

No.

From to

## SEISMIC BULLETIN

NAGASAKI METEOROLOGICAL OBSERVATORY

 $\varphi=32^{\circ}44'03''$   $\lambda=129^{\circ}52'31''$   $h=130.6m.$  Lithologic foundation: Volcanic Agglomerate.

## INSTRUMENTAL CONSTANTS

From 1<sup>st</sup> to 14<sup>th</sup> Jan 1933

No.	INSTRUMENT	COMPONENT	MASS	DAMPING	To	$\frac{r}{To^2}$	$\epsilon$	V
	Wiechert	E-W	200	Air	4.8	0.007	2.8	8.0
		N-S	"	"	4.4	0.011	2.8	8.0
	Wiechert	U-D	80	"	4.0	0.055	2.5	7.5
	Omori	E-W	16	Magnetic				
	Omori	N-S	16	"				

No.	Date	Phase	Time 135° E		Period	Amplitude			$\Delta$	Remarks	
			h.	m. s.		AZ	AE	AN			
			h.	m.	s.	s.	$\mu$	$\mu$	$\mu$	km.	
1	1 Jan	PE F	2	50	07.9				~	Local shock	
			"	"	20.9						
2	"	PE S L M <sub>1</sub> M <sub>2</sub> F	17	58	33.6	2.0	+5.0	-2.5	1718	Distant earthquake	
			18	01	31.4						
			"	04	39.8						
			"	06	32.5	4.3	+10.5				
			"	07	27.2	6.4	-11.3	+5.0			
			"	14	44.3						
3	4 "	PE SE L M C F	0	30	04.6				1407	Off the ENE coast of Miyako	
			"	32	30.3						
			"	36	14.4	3.3					
			"	"	29.3		+11.3				
			"	41	10.0						
			"	48	34.2						
4	" "	ip S M C F	9	28	12.3	2.2	+3.7	-5.0	+3.7	1161	Off the SE coast of Is. Sata
			"	30	54.4						
			"	31	24.0	4.3	-15.0	-22.5			
			"	39	26.9						
			10	01	53.2						
5	7 "	PE S M C F	13	09	46.3	2.3			1964	Off the ENE coast of Miyako	
			"	13	06.1	2.3					
			"	15	36.6	15.0	+25.0	-50.0			
			"	24	06.6						
			"	39	12.9						
6	10 "	P S F	12	09	29.8				483	Off the NW coast of Amami-Oshima	
			"	10	35.0						
			"	21	15.6						
7	14 "	P S L M F	10	10	45.8	1.1	-3.2	-1.5	104	Neighbourhood of mt. Aso.	
			"	11	00.8	0.6	-6.3				
			"	"	15.0						
			"	"	21.5	4.0	+40.0	-23.7			
			"	15	28.4						

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 $\phi = 32^{\circ}44'03''$   $\lambda = 129^{\circ}52'31''$   $h = 130.6m.$  Lithologic foundation: Volcanic Agglomerate.

## INSTRUMENTAL CONSTANTS

From 14<sup>th</sup> to 27<sup>th</sup> Jun 1933

No.	INSTRUMENT	COMPONENT	MASS	DAMPING	T <sub>0</sub>	$\frac{r}{T_0^2}$	$\epsilon$	V
	Wiechert	E-W	200	Air	4.8	0.007	2.8	80
		N-S	"	"	4.4	0.011	2.8	80
	Wiechert	U-D	80	"	4.0	0.055	2.5	75
	Omori	E-W	16	Magnetic				
	Omori	N-S	16	"				

No.	Date	Phase	Time 135° E			Period	Amplitude			$\Delta$	Remarks
			h.	m.	s.		AZ	AE	AN		
						s.	$\mu$	$\mu$	$\mu$	km.	
8	14 Jun	P	15	33	424					<del>7.8</del>	Slight outbreak of Mt Aso.
		<del>S</del>	<del>34</del>	<del>664</del>							
		F	"	37	587						
9	15 "	UP	18	55	514	3.1	-1.5	+2.3	-3.7	206	Off the SE coast of Ariake Bay, Kagosima Prefecture.
		S	"	56	192						
		F	"	58	520						
10	16 "	UP	18	22	227	0.4	-1.5	+4.5	+4.0	113	Neighbourhood of Sakasaki, Kagosima Prefecture.
		S	"	"	380						
		F	"	24	254						
11	22 "	UP	4	34	303	15.3				1560	Distant earthquake.
		S	"	45	533						
		L	5	00	008						
		C	"	29	424						
		F	"	45	099						
12	27 "	P	3	33	483					111	Mt. Aso.
		S	"	34	033						
		F	"	36	110						

## SEISMIC BULLETIN

## NAGASAKI METEOROLOGICAL OBSERVATORY

 $\phi = 32^{\circ}44'03''$  $\lambda = 129^{\circ}52'31''$ 

h = 130.6m.

Lithologic foundation: Volcanic Agglomerate.

International  
Seismological  
Centre

No 2

## INSTRUMENTAL CONSTANTS

From 1st to 13th Feb 1933

INSTRUMENT	COMPONENT	MASS	DAMPING	To	$\frac{r}{To^2}$	$\epsilon$	V
Wiechert	E-W	200	Air	45	0.032	2.4	75
	N-S	„	„	43	0.039	2.0	75
Wiechert	U-D	80	„	3.9	0.061	3.1	75
Omori	E-W	16	Magnetic				
Omori	N-S	16	„				

