

22 FEB 1940

From No. 4

to No.15

1939

# OSAKA JAPAN

SEISMOLOGICAL BULLETIN  
of the Osaka Meteorological Observatory

$\phi = 34^{\circ} 39'$   
 $\lambda = 135^{\circ} 32'$   
 $h = 5.2 m$



Instrument: Wiecherts Seismograph		s	$\frac{r}{T}$	$A_N$ $\mu$	$A_Z$ $\mu$	$\Delta$ k.m.	Remarks	
1938, Dec. 1st	N	T						
	E	3.7	0.010		V			
	Z	3.7	0.037		64			
	1939, Jan. 10th	N	3.3	0.029		76		
		E	3.8	0.048		46		
		Z	3.8	0.040				
	Feb. 10th	N	3.4	0.068		2.8		
		E	3.8	0.058		67		
		Z	3.7	0.069		75		
	Mar. 14th	N	3.9	0.012		43		
		E	3.8	0.058		69		
		Z	3.7	0.069		82		
Jan. 6	N	5.0	0.026		2.9			
	E	4.2	0.034		65			
	Z	3.6	0.033		74			
Jan. 6	P	21	7	42.4				
	S		8	50.1		530	141.2 E	
	M(N)		9	16.4	1.9		36.5 N	
	M(E)		9	22.6	1.9	+ 7		
	F	21	17	-				
	Jan. 7	P	1	53	23.6			
S			53	40.9				
M(N)			54	5.2	1.6	-13		
M(E)			54	1.9	1.5	-10		
F		1	56	-				
Jan. 10		P	12	8	59.1		320	139.0 E
	S		9	41.5			34.5 N	
	M(N)		10	18.8	3.6	+156		
	M(E)		10	20.7	3.6	-83		
	M(Z)		10	33.4	2.3		±4	
	F	12	23	-				
Jan. 11	P	2	54	3.5		525	141.2 E	
	S		55	6.6			36.1 N	
	M(N)		56	1.4	2.8	-58		
	M(E)		56	24.3	3.9	-30		
	M(Z)		56	7.7	2.4		-16	
	F	3	4	-				
Jan. 13	P	22	24	2.8		950	142.0 E	
	S		25	51.4			41.5 N	
	M(N)		27	3.8	4.4	-13		
	M(E)		27	16.0	4.8	-13		
	F	22	36	-				
	Jan. 14	P	15	16	45.0			
S			16	57.6				
M(N)			17	7.9	0.6	-13		
M(E)			16	59.5	0.6	+14	- 3	
M(Z)			16	58.4	0.4			
F		15	20	-				
Jan. 20	P	0	28	37.7				
	S		28	44.4				
	M(N)		29	6.1	3.9	-200		
	M(E)		29	22.3	3.4	±126	+49	
	M(Z)		29	10.9	3.1			
	F	0	38	-				

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## SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory



Jan. 22		h.	m.	s.	s	A <sub>E</sub> μ	A <sub>N</sub> μ	A <sub>Z</sub> μ	Δ k.m.	Remarks
22	P	11	11	49.9					540	132.2 E 30.7 N
	S		13	4.0						
	M(N)		17	28.8	3.9					
	M(E)		18	3.7	4.1	+16	+17			
	F	11	28	-						
24	P	4	3	4.4					590	141.4 E 37.0 N
	S		4	19.4						
	M(N)		4	40.3	3.2					
	M(E)		4	34.7	3.4	-154	-131			
	M(Z)		5	0.6	2.7			-118		
	F	4	18	-						
24	P	18	10	2.4					570	141.3 E 36.7 N
	S		11	13.9						
	M(N)		11	42.5	2.8		+44			
	M(E)		12	1.7	2.9	-18				
	M(Z)		11	59.8	2.4			+23		
	F	18	19	-						
25	P	3	52	4.0						Chile
	PP		56	0.7						
	SS	4	16	7.6						
	SSS		20	49.5						
	L		45	32.3						
	M(N)		46	30.5	25.3		+139			
	M(E)		45	56.6	25.6	±125				
	M(Z)		45	42.7	26.0			±375		
F	5	42	-							
27	P	10	39	6.4						
	S		40	5.7						
	M(N)		40	58.8	3.5		-18			
	M(E)		41	18.1	3.4	+20		- 6		
	M(Z)		40	39.3	2.2					
	F	10	51	-						
28	P	15	46	10.4						Solomon Is.
	S		46	18.7						
	M(N)		47	1.6	2.8		+54			
	M(E)		46	59.8	3.9	+79		-14		
	M(Z)		47	10.3	2.1					
	F	15	54	-						
30	P	2	26	46.4					430	139.9 E 36.2 N
	PP		28	11.6						
	S		32	22.7						
	SS		34	30.8						
	L		39	39.8	19.1		-533			
	M(N)		40	20.3	18.2	-1086		±1000		
	M(E)		40	40.8	26.6					
	M(Z)		40	29.6						
	F	3	3	-						
Feb. 1	P	5	26	20.8						
	S		27	15.8	1.7		+ 8			
	M(N)		27	58.8	1.7	- 6		±4		
	M(E)		27	50.1	1.6					
	M(Z)		27	54.4						
	F	5	31	-						
1	P	10	55	44.1						
	S		55	52.8	1.5		-10			
	M(N)		56	4.5	1.5	+16		+ 7		
	M(E)		56	17.6	2.3					
	M(Z)		56	32.7						
	F	11	2	-						

