

SEISMIC BULLETIN

(地震報告)

OF THE

NIIGATA

METEOROLOGICAL OBSERVATORY

FOR THE YEAR

1929.



PUBLISHED BY THE NIIGATA METEOROLOGICAL OBSERVATORY

INTRODUCTORY REMARKS

Distinctive name of station : The Niigata meteorological observatory lies on the west coast of Niigata port, at No 5932, Hamaura Nishfunami street at Niigata city and Niigata prefecture.

Lithologic foundation : Sands of the alluvial series—On the Northern slope of the sandy hill were founded in delta of the river Shinano.

Position of observatory : $L=37^{\circ} 56'$ (North Latitude)
 $\lambda=139^{\circ} 03'$ (From greenwich)
 $h = 7,9^m$ (From mean sea level)

SEISMOGRAPHICAL CONSTANTS

Instrument	Component	Mass	Dampper	T.	$\frac{r}{T_0^2}$	ξ	V
Omoi's	E - W	15 ^{kg}	—	3.7 ^s	0.029	—	30
	N - S	"	—	"	0.025	—	"
" { From September	E - W	"	—	3.6	0.029	—	"
	N - S	"	—	3.7	0.015	—	"
C. M. O.	E - W	2.19	Oil	7.0	0.017	1.03	2
	N - S	2.17	"	7.0	0.020	1.49	"
	u - D	0.21	"	1.5	0.006	0.87	"
Imamura's	E - W	2.4	Oil	7.1	0.019	2.58	1
	N - S	2.5	"	5.7	0.019	2.14	"
	u - D	0.4	"	2.3	0.059	1.55	"

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=Prominent waves among after tremors.

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 Omori's formula

$\Delta = 7.42t$, 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.

May, 1930.

T, Sasaki.

Director of the Niigata Meteorological Observatory.

No.	Date	Phase	Long 135°E Time			Period	Amplitude			△	Remarks
			h	m	s		A _E	A _N	A _Z		
			h	m	s	s	μ	μ	μ	km	
1	Jan. 13	P	9	06	10	3.5	-67	+43		-	The sea of Okhotsk. Epicenter: about long 154°E, lat 58°N.
		eL	9	09	10						
		M _{1N}	9	09	35	3.2		±1500			
		M _{1E}	9	09	49	3.5	±1767				
		C	9	19	05						
		F	11	17	00						
"	C. M. O.	P	9	06	13						Ditto.
		L	9	09	16						
		M	9	9	48	4.0	1.0	0.9			
		F _z	9	13	00?						
		F	10	30	10						
2	Jan. 21	eP	11	22	35						Epicenter: On the upper Course of the Sakawo river.
		M _{1E}	"	24	17	3.5		(±83)			
		C	"	26	00						
		F	11	33	51						
3	Feb. 1	P	1	02	43					66.8	Epicenter: on the upper course of the Akano river, Iwasiro province.
		L	"	"	52						
		M _{1E}	"	03	02	3.5	+333				
		M _{1N}	"	"	"	3.5		+233			
		M _{2N}	"	"	29	3.8		+433			
		M _{2E}	"	"	33	3.8	-383				
		C	"	05	41						
		F	1	09	40						
"	C. M. O.	P	11	02	43						Ditto.
		L	11	02	52						
		F	11	03	58						
4	Feb. 2	eP	2	23	27						Trace of the distant earthquake. Central Asia.
		C	"	29	05						
		F	2	40	30?						
5	Feb. 6	eP	15	52	43						The East ocean off the Itohu islands.
		eC	"	59	19						
		eF	16	05	42						
6	Feb. 7	eP	3	25	12					289.4	E ocean off the Kinkasan, Miyagi prefecture.
		eL	"	"	51						
		C	"	28	25						
		F	3	33	29						