No.	Date	Phase	Time 135° E			Period	Amplitude			$\Delta$ km.	Remarks
			h.	m.	s.		AZ	AE	AN		
13	1 Feb	ip S F	6	28	45.4				<del>323</del>	Local shock	
					56.5						
				29	45.5						
14	4 "	ip S F	7	16	39.5			+2.6	+3.7	244.8	Off the N coast of Is Iijima
				20	40.3	4.4		+2.5	+6.9		
				31	53.6						
15	" "	ip S F	15	21	05.5			+6.9	-1.2	<del>478</del>	Away to the NW coast of Is. Ito
				22	50.5	2.4		+2.5	-6.9		
				26	01.3						
16	6 "	ip is F	16	17	20.7	1.1	-1.0	+1.3	+0.5	111	Mr. Aso
					35.6	0.6		+8.5	+3.8		
				24	31.1						
17	7 "	P S F	10	27	54.4	1.0	-1.2	+1.5	-0.7	116	Ditto
				28	10.1	0.6	+4.0		-5.3		
				32	56.6						
18	9 "	P S F	6	56	23.6	0.7	-1.0	+0.9	-1.1	47	Ditto
					36.7						
				59	04.0						
19	" "	P S F	12	58	39.0	2.0	+1.4	-2.0	+1.0	796	Off the SW coast of Is. Hatzigô.
				13	00.56	3.3	+2.1	-1.8	+1.5		
				08	21.3						
20	12 "	ip S F	9	46	09.6					74	Mouth of R. Sarakawa, Kumamoto Prefecture.
					19.6	0.3					
				47	11.8						
21	13 "	2p? S F	12	06	48.3					1772	Distant earthquake.
				09	50.5	6.0		+16.0	-5.3		
				22	50.0						
22	" "	ip F	15	56	00.8					~	Kasima Nada.
				58	14.5						

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h=130.6m.

Lithologic foundation: Volcanic Agglomerate.

International  
Seismological  
Centre

No 3

INSTRUMENTAL CONSTANTS From 1<sup>st</sup> to 31<sup>st</sup> March 1933

INSTRUMENT	COMPONENT	MASS	DAMPING	To	$\frac{r}{To^2}$	$\epsilon$	V
Wiechert	E-W	200	Air	4.5	0.032	24	75
	N-S	"	"	4.3	0.034	20	75
Wiechert	U-D	80	"	3.9	0.061	3.1	75
Omori	E-W	16	Magnetic				
Omori	N-S	16	"				

No.	Date	Phase	Time 135° E	Period	Amplitude			$\Delta$	Remarks
					AZ	AE	AN		
			h. m. s.	s.	$\mu$	$\mu$	$\mu$	km.	
28	1 Mar	LP F	16 17 07.2 " 19 50.7						Off the coast of Sanriku Volcanic
29	3 "	LP L S L M C F	2 34 10.9 " " 14.1 " 36 44.6 " 37 32.6 Scale out " 49 32.0 5 14 48.4	3.0 3.6	+0.4 +18.0	-2.7 -40.0 -9.2	-1.3 -26.7 +14.8	1467	Off the coast of Sanriku
30	"	LP LS L M C F	4 44 53.7 " 47 15.6 " 48 57.0 " 49 30.0 " 54 50.8 5 09 13.0	5.1		+13.3	-24.0	1340	Ditto.
31	"	LP LS L M C F	5 46 40.3 " 48 33.0 " 49 56.0 " 50 22.1 " 55 05.1 6 31 11.0	5.3		+46.7	-60.0	1457	Ditto.
32	"	LP S F	10 19 49.8 " 20 16.0 " 22 17.1					94	Middle valley of Tansinkō, Tōyama.
33	"	LP S F	11 23 48.8 " 26 21.3 " 34 03.9					1455	Direction of Iss. Philipp.
34	"	LP F	2 29 51.8 " 52 05.0						Off the coast of Sanriku
35	"	P S F	8 15 53.6 " 18 36.2 " 38 52.2			+5.3		1556	Ditto.

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International  
Seismological  
Centre

No 3

## INSTRUMENTAL CONSTANTS

From 3<sup>rd</sup> to 11<sup>th</sup> Mar 1933

INSTRUMENT	COMPONENT	MASS	DAMPING	To	$\frac{r}{To^2}$	$\epsilon$	V
Wiechert	E-W	200	Air	4.5	0.032	2.4	75
	N-S	"	"	4.3	0.039	2.0	75
Wiechert	U-D	80	"	3.9	0.061	3.1	75
Omori	E-W	16	Magnetic				
Omori	N-S	16	"				

No.	Date	Phase	Time 135° E			Period s.	Amplitude			$\Delta$ km.	Remarks
			h.	m.	s.		AZ $\mu$	AE $\mu$	AN $\mu$		
36	3 Mar	P S F	18	41	46.6 19.1 05.5				1455	Off the coast of Japan	
37	" "	ep S F	19	08	13.2 39.5 10.8				1393	Ditto.	
38	" "	ep F	19	35	27.5 13.2				~	Ditto.	
39	4 "	ep F	0	06	27.0 05.7				~	Ditto.	
40	" "	ep S F	0	10	57.7 54.1 57.9				1704	Ditto.	
41	" "	ep? es? F	4	11	12.5 14.3 38.1				1768	Ditto.	
42	7 "	ep S F	7	46	23.3 12.5 47.5				366	Wakaura Bay.	
43	" "	P S F	11	52	21.5 32.9 39.3	0.7			824 814	Off the SE coast of Is. Hukue.	
44	8 "	ep S F	19	28	03.6 42.0 51.3				285	Iyo Nada.	
45	11 "	ep es L M C F	23	26	06.8 14.5 05.2 40.8 21.1 19.0	13.1	+8.0		1827	Distant earthquake.	

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Lithologic foundation: Volcanic Agglomerate.



## INSTRUMENTAL CONSTANTS

INSTRUMENT	COMPONENT	MASS	DAMPING	To	$\frac{r}{To^2}$	$\epsilon$	V
Wiechert	E-W	200	Air	4.5	0.032	2.4	75
	N-S	"	"	4.3	0.039	2.0	75
Wiechert	U-D	80	"	3.9	0.061	3.1	75
Omori	E-W	16	Magnetic				
Omori	N-S	16	"				