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory



International  
Seismological  
Centre

		s			$A_E$ $\mu$	$A_N$ $\mu$	$A_Z$ $\mu$	$\Delta$ k.m.	Remarks
	PP		37	19.5					Solomon Is.
	PPP		37	56.5					
	S		42	16.7					
	SS		45	59.0					
	SSS		47	4.3					
	M(N)		54	30.1	14.9	$\pm 500$			
	M(E)		52	31.6	18.0	$\pm 850$			
	M(Z)		54	18.8	16.7		$\pm 50$		
	F	6	15	-					
8	P	15	18	4.3				540	141.6 E 36.3 N
	S		19	15.4					
	M(N)		20	5.4	3.4	+29			
	M(E)		19	58.9	3.4	-29			
	M(Z)		20	9.6	2.0			- 9	
	F	15	29	-					
11	P	18	58	57.2					
	S		59	4.6					
	M(N)		59	5.2	0.2	-13			
	M(E)		59	5.0	0.3	+10			
	F	19	1	-					
11	P	20	30	32.2				130	136.6 E 35.4 N
	S		30	47.2					
	M(N)		31	5.7	1.5	+633			
	M(E)		31	8.0	1.5	+647		+434	
	M(Z)		31	13.3	1.9				
	F	20	45	-					
16	iP	18	53	40.0				590	141.5 E 36.8 N
	S		54	48.4					
	M(N)		55	10.4	4.0	+325			
	M(E)		54	51.7	4.2	+362		+108	
	M(Z)		54	53.8	3.4				
	F	19	15	-					
Mar. 2	P	7	7	48.7					
	S		9	40.8					
	M(N)		10	54.2	4.2	-18			
	M(E)		11	11.0	5.0	+15		$\pm 4$	
	M(Z)		9	31.2	2.3				
	F	7	19	-				1150	144.8 E 41.0 N
7	P	15	19	13.1					
	S		21	17.4					
	M(N)		21	44.3	6.0	-86			
	M(E)		22	14.4	4.1	$\pm 41$		- 6	
	M(Z)		22	38.6	3.6				
	F	15	29	-					
8	P	4	52	21.1					
	S		52	39.6	1.5	-21			
	M(N)		53	11.6	0.9	+13		+15	
	M(E)		53	8.2	2.4				
	M(Z)		53	0.4					
	F	5	1	-				575	141.3 E 37.0 N
9	F	1	28	4.9					
	S		29	14.8	2.7	-14		+ 7	
	M(N)		29	46.2	2.7	-10			
	M(E)		29	44.9	2.6				
	M(Z)		29	43.2					
	F	1	35	-					

Showing that shocks were felt by person. The intensity is given by 6 classes, from I to VI.

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory



International  
Seismological  
Centre

Date	Phase	G.M.T.			Period s	Amplitude			Δ k.m.	Remarks
		h.	m.	s.		A <sub>E</sub> μ	A <sub>N</sub> μ	A <sub>Z</sub> μ		
Mar. 9	P	18	13	35.1						
	S		14	23.3						
	M(N)		15	1.2	2.3					
	M(E)		14	59.5	2.3					
	M(Z)		15	14.3	2.3	-36	+45			430 139.85 E 36.15 N
	F	18	23	-						
11	P	11	55	42.5						
	S		55	53.3						
	M(N)		56	20.1	3.0					
	M(E)		56	33.6	2.3	±74	±68			
	M(Z)		56	41.5	2.4					
	F	12	5	-						
19	P	11	21	6.5						
	S		22	3.6						
	M(N)		22	36.2	2.2					
	M(E)		22	26.3	2.5	±17	±23			
	M(Z)		22	47.3	2.1					
	F	11	29	-						
20	P	3	23	25.7						
	S		24	20.5						
	M(N)		25	7.1	3.3					
	M(E)		25	22.5	3.5	±1910	-2170			440 131.8 E 32.4 N
	M(Z)		25	10.7	3.1					
	F	3	56	-						
20	P	5	39	12.7						
	S		40	11.1						
	M(N)		40	36.9	3.0					
	M(E)		40	52.5	3.3	±14	±26			
	M(Z)		40	16.0	2.0					
	F	5	49	-						
20	P	13	38	18.6						
	S		39	14.1						
	M(N)		40	18.3	4.0					
	M(E)		39	57.0	3.3	±13	±20			
	M(Z)		39	45.6	2.6					
	F	13	46	-						
21	P	1	20	49.4						
	pp		21	34.1						
	S		28	28.4						
	L		39	46.3						
	M(N)		46	35.6	14.7					
	M(E)		46	44.0	16.6	±270	±253			
	M(Z)		46	43.9	17.0					
	F	2	15	-						
23	P	7	41	38.3						
	S		42	57.6						
	M(N)		43	51.8	3.6					
	M(E)		44	32.5	3.2	±10	±10			142.2 E 38.2 N
	M(Z)		43	9.9	2.0					
	F	7	50	-						
26	P	0	52	35.1						
	S		53	29.2						
	M(N)		54	15.7	2.4					
	M(E)		54	17.8	2.8	+47	±33			
	M(Z)		53	56.1	2.4					
	F	1	0	-						
31	P	7	20	56.8						
	S		23	6.3						
	M(N)		22	39.2	3.2					
	M(E)		24	34.5	3.0	±6	±5			1180 145.2 E 42.0 N
	F	7	29	-						

