

THE  
SEISMOLOGICAL  
BULLETIN  
OF  
THE HUKUOKA METEOROLOGICAL OBSERVATORY  
OF  
JAPAN

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VOL. II.

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FROM JANUARY TO DECEMBER, 1931.

PUBLISHED BY  
THE HUKUOKA METEOROLOGICAL OBSERVATORY

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February 1932.



## 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	$T_0$	$\frac{r}{T_0^2}$	V
Ômori's Horizontal Seismograph 15kg	E—W	22	0.015	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<sub>n</sub> = Longitudinal waves n times reflected at the earth's surface.

S = Second preliminary tremors (transverse).

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

SR<sub>n</sub> = 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<sub>E</sub> = E—W component of A.

A<sub>N</sub> = N—S component of A.

Period = Time of one complete oscillation.

### 3. Distance of epicenter.

$\Delta$  = 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.



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No.	Date	Phase	Time			Period	Amplitude		△	Epicenter and Remarks
			G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>		
			h	m	s	s	μ	μ	km.	
1	Jan. 1	iP	23	55	21				1550	E. off Karenko, Formosa.
		eS	23	58	03					
		M <sub>E</sub>	23	59	50	18.0	-18			
	2	F	0	12	—					
2	Jan. 15	eP?	2	10	10				8320	Distant earthquake. P phase not distinct.
		eS	2	19	46					
		eL	2	34	31					
		M <sub>E1</sub>	2	48	04	27.7	-49			
		M <sub>E2</sub>	2	50	02	24.5	+54			
		M <sub>E3</sub>	2	55	01	19.4	-35			
		M <sub>E4</sub>	3	00	14	18.6	±41			
		M <sub>N1</sub>	2	57	12	24.0		+46		
M <sub>N2</sub>	3	03	23	20.6		±44				
		F	4	01	—					
3	Jan. 15	iP	13	39	10		-11	+17	71	Off the mouth of River Sira-kawa, Kumamoto prefecture.
		S	13	39	20					
		M <sub>E</sub>	13	39	24	0.8	-65			
		M <sub>N</sub>	13	39	20	0.7		-41		
		F	13	43	10					
4	Jan. 15	P	21	03	07				858	NW. off Naha, Okinawa prefecture.
		i	21	04	19	8.1		-24		
		L	21	05	03					
		M <sub>E1</sub>	21	05	34	13.4	-730			
		M <sub>E2</sub>	21	06	12	12.3	-685			
		M <sub>N</sub>	21	05	31	13.8		>1000		
		CN	21	10	59					
F	21	25	—							
5	Jan. 22	eP	21	15	48				220	Near the mouth of River Seki-gawa, Ehime prefecture.
		S	21	16	18					
		F	21	17	20					
6	Jan. 23	P	10	47	43				219	Ditto.
		S	10	48	12					



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No.	Date	Phase	Time			Period	Amplitude		$\Delta$	Epicenter and Remarks
			G.	M.	T.		$A_E$	$A_N$		
			h	m	s	s	$\mu$	$\mu$	km.	
	Jan. 23	M <sub>N</sub>	10	48	20	1.0		+3		
		F	10	49	20					
7	Jan. 24	eP	13	46	19				2660	Neighbouring sea of Philippine islands.
		eS	13	50	37					
		F	14	09	—					
8	Jan. 27	P	20	15	29				3240	In the South Sea.
		iS	20	20	29	18.7	+150			
		L	20	25	42					
		M <sub>E</sub>	20	28	38	18.0	+3825			
		M <sub>N</sub>	20	26	43	—		>1060		
		C <sub>N</sub>	20	35	59					
		F	21	30	—					
9	Jan. 28	P	21	29	40				2615	Neighbouring sea of Caroline islands, South Sea.
		S	21	33	55					
		M <sub>E</sub>	21	35	34	17.3	+155			
		M <sub>N</sub>	21	36	50	—		-55		
		F	22	45	—					
10	Feb. 2	P	22	59	17				8980	Near New Zealand, South Sea.
		S	23	09	27					
		M <sub>E</sub>	23	29	49	29.0	$\pm 58$			
		M <sub>N</sub>	23	34	56	19.5		+21		
	3	F	0	11	—					
11	Feb. 10	P	6	43	02				—	Neighbouring sea of Philippine islands.
		e <sub>E</sub>	6	50	14					
		e <sub>E</sub>	6	55	55					
		M <sub>E</sub>	7	03	53	19.7	$\pm 28$			
		M <sub>N</sub>	7	06	04	16.0		-14		
		F	7	52	—					
12	Feb. 13	iP	0	43	36		+8	+3	969	NE. off Karenkô, Formosa.
		S	0	45	47					
		M <sub>E</sub>	0	45	50	7.5	+40			