No.	Date	Phase	Time 135° E			Period	Amplitude			$\Delta$	Remarks
			h.	m.	s.		s.	AZ	AE		
									km.		
									$\mu$	$\mu$	$\mu$
46	12 Mar	UP	4	35	12.4	3.3	-8.3	+14.7	-8.0	1103	Off the WNW coast of Is. Tati.
		LS	"	37	10.7	6.6	+8.3	+49.3	-76.0		
		M	"		16.0	6.0	+28.0	+168.0	-166.7		
		F	5	06	59.2						
47	" "	P	16	38	40.9					~	Aki Nada.
		F	"	41	54.8						
48	18 "	P	1	01	48.0					3345	Aleutian Islands
		S	"	06	55.3						
		L	"	10	15.3						
		M	"	45	00.0						
49	" "	LP	4	38	03.0					3272	Neighbourhood of Is. Mandanac.
		LS	"	43	05.2						
		F	5	18	57.5						
50	19	P	0	53	29.4	E 3.2	-1.3	+2.7	$\pm 0$	860	Off the S coast of Is. Hatidyo
		S	"	55	03.3	N 4.8	+2.0	-3.3	+13.3		
		M	"	"	19.0	4.4		+16.7	-30.0		
		C	"	"	4.17						
		F	1	05	51.4						
51	22 "	P	8	18	34.4		-0.7	+2.9		114	Mt. Aso.
		S	"	"	49.0						
		L	"	19	07.7			-21.3	+10.7		
		M <sub>E</sub>	"	"	11.1	4.3		+24.0			
		M <sub>N</sub>	"	"	14.7	4.3			+24.0		
		F	"	24	30.0						
52	24 "	LP	2	47	47.2					2448	Distant earthquake
		LS	"	51	48.0						
		F	3	00	18.0						
53	25 "	P	21	50	37.6	1.3	-3.3	+8.0	+1.6	97	Mt. Aso.
		S	"	"	50.7			-1.7	-3.0		
		M	"	51	14.1	4.2		+9.6	-6.7		
		C	"	"	34.0						
		F	"	59	06.5						

## SEISMIC BULLETIN

NAGASAKI METEOROLOGICAL OBSERVATORY



No.	Date	Phase	Time 135° E			Period s.	Amplitude			$\Delta$ km.	Remarks
			h.	m.	s.		Az $\mu$	Ae $\mu$	An $\mu$		
54	26 Mar	P	10	36	477					~	Mt. Aso.
		H	"	38	330						
55	" "	P	11	21	533					~	Ditto
		H	"	23	030						
56	" "	P	12	59	538					~	Ditto
		H	13	01	035						
57	29 "	P	12	51	481					~	Hyūga Nada
		H	"	52	546						

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Lithologic foundation: Volcanic Agglomerate.

International  
Seismological  
Centre

No 9

## INSTRUMENTAL CONSTANTS

From 2<sup>nd</sup> to 16<sup>th</sup> Apr 1933

INSTRUMENT	COMPONENT	MASS	DAMPING	To	$\frac{r}{To^2}$	$\epsilon$	V
Wiechert	E-W	200	Air	4.2	0.013	2.6	80
	N-S	"	"	4.4	0.023	2.6	80
Wiechert	U-D	80	"	4.0	0.072	2.6	70
Omori	E-W	16	Magnetic				
Omori	N-S	16	"				

No.	Date	Phase	Time 135° E	Period	Amplitude			$\Delta$ km.	Remarks
					AZ	AE	AN		
			h. m. s.	s.	$\mu$	$\mu$	$\mu$		
58	2 Apr	P	1 02 24.5					~	Off the coast of Sanriku.
		F	" 14 24.5						
59	" "	$\epsilon$ P	22 44 33.5					84	Mt. Aso.
		S	" " 44.7						
		F	" 46 09.5						
60	8 "	P	20 54 39.9		-1.4	+1.5	0	78	Neighbourhood of Kumamoto.
		S	" " 50.4			-3.8	+6.3		
		F	" 56 36.0						
61	9 "	P	11 49 43.3					1620	Off the coast of Sanriku.
		S	" 52 31.3						
		L	" 53 19.8						
		M	" 54 12.3	E 16.1 N 17.1		+2.6	-2.8		
		C	" 56 43.3						
		F	12 17 43.3						
62	" "	$\epsilon$ L	19 37 42.0					~	Ditto.
		F	" 41 42.0						
63	13 "	P	12 53 13.8					85	Mt Aso.
		S	" " 25.3						
		F	" 58 56.3						
64	" "	P	14 14 53.2					74	Ditto.
		S	" 15 03.2						
		F	" 16 56.1						
65	" "	P	16 04 03.4					~	Ditto.
		F	" " 55.9						
66	16 "	P	4 43 36.7					74	Ditto
		S	" " 46.7						
		F	" 44 47.5						
67	" "	P	4 45 46.8					63	Ditto
		S	" " 55.3						
		F	" 47 17.5						



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No 11

## INSTRUMENTAL CONSTANTS

From 5<sup>th</sup> to 24<sup>th</sup> May 1933

INSTRUMENT	COMPONENT	MASS	DAMPING	To	$\frac{r}{T_0^2}$	$\epsilon$	V
Wiechert	E-W	200	Air	4.2	0.013	2.6	80
	N-S	"	"	4.4	0.023	2.6	80
Wiechert	U-D	80	"	4.0	0.072	2.6	70
Omori	E-W	16	Magnetic				
Omori	N-S	16	"				

No.	Date	Phase	Time 135° E	Period	Amplitude			$\Delta$	Remarks
					AZ	AE	AN		
			h. m. s.	s.	$\mu$	$\mu$	$\mu$	km.	
79	5 May	P	21 04 23.7					108	Mt. Aso.
		S	" " 38.2						
		F	" 06 28.7						
80	" "	P	21 41 54.0					118	Ditto
		S	" 42 09.9						
		F	" 44 18.6						
81	7 "	P	20 44 57.9					131	Ariake Bay, Kagosima Prefecture.
		S	" 45 15.6						
		F	" " 55.7						
82	11 "	P	13 30 35.8					240	Utt Cape sata.
		S	" 31 08.0						
		F	" 33 26.8						
83	15 "	P	10 11 27.6					~	Mt. Aso
		F	" 15 41.8						
84	" "	P	10 18 05.0					~	Mt. Aso
		F	" 21 31.8						
85	16 "	P	10 20 05.2	24			-0.3	~	Direction of South Ocean.
		L	" 33 13.5						
		M	" 38 26.7	15.3		+10.0	-16.2		
		C	" 47 08.0						
		F	" 58 28.5						
86	" "	P	15 32 37.1					174	Utt Ariake Bay.
		S	" 33 00.5						
		F	" 36 32.2						
87	23 "	MP	1 31 34.7	1.1	+1.7	-1.0	-1.5	~	New shock.
		F	" 33 47.5						
88	" "	P	5 44 36.1					203	Hyūga Nada
		S	" 45 03.5						
		F	" 50 55.9						
89	24 "	MP	1 37 08.2	3.0	+5.7	-6.3	+8.8	244	Ditto.
		S	" " 41.0		+13.0	-35.0	-35.0		
		F	" 47 48.8						