No.	Date	Phase	Long 135°E Time			Period	Amplitude			△	Remarks
							A _E	A _N	A _Z		
			h	m	s	s	μ	μ	μ	km	
7	Feb. 21	ePS	21	48	16						Epicenter: About Northern part of Kurile islands (千島).
		eC	"	49	59						
		F	21	52	05						
8	Feb. 22	eP	3	19	47					296.8	On the sea of Kajima.
		eL	"	20	27						
		eC	"	22	35						
		eF	3	25	30?						
9	Feb. 22	iP	13	00	55					244.9	Lower course of the river Kiyoto. Epicenter: Long 141,°3E. Lat 37,°5N.
		S	"	01	13						
		L	"	"	28						
		M _{1E}	"	"	29	2.0	-77				
		M _{1N}	"	"	"	2.8		+277			
		F	13	07	32						
10	Feb. 28	eP	18	36	36						A local shock at Niigata, No felt.
		eC	"	39	45						
		F	18	43	30						
11	March. 7	P	10	42	04					5101.8	On the upper course of the Edo river, Musasi Provence.
		S	"	"	52						
		PS	"	45	52						
		SR ₁	"	47	28						
		SR ₂	"	49	24						
		L	"	53	14						
		M _{1E}	"	57	32	9.5	±210				
		M _{1N}	"	57	46	9.0		±200			
		C	11	13	05						
		CM _E	"	15	44	10.0	+33				
CM _N	"	16	02	8.8		±33					
eF	12	42	55								
"	C. M. O.	P	10	42	08						Ditto.
		L	10	53	15						
		Fz	11	24	50						
		F	11	50	17						
12	March. 9	eP	11	15	32					312.7	Far ocean off the Hatijo islands.
		eL	"	17	35						
		C	"	20	36						
		eF	11	27	29						

No.	Date	Phase	Long 135°E Time			Period	Amplitude			Δ	Remarks
			h	m	s		A _E	A _N	A _Z		
			h	m	s	s	μ	μ	μ	km	
1	Jan. 13	P	9	06	10	3.5	-67	+43	51	-	The sea of Okhotsk. Epicenter: about long 154°E, lat 58°N.
		eL	9	09	10						
		M _{1N}	9	09	35	3.2		±1500			
		M _{1E}	9	09	49	3.5	±1767				
		C	9	19	05						
		F	11	17	00						
"	C. M. O.	P	9	06	13						Ditto.
		L	9	09	16						
		M	9	9	48	4.0	1.0	0.9			
		Fz	9	13	00?						
		F	10	30	10						
2	Jan. 21	eP	11	22	35						Epicenter: On the upper Course of the Sakawo river.
		M _{1E}	"	24	17	3.5		(±83)			
		C	"	26	00						
		F	11	33	51						
3	Feb. 1	P	1	02	43					66.8	Epicenter: on the upper course of the Akano river, Iwasiro province.
		L	"	"	52						
		M _{1E}	"	03	02	3.5	+333				
		M _{1N}	"	"	"	3.5		+233			
		M _{2N}	"	"	29	3.8		+433			
		M _{2E}	"	"	33	3.8	-383				
		C	"	05	41						
		F	1	09	40						
"	C. M. O.	P	11	02	43						Ditto.
		L	11	02	52						
		F	11	03	58						
4	Feb. 2	eP	2	23	27						Trace of the distant earthquake. Central Asia.
		C	"	29	05						
		F	2	40	30?						
5	Feb. 6	eP	15	52	43						The East ocean off the Itoihu islands.
		eC	"	59	19						
		eF	16	05	42						
6	Feb. 7	eP	3	25	12					289.4	E ocean off the Kinkasan, Miyagi prefecture.
		eL	"	"	51						
		C	"	28	25						
		F	3	33	29						