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No.	Date	Phase	Time			Period	Amplitude		△	Epicenter and Remarks
			G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>		
			h	m	s	s	μ	μ	km.	
	Feb. 13	M <sub>N</sub>	0	45	50	7.6				
		F	0	56	—			--13		
13	Feb. 16	P	18	51	46				1510	Near Urakawa, Hokkaidô.
		S	18	54	24					Strong shock was felt at
		F	19	05	—					Urakawa.
14	Feb. 20	iP	5	36	05		-240	-410	943	WNW. off the Cape of
		iS	5	38	12					Kamuwi, Hokkaido.
		M <sub>E</sub>	5	38	21	13.4	+1105			(Slight shock was felt
		M <sub>N</sub>	5	38	17.3	9.9		+655		at Idumi and Wakatu,
		F	6	05	—					Hukuoka prefecture.)
15	Feb. 25	P	20	30	44				197	Off the mouth of River
		S	20	31	11					Gokase, Miyazaki prefecture.
		M <sub>E</sub>	20	31	18	1.2	+5			Moderate shock was left at
		M <sub>N</sub>	20	31	18	1.0		+8		Miyazaki.
		C <sub>N</sub>	20	31	42					
		F	20	34	20					
16	Feb. 27	eP?	9	44	04				—	Neighbouring sea of Philippine
		S	9	49	06					Islands.
		F	10	15	—					P phase not distinct.
17	Mar. 4	eP	17	45	23				239	Near Miyosi, Hiroshima
		S	17	45	55					prefecture.
		F	17	46	50					
18	Mar. 4	eP	18	06	30				237	Near Ômisima island,
		eS	18	07	02					Inland Sea.
		F	18	08	20					
19	Mar. 6	eP	16	15	25				751	Northern part of Idu.
		S	16	17	06					
		M <sub>N</sub>	16	17	14	3.3		-5		
		F	16	22	00					



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No.	Date	Phase	Time			Period	Amplitude		△	Epicenter and Remarks
			G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>		
			h	m	s	s	μ	μ	km.	
20	Mar. 6	eP	16	55	37	4.0		-7	756	Eastern foot of Mt. Asitaka, Siduoka prefecture.
		S	16	57	19					
		M <sub>N</sub>	16	57	34					
		F	17	02	00					
21	Mar. 7	P	21	40	38	0.5		-6	137	Northern part of Bungo channel.
		S	21	40	56					
		M <sub>N</sub>	21	40	57					
		F	21	42	10					
22	Mar. 8	e	2	22	09	15.6	-11		-	Distant earthquake. P and S phases could not be distinguished.
		eL	2	34	19					
		M <sub>E</sub>	2	37	03					
		F	3	09	-					
23	Mar. 9	P	3	51	45	28.0 31.9	-450	+210	1620*	E. off the mouth of River Mabuti, Aomori prefecture.
		PR <sub>1</sub> ?	3	51	50					
		S	3	54	33					
		M <sub>E</sub>	3	57	05					
		M <sub>N</sub>	3	58	43					
		F	5	02	-					
24	Mar. 11	P	12	30	22	21.3	+50		1790	In the South Sea.
		S	12	33	26					
		eL	12	34	41					
		M <sub>E1</sub>	12	36	19					
		M <sub>E2</sub>	12	39	44					
		F	13	16	-					
25	Mar. 12	eP	10	44	15	13.5	-13		1840	Ditto.
		S	10	47	24					
		eL	10	48	54					
		M <sub>E</sub>	10	50	39					
		F	11	21	-					
26	Mar. 15	P	22	38	03				78	Near Kumamoto. Slight shock was felt at
		S	22	38	14					