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No 12

## INSTRUMENTAL CONSTANTS

From 24<sup>th</sup> May to 6<sup>th</sup> June 1933

INSTRUMENT	COMPONENT	MASS	DAMPING	To	$\frac{r}{To^2}$	$\epsilon$	V
Wiechert	E-W	200	Air	4.2	0.013	2.6	80
	N-S	„	„	4.4	0.023	2.6	80
Wiechert	U-D	80	„	4.0	0.072	2.6	70
Omori	E-W	16	Magnetic				
Omori	N-S	16	„				

No.	Date	Phase	Time 135° E		Period	Amplitude			$\Delta$	Remarks	
						AZ	AE	AN			
			h.	m.	s.	s.	$\mu$	$\mu$	$\mu$	km.	
90	24 May	ip	1	52	24.9	3.0	+4.1	-3.9	+4.5	205	Hyūga Nada.
		S	„	„	52.5	1.3			-16.3		
		H	2	02	01.5						
91	25 „	ip	3	40	05.0					169	Neighb. of the mouth of R. Mimidu, Miyazaki Prefecture.
		S	„	„	27.8						
		H	„	41	09.5						
92	2 June	P	13	42	46.2					161	Off Cape Sata, Kagoshima Prefecture.
		S	„	43	07.9						
		M	„	„	13.9	2.1	-2.0	+1.9	+3.3		
		H	„	47	38.7						
93	„ „	ip	16	39	21.6	3.4	+2.1	-2.0	+2.5	235	Neighb. of Miyakonojyō, Miyazaki Prefecture.
		S	„	„	53.2	3.2	+5.4		+12.8		
		M <sub>1</sub>	„	40	06.2	4.0	+2.0	-3.4	+3.5		
		M <sub>2</sub>	„	„	30.6	4.2	+1.7	-2.3	+5.9		
		M <sub>3</sub>	„	41	12.7	4.8	-2.0	+2.0	-2.5		
		H	„	„	40.1						
94	3 „	P	19	33	13.8					-	Ditto.
		H	„	35	46.4						
95	„ „	P	22	31	20.0					105	Mt. Aso
		S	„	„	34.1						
		H	„	34	31.1						
96	4 „	ip	2	08	57.2					608	Neighb. of Amami-Oshima.
		ES	„	10	19.2						
		L	„	„	54.8	1.9	+8	+1.0	+4.1		
		M	„	11	09.2	4.7	+3.0	+1.7	-1.3		
		H	„	44	51.8						
97	6 „	P	11	33	11.7					1901	Philippine Islands.
		ES	„	36	25.8						
		L	„	38	58.7						
		H	„	53	32.3						

No.

From to

International  
Seismological  
Centre

## SEISMIC BULLETIN

From 7<sup>th</sup> to 28<sup>th</sup> June 1933

No 13

## NAGASAKI METEOROLOGICAL OBSERVATORY

No.	Date	Phase	Time 135° E			Period s.	Amplitude			Δ km.	Remarks
			h.	m.	s.		Az μ	AE μ	AN μ		
98	7 June	P	20	51	43.4	10.5				3017	Direction of Burma.
		LS	"	56	27.5						
		L	21	00	11.5						
		M	"	03	05.5						
		F	"	11	31.9						
99	9 "	P	3	14	00.0	14.8				1402	off the ENE coast of Miyako.
		S	"	16	27.2						
		L	"	17	53.0						
		M	"	19	46.6						
		F	"	42	48.2						
100	11 "	P	11	47	47.6					~	Southern part of Hyūga Nada.
		F	"	49	50.0						
101	13 "	P	6	11	15.5					~	Neighb. of Kisennuma Bay, Miyagi Prefecture
		F	"	20	47.1						
102	" "	P	7	17	43.3	0.5	+1.4			75	Kumamoto.
		S	"	"	53.6						
		F	"	19	34.7						
103	14 "	ep	5	36	49.5	4.2				1980	off the E coast of the mouth of R. Umaluti.
		iS	"	40	10.5						
		L	"	41	08.6						
		F	6	00	30.5						
104	15 "	P	5	45	47.3					~	off the S coast of Amami-Oshima.
		F	6	02	42.4						
105	19 "	P	6	40	20.1	4.1	+0.5			1472	off the E coast of Kinkuzan
		LS	"	42	54.3						
		L	"	43	48.6						
		M	"	44	56.8						
		C	"	50	34.3						
		F	8	21	20.2						
106	25 "	P	7	03	00.7	2.1	-1.0			4937	Sumatra.
		LS	"	09	39.3						
		SL	"	12	07.0						
		M <sub>1</sub>	"	25	39.9						
		M <sub>2</sub>	"	24	24.5						
		C	"	48	47.6						
		F	8	36	47.8						
107	28 "	P	14	03	17.2					25	Local shock
		S	"	"	20.6						
		F	"	04	34.2						
108	" "	ep	14	15	33.0					~	Mt. Aso.
		F	"	18	00.5						

No.

From to

## SEISMIC BULLETIN

NAGASAKI METEOROLOGICAL OBSERVATORY

 $\phi=32^{\circ}44'03''$  $\lambda=129^{\circ}52'31''$ 

h=130.6m.

Lithologic foundation: Volcanic Agglomerate.