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory

$\phi = 34^{\circ} 39'$   
 $\lambda = 135^{\circ} 32'$   
 $h = 5.2 m$



Date	Phase	G.M.T.			Period s	Amplitude			$\Delta$ k.m.	Remarks
		h.	m.	s.		$A_E$ $\mu$	$A_N$ $\mu$	$A_Z$ $\mu$		
Instrument: Wiechert's Seismograph										
1939,		Apr.		6th	T	r/T <sup>2</sup>	v	V		
					N 4.4	0.026	3.2	77		
					E 3.8	0.050	3.4	73		
					Z 3.5	0.025	2.5	42		
		May		5th	N 5.5	0.009	4.9	84		
					E 5.7	0.009	4.8	82		
					Z 4.7	0.014	5.1	45		
		Jun.		5th	N 5.3	0.013	4.7	89		
					E 5.5	0.012	4.1	87		
					Z 4.8	0.018	4.9	44		
		Jun.		28th	Z 5.3	0.027	6.7	67		
Apr.	7	P	16	5	32.4				550	
		S		6	37.0					
		MN		7	8.5	4.6	+24		550	
		ME		7	14.8	3.7	-15			
		MZ		7	27.0	2.5				
		F	16	14	-					$\pm 8$
	11	iP	21	49	24.0		+ 5	+ 7		-14
		S		49	56.1					
		MN		50	22.3	2.9		$\pm 11$		
		ME		50	24.3	3.2	$\pm 10$			
		MZ		50	36.3	2.4				$\pm 7$
		F	21	59	-					
	14	P	3	23	49.1					
		S		24	51.4					
		MN		25	20.7	3.0		$\pm 13$		
		ME		25	27.5	2.8	$\pm 13$			
		MZ		25	29.5	2.2				$\pm 6$
		F	3	31	-					
	21	iP	4	31	59.3		- 7	- 9	+12	1550
		S		34	20.0					
		MN		35	16.1	3.5		+145		
		ME		35	18.4	4.4	+105			
		MZ		35	8.5	2.5				+53
		F	4	57	-					
	30	P	3	4	20.3					
		PP		6	41.5					
		S		11	27.5					
		SS		16	56.1					
		SSS		18	31.8					
		MN		23	15.0	13.5		-889		
		ME		22	52.7	14.9	$\pm 1750$			$\pm 625$
		MZ		21	6.8	17.3				
		F	5	17	-					
							+ 15	+13	- 9	680
May	1	iP	6	0	2.7					
		S		1	24.8					
		MN		2	33.1	3.0		$\pm 485$		
		ME		2	9.2	3.1	$\pm 645$			$\pm 347$
		MZ		2	21.1	3.0				
		F	7	12	-					
	1	P	7	29	44.9					
		S		31	8.2			$\pm 33$		
		MN		32	24.1	3.3				
		ME		32	53.3	4.8	$\pm 62$			$\pm 14$
		MZ		32	11.0	2.7				
		F		47	-					

Epicenter  
139.6 E.  
40.0 N

Epicenter  
140.0 E  
47.6 N  
Focal depth.  
500 km

Depth  
about 260km

Solomon Is.