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			G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>		
			h	m	s	s	μ	μ	km.	
	Mar. 15	F	22	39	00					Hainuduka, Hukuoka prefecture.
27	Mar. 17	eP	9	46	47				229	In the Ariake bay, Kagosima prefecture.
		iS	9	47	18					
		M <sub>E</sub>	9	47	21	2.0	-15			
		M <sub>N</sub>	9	47	23	2.4		+18		
		F	9	50	10					
28	Mar. 18	eP	20	19	36				2560	Neighbouring sea of Philippine islands.
		eS	20	23	46					
		M <sub>E</sub>	20	30	59	6.7	-18			
		F	20	49	—					
29	Mar. 19	iP	6	29	13		-10	-3	1980	S. off Isigaki island, Okinawa prefecture.
		iS	6	32	34	14.0 8.4	+125	-58		
		M <sub>N</sub>	6	32	51	7.5		-123		
		F	7	00	—					
30	Mar. 20	P̄	10	00	41.7				19	Near. Mt. Raizan, Itosima district, Hukuoka prefecture. Slight shock was felt at places in NWern part of Hukuoka prefecture.
		S̄	10	00	44.3					
		M <sub>E</sub>	10	00	44.3	< 0.5	+70			
		M <sub>N</sub>	10	00	44.3	< 0.5		--38		
		F	10	01	10.0					
31	Mar. 28	P	12	46	14		-3	+1	4195	New Guinea island, South Sea.
		S	12	52	12					
		M <sub>E</sub>	12	55	53	27.2	-200			
		F	13	27	—					
32	Mar. 29	P	17	55	06				—	Off Kusiro, Hokkaidô. S phase could not be distinguished.
		F	18	10	—					
33	Apr. 9	e	5	33	22				—	Middle course of the River Hidaka, Wakayama prefecture.
		eS	5	33	58					
		F	5	35	50					



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			G.	M.	T.		$A_E$	$A_N$		
			h	m	s	s	$\mu$	$\mu$	km.	
34	Apr. 9	P	17	10	32	0.5		-2	116	Off Kunisaki peninsula, Oita prefecture.
		S	17	10	48					
		M <sub>N</sub>	17	10	50					
		F	17	11	30					
35	Apr. 9	P	23	04	54				—	In the Nemuro straits, Hokkaidô.
		L?	23	08	47					
		F	23	19	—					
36	Apr. 19	P	2	33	09	11.9	-245		401	WSW. off Yaku-zima island, Kagosima prefecture.
		S	2	34	03					
		M <sub>E</sub>	2	34	32					
		M <sub>N</sub>	2	34	56					
		F	2	49	—					
37	Apr. 21	P	0	03	36				557	In the central part of Japan sea.
		eS	0	04	51					
		F	0	09	30					
38	Apr. 24	P	17	30	42	23.0	$\pm 20$		5030	In the South Sea.
		eS	17	37	26					
		L	17	41	29					
		M <sub>E</sub>	17	45	14					
		F	18	15	—					
39	Apr. 28	P	5	43	37	0.4		-2	88	Near Kudyu, Ôita prefecture.
		S	5	43	49					
		M <sub>N</sub>	5	43	49					
		C	5	44	12					
		F	5	46	00					
40	Apr. 28	P	6	06	53	0.4		-8	88	Ditto.
		S	6	07	05					
		M <sub>N</sub>	6	07	05					
		F	6	09	10					
41	Apr. 28	P	6	32	13			79	Ditto.	



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			G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>		
			h	m	s	s	μ	μ	km.	
	Apr. 28	S	6	32	23	0.5		-8		
		M <sub>N</sub>	6	32	24					
		F	6	33	10					
42	Apr. 28	P	8	47	40	0.4		-8	89	Near Kudyu, Ōita prefecture.
		S	8	47	52					
		M <sub>N</sub>	8	47	53					
		C	8	48	14					
		F	8	49	20					
43	Apr. 28	P <sub>N</sub>	14	03	24				134	Upper course of River Saba-gawa, Yamaguti prefecture.
		S <sub>N</sub>	14	03	42					
		F <sub>N</sub>	14	05	00					
44	May 12	P	1	42	44				2870	Kurile islands.
		eS	1	47	17					
		F	2	03	—					
45	May 13	P	23	05	26	2.0		-5	579	NE. off Okinawa island Time is doubtful
		eS	23	06	44					
		M <sub>N</sub>	23	06	56					
		F	23	12	—					
46	May 20	eP	2	41	36	17.2	-140		13800	Very distant earthquake.
		eS	2	54	59					
		eL	3	10	03					
		M <sub>E</sub>	3	22	19					
		F	4	01	—					
47	June 2	P	2	39	25	9.0	-70		523	Middle course of River Masida, Gihu prefecture. (137.3°E 35.7°N) Deep earthquake.
		iS	2	40	36					
		M <sub>E</sub>	2	40	42					
		M <sub>N</sub>	2	40	42					
		F	2	49	—					
48	June 9	P	5	10	00	6.0			996	E. off the mouth of River Kuzi-kawa, Ibaraki
		S	5	12	15					