International  
Seismological  
Centre

No 14

## INSTRUMENTAL CONSTANTS

From 3<sup>rd</sup> to 9<sup>th</sup> July 1933

INSTRUMENT	COMPONENT	MASS	DAMPING	To	$\frac{r}{T_0^2}$	$\epsilon$	V
Wiechert	E-W	200	Air	4.2	0.025	26	85
	N-S	"	"	4.2	0.027	25	85
Wiechert	U-D	80	"	4.0	0.074	24	75
Omori	E-W	16	Magnetic				
Omori	N-S	16	"				

No.	Date	Phase	Time 135° E			Period	Amplitude			$\Delta$ km.	Remarks	
							AZ	AE	AN			
			h.	m.	s.	s.	$\mu$	$\mu$	$\mu$			
109	3 July	ep F	23	56	45.2 30.5					-	Distant Egle.	
110	4 "	ep	16	12	09.2					216	Is. Yaku.	
		S	"	"	38.3							
		F	"	14	35.5							
111	" "	ep	16	18	59.0					211	Ditto.	
		S	"	19	27.0							
		F	"	20	43.0							
112	9 "	P	4	37	24.3					25	Local shock.	
		S	"	"	27.7							
		F	"	38	33.8							
113	" "	P	10	34	33.8	4.9	+1.1	-2.0	-2.6	2351	Away to the SE coast of Is. Etorô.	
		S	"	38	26.9	5.0		-5.7	+9.5			
		L	"	40	39.9			-1.0	+6			
		M	"	44	13.4	15.1						
		C	"	51	41.2							
		F	11	64	50.9							
114	" "	P	18	32	28.7					2353	Ditto.	
		S	"	36	22.0	4.8		-1.8	+2.3			
		L	"	38	49.1							
		M	"	41	43.4	6.5		+6	-4			
		C	"	46	61.3							
		F	-	-	-							
115	" "	P	18	52	43.4					2349	Ditto.	
		S	"	56	36.3							
		L	"	58	47.7							
		F	19	15	46.6							
116	" "	ep	21	35	04.7	4.9	+1.2	-3.0	-3.1	2266	Off the SE coast of Is. Etorô.	
		S	"	38	55.3	4.8		+6.5	-7.1			
		L	"	41	30.4							
		M	"	44	41.7	15.1		+3.9	-2.0			
		C	"	56	52.0							
		F	22	51	14.5							

## SEISMIC BULLETIN

## NAGASAKI METEOROLOGICAL OBSERVATORY

 $\phi = 32^{\circ}44'03''$  $\lambda = 129^{\circ}52'31''$ 

h = 130.6m.

Lithologic foundation: Volcanic Agglomerate.

International  
Seismological  
Centre

No 15

## INSTRUMENTAL CONSTANTS

From 10<sup>th</sup> to 14<sup>th</sup> July 1933

INSTRUMENT	COMPONENT	MASS	DAMPING	To	$\frac{r}{To^2}$	$\epsilon$	V
Wiechert	E-W	200	Air	4.2	0.025	2.6	85
	N-S	"	"	4.2	0.027	2.5	85
Wiechert	U-D	80	"	4.0	0.074	2.4	75
Omori	E-W	16	Magnetic				
Omori	N-S	16	"				

No.	Date	Phase	Time 135° E	Period	Amplitude			$\Delta$	Remarks
					AZ	AE	AN		
			h. m. s.	s.	$\mu$	$\mu$	$\mu$	km.	
117	10 July	P	1 11 36.9	4.8			-1.2	2353	Off the E coast of Nosyapu-zaki.
		S	" 15 30.2	4.9		-2.5	+2.5		
		L	" 18 06.1						
		F	" 30 35.7						
118	" "	P	1 56 24.7				150	Neighbourhood of Beppu.	
		S	" " 45.0						
		F	2 00 16.7						
119	" "	P	2 00 44.0				150	Ditto.	
		S	" 01 04.2						
		F	" 02 39.9						
120	" "	ep	2 55 45.0				2604	Off the E coast of Nosyapupu-zaki.	
		S	" 59 58.4						
		F	3 07 32.0						
121	" "	ip	9 24 45.0	2.1		+1.5	+1.2	1545	Off the E coast of Kamatsi.
		es	" 27 26.5						
		L	" 29 33.9						
		F	" 36 43.3						
122	" "	P	19 40 40.2	2.9		-2.7	-1.8	4114	Direction of Borneo.
		S	" 46 33.8	3.1		-2.5			
		L	" 49 17.0						
		F	20 00 37.5						
123	11 "	ep	15 04 34.5				~	Off Kuzyū Kurigahama.	
		F	" 10 59.3						
124	" "	ep	15 52 32.9				~	Off the ESE coast of Katumua.	
		F	16 08 11.2						
125	12 "	ep	23 47 20.9				260	Neighbourhood of Isyuku.	
		S	" " 55.9						
		M	" 48 15.7	2.8		+8.2			+7.1
		F	" 54 10.5						
126	14 "	P	10 48 43.7				~	Distant Epic.	
		F	" 51 50.5						

# SEISMIC BULLETIN

## NAGASAKI METEOROLOGICAL OBSERVATORY

$\phi = 32^{\circ}44'03''$

$\lambda = 129^{\circ}52'31''$

$h = 130.6m.$

Lithologic foundation: Volcanic Agglomerate

From 15 To 29 July 1958



International  
Seismological  
Centre

### INSTRUMENTAL CONSTANTS

INSTRUMENT	COMPONENT	MASS	DAMPING	418	0.025	26	85
				4.2	0.027	2.5	85
Wiechert	E-W	200	Air	4.0	0.074	2.4	75
	N-S	"	"				
Wiechert	U-D	80	"				
Omori	E-W	16	Magnetic				
Omori	N-S	16	"				

