.
		\bar{P}	16	52	40.0					
		S	16	53	10.4					
		M _N	16	53	20.8					
		C _N	16	54	16.7					
		F	16	59	00.—					
74	May 24	eP	18	40	06.7				173	Near the mouth of River Mimidu, Miyazaki Prefecture.
		S	18	40	30.0					
		F	18	41	40.—					
75	June 2	eP	4	42	55.4				249	Off the cape of Sata, Kagosima Prefecture.
		eS	4	43	28.9					
		F	4	45	—					

No.	Date	Phase	Time			Period	Amplitude		△	Epicenter and Remarks
			G.	M.	T.		A _E	A _N		
			h	m	s	s	μ	μ	km.	
76 ✓	June 2	P	7	39	28.7		- 5	+13	253	Near Miyakonozyô City, Miyazaki Prefecture. 131°.1E, 31°.7N. Felt at the SEern part of Kyûsyû.
		P̄	7	39	37.9		+16	-94		
		S	7	40	02.8					
		S̄ _N	7	40	16.1					
		M _E	7	40	27.7	-	+295			
		M _N	7	40	44.0	15.7		-436		
		C _N	7	43	30.1					
F	7	54	30.-							
77	June 3	eP	10	33	23.2				259	After shock of No. 76.
		eS	10	33	58.1					
		F	10	35	20.-					
78	June 3	P	13	31	17.4		+ 1	- 1	114	Near Volcano Aso, Kumamoto Prefecture.
		S	13	31	32.8	0.5		- 7		
		F	13	33	40.-					
79 ✓	June 3	P	17	10	32.7			- 1	512	Neighbouring sea of Amami-oosima Is., Kagosima Prefecture.
		S	17	11	41.7					
		M _E	17	12	36.0	12.4	+430			
		M _N	17	12	32.9	17.0		-100		
		F	17	32	-					
80	June 6	eP	2	33	03.6				2575	Neighbourhood of Philippine.
		eS	2	37	14.5					
		F	3	02	-					
81 ✓	June 7	eP	11	51	12.9				3550	Burma.
		eS	11	56	33.1					
		eL	12	00	20.6					
		M _E	12	03	24.0	11.3	+55			
		F	12	17	-					
82 ✓	June 8	P	18	13	50.7				1650	ENE off Miyako, Iwate Prefecture. 140°.0E, 40°.2N. Felt at places in Tôhoku, Hokkaidô and Kwantô district.
		S	18	16	41.8					
		M _E	18	19	30.8	17.8	±27			
		F	18	36	-					

No.	Date	Phase	Time			Period	Amplitude		Δ km.	Epicenter and Remarks
			G.	M.	T.		A _E	A _N		
			h	m	s	s	μ	μ		
83	June 12	P	22	17	46.9	0.5		— 6	76	Near Kumamoto City.
		S	22	17	57.1					
		M _N	22	17	58.6					
		F	22	18	17.—					
84	June 13	P	20	36	40.0				1460	E off the mouth of River Mabuti, Aomori Prefecture. 143°.7E, 40°.7N. Felt in Tôhoku and Hokkaidô.
		S	20	39	12.6					
		F	20	58	—					
85	June 15	P	16	58	59.6	0.3		— 3	26	Near Tatiarai, Hukuoka Prefecture. Felt at Tatiarai moderately.
		S	16	59	03.1					
		F	16	59	30.—					
86	June 17	P	2	42	25.1	0.4		— 6	25	Near Tatiarai, Hukuoka Prefecture. Felt at Tatiarai, Tateisi, Kitano and Yamakawa.
		S	2	42	28.5					
		M _N	2	42	31.2					
		F	2	43	25.—					
87	June 17	eP	18	27	25.3	0.5		— 7	27	Ditto.
		S	18	27	28.9					
		M _N	18	27	30.1					
		F	18	28	40.—					
88	June 18	P	21	40	10.3	19.—	> 6000	— 2	1200	E off Mt. Kinkwa zan, Miyagi Prefecture. 142°.8E, 38°.5N. Felt in the greater part of Tôhoku and Kwantô, Sern half of Hokkaidô and Eern part of Tyûbu district.
		S	21	42	18.4					
		L?	21	43	34.6					
		M _E	21	44	43.6					
		M _N	21	44	30.5					
		F	22	30	—					
89	June 24	P	22	03	08.1	13.4	+ 300		5360	Neighbourhood of Sumatra.
		S	22	10	09.9					
		eL	22	16	07.7					
		M _{E1}	22	26	05.3					
		M _{E2}	22	30	53.8					
		M _N	22	25	39.1					
		F	23	23	—					