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			G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>		
			h	m	s	s	μ	μ	km.	
	June 9	L	5	12	41					
		M <sub>N</sub>	5	13	04	5.0		-8		prefecture. (140.6°E 36.5°N)
		F	5	18	—					Strong shock was felt at Onahama.
49	June 10	P <sub>N</sub>	10	35	30				75	Near Tusima, Nagasaki prefecture.
		S <sub>N</sub>	10	35	40					
		F <sub>N</sub>	10	36	30					
50	June 11	eP	6	18	09				798	Eastern foot of Mt. Huzi.
		e	6	19	44					(138.9°E 35.4°N)
		S	6	19	56					Strong shock was felt at
		M <sub>E</sub>	6	20	15	3.5	±25			Kôhu, Numadu and Yokosuka.
		M <sub>N</sub>	6	20	19	3.6		-68		
		F	6	28	—					
51	June 12	P	1	47	14				792	S. off Hatidyô islet, Tôkyô
		S	1	49	00					prefecture
		M <sub>E</sub>	1	49	03	6.0	-25			
		M <sub>N</sub>	1	49	05	6.9		+26		
		F	1	54	30					
52	June 17	P	12	11	38				865	Near Hatiwôzi, Tôkyô
		S	12	13	34					prefecture. Very strong shock
		M <sub>E</sub>	12	14	01	5.0	+55			was felt at Yokohama, Strong
		M <sub>N</sub>	12	14	05	5.0		+84		shock at Tôkyô, Yokosuka,
		F	12	24	40					Maebasi, Kumagaya, and Kôhu.
53	June 23	P	6	17	20		-8	-1	1014	E. off Kasima-nada.
		S	6	19	37					(141.7°E 36.5°N)
		L	6	19	58					Strong shock was felt at
		M <sub>E</sub>	6	21	03	—	-60			Onahama.
		M <sub>N</sub>	6	20	30	7.0		+60		
		F	6	33	—					
54	June 29	iP	16	44	41		+32	+1	493	In the Kumano-nada,
		iS	16	45	48					Wakayama prefecture.
		M <sub>E</sub>	16	45	51	5.7	-210			Deep earthquake.



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			G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>		
			h	m	s	s	μ	μ	km.	
	June 29	M <sub>N</sub>	16	45	51	5.8				
		F	16	52	—			+80		
55	July 4	P	16	03	32				365	In the Kitan straits.
		S	16	04	21					
		F	16	06	30					
56	July 12	P	16	50	21				2470	In the South Sea.
		S	16	54	23					
		F	17	15	—					
57	July 14	eP?	17	54	24				218	Upper course of River Itinose, Miyazaki prefecture. P phase not distinct.
		S	17	54	54					
		F	17	56	10					
58	July 24	eP	11	38	30				203	In the Hiuga-nada.
		S	11	38	57					
		F	11	40	00					
59	Aug. 6	L?	18	30	04				—	Epicenter unknown. All phases could not be distinguished.
		M <sub>E</sub>	18	30	41	3.4	-18			
		M <sub>N</sub>	18	30	11	3.0		+8		
		F	18	36	—					
60	Aug. 7	eP	2	18	53				4370	Neighbouring sea of New Guinea island, South Sea.
		eS	2	25	02					
		M <sub>E1</sub>	2	31	26	21.0	+38			
		M <sub>E2</sub>	2	35	23	21.0	+35			
		M <sub>N</sub>	2	35	26	17.8		-28		
		F	2	59	—					
61	Aug. 10	P	14	35	50			+1	720	Middle course of River Ôi-gawa, Siduoka prefecture. (138.1°E 35.1°N) Rather strong shock was felt at places in the central Japan.
		S	14	37	27					
		SorL	14	37	37					
		M <sub>E</sub>	14	37	50	2.2	+20			
		M <sub>N</sub>	14	37	50	4.9		-53		
		F	14	42	00					