No.	Date	Phase	Time 135° E	Period	Amplitude			$\Delta$	Remarks
					AZ	AE	AN		
127	15 July	P	14 35 34.0	s.	$\mu$	$\mu$	$\mu$	15	Local shock.
		S	" " 36.8						
		F	" " 56.0						
128	" "	P	14 40 08.0					15	Ditto.
		S	" " 10.7						
		F	" " 21.9						
129	18 "	IP	20 26 06.3	2.0	-10.7	-1.5	-10.4	333	Is. Yokota.
		IS	" " 51.2	2.5	-9.3	-10.4			
		M	" " 53.7	2.7		+3.1			
		F	" 38 31.4						
130	19 "	P	4 10 28.4					2584	Philippine Islands.
		S	" 14 40.0						
		L	" 16 52.1						
		M	" 27 22.8						
131	" "	P	22 40 35.4					4791	Direction of Alaska.
		LS	" 47 06.2						
		F	" 50 00.1						
132	20 "	P	0 08 03.2	2.1		-1.0	-1.1	4851	Ditto.
		LS	" 14 37.5						
		F	" 20 03.3						
133	21 "	P	8 17 08.8					1530	Off the E coast of Kinkazan.
		S	" 19 48.7						
		L	" 20 55.2						
		F	" 27 22.0						
134	23 "	P	6 03 47.7	1.1	-1.2			5281	Direction of Aleutian Islands.
		S	" 10 45.0	5.3		-2.1	+5.3		
		L	" 14 42.5						
		F	" 7 11 57.5						
135	24 "	IP	17 40 09.5	1.1	-1.1	+2.0	-1.3	~	Off the S coast of Vladivostok.
		F	" 42 45.0						
136	27 "	P	18 20 53.3					28	Local shock.
		S	" " 57.0						
		F	" 21 23.3						
137	29 "	P	1 44 51.3					430	Neighbourhood of Kii Channel.
		S	" 45 48.7						
		M	" " 54.2	3.2			-27.5		
		L	" 46 33.2						
		F	" 51 53.2						

## SEISMIC BULLETIN

NAGASAKI METEOROLOGICAL OBSERVATORY

 $\phi=32^{\circ}44'03''$  $\lambda=129^{\circ}52'31''$ 

h=130.6m.

Lithologic foundation: Volcanic Agglomerate.



No 17

INSTRUMENTAL CONSTANTS From 2<sup>nd</sup> to 20<sup>th</sup> Aug 1933

INSTRUMENT	COMPONENT	MASS	DAMPING	To	$\frac{r}{T_0^2}$	$\epsilon$	V
Wiechert	E-W	200	Air	4.4	0.013	2.7	72
	N-S	"	"	4.5	0.019	2.8	72
Wiechert	U-D	80	"	3.9	0.054	2.4	73
Omori	E-W	16	Magnetic				
Omori	N-S	16	"				

No.	Date	Phase	Time 135° E h. m. s.	Period s.	Amplitude			$\Delta$ km.	Remarks
					AZ $\mu$	AE $\mu$	AN $\mu$		
138	2 Aug	P S F	0 33 03.0 " " 07.2 Continuous				31	Night. of Unzenake.	
139	" "	P S F	0 34 11.9 " " 16.0 " 35 02.5				30	Ditto.	
140	" "	P S F	0 39 50.4 " " 54.6 " 40 32.5				31	Ditto.	
141	" "	P F	0 44 13.1 " " 52.5				-	Ditto.	
142	11 "	$\pm$ PE $\pm$ SN $\pm$ LN C F	17 59 56.0 18 04 58.8 " 09 08.3 " 14 08.4 " 25 16.0				3278	Upper valley of Yangtze Kiang.	
143	15 "	$\pm$ PE $\pm$ SN $\pm$ L F	12 00 53.8 " 03 15.8 " 06 35.0 " 09 19.0				3240	Off the NNE coast of Is. Titi.	
144	16 "	$\pm$ PEZ $\pm$ SN F	13 10 50.6 " 11 00.9 " 13 19.0				76	Night. of Kiyama, Kumamoto Prefecture.	
145	17 "	P S F	16 48 00.6 " " 04.3 " " 25.0				28	Local shock.	
146	18 "	$\pm$ P S F	17 20 41.1 " 21 27.1 " 25 22.3				341	Off the NW coast of Is. Yakai.	
147	20 "	$\pm$ PW $\pm$ SE F	20 44 42.9 " 53 24.5 " 59 24.2				2276	Off the E coast of Philippine Islands.	

## SEISMIC BULLETIN

NAGASAKI METEOROLOGICAL OBSERVATORY

 $\phi = 32^{\circ}44'03''$  $\lambda = 129^{\circ}52'31''$ 

h = 130.6m.

Lithologic foundation: Volcanic Agglomerate.

International  
Seismological  
Centre

NA 18

INSTRUMENTAL CONSTANTS From 20<sup>th</sup> to 29<sup>th</sup> Aug 1933

INSTRUMENT	COMPONENT	MASS	DAMPING	To	$\frac{r}{To^2}$	$\epsilon$	V
Wiechert	E-W	200	Air	4.4	0.013	27	72
	N-S	"	"	4.5	0.014	28	72
Wiechert	U-D	80	"	3.9	0.054	24	73
Omori	E-W	16	Magnetic				
Omori	N-S	16	"				

No.	Date	Phase	Time 135° E			Period	Amplitude			$\Delta$	Remarks
			h.	m.	s.		AZ	AE	AN		
			h. m. s.			s.	$\mu$	$\mu$	$\mu$	km.	
148	20 Aug	OPN	21	10	38.7					2276	Off the E coast of Philippine Islands.
		SE	"	14	25.3						
		F	"	18	24.2						
149	22 "	OPN	22	17	35.9					2224	Ditto.
		SE	"	21	18.3						
		F	"	27	24.2						
150	25 "	P	16	55	27.1		+2.8	+0.4	$\pm 0.0$	2508	Nigh of the Boundary between Kansu & Szechuen, China.
		S	"	59	32.9	7.2	-13	+22	-21		
		LN	17	02	35.0	17.0					
		N	"	04	54.2				+91		
		M E	"	"	56.5	16.0		-41			
		Z	"	"	56.7	15.7	-154				
		E	"	05	58.7	10.0		-101			
		M N	"	"	59.5	10.0			+80		
		Z	"	06	00.1	10.6	-83				
		C	"	12	26.5						
F	18	29	26.5								
151	" "	E	20	10	47.7					~	Off the NW coast of Amami-Oshima.
		S	"	11	39.8						
		F	"	15	26.6						
152	26 "	EP	8	19	30.3					430	Ditto.
		ES	"	20	29.3						
		F	"	22	27.0						
153	" "	EP	10	31	38.5					457	Ditto.
		ES	"	32	40.0						
		F	"	36	28.0						
154	" "	E	10	46	10.0					~	Ditto.
		F	"	47	38.0						
155	29 "	PZ	7	39	25.5					~	Distant Egn.
		FEN	9	31	59.0						
156	" "	EP	15	39	53.2					68	Off the mouth of R. Kuma.
		SN	"	40	12.4						
		F	"	42	19.0						
157	" "	PZ	21	34	03.4					1585	Off the mouth of R. Abukuma.
		SN	"	36	48.4						
		F	"	40	29.0						



No.