No.	Date	Phase	Long 135°E Time			Period	Amplitud			△	Remarks
			h	m	s		AE	AN	Az		
			h	m	s	s	μ	μ	μ	km	
13	March. 10	eP	23	39	14					2145.7	SE off Bonin islands.
		eS	"	40	50						
		L	"	42	52						
		M _{1E}	"	43	29						
		M _{1N}	"	"	51						
		C	"	47	29						
		eF	23	56	10						
14	March. 15	M	10	59	25	?	+1400				Epicentet: Long 143,°7E. Lat 39,°7N.
"	C. M. O.	P	10	58	33						About easter sea of MiyaKo.
		L	"	59	13						
		M	"	"	25	4.0	mm (1.0)				
		F	11	04	30						
15	March. 17	eP	21	18	51						Epicenter: Long 148,°2E. Lat 43,°3N.
		C	"	20	19						
		F	21	24	43						
16	March. 18	P	20	31	28						Epicenter: Long 141,°5E. Lat 38,°9N.
		L	"	?							
		C	20	33	17						
		F	20	36	19						
17	March. 19	P	8	22	07					393.3	E off Kinkasan.
		S	"	"	31						
		L	"	23	00						
		M _{1N}	"	"	12	3.6	+717				
		M _{1E}	"	"	22	3.5	±1467				
		M _{2N}	"	24	13	7.2	+1600				
		M _{2E}	"	25	28	3.0	±1433				
		C	"	29	31						
		C _E	"	30	28	3.5	±34				
		F	8	48	08						
"	C. M. O.	P	8	22	08						Ditto.
		L	"	23	00						
		M	"	23	38	4.5	3.8 S48°E				
		Fz	"	26	44						
		F	8	40	15						
18	March. 26	P	17	19	30					183.6	On the upper course of the Akano river, Iwashiro province.
		eL	"	"	48						
		M _{1E}	"	"	58	3.5	±107				

No.	Date	Phase	Long 135°E Time			Period s	Amplitude			Δ km	Remarks
			h	m	s		A_E μ	A_N μ	A_z μ		
19	March. 27	M _{1N}	17	19	58	3.5		± 120		259.7 E sea off Kinkasan.	
		C	"	21	14						
		F	17	23	53						
		P	8	38	08						
		S	"	"	32						
		L	"	"	43						
		M _{1E}	"	"	47	3.5	+207				
		M _{1N}	"	"	55	3.5		+177			
		M _{2N}	"	39	32	3.5		± 350			
		M _{3E}	"	41	03	3.5	± 333				
"	C. M. O.	C	"	42	16					Ditto.	
		F	8	50	46						
		P	8	38	26						
		L	"	"	43						
20	March. 27	F _z	"	40	58					259.7 SE sea off Miyako, Iwade prefecture.	
		F	8	43	26						
		P	14	04	02						
		S	"	"	23						
		eL	"	"	37						
		M _{1E}	"	05	04	3.5	-143				
"	C. M. O.	M _{1N}	"	06	14	3.5		± 325		Ditto.	
		C	"	07	11						
		F	14	21	52						
		P	14	04	03						
21	March. 27	L	"	"	40					363.6 Ditto.	
		F _z	"	07	35						
		F	14	09	37						
		P	18	24	34						
		S	"	25	13						
		L	"	"	23						
		M _{1E}	"	"	30	3.5	+517				
		M _{1N}	"	"	39	3.5		± 710			
"	C. M. O.	M _{2E}	"	26	18	3.5	± 610			Ditto.	
		M _{2N}	"	"	36	3.5		+900			
		C	"	30	25						
		F	18	43	26						