Destructive  
in Akita.  
Epicenter  
139.8 E  
39.9 N

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory



No.	Date	Phase	G.M.T.			Period s.	Amplitude			$\Delta$ k.m.	Remarks		
			h.	m.	s.		$A_E$ $\mu$	$A_N$ $\mu$	$A_Z$ $\mu$				
95	May 1	P	11	52	22.0	3.6	$\pm 15$	$\pm 23$	$\pm 5$	670	Epicenter 139.6 E 40.0 N		
		S			53							48.3	
		MN			55							14.9	
		ME			55							21.7	
		MZ			55							10.9	
		F			7							-	
97	1	P	14	42	15.0	1.1	$-59$	$-83$	$\pm 29$	670	Epicenter 139.9 E 39.8 N		
		S			42							24.1	
		MN			42							43.2	
		ME			42							57.2	
		MZ			42							57.7	
		F			56							-	
8	1	1P	16	7	25.7	3.4	$\pm 269$	$\pm 272$	$\pm 122$	670	Epicenter 139.9 E 39.8 N		
		S			8							52.7	
		MN			9							56.0	
		ME			10							25.7	
		MZ			10							4.0	
		F			16							49	-
4	5	P	14	18	38.6	1.3	$\pm 30$	$\pm 38$	$\pm 17$	95	Epicenter 134.4 E 35.0 N Intensity (I)		
		S			18							53.2	
		MN			19							32.5	
		ME			19							55.2	
		MZ			19							40.7	
		F			14							32	-
5	6	P	3	22	16.2	4.2	$\pm 133$	$\pm 91$	$\pm 64$	95	Epicenter 134.4 E 35.0 N Intensity (I)		
		S			22							49.6	
		MN			23							13.1	
		ME			23							20.2	
		MZ			23							13.5	
		F			3							42	-
6	6	1P	10	53	22.3	3.6	$\pm 205$	$\pm 179$	$+90$	95	Epicenter 134.4 E 35.0 N Intensity (I)		
		S			53							43.7	
		MN			54							23.1	
		ME			54							17.2	
		MZ			54							28.1	
		F			11							11	-
6	6	P	17	5	26.8	5.1	$\pm 11$	$\pm 13$	$\pm 5$	95	Epicenter 134.4 E 35.0 N Intensity (I)		
		MN			7							14.0	
		ME			11							16.7	
		MZ			6							50.8	
		F			17							43	-
		8			8							P	5
S	5		21.9										
MN	5		51.8										
ME	5		52.0										
MZ	6		18.3										
F	5		16	-									
8	8	P	8	5	53.6	3.2	$\pm 65$	$\pm 82$	$\pm 43$	95	Epicenter 141.1 E 35.6 N		
		S			7							12.1	
		MN			7							54.1	
		ME			7							40.8	
		MZ			7							58.6	
		F			8							21	-
13	13	P	19	55	5.1	3.5	$-15$	$-15$	$+10$	95	Epicenter 141.1 E 35.6 N		
		S			56							6.9	
		MN			56							28.4	
		ME			56							34.0	
		MZ			56							29.1	
		F			20							6	-

Deep ?

From May to May 19 39

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory



No.	Date	Phase	G.M.T.			Period s	Amplitude			Δ k.m.	Remarks				
			h.	m.	s.		A <sub>E</sub> μ	A <sub>N</sub> μ	A <sub>Z</sub> μ						
15	May 16	P	7	24	3.7					1820	Epicenter 121.7 E 23.5 N				
		PP													
		S										24	31.3		
		SS										27	25.9		
		MN										28	8.6		
		ME										28	29.6	3.9	
		MZ										28	41.8	4.1	
F	7	49	-	2.6	-19	+20	±8								
7	17	P	18	33	44.1										
		PP										34	2.9		
		S										36	20.7		
		SS										36	48.0		
		L										38	4.0		
		MN										41	29.4	12.3	
		ME										42	25.8	10.8	
F	19	15	-		+144	+278									
18	18	P	9	32	34.2					420	Epicenter 140.0 E 35.6 N				
		S										33	22.4		
		MN										33	37.0	1.8	
		ME										34	15.1	1.3	
		F										9	36	-	
18	18	P	21	5	28.2					620	Epicenter 141.5 E 37.4 N				
		S										6	44.2		
		MN										7	27.7	2.4	
		ME										7	24.6	3.1	
		MZ										7	19.1	2.0	
		F										21	17	-	
19	19	P	12	11	14.4					460	Epicenter 140.5 E 34.5 N				
		S										12	7.9		
		MN										12	56.1	3.0	
		ME										12	38.0	2.7	
		MZ										12	22.2	1.8	
		F										12	18	-	
21	21	P	14	2	35.9										
		S										3	45.4		
		MN										3	56.7	4.3	
		ME										3	55.2	3.2	
		MZ										4	12.8	2.9	
		F										14	23	-	
27	27	P	3	52	51.9						Burma				
		S										58	30.7		
		MN										4	0	15.7	4.2
		ME										0	21.3	4.7	
		MZ										3	55	10.6	1.9
		F										4	19	-	
30	30	P	10	36	12.5										
		S										37	11.2		
		MN										37	31.0	4.4	
		ME										37	55.3	4.8	
		MZ										37	31.6	3.3	
		F										10	44	-	
31	31	P	10	2	10.3					430	Epicenter 140.0 E 36.1 N				
		S										2	54.9		
		MN										3	18.7	3.6	
		ME										3	41.2	4.0	
		MZ										3	42.1	1.9	
		F										10	9	-	