From to

## SEISMIC BULLETIN

NAGASAKI METEOROLOGICAL OBSERVATORY

 $\phi=32^{\circ}44'03''$  $\lambda=129^{\circ}52'31''$ 

h=130.6m.

Lithologic foundation: Volcanic Agglomerate.



No 19

INSTRUMENTAL CONSTANTS From 30<sup>th</sup> Aug to 21<sup>st</sup> Sept 1933

INSTRUMENT	COMPONENT	MASS	DAMPING	To	$\frac{r}{To^2}$	$\epsilon$	V
Wiechert	E-W	200	Air	4.4	0.013	2.7	72
	N-S	"	"	4.5	0.019	2.8	72
Wiechert	U-D	80	"	3.9	0.054	2.4	73
Omori	E-W	16	Magnetic				
Omori	N-S	16	"				

No.	Date	Phase	Time 135° E			Period	Amplitude			$\Delta$	Remarks
			h.	m.	s.		AZ	AE	AN		
			h.	m.	s.	s.	$\mu$	$\mu$	$\mu$	km.	
158	30 Aug	Pz F	0	11	15.0					~	Off the coast of Is. Haidyō
159	31 "	P <sub>N</sub>	12	54	14.2					297	Off the S coast of Is. Yakū.
		SE	"	"	54.2						
		F	"	57	28.5						
160	1 Sept	P <sub>z</sub>	20	49	10.0					19	Local shock.
		S	"	"	12.6						
		F	"	"	26.0	4.9					
161	3 "	IP	1	43	16.7		-6.9	+5.1	-0.6	876	Off the S coast of Is. Haidyō.
		IS	"	44	52.3			+1.8	+3.1		
		M	"	"	56.6	E 4.9 N 5.3		-6.3	-8.3		
		C	"	45	33.2						
		F	2	03	33.2						
162	7 "	P	7	19	04.3		-7.0	+4.9	-2.5	7234	Direction of Fiji Is.
		S	"	27	41.5			+0.0	+3.5		
		F	"	48	33.0						
163	9 "	IP	14	05	11.7					1172	Height of Vladivostok.
		IS	"	07	16.9						
		F	"	34	31.5						
164	16 "	IP	1	20	56.8		D	E	-1.0	390	Off the S coast of Is. Yakū.
		IS <sub>W</sub>	"	21	49.3						
		F	"	26	30.0						
165	18 "	P	22	25	38.2					141	Is. Kosilei.
		S	"	"	57.2						
		F	"	28	13.0						
166	21 "	P	8	38	24.5					~	Off the S coast of Is. Okinawa.
		F	"	44	26.5						
167	" "	P	12	16	19.7					935	Note Peninsula.
		S	"	18	01.2						
		M <sub>N</sub>	"	"	29.1	4.3			+29.2		
		M <sub>E</sub>	"	"	38.2	4.3			-23.6		
		C	"	22	26.5						
		F	"	28	36.5						

No.

From to

## SEISMIC BULLETIN

NAGASAKI METEOROLOGICAL OBSERVATORY

 $\varphi=32^{\circ}44'03''$  $\lambda=129^{\circ}52'31''$ 

h=130.6m.

Lithologic foundation: Volcanic Agglomerate.

International  
Seismological  
Centre

No. 22

INSTRUMENTAL CONSTANTS From 21<sup>st</sup> Sept to 4<sup>th</sup> Oct 1933

INSTRUMENT	COMPONENT	MASS	DAMPING	To	$\frac{r}{To^2}$	$\epsilon$	V
Wiechert	E-W	200	Air	4.4	0.013	2.7	72
	N-S	"	"	4.5	0.019	2.8	72
Wiechert	U-D	80	"	3.9	0.054	2.4	73
Omori	E-W	16	Magnetic				
Omori	N-S	16	"				

No.	Date	Phase	Time 135° E			Period	Amplitude			$\Delta$ km.	Remarks
			h.	m.	s.		AZ	AE	AN		
168	21 Sept	EP	18	50	59.3				1050	Off the SE coast of Niigata.	
		ES	"	53	50.3						
		EL	"	54	45.6						
		F	19	07	40.3						
169	25 "	EP	0	27	34.1				4091	Direction of Aburatsubo Is.	
		ES	"	33	59.4						
		F	"	45	21.9						
170	26 "	EP?	4	03	51.3				2534	Distant eqk.	
		ES?	"	07	58.9						
		EL	"	10	24.2						
		F	"	28	20.0						
171	27 "	EP	0	59	09.8	2.5	-0.7	+2.4	+0.4	120	Height of Kumamoto.
		ES	"	"	25.9	0.8		+2.9	+8.0		
		F	1	03	47.8						
172	29 "	P	4	01	58.6					~	Height of Kyūjūga.
		F	"	08	12.0						
173	" "	P	22	58	58.5		-0.6	+1.4	±0.0	116	Dinnai, Kumamoto Pref.
		S	"	59	14.1						
		F	23	02	30.0						
174	30 "	P	23	28	04.0		D	+1.7	-2.8	3800	Direction of New Guinea.
		SE	"	33	39.5						
		LE	"	37	32.9						
		F	"	53	06.0						
175	1 Oct	EP	11	24	35.3					730	Lower valley of R. Aru, Siga Pref.
		ES	"	25	55.3						
		F	"	27	04.5						
176	2 "	EP	4	24	27.6		-12.5	+6.3	-0.4	136	E foot of Mt. Aso.
		ES	"	"	45.9						
		F	"	27	00.0						
177	4 "	EP	3	40	59.3					1036	Center part of Niigata pref.
		ES	"	42	50.9						
		EL	"	44	30.1						
		F	"	"	"						

No.

From to

## SEISMIC BULLETIN

NAGASAKI METEOROLOGICAL OBSERVATORY

 $\phi=32^{\circ}44'03''$  $\lambda=129^{\circ}52'31''$ 

h=130.6m.