No.	Date	Phase	Long 135°E Time			Period	Amplitude			Δ	Remarks
			h	m	s		AE	AN	Az		
							μ	μ	μ	km	
		M	18	25	44	4.8	(1.7)				
		Fz	"	29	55						
		F	18	34	48						
22	March. 27	ePS	20	38	54						E sea of Katiura, Tiba prefecture.
		C	"	40	25						
		F	20	43	17						
23	March. 28	eP	0	49	23						Ditto.
		eL	"	"	51						
		C	"	50	36						
		F	0	52	29						
24	March. 28	P	1	33	28				304.2		Ditto.
		S	"	"	01						
		L	"	34	09						
		M _{1E}	"	"	13	3.5	-353				
		M _{1N}	"	"	"	3.5		± 233			
		M _{2N}	"	35	13	3.5		-367			
		M _{2E}	"	"	20	3.5		± 333			
		C	"	37	31						
		F	1	47	47						
"	C. M. O.	P	1	33	32						Ditto.
		F	1	41	04						
25	March. 28	P	6	40	22.5				256.0		Near the city of Wakayama.
		eL	"	"	57						
		C	"	42	34						
		F	6	46	21						
26	April. 1	P	5	19	02				356.2		Epicenter: Long 142,°9E, Lat 38,°0N. SE off Kinkazan, Miyagi prefecture.
		S	"	"	24						
		L	"	"	50						
		M _{1N}	"	20	04	3.5		-1033			
		M _{1E}	"	"	51	3.5		± 1600			
		M _{2N}	"	22	38	3.5		± 1100			
		M _{2E}	"	"	54	3.5		± 1467			
		M _{3E}	"	24	16	3.5		± 830			
		C	"	26	50						
		C _E	"	29	16			± 307			
		C _N	"	28	54			± 300			
		F	5	57	26						

No.	Date	Phase	Long 135°E Time			Period s	Amplitude			Δ km	Remarks
			h	m	s		A _E μ	A _N μ	A _Z μ		
"	C. M. O.	P	5	19	02					Ditto.	
		L	"	"	49						
		M	"	20	22	5.0		m (1.5)			
		F	5	28	49						
27	April. 2	\bar{P}	13	54	16.4				65.3	NW sea off the Sado	
		L	"	"	25.2					Islands.	
		M _{1E}	"	55	17	3.0	± 50			Felt in the NE of Sado ils.	
		C	"	57	15						
		F	14	01	45						
28	April. 2	\bar{P}	20	09	29.5		(Time is certain)		233.7	Probably lower basin of the	
		S	"	"	38.3					Edo river.	
		eL	"	10	01						
		C	"	12	22						
		F	20	20	17						
29	April. 7	P	3	07	00.5				259.7	Off the Kujukuri shore.	
		eL	"	"	35.5					Tiba prefecture.	
		M _{1E}	"	"	52						
		C	"	10	33						
		F	3	16	30						
30	April. 8	eP	19	25	18					A far distant earthquake.	
		eS	"	28	10						
		eL		Gradual							
		eF	19	43	00						
31	April. 16	P	9	53	21				400.7	Epicenter: Long 141,°3E,	
		S	"	"	46					Lat 36,°6N.	
		L	"	54	15					Sea off Kajima,	
		M _{1E}	"	"	58	3.5	+1150			Tiba prefecture.	
		M _{1N}	"	"	"	3.5		-933			
		M _{2N}	"	56	34	3.5		± 742			
		M _{2E}	"	"	58	3.5	-867				
		C	10	00	01						
		F	10	14	26						
"	Imamura's	P	9	53	37					Ditto.	
		L	"	54	05						
		M	"	55	03	4.9		mm (2.1)			
		F _Z	"	58	29			(N36°W)			
		F	10	04	20						