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory

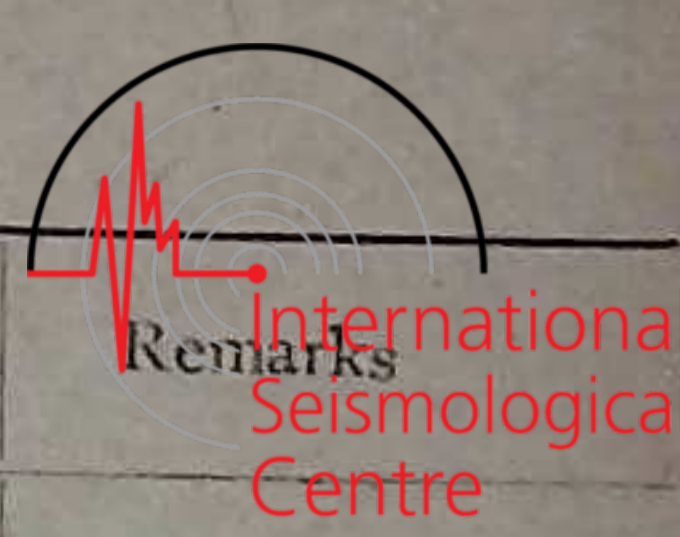


Date	Phase	G.M.T.			Period s	Amplitude			Δ k.m.	Remarks
		h.	m.	s.		A <sub>E</sub> μ	A <sub>N</sub> μ	A <sub>Z</sub> μ		
140 Jun. 2	P	3	39	38.1					Mindanao Is.	
	PP		40	51.0						
	PCP		42	9.7						
	S		44	45.7						
	ScS		47	34.7						
	L		50	45.9						
	F	4	12	-						
11 3	P	2	41	19.3					Mindanao Is.	
	S		41	27.0						
	MN		41	28.9	0.6		-14			
	ME		41	28.9	0.7	+18				
	MZ		42	47.8	0.6					
	F	2	45	-				±25		
3 13	P	20	46	48.5					Mindanao Is.	
	ScP		48	2.7						
	PPP		49	28.7						
	S		53	54.5						
	ScS		56	44.4						
	MN		54	8.4	4.5		+22			
	ME		54	6.1	4.7	±19				
	MZ		52	39.9	2.8			±7		
F	21	6	-							
5 14	P	11	46	14.6					Mindanao Is.	
	MN		46	54.3	4.2		±27			
	ME		47	9.2	3.7	±30				
	MZ		46	22.8	3.0			±3		
	F	11	56	-						
9 16	P	5	17	25.5					Mindanao Is.	
	S		18	19.2						
	MN		20	38.0	6.5		±23			
	ME		20	24.0	6.3	±25				
	MZ		18	51.0	2.0			±13		
	F	5	42	-						
3 19	P	16	12	32.7					Mindanao Is.	
	S		12	41.0						
	MN		12	59.3	3.5		±16			
	ME		12	55.2	1.5	±16				
	F	16	19	-						
6 22	P	17	20	2.0				480	Epicenter 140.4 E 36.3 N	
	S		21	1.1			+ 6			
	MN		21	23.0	2.3	+ 9				
	ME		21	35.1	2.1					
	F	17	24	-						
9 26	P	13	23	35.7					Mindanao Is.	
	S		24	37.8						
	MN		25	37.0	4.7		+72			
	ME		25	47.2	4.6	-42				
	F	23	34	-						
0 27	P	5	54	29.6					Mindanao Is.	
	S		54	38.6						
	MN		54	59.3	3.7		+24			
	ME		55	16.2	3.5	-26				
	F	6	0	-						



# OSAKA JAPAN

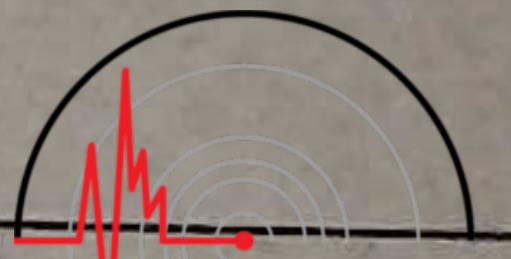
## SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory