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No.	Date	Phase	Time			Period	Amplitude		Δ	Epicenter and Remarks	
			G.	M.	T.		A _E	A _N			
			h	m	s	s	μ	μ	km.		
90	July 9	P	1	34	23.4	17.3	+30		2030	SE off Iturup Is. 149°.5E, 43°.0N. Felt at Kusiro, Hokkaidô slightly.	
		eS	1	37	49.4						
		eL	1	39	41.4						
		M _E	1	43	29.8						
		F	1	58	—						
91	July 9	P	9	32	21.8	16.9	± 20		—	After shock of No. 90.	
		L	9	38	25.7						
		M _E	9	41	34.6						
		F	9	52	—						
92	July 9	P	9	52	36.4				2140	Ditto.	
		S	9	56	11.7						
		F	10	22	—						
93	July 9	P	12	34	58.2	17.0	+490		2200	SE off Iturup Is. 149°.0E, 42°.5N. Felt at Kusiro, Hokkaidô slightly.	
		S	12	38	38.7						
		L	12	40	48.0						
		M _E	12	44	26.4						
		F	13	19	—						
94	July 9	P	16	56	15.5	1.1		to W	+ 1	88	Near Beppu City, Ooita Prefecture.
		S	16	56	27.4						
		M _N	16	56	30.4						
		F	16	59	20.—						
95	July 9	P	17	00	34.1	0.5			83	After shock of No. 94.	
		S	17	00	45.3						
		F	17	02	00.—						
96	July 9	P	17	13	01.2				88	Ditto.	
		S	17	13	13.0						
		F	17	14	30.—						
97	July 10	P	0	24	32.1				1670	E off Kamaisi, Iwate Prefecture. 144°.8E, 38°.9N. Felt in the greater part of Tôhoku and at	
		S	0	27	25.3						
		F	0	40	—						

No.	Date	Phase	Time			Period	Amplitude		Δ	Epicenter and Remarks
			G.	M.	T.		A _E	A _N		
			h	m	s	s	μ	μ	km.	
98	July 18	P	11	26	13.1		- 5	+10	458	places in Hokkaidô and Kwantô district.
		i	11	26	18.0					
		S	11	27	14.8					
		F	11	31	—					
99	July 18	eP	18	00	15.3				291	Near Mt. Tengi-yama, Okayama Prefecture.
		S	18	00	54.5					
		F	18	03	—					
100	July 20	eP	23	16	59.6				1770	E far off Mt. Kinkwa-zan, Miyagi Prefecture. 144°.8E, 38°.5N. Felt in the greater part of Tôhoku and Sern part of Hokkaidô district.
		eS	23	20	01.4					
		F	23	32	—					
✓ 101	July 22	P	21	03	42.6	23.0	±35		5130	Neighbouring sea of Aleutian Is.
		S	21	10	31.7					
		L	21	17	27.3					
		M _E	21	22	04.2					
		F	21	44	—					
102	July 24	P	8	39	58.0				781	S off Vladivostok.
		S	8	41	43.2					
		F	8	47	—					
103	July 28	P	16	44	24.3	3.3	+ 9	+ 1	465	In the kii Channel. 135°.0E, 34°.2N. Felt in the preater part of Kinki and a part of Sikoku, Tyûgoku and Tyûbu district.
		i	16	44	39.9					
		S	16	45	27.0					
		M _N	16	45	31.7					
		F	16	50	—					
104	Aug. 1	P	15	33	14.3				94	Near Mt. Unzen-dake, Nagasaki Prefecture.
		eS	15	33	26.9					
		F	15	35	25.—					