No.	Date	Phase	Long 135°E Time			Period	Amplitude			△	Remarks
			h	m	s		A _E	A _N	A _Z		
			h	m	s	s	μ	μ	μ	km	
32	April. 18	P	3	34	42.5					296.8	Epicenter: Long 140,°9E, Lat 36,°3N. Sea off Kajima.
		PS	"	35	85						
		L	"	"	22.5						
		M _{1E}	"	"	25	3.5	+1217				
		M _{1N}	"	"	33	3.2		+917			
		M _{2E}	"	"	50	3.4	±1523				
		M _{2N}	"	36	07	3.5		+1110			
		M _{3E}	"	"	48	3.5	±1150				
		M _{3N}	"	"	"	3.5		±1277			
		C	"	40	58						
		F	3	51	00						
"	Imamura's	P	3	34	48						Ditto.
		L	"	35	22.5						
		Fz	"	39	46						
		F	3	47	14						
33	April. 23	P	23	16	36					319.1	Epicenter: Long 140,°E, Lat 36,°1N. Near off the river Kogai. Ibaragi prefecture.
		PS	"	17	02						
		L	"	"	19						
		M _{1N}	"	"	55	3.5		+373			
		C	"	21	12						
		eF	23	27	50						
34	May. 1	eP ?	16	44	15						A far distant earthquake.
		eF	17	04	45						
35	May. 2	P	1	48	26					311.6	W off Japan sea.
		L	"	49	08						
		M _{1E}	"	"	12	3.5	±57				
		C	"	52	08						
		F								
36	May. 2	P								Time is uncertain. A far distant earthquake, probably North-eastern of persia.
		L	2	11	29						
		M _{1N}	"	13	24	14.4		±153			
		C	"	26	05						
		eF	3	03	12						
"	C. M. O.	P								Ditto.
		L	2	11	29						
		eF		Gradual							
37	May. 2	P	23	29	00				883.0	In the Kunisiri strait.	

No.	Date	Phase	Long 135°E Time			Period	Amplitude			△	Remarks
			h	m	s		AE	AN	Az		
			h	m	s	s	μ	μ	μ	km	
32	April. 18	P	3	34	42.5					296.8	Epicenter: Long 140,°E, Lat 36,°N. Sea off Kajima.
		PS	//	35	85						
		L	//	//	22.5						
		M _{1E}	//	//	25	3.5	+1217				
		M _{1N}	//	//	33	3.2		+917			
		M _{2E}	//	//	50	3.4	±1523				
		M _{2N}	//	36	07	3.5		+1110			
		M _{3E}	//	//	48	3.5	±1150				
		M _{3N}	//	//	//	3.5		±1277			
		C	//	40	58						
F	3	51	00								
"	Imamura's	P	3	34	48					319.1	Ditto.
		L	//	35	22.5						
		Fz	//	39	46						
		F	3	47	14						
33	April. 23	P	23	16	36					319.1	Epicenter: Long 140,°E, Lat 36,°N. Near off the river Kogai. Ibaragi prefecture.
		PS	//	17	02						
		L	//	//	19						
		M _{1N}	//	//	55	3.5		+373			
		C	//	21	12						
eF	23	27	50								
34	May. 1	eP ?	16	44	15					311.6	A far distant earthquake.
		eF	17	04	45						
35	May. 2	P	1	48	26					311.6	W off Japan sea.
		L	//	49	08						
		M _{1E}	//	//	12	3.5	±57				
		C	//	52	08						
		F								
36	May. 2	P							311.6	Time is uncertain. A far distant earthquake, probably North-eastern of persia.
		L	2	11	29						
		M _{1N}	//	13	24	14.4		±153			
		C	//	26	05						
		eF	3	03	12						
"	C. M. O.	P							311.6	Ditto.
		L	2	11	29						
		eF		Gradual							
37	May. 2	P	23	29	00					883.0	In the Kunisiri strait.