Date	Phase	G.M.T.			Period s	Amplitude			Δ k.m.	Remarks
		h.	m.	s.		A <sub>E</sub> μ	A <sub>N</sub> μ	A <sub>Z</sub> μ		
Instrument: Wiechert's Seismograph										
1939,	Jun.	5th			T	r/T <sup>2</sup>	v	v		
			N	5.3	0.013	4.7	89			
			E	5.5	0.012	4.1	87			
			Z	4.8	0.018	4.9	44			
	JUN	28th		5.3	0.027	6.7	67			
	July	17th	N	5.5	0.007	75.5	85			
			E	5.6	0.005	6.9	90			
			Z	5.5	0.009	3.8	69			
	Aug.	4th	N	5.6	0.004	7.6	85			
			E	5.8	0.006	7.9	81			
			Z	6.0	0.009	3.7	55			
	Sep.	4th	N	5.5	0.005	7.8	85			
			E	5.8	0.007	12.2	83			
			Z	5.5	0.008	4.4	67			
July	2	eP	19	48	25.6					
		S		51	57.31					
		iN		50	34.6	3.9		-27		
		iE		50	22.3	3.9	+26			
		iZ		50	28.9	2.5			±2	
		F	5	0	-					
July	3	P	12	57	23.5					
		S		57	33.0					
		MN		57	51.6	2.0		-13		
		ME		58	3.8	2.0	+13			
		MZ		58	2.1	1.6			±15	
		F	22	3	-					
	5	P	22	51	19.6					Deep focus
		PcP		52	8.5					Depth, 550km
		PP		53	53.8					
		S		59	46.3					
		ScS	23	0	53.8	6.1		-37		
		MN		0	37.9	6.7	-9			
		ME		0	53.8	4.2			-8	
		MZ		0	36.9					
		F	23	18	-					
	9	P	12	57	6.5					Epicenter
		S		57	47.6					132.1 E
		MN		58	56.4	4.0		+176		32.8 N
		ME		58	22.2	4.5	+118			
		MZ		58	5.3	3.7			+71	
		F	13	14	-					
	11	P	6	54	59.1					
		S		56	36.7					
		MN		56	50.7	2.8		+20		
		ME		57	18.2	3.9	-21			
		MZ		57	20.0	2.3			+12	
		F	7	7	-					
	12	P	20	11	29.1					Epicenter
		S		13	51.8	3.9				147.3 E
		MN		15	7.6	4.1				42.7 N
		ME		16	26.1					
		F	20	30	-					

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory



International  
Seismological  
Centre

Date	Phase	G.M.T.			Period s	Amplitude			Δ k.m.	Remarks
		h.	m.	s.		A <sub>E</sub> μ	A <sub>N</sub> μ	A <sub>Z</sub> μ		
187 July 13	eP	17	7	5.6						
	S		8	48.9						
	MN		12	17.4						
	ME		11	51.1	5.6					
90 18	F	17	56	-	4.4					
	P	6	24	59.3						
	S		25	7.1						
	MN		25	31.3	3.7					
3 27	ME		25	41.8	4.0					
	MZ		26	8.3	1.9					
	F	6	38	-						
	P	23	30	15.4						
28	S		32	47.7						
	MN		34	2.7	3.4					
	ME		36	14.7	5.2					
	MZ		33	50.7	2.4					
28	F	23	40	-						
	P	1	8	0.9						
	S		9	17.3						
	MN		10	6.6	3.5					
5 28	ME		10	19.6	5.0					
	MZ		10	50.4	2.6					
	F	11	19	-						
	P	5	22	52.2						
30	iS		24	6.4						
	MN		24	44.1	3.5					
	ME		25	10.5	4.8					
	MZ		24	50.3	2.6					
1 Aug.	F	5	33	-						
	P	12	57	1.8						
	S		57	54.5						
	MN		58	24.1	3.0					
3	ME		58	1.8	2.3					
	MZ		58	14.9	2.4					
	F	13	22	-						
	eP	16	0	36.8						
3	S		3	57.5						
	MN		5	10.3	4.9					
	ME		5	46.3	4.4					
	MZ		5	47.1	3.8					
8	F	16	13	-						
	P	6	56	5.1						
	S		57	35.3						
	MN		58	40.3	5.8					
8	ME		58	20.6	5.6					
	MZ		58	14.9	3.7					
	F	7	8	-						
	P	0	48	55.6						
12	S		50	5.7						
	MN		50	42.6	5.8					
	ME		50	21.2	3.8					
	MZ		51	1.3	1.9					
12	F	0	57	-						
	P	2	17	11.9						
	PP		17	55.9						
	PP		20	5.2						
12	S		26	37.7						
	MN		17	37.4	4.1					
	ME		18	14.7	3.4					
	F	2	40	-						

Deep focus

From Aug to Sep 1937

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory



No.	Date	Phase	G.M.T.			Period s	Amplitude			Δ k.m.	Remarks
			h.	m.	s.		A <sub>E</sub> μ	A <sub>N</sub> μ	A <sub>Z</sub> μ		
	Aug. 16	P	16	58	21.6						
		S		59	28.1						
		MN		59	58.0						Epicenter
		ME	17	0	9.1	2.9		±8			141.5 E
		MZ		0	4.6	1.8	±13				37.1 N
		F	17	6	-	1.9			±10		
	17	P	15	46	58.0						
		S		48	12.0						Epicenter
		MN		49	31.4						141.7 E
		ME		50	1.1	4.8		±78			37.6 N
		MZ		49	5.4	3.7	±54				
		F	16	11	-	3.1			±36		
	22	P	0	7	54.3						
		S		9	8.5						Epicenter
		MN		10	25.1						141.8 E
		ME		10	25.1	4.3		±294			37.7 N
		MZ		9	55.2	4.6	±238				
		F	0	26	-	2.9			±161		
	27	P	20	16	31.3						
		S		18	8.2						
		MN		19	1.5						
		ME		19	9.3	4.4		±27			
		MZ		18	55.8	4.0	±22				
		F	20	26	-	2.4			±16		
	29	P	9	10	43.3						
		S		11	38.0						Epicenter
		MN		13	17.0						141.0 E
		ME		12	34.7	4.6		+31			36.3 N
		MZ		12	30.6	4.0	+20				
		F	9	19	-	3.8			-22		
Sep.	8	P	12	11	16.6						
		PP		12	24.8						
		S		16	13.3						
		SS		18	14.4						
		L		21	47.7						
		MN		25	11.6	14.3		-204			
		ME		25	16.8	12.7	-111				
		MZ		25	40.4	18.1			±167		
		F	13	36	-						
	9	P	8	13	48.9						
		S		15	20.8						
		MN		16	13.5	2.2		-11			
		ME		16	10.9	5.5	-16				
		F	8	27	-						
	12	P	5	6	16.2						Deep focus
		S		7	2.4						139.9 E
		MN		7	29.0	2.3		±37			36.1 N
		ME		7	36.5	1.7	±21				Depth, 50km
		F	5	16	-						
	16	P	6	51	0.5						
		S		52	0.6						
		MN		52	31.5	3.7		±13			
		ME		52	42.2	4.8	±14				
		F	7	7	-						
	22	1P	3	20	19.3						Deep focus
		1S		21	5.1						135.5 E
		MN		21	30.3	3.0		±20			37.0 N
		ME		21	37.0	2.8	±24				Depth, 350km
		MZ		22	14.6	3.0			±9		
		F	3	30	-						