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			G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>		
			h	m	s	s	$\mu$	$\mu$	km.	
62	Aug. 10	P	21	25	22				3950	Jungaria, western Mongolia.
		S	21	31	06					
	L	21	34	16						
	M <sub>E1</sub>	21	36	19	27.7	-4700				
	M <sub>F2</sub>	21	37	17	—	>5000				
	M <sub>N</sub>	21	34	56	15.0		>900			
	C	22	00	31						
	11	F	0	00	—					
63	Aug. 11	P	8	42	45				73	Near Kumamoto.
		S	8	42	55					
		F	8	43	30					
64	Aug. 11	P	9	40	17				75	Ditto.
		S	9	40	27					
		F	9	41	12					
65	Aug. 12	iS	6	46	25				—	Western Korea bay.
		M <sub>N</sub>	6	46	26	1.5		+5		
		F	6	47	30					
66	Aug. 15	P	12	46	18		-1		903	Neighbouring sea of Bonin islands.
		S	12	48	19					
		M <sub>E</sub>	12	48	21	3.3	+13			
		M <sub>N</sub>	12	48	21	2.4		-3		
		F	12	52	—					
67	Aug. 17	P	17	50	26		+2	+1	577	NE. off Naha, Okinawa prefecture. S phase not distinct.
		eS?	17	51	44					
		M <sub>E</sub>	17	52	02	2.5	-20			
		M <sub>N</sub>	17	51	56	2.5		+8		
		F	17	58	30					
68	Aug. 18	eP?	14	32	44				—	Distant earthquake. P and S phases could not be distinguished.
		eS?	14	39	00					
		L	14	41	33					
		M <sub>E</sub>	14	42	11	17.3	$\pm 420$			



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No.	Date	Phase	Time			Period	Amplitude		△	Epicenter and Remarks	
			G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>			
			h	m	s	s	μ	μ	km.		
	Aug. 18	M <sub>N</sub>	14	41	45	12.1		-136			
		F	15	23	—						
69	Aug. 19	iP	1	28	35	0.7	-5	+1	217	Upper course of River Yosino-gawa, Kôti prefecture.	
		S	1	29	04						
		M <sub>E</sub>	1	29	16						
		M <sub>N</sub>	1	29	15						
		C <sub>N</sub>	1	29	38						
		F	1	30	50						
70	Aug. 20	iP	13	10	15.9	0.5	-5		17	Upper course of River Muromi- gawa, Hukuoka prefecture. Slight shock was felt at Higasi- irube, Magarihuti and Miduki, Hukuoka prefecture.	
		iS	13	10	18.2						
		M <sub>E</sub>	13	10	18.3						
		M <sub>N</sub>	13	10	18.3						
		C <sub>N</sub>	13	10	21.4						
		F	13	11	07.0						
71	Aug. 20	iP	13	16	44.5	0.5	-5		16	Ditto.	
		iS	13	16	46.7						
		M <sub>E</sub>	13	16	47.2						
		M <sub>N</sub>	13	16	47.2						
		C <sub>N</sub>	13	16	50.7						
		F	13	17	32.0						
72	Aug. 22	P	22	54	55	1.6	±5		263	Southern part of Hiuga-nada.	
		S	22	55	31						
		M <sub>E</sub>	22	55	41						
		M <sub>N</sub>	22	55	42						
		C <sub>N</sub>	22	56	07						
		F	22	57	30						
73	Aug. 24	e	21	52	10	16.9	+39		—	Distant earthquake. All phases could not be distinguished.	
		e	22	03	02						
		M <sub>E</sub>	22	11	11						
		M <sub>N</sub>	22	10	01						
		F	22	28	—						



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			G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>		
			h	m	s	s	$\mu$	$\mu$	km.	
74	Aug. 27	P	15	36	40				5860	In Baluchistan.
		S	15	44	09					
		eL	15	53	30					
		M <sub>E1</sub>	15	59	45	15.8	+220			
		M <sub>F2</sub>	16	03	33	18.8	+790			
		M <sub>N1</sub>	15	57	34	27.3		-188		
		M <sub>N2</sub>	16	00	36	15.1		+208		
		M <sub>N3</sub>	16	02	33	14.5		+163		
		F	16	37	—					
75	Sept. 6	P	5	21	04				186	Middle course of River Niida, Kôti prefecture.
		S	5	21	29					
		F	5	22	30					
76	Sept. 8	P	19	11	23				1035	In the Kasima-nada.
		S	19	13	42					
		SorL	19	14	12					
		M <sub>N</sub>	19	14	49	4.2		+7		
		F	19	21	—					
77	Sept. 9	eP	20	42	45				2100	Mariana islands.
		e	20	42	56	1.0		+1		
		i	20	43	13	8.1 7.1	-75	+25		
		S	20	46	17					
		M <sub>E</sub>	20	47	15	12.2	-300			
		M <sub>N</sub>	20	47	22	16.4		+93		
		F	21	20	—					
78	Sept. 12	P	13	08	39				197	In the Hiuga-nada.
		S	13	09	06					
		M <sub>N</sub>	13	09	09	0.9		-4		
		F	13	10	00					
79	Sept. 16	P	12	45	06				805	Upper course of River Katura- gawa, Yamanasi prefecture. (138.8°E 35.5°N) Strong shock was felt at Kôhu, Maebasi,
		e	12	46	47					
		L	12	46	54					
		M <sub>E</sub>	12	47	16	3.3	95—			