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No.	Date	Phase	Time			Period	Amplitude		△	Epicenter and Remarks
			G.	M.	T.		A _E	A _N		
			h	m	s	s	μ	μ	km.	
105	Aug. 11	P	9	00	01.1				3290	Eern part of Tibet.
		S	9	05	04.6					
		eL	9	08	27.6					
		M _E	9	12	57.6	10.0	+25			
		F	9	37	—					
106	Aug. 15	eP	3	00	52.4				1310	NNE off Bonin Is. 144°.0E, 29°.2N. Felt at Titi-zima slightly.
		eS	3	03	11.1					
		F	3	15	—					
107	Aug. 16	P	4	10	49.6		+10	+ 5	88	Near Kiyama, Kumamoto Prefecture.
		S	4	11	01.4					
		M _E	4	11	02.3	0.7	+23			
		M _N	4	11	05.2	0.5		+18		
		F	4	13	50.—					
108	Aug. 18	eP	8	20	49.5				413	WSW off Yaku-sima Is., Kagosima Prefecture. 129°.5E, 29°.7N.
		eS	8	21	45.2					
		F	8	28	—					
109	Aug. 18	P	18	48	53.5				89	Near Kiyama, Kumamoto Prefecture.
		S	18	49	05.5					
		F	18	49	55.—					
110	Aug. 25	P	7	55	33.0				2650	Sern part of kan-su, China.
		PP	7	56	00.0	1.9		— 4		
		S	7	59	50.2	6.3		+23		
		L	8	02	48.6	16.8		—150		
		M _N	8	05	48.2	11.1		>950		
		F	9	05	—					
111	Aug. 26	P	1	31	49.7				471	NW off Amami-oosima Is., Kagosima Prefecture.
		eS	1	32	53.2					
		F	1	36	50.—					
112	Aug. 28	eP	22	39	30.5				—	Distant earthquake. S phase not distinct.
		eS?	22	53	23.6					

No.	Date	Phase	Time			Period	Amplitude		Δ	Epicenter and Remarks
			G.	M.	T.		A_E	A_N		
			h	m	s	s	μ	μ	km.	
	Aug. 29	F	0	57	—					
113	Aug. 29	eP?	15	11	14.8				—	Off Hatizyo Is. All phases not distinct.
		eS?	15	12	20.6					
		F	15	14	40.—					
114	Sept. 2	iP	16	43	14.5		—20	+ 3	697	S off. Hatizyô Is. 139°.4E, 30°.3N. Focal depth about 300 km. Abnormal felt area in Kwantô and Tôhoku district. Record is deep focus type.
		iS	16	44	48.4		+175	+40		
		M _E	16	44	54.2	7.4	—210			
		M _N	16	44	54.2	9.5		—335		
		F	17	10	—					
115	Sept. 6	P	22	19	03.1				—	Neighbourhood of Fiji Is., South Pacific Ocean.
		F	22	55	—					
116	Sept. 9	P	5	05	04.9				859	NW of Vladivostok. 131°.0E, 44°.0N.
		S	5	07	00.7					
		F	5	17	—					
117	Sept. 21	P	3	16	01.7				676	Sern part of Nanao Bay, Noto Peninsula. 136°58'E, 37°04'N. Shallow earthquake. Focal depth within 10 km. Very strong shocks were felt at the epicentral region.
		S	3	17	32.8					
		M _E	3	18	40.1	10.2	—100			
		M _N	3	18	39.0	11.6		—44		
		F	3	30	—					
118	Sept. 21	eP	9	50	45.6				1480	SE off Miyako, Iwate Prefecture. 143°.0E, 39°.3N. Felt in the Eern half of Tôhoku district.
		eS	9	53	20.2					
		F	10	10	—					
119	Sept. 25	eP?	18	59	07.2				—	Distant earthquake. P phase not distinct.
		L	19	10	18.6					
		M _E	19	14	12.9	10.6	±23			
		F	19	37	—					
120	Sept. 26	iP	15	59	09.5		— 2	+ 1	86	Near Kumamoto City.
		iS	15	59	21.1					
		M _E	15	59	22.6	—	+50			

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No.	Date	Phase	Time			Period	Amplitude		Δ	Epicenter and Remarks
			G.	M.	T.		A_E	A_N		
			h	m	s	s	μ	μ	km.	
	Sept. 26	M_N	15	59	24.7	0.4		-23		
		C_N	15	59	42.1					
		F	16	04	30.—					
121	Sept. 29	P	13	58	59.6				80	Near Kumamoto City.
		S	13	59	10.4					
		M_N	13	59	14.1	1.1		- 8		
		F	14	03	—					
122	Oct. 1	iP	19	24	26.1		+ 5	- 2	128	Eern foot of Volcano Aso,
		iS	19	24	43.4	1.4	+38	+28		Kyûsyû. 131°.4E, 32°.9N. Focal
		F	19	29	20.—					depth about 100 km.
123	Oct. 2	P	12	52	44.6				82	Near Kumamoto City.
		S	12	52	55.6					
		F	12	54	10.—					
124	Oct. 3	P	18	40	47.7				854	Near Tôkamati, Niigata
		eS	18	42	42.8					Prefecture. 138°.8E, 37°.2N. Felt
		F	18	59	—					in central Japan.
125	Oct. 4	P	11	00	32.0				188	In the Hiuga-nada.
		S	11	00	57.3					
		M_E	11	01	02.8	1.3	+ 6			
		M_N	11	01	03.4	1.0		- 8		
		F	11	03	—					
126	Oct. 5	P	21	32	28.8				79	Near Tidiwa, Nagasaki
		S	21	32	39.4					Prefecture.
		M_N	21	32	46.8	0.4		+ 3		
		F	21	34	30.—					
127	Oct. 21	eS?	2	49	21.4				—	SE off the cape of Nozima,
		F	3	04	—					Tiba Prefecture
128	Nov. 6	P	7	25	41.5		+10	+ 3	161	Neighbourhood of Hukue Is.,
		S	7	26	03.2			+15		Nagasaki Prefecture.