Lithologic foundation: Volcanic Agglomerate.

No 21

## INSTRUMENTAL CONSTANTS

INSTRUMENT	COMPONENT	MASS	DAMPING	To	$\frac{r}{T_0^2}$	$\epsilon$	V
Wiechert	E-W	200	Air	4.4	0013	27	72
	N-S	"	"	4.5	0014	28	72
Wiechert	U-D	80	"	3.9	0054	24	73
Omori	E-W	16	Magnetic				
Omori	N-S	16	"				

No.	Date	Phase	Time 135° E	Period	Amplitude			$\Delta$	Remarks
					AZ	AE	AN		
			h. m. s.	s.	$\mu$	$\mu$	$\mu$	km.	
178	4 Oct	P S F	20 00 24.1 " " 51.8 " 03 53.0		+0.9 -0.7 -4.2	-0.7 -4.2	+0.1	205	Hyūga Nada.
179	5 "	EL F	23 04 06.0 " 15 50.0					~	Distant epic.
180	6 "	P S F	5 32 11.4 " " 19.4 " 33 08.1		-0.8 -8.2	+1.0 -7.0	+0.6 +17.1	59	Northern part of Sumatra Peninsula.
181	9 "	P S F	3 00 39.3 " " 42.4 " " 50.0					23	Local shock.
182	16 "	P S F	23 19 00.6 " " 03.5 " " 13.6					22	Idem
183	" "	LP ISW F	23 45 27.3 " " 30.5 " " 55.5		+4.4	+2.1 +6.2	+1.7	24	Off the coast of Honshu.
184	21 "	L F	11 49 58.0 12 06 58.0					~	Off the SE coast of Nominazaki, Iba, Pref.
185	" "	P S F	18 22 06.1 " " 09.0 " " 21.1					22	Local shock
186	23 "	P F	14 46 34.1 " 47 45.6					~	Hyūga Nada.
187	5 Nov	Pz LE F	12 04 11.0 " 05 07.7 " 08 25.8					~	
188	6 "	PE SW MN Mz ME C F	16 25 28.6 " " 41.0 " " 43.0 " " 44.5 " " 57.0 " 26 02.2 " " "	1.0 2.0 2.0 3.7	-0.2 +12.3	-2.4 -37.4	~ -13.2 +47.0	92	

No.

From



## SEISMIC BULLETIN

## NAGASAKI METEOROLOGICAL OBSERVATORY

No.	Date	Phase	Time 135° E			Period	Amplitude			Δ	Remarks
			h.	m.	s.		Az μ	AE μ	AN μ		
189	7 Nov	PE S F	1	15	26.7 38.9 08.0				91	Ditto.	
190	" "	P SE F	15	44	27.9 15.4 46.1		+1.4	-2.0	2285	Distant eqk.	
191	8 "	P S F	5	40	10.3 21.8 43.5				85	Is Hukue	
192	10 "	P S F	2	21	54.3 05.2 34.2		-0.4	+1.0 -1.6	8	Night of Kumamoto.	
193	" "	ep F	14	44	27.7 31.4				-	Unknown. Dist eqk.	
194	20 "	Pz SEN F	8	04	34.5 47.0 16.0				100	N foot of m. Aso	
195	21 "	P S eL M1 M2 M3 M4 M4z M5 M6 M7 M8 C F	8	33	07.2 38.2 03.0 59.2 33.0 47.6 09.0 13.5 42.8 46.6 29.0 36.0 31.0 26.0	z 3.3 N 8.1 25. 18. 16. 17. 15. 15. 15. 15. 15. 12.	+4.2	-1.2 +2.4 +8.4 -9.6 +4.3 +8.4 -9.0 -9.0 +14.5 -10.8 -9.6 -12.0 -9.6	8220	Off the SW coast of Japan	
196	22 "	epz eSN F	21	22	19.5 30.5 34.0				650	NW part of Amami-Oshima	
197	" "	ep eS eS <sup>2</sup> eL F	21	50	24.0 49.2 26.0 07.5 04.0			-1.4 W N	8830?	South Ocean	

No.

From

to

## SEISMIC BULLETIN

NAGASAKI METEOROLOGICAL OBSERVATORY



No.	Date	Phase	Time 135° E			Period	Amplitude			Δ	Remarks
			h.	m.	s.		Az	AE	AN		
198	23 Nov	SPN	4	00	24.3		μ	μ	μ	km. 500	Nighbt of Amami-Oshima
		LS	"	01	38.0						
		L	"	02	06.8						
		C	"	05	32.8						
		F	"	14	32.8						
199	" "	SPN	7	32	55.0	8.0				700	Ditto
		SE	"	34	12.0						
		M	"	"	42.0						
		C	"	38	32.0						
		F	"	54	32.0						
200	" "	e	12	08	17.0					~	Ditto
		F	"	12	17.0						
201	25 "	e	9	36	13.0					~	Ditto
		F	"	41	22.0						
202	28 "	e	20	44	08.2					~	Direction of South Ocean.
		F	"	56	08.2						
203	2 Dec	SP	2	45	03.7		+1.8	-2.0	+1.8	209	Ariake Bay, Kagoshima I.
		SE	"	"	31.8						
		C	"	46	24.0						
		F	"	50	54.0						
204	" "	SP	17	46	24.7					1894	Off the ESE coast of Kyushu, Japan
		LS	"	49	38.1						
		F	"	54	51.1						
205	4 "	SP	17	31	19.4					231	Southern part of Hyogo Nada.
		SZ	"	"	50.5						
		F	"	37	43.0						
206	5 "	IP	4	37	42.6	2.6	-10.0	+4.2	+7.3	1801	Khetep sea, deep seated
		LS	"	40	47.7	3.6	+5.6	+7.5	+9.0		
		LSZ	"	"	50.5	4.4	-6.9				
		ISE	"	"	53.8	4.4		+24.1	-12.1		
		M	"	"	59.7	4.8	±0.0	+6.9	+3.6		
		SeSN	"	48	42.4	2.0			-1.8		
		SeSE	"	"	43.0	3.0		+2.6			
		F	5	00	41.4						