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			G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>				
			h	m	s	s	$\mu$	$\mu$	km.			
	Sept. 16	M <sub>N</sub>	12	47	17	3.5		-205		Numadu, Misima and Yokohama.		
		C <sub>N</sub>	12	49	10							
		F	12	58	—							
80	Sept. 20	P	22	43	13	1.1	-15		122	NE. off Kunisaki peninsula, Ôita prefecture.		
		S	22	43	30							
		M <sub>E</sub>	22	43	30							
		M <sub>N</sub>	22	43	31						0.9	+8
		F	22	45	05							
81	Sept. 21	P	2	21	55	13.5	-1015		859	Near Mt. Sengenzan, Saitama prefecture. (139.3°E 36.0°N) Shallow earthquake. Very strong shock was felt in Saitama prefecture, Northern part of Ibaraki pref. and Southern part of Gunma prefecture.		
		e	2	23	32							
		L	2	23	51							
		M <sub>E</sub>	2	24	45							
		M <sub>N</sub>	2	24	11						—	>475
		C <sub>E</sub>	2	28	59							
		F	3	02	—							
82	Sept. 21	P	10	31	58	14.7	+153		2470	Northern part of S. China sea.		
		S	10	36	01							
		e(L?)	10	38	51							
		M <sub>E</sub>	10	41	38							
		M <sub>N</sub>	10	40	08						16.3	+50
		F	11	04	—							
83	Sept. 22	P	8	36	43	1.6	+30		227	In the Hiuga-nada.		
		e	8	37	09							
		S	8	37	14							
		M <sub>E</sub>	8	37	21							
		M <sub>N</sub>	8	37	20						1.3	±17
		F	8	40	40							
84	Sept. 25	P	6	08	18	21.9	-45		5165	In the Indian Ocean.		
		eS	6	15	09							
		eL	6	22	56							
		M <sub>F1</sub>	6	29	10							
		M <sub>F2</sub>	6	35	30						15.5	+50



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			G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>		
			h	m	s	s	μ	μ	km.	
	Sept. 25	M <sub>F3</sub>	6	38	45	15.3	+65			
		M <sub>N</sub>	6	33	59	12.3		+32		
		F	7	08	—					
85	Sept. 28	eP	4	56	23				838	After shock of No. 81.
		L	4	58	16					
		M <sub>N</sub>	4	58	27	2.8		-4		
		F	5	00	30					
86	Sept. 28	P	9	24	56			+0.4	145	In the Bungo channel.
		S	9	25	16					
		M <sub>N</sub>	9	25	16	0.7		-2		
		F	9	26	00					
87	Sept. 28	P	22	44	38				194	In the Hiuga-nada.
		S	22	45	04					
		M <sub>N</sub>	22	45	10	—		-3		
		F	22	46	40					
88	Oct. 3	P	19	22	33				6040	Neighbouring sea of Gilbert islands, South Sea.
		S	19	30	12					
		L	19	36	01					
		M <sub>F1</sub>	19	40	37	22.4	+1135			
		M <sub>F2</sub>	19	42	39	20.9	-950			
		M <sub>F3</sub>	19	48	18	17.0	-595			
		M <sub>F4</sub>	19	53	06	18.2	+650			
		M <sub>N1</sub>	19	40	54	21.2		+404		
		M <sub>N2</sub>	19	45	06	19.9		+326		
		F	21	08	—					
89	Oct. 3	eP?	22	57	05				5840	Ditto.
		eS?	23	04	32					All phases not distinct.
		eL?	23	10	31					
		M <sub>E</sub>	23	16	25	19.5	+55			
		F	23	57	—					
90	Oct. 10	P	0	29	16				5530	Neighbouring sea of