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No.	Date	Phase	Time			Period	Amplitude		△	Epicenter and Remarks
			G.	M.	T.		A _E	A _N		
			h	m	s	s	μ	μ	km.	
	Nov. 6	M _E	7	26	06.7	1.6	+18			
		M _N	7	26	07.8	0.7		-23		
		F	7	32	10.—					
129	Nov. 7	P	20	40	19.5				159	Neighbourhood of Hukue Is., Nagasaki Prefecture.
		S	20	40	40.9					
		F	20	42	20.—					
130	Nov. 9	P	17	21	59.0				79	Near Kumamoto City.
		S	17	22	09.7					
		M _N	17	22	10.9	0.4		+10		
		F	17	23	10.—					
131	Nov. 10	P	13	01	26.6				84	Ditto.
		S	13	01	37.9					
		M _N	13	01	38.5	0.4		+ 4		
		F	13	02	30.—					
132	Nov. 19	P	23	04	34.9				106	Wern foot of Volcano Aso, Kumamoto Prefecture.
		S	23	04	49.2					
		M _N	23	04	49.6	0.5		- 6		
		F	23	05	35.—					
133	Nov. 20	P	23	33	03.0				8140	SW of Greenland.
		S	23	42	30.0					
		eL	23	55	20.8					
✓	Nov. 21	M _{F1}	0	03	25.3	18.5	±50			
		M _{F2}	0	06	01.8	16.5	+60			
		F	1	03	—					
134	Nov. 22	e	12	22	30.3				—	Neighbourhood of Amami-oosima Is., Kagosima Prefecture.
135	Nov. 22	P	12	50	31.2				3790	In the South Sea.
		eS	12	56	06.3					
		eL	13	00	23.2					
		F	13	34	—					

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No.	Date	Phase	Time			Period	Amplitude		△	Epicenter and Remarks
			G.	M.	T.		A _E	A _N		
			h	m	s	s	μ	μ	km.	
136	Nov. 22	P	19	00	45.2				661	Neighbourhood of Amami-oosima Is., Kagosima Prefecture.
		S	19	02	14.3					
		F	19	11	—					
137	Nov. 22	P	22	33	04.5				588	Ditto.
		S	22	34	23.7					
		F	22	53	—					
138	Dec. 1	P	17	45	17.0				228	In the Ariake Bay, Kagosima Prefecture.
		S	17	45	47.7					
		M _N	17	46	00.0	1.2		-10		
		C _N	17	46	24.6					
		F	17	49	20.—					
139	Dec. 4	eP	8	31	42.4				174	Sern part of Hiuga-nada.
		S	8	32	05.9					
		M _N	8	32	11.8	1.7		- 6		
		F	8	34	40.—					
140	Dec. 4	iP	19	37	31.6		+ 5	+ 3	1680	E off Sôya Strait. 144°.0E, 45°.2N. Deep earthquake. Abnormal felt area in the Sern half of Hokkaidô and NEern part of Tôhoku district. Record is deep focus type.
		iS	19	40	25.2					
		M _E	19	40	41.2	—	+70			
		M _N	19	40	36.2	7.0		+73		
		F	19	58	—					
141	Dec. 12	e	14	17	39.2				—	Distant earthquake. All phases could not be distinguished.
		e	14	19	18.5					
		e	14	21	38.5					
		e	14	25	41.1					
		e	14	29	02.6					
		F	15	07	—					

昭和九年三月二十五日印刷
昭和九年三月三十一日發行

發行所 福岡測候所
福岡市大字住吉

印刷人 大隈龍介
福岡市東職人町十八番地

印刷所 福岡印刷株式會社
福岡市上名島町五十三番地