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory



No.	Date	Phase	G.M.T.			Period s	Amplitude			Δ k.m.
			h.	m.	s.		A <sub>E</sub> μ	A <sub>N</sub> μ	A <sub>Z</sub> μ	
	Sep. 23	P	12	22	28.8					
		S		22	34.8					
		MN		22	57.1	4.1				
		ME		25	13.8	3.8				
		MZ		22	59.8	3.5	± 37	± 37		
		F	12	28	-				± 15	

Remarks

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory



Date	Phase	G.M.T.			Period s	Amplitude			Δ k.m.	Remarks
		h.	m.	s.		A <sub>E</sub> μ	A <sub>N</sub> μ	A <sub>Z</sub> μ		
Instrument: Wiechert's Seismograph 1939, Sep. 4th Oct. 4th Nov. 9th										
						r/T <sup>2</sup>	v	V		
					N	5.5	0.005	7.8	85	
					E	5.8	0.007	12.2	83	
					Z	5.5	0.008	4.4	67	
					N	5.3	0.004	5.9	88	
					E	5.7	0.007	5.8	83	
					Z	5.3	0.007	3.9	65	
					N	5.6	0.020	3.8	85	
					E	5.3	0.031	4.8	82	
					Z	5.3	0.013	3.6	66	
Oct. 1	P	21	51	45.4						Epicenter 139.9 E 36.2 N Depth 50 km
	S		52	53.1						
	MN		52	52.8	2.4		-7			
	ME		52	52.8	2.4	-7				
	MZ		52	55.3	1.9			-6		
	F	21	59	-						
5	P	21	18	42.7						Epicenter 140.4 E 35.6 N
	S		19	56.3						
	MN		19	55.7	2.6		-5			
	ME		20	28.2	2.4	-6				
	F	21	25	-						
7	eP	21	5	50.5						Epicenter 140.3 E 36.9 N
	S		6	57.7						
	MN		7	41.7	2.3		+5			
	ME		7	47.8	2.1	+7				
	MZ		7	46.4	1.9			-4		
	F	21	14	-						
10	P	13	56	17.7						Epicenter 141.6 E 37.5 N
	S		57	28.1						
	MN		58	9.3	2.4		+31			
	ME		58	41.6	4.0	+44				
	MZ		58	27.9	2.6			± 26		
	F	14	6	-						
10	1P	18	53	45.8						Epicenter 143.0 E 38.4 N
	S		55	31.6						
	MN		56	14.6	5.4		± 536			
	ME		56	9.6	4.6	± 457				
	MZ		56	58.8	4.6			± 266		
	F		-	-						
10	P	18	52	58.1						Epicenter 143.0 E 38.3 N
	S		54	20.2						
	MN		55	43.2	5.8		± 331			
	ME		55	54.2	5.4	± 284				
	MZ		55	39.2	2.9			± 87		
	F	19	34	-						
13	P	4	52	41.1				+46		Epicenter 144.2 E 42.4 N
	1SN		53	6.5			+22			
	1SE		53	4.9				± 47		
	MN		54	24.0	3.2		± 50			
	ME		54	29.4	2.8			± 31		
	MZ		53	54.8	2.8					
	F	5	7	-						
22	P	14	42	3.6						Epicenter 144.2 E 42.4 N
	S		44	16.3	4.7		± 23			
	MN		44	55.5	3.9		± 18			
	ME		45	45.3	3.5			-14		
	MZ		45	1.3						
	F	14	55	-						

# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory

Date	Phase	G.M.T. h. m. s.	Period s	Amplitude			Δ k.m.	Remarks
				A <sub>E</sub> μ	A <sub>N</sub> μ	A <sub>Z</sub> μ		
Oct. 24	iP	14 45	22.5					Epicenter 134.0 E 42.0 N Deep focus Depth 500km
	i	45	23.2					
	iS	46	51.4					
	MN	47	15.1	4.5	+26			
	ME	47	54.6	3.6	±17	±17		
	MZ	47	46.0	2.7				
Nov. 7	F	14 56	-				±5	
	eP	3 57	24.7					Epicenter 120.85 E 24.35 N
	ePP	57	45.1					
	eS	4 0	31.0					
	MZ	6	30.5	4.1			±1	
F	4 12	-						
9	P	16 10	20.8					
	S	14	32.8					
	MN	15	42.7	4.6		+39		
	ME	15	45.1	4.6	-20			
	MZ	15	23.0	5.5			±5	
	F	16 24	-					
13	P	19 10	59.0					
	S	11	9.1					
	MN	11	34.9	4.1		±17		
	ME	11	48.3	3.9	±28			
	MZ	11	47.5	2.6			±9	
	F	19 23	-					
18	P	1 37	52.0					
	S	41	42.4					
	MN	42	35.3	4.7		±43		
	ME	42	11.0	4.0	±30			
	MZ	33	15.5	2.2			±27	
	F	2 0	-					
21	iP	11 10	30.6				+23	
	PP	11	20.5					
	S	15	27.0					
	MN	20	1.7	4.7		±33		
	ME	21	27.4	3.3	±33			
	F	11 34	-					
27	eP	15 44	30.1					
	S	45	35.1					
	MN	46	11.2	4.2		±39		
	ME	46	18.7	4.7	±29			
	MZ	46	23.8	2.1			±14	
	F	15 51	-					
29	eP	22 22	46.4					Epicenter 141.3 E 37.0 N
	S	23	53.4					
	MN	24	0.3	3.0		±24		
	ME	23	57.4	3.4	±24			
	MZ	24	11.3	2.6			±13	
	F	22 29	-					
Dec. 6	P	18 1	40.0					Epicenter 141.8 E 37.7 N
	S	3	1.7					
	MN	3	49.4	5.4		+41		
	ME	4	1.4	4.3	+46		+26	
	MZ	3	49.6	3.3				
	F	18 15	-					
8	P	19 40	46.6					Felt slightly
	S	40	52.2					
	MN	40	52.4	0.3		-21		
	ME	40	53.3	0.3	+22		+15	
	MZ	40	52.4	0.3				
	F	-	-					



# OSAKA JAPAN

## SEISMOLOGICAL BULLETIN of the Osaka Meteorological Observatory



No.	Date	Phase	G.M.T.			Period s	Amplitude			Δ k.m.	Remarks
			h.	m.	s.		A <sub>E</sub> μ	A <sub>N</sub> μ	A <sub>Z</sub> μ		
266	Dec. 8	P	19	45	10.6						
		S		43	15.6						
		MN		43	15.4						
		ME		43	16.3	0.3					
		MZ		43	15.4	0.3	+12	+11			
		F	19	46	-	-	0.2			+ 8	
267	16	1P	10	49	38.6						
		S		52	9.0						
		MN		52	51.9	5.4					
		ME		53	32.9	4.4			-122		
		MZ		52	50.2	2.8	±105				
		F	11	22	-	-	-			±42	
270	20	eP	18	16	40.1						
		S		18	13.6						
		MN		19	15.0	4.2					
		ME		19	29.7	4.0			±37		
		MZ		19	31.0	2.4	±36				
		F	18	51	-	-	-			±23	
272	21	P	21	7	34.3						
		pB		9	8.1						
		PP		9	26.1						
		S		13	9.8						
		MN		12	27.3	4.3			±366		
		ME		14	5.2	4.7			-482		
		MZ		21	58.5	20.5				±2075	
		F	-	-	-	-	-				
274	23	P	2	16	50.2						
		S		16	57.7						
		MN		17	19.3	5.3			±17		
		ME		17	36.8	4.4			±35		
		MZ		17	27.6	2.9				±6	
		F	2	26	-	-	-				
280	27	P	0	8	56.0						
		PP		12	19.9						
		S		19	4.6						
		MN		46	56.0	16.0			±359		
		ME		47	34.9	15.2			±332		
		MZ		49	35.4	14.9				±334	
		F	1	32	-	-	-				
281	27	P	3	9	41.2						
		S		16	13.2						
		MN		10	37.3	3.2			±14		
		ME		12	3.0	3.1			±14		
		MZ		10	29.8	2.6				±12	
		F	3	23	-	-	-				
282	30	P	9	7	34.0						
		S		7	41.6						
		MN		8	0.5	5.6			±267		
		ME		8	17.1	4.1			±383		
		MZ		8	9.4	1.8				±146	
		F	9	15	-	-	-				
283	31	P	6	54	5.4						
		S		55	9.2						
		MN		55	50.5	5.1			±149		
		ME		56	10.7	3.6			±200		
		MZ		56	11.5	2.8				±70	
		F	7	10	-	-	-				