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			G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>			
			h	m	s	s	μ	μ	km.		
	Oct. 10	S	0	36	28					Solomon islands, South Sea.	
		L	0	42	07						
		M <sub>E</sub>	0	46	02	23.2	+650				
		M <sub>N</sub>	0	46	29	22.6		-178			
		F	2	21	—						
91	Oct. 25	P	7	24	51			-1.2	82	Near Kumamoto.	
		S	7	25	02						
		M <sub>E</sub>	7	25	02	0.5.	±13				
		M <sub>N</sub>	7	25	05	0.5		-20			
		F	7	26	10						
92	Nov. 1	iP	18	53	46		-10	+5	239	In the Hiuga-nada. (131.9°E 32.4°N) Rather strong shock was felt at Miyazaki. Felt in southern part of Hukuoka prefecture.	
		P?	18	53	50		+65	-50			
		S	18	54	18						
		M <sub>E</sub>	18	54	38	17.8	+895				
		M <sub>N</sub>	18	54	41	14.1		+845			
		C	18	57	37						
		F	19	07	—						
93	Nov. 2	eP	8	32	40				206	After shock of No. 92.	
		S	8	33	08						
		M <sub>N</sub>	8	33	17	1.7		+5			
		F	8	35	00						
94	Nov. 2	iP	10	03	33		-45	+38	231	In the Hiuga-nada. (132.1°E 32.4°N) Very strong shock was felt at Miyazaki, strong shock at Ōita and Kagosima. Felt over Hukuoka prefecture.	
		S	10	04	04						
		M <sub>E</sub>	10	04	07	4.4	+9300				
		M <sub>N</sub>	10	04	18	6.6		-13050			
		F	10	47	—	1.5					
95	Nov. 2	P	10	32	15			+1	228	After shock of No. 94. (132.0°E 32.0°N) Felt at Miyazaki moderately.	
		S	10	32	46						
		M <sub>E</sub>	10	33	00	1.3	+16				
		M <sub>N</sub>	10	32	52	1.4		-22			
		F	10	34	15						



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No.	Date	Phase	Time			Period	Amplitude		△	Epicenter and Remarks
			G.	M.	T.		A <sub>E</sub>	A <sub>E</sub>		
			h	m	s	s	μ	μ	km.	
96	Nov. 2	iP	11	01	10		-42	+13	215	After shock of No. 94. Strong shock was felt at Ôita. Felt over Hukuoka prefecture.
		S	11	01	39					
		M <sub>E</sub>	11	01	59	18.0	+2410			
		M <sub>N</sub>	11	02	02	4.1		+950		
		F	11	18	—					
97	Nov. 2	P	11	11	15				228	After shock of No. 94.
		S	11	11	46					
		M <sub>N</sub>	11	11	52	1.1		-4		
		F	11	13	50					
98	Nov. 2	P	11	24	13				223	Ditto (S phase not distinct.)
		S?	11	24	43					
99	Nov. 2	P	11	24	44				223	Ditto.
		S	11	25	14					
		M <sub>E</sub>	11	25	16	1.9	-25			
		M <sub>N</sub>	11	25	17	2.4		+29		
		F	11	30	30					
100	Nov. 2	P	11	33	45				235	Ditto.
		S	11	34	17					
		M <sub>E</sub>	11	34	22	1.3	±25			
		M <sub>N</sub>	11	34	23	1.2		+44		
		F	11	40	40					
101	Nov. 2	P <sub>N</sub>	11	46	04				218	Ditto.
		S <sub>N</sub>	11	46	34					
		M <sub>N</sub>	11	46	38	0.9		+2		
		F	11	47	10					
102	Nov. 2	iP	11	47	53		-10	+5	224	Ditto. (Felt in the greater part of Hukuoka prefecture.)
		S	11	48	24					
		M <sub>E</sub>	11	48	35	1.2	-210			
		M <sub>N</sub>	11	48	34	—		+327		
		F	11	58	—					



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No.	Date	Phase	Time			Period	Amplitude		△	Epicenter and Remarks
			G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>		
			h	m	s	s	μ	μ	km.	
103	Nov. 2	P	12	11	34				223	In the Hiuga-nada. Felt at Wakatu, Hukuoka prefecture slightly.
		S	12	12	04					
		M <sub>E</sub>	12	12	10	1.6	+35			
		M <sub>N</sub>	12	12	09	0.7		-25		
		F	12	16	—					
104	Nov. 2	P	13	45	40				231	In the Hiuga-nada.
		S	13	46	12					
		M <sub>E</sub>	13	46	21	1.2	-10			
		M <sub>N</sub>	13	46	20	1.6		+6		
		F	13	47	40					
105	Nov. 2	P	15	15	52			+1	228	Ditto.
		S	15	16	23					
		M <sub>N</sub>	15	16	29	1.6		+9		
		F	15	18	20					
106	Nov. 2	P	15	27	12				217	Ditto. (Small amplitudes)
		S	15	27	41					
		F	15	28	40					
107	Nov. 2	eP	15	48	43				224	Ditto.
		S	15	49	13					
		M <sub>N</sub>	15	49	23	1.2		+7		
		F	15	51	30					
108	Nov. 2	P	19	34	43				223	Ditto.
		S	19	35	13					
		M <sub>N</sub>	19	35	18	1.2		+8		
		F	19	37	40					
109	Nov. 2	P	20	50	20				229	Ditto.
		S	20	50	51					
		F	20	52	50					
110	Nov. 3	eP	0	41	52				231	Ditto. (Small amplitudes)
		eS	0	42	23					



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			G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>		
			h	m	s	s	$\mu$	$\mu$	km.	
111	Nov. 3	F	0	44	20					
	Nov. 3	P	15	24	42				220	In the Hiuga-nada.
		S	15	25	12					
		M <sub>E</sub>	15	25	15	0.6	+10			
		M <sub>N</sub>	15	25	12	—		+8		
	F	15	26	20						
112	Nov. 5	eP	12	25	15				—	Distant earthquake. All phases not distinct.
		eL	12	37	18					
		M <sub>E</sub>	12	38	33	—	—23			
		F	13	08	—					
113	Nov. 15	eP	1	43	35				240	Near Miyosi, Hiroshima prefecture.
		S	1	43	07					
		M <sub>N</sub>	1	43	08	1.0		+5		
		F	1	44	30					
114	Nov. 16	P	12	39	17				108	In the Tidiwa bay, Nagasaki prefecture.
		S	12	39	32					
		M <sub>N</sub>	12	39	34	0.4		—13		
		F	12	41	50					
115	Dec. 18	P	17	46	19		—1	+1	223	
		S	17	46	49					
		M <sub>E</sub>	17	47	00	1.4	+30			
		M <sub>N</sub>	17	46	57	1.7		—25		
		F	17	53	20					
116	Dec. 21	iP	5	47	32			+7	109	Near Ôyano island, Kumamoto prefecture. Felt in the greater part of Hukuoka prefecture.
		S	5	47	47					
		M <sub>N</sub>	5	47	52	—		+367		
		F	5	57	—					
117	Dec. 22	iP	13	08	14		—0	+5	109	Ditto.
		S	13	08	29					
		M <sub>E</sub>	13	08	34	—	+225			





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			G.	M.	T.		A <sub>E</sub>	A <sub>N</sub>		
			h	m	s	s	μ	μ	km.	
	Dec. 22	M <sub>N</sub>	13	08	40	—		+340		
		F	13	16	—					
118	Dec. 22	eP	14	16	55				103	Near Ôyano island, Kumamoto prefecture.
		S	14	17	09					
		F	14	18	00					
119	Dec. 22	P	21	12	57				113	Ditto.
		S	21	13	13					
		F	21	14	00					
120	Dec. 25	P̄	11	42	40.2				26	Near Mt. Raizan, Itosima district, Hukuoka prefecture.
		S̄	11	42	43.7					
		M <sub>E</sub>	11	42	44.1	< 0.5	+65			Felt in NWern part of Hukuoka prefecture.
		M <sub>N</sub>	11	42	44.0	< 0.5		+70		
		F	11	44	40.0					
121	Dec. 26	iP	1	43	13		-5	+43	111	Northern part of Yatusiro Gulf, Kumamoto prefecture.
		S	1	43	28					
		M <sub>E</sub>	1	43	39	1.9	+550			Felt in the greater part of Hukuoka prefecture.
		M <sub>N</sub>	1	43	32	1.5		+500		
		F	1	56	—					
122	Dec. 29	P	2	50	20				104	After shock of No. 121.
		S	2	50	34					
		M <sub>N</sub>	2	50	37	0.7		-12		
		F	2	53	20					



昭和七年二月二十五日印刷  
昭和七年二月二十九日發行

福岡縣福岡市大字住吉

發行所 福岡縣福岡測候所

福岡市東職人町十八番地

印刷人 大隈龍介

福岡市上名島町五十三番地

印刷所 福岡印刷株式會社