No.	Date	Phase	Long 135°E Time			Period s	Amplitude			Δ km	Remarks
			h	m	s		A_E μ	A_N μ	A_z μ		
		PS	23	30	34						
		L	//	//	59						
		M _{1E}	//	31	26	3.5	+150				
		C	//	35	00						
		F	23	44	20						
38	May. 7	P	15	40	59				215.2	Sea off the Kajima, Tiba prefecture.	
		eL	//	41	28						
		C	//	42	09						
		eF	//	45	00						
39	May. 8	P	6	18	24				259.7	NE off Sioya Cape.	
		PS	//	//	47						
		L	//	//	59						
		M _{1N}	//	19	17	3.5	± 300				
		M _{1E}	//	//	//	3.5	± 292				
		C	//	22	02						
		F	//	28	34						
"	C. M. O.	P	6	18	24					Ditto.	
		L	//	19	01						
		Fz	//	22	10						
		F	6	25	16						
40	May. 15	P	1	30	58				222.6	Ditto.	
		L	//	31	28						
		C	//	//	45						
		F	1	34	37						
41	May. 16	eP	7	21	36					In the lake of Inba.	
		eF	//	27	15						
42	May. 20	eP	14	00	06					A far distant earthquake. Turkey in Asia.	
		eF	14	53	00						
43	May. 21	eP	13	33	05				163.2	Upper course of the Naka river.	
		eL	//	//	27						
		eC	//	34	50						
		eF	13	38	51						
44	May. 22	P	1	37	35.5				983.1	In the sea of Hyuga. Miyagi prefecture.	
		\bar{P}	//	38	02.0						
		S	//	//	58						
		L	//	39	48						

No.	Date	Phase	Long 135°E Time			Period	Amplitude			△	Remarks
			h	m	s		s	μ	μ		
		M _{1E}	1	40	54	4.5	-540				
		M _{1N}	"	"	55	3.9		-533			
		M _N	"	42	03	3.5	±1043				
		M _E	"	"	20	"		+983			
		C	"	48	41						
		CM _{1E}	"	49	42	3.8	±77				
		CM _{1N}	"	"	39	6.8		±133			
		eF	2	46	20						
"	C. M. O.	P	1	37	44						Ditto.
		L	"	39	48						
		M	"	40	28	6.8		m (1.95) (N56°W)			
		F _z	"	39	43						
		F	2	06	45						
45	May. 26	eP	17	50	12						A far distant earthquake.
		eC	18	01	37						
		eF	18	07	00						
46	May. 27	P	7	50	33				23.35 ^{m s}		Epicentre: the central part of Argentina.
		P̄	"	54	58						(South America)
		S	"	57	59						
		SR ₁	8	02	58						
		SR ₂	"	06	33						
		SR ₃	"	11	22						
		eL	"	14	30						
		eC	"	40	45						
		eF	9	17	18						
"	C. M. O.	P	7	50	35						Ditto.
		F	8	54	00						
47	May. 28	L	3	17	55				0.0		Local shock at Niigata
		C	"	18	02						No felt.
		F	3	18	54						
48	May. 29	iL	1	10	08				0.0		Local shock at Niigata
		C	"	"	22						No felt.
		F	1	11	31						
49	May. 29	iL	22	24	13.5	1.0	-60		0.0		Local shock at Niigata
		C	"	"	34						No felt.
		F	22	25	26						

No.	Date	Phase	Long 135°E Time			Period s	Amplitude			Δ km	Remarks
			h	m	s		A _E μ	A _N μ	A _Z μ		
50	May. 30	L	13	31	34				0.0	Local shock at Niigata No felt.	
		C	"	"	55						
		F	13	32	51						
51	May. 30	iL _E	18	46	58.5	1.0	-206		0.0	Near Niigata city. Weak shocks were felt at Lower part in Niigata prefecture.	
		iL _N	"	"	"	Very Suddenly	+83				
		M _E	"	47	16	1.0	-353				
		M _N	"	"	"	Very Suddenly	+217				
		C	"	"	48						
		F	18	49	24						
"	Imamura's	P	16	46	59				Ditto.		
		L	"	47	16						
		M	"	"	"	1.0		0.4 N69°E			
		F _Z	"	"	35						
		F	16	48	20						
52	May. 30	L	23	32	51	1.0	+30	-10	0.0	Local shock. Near Niigata No felt.	
		C	"	33	33						
		F	23	36	00						
53	May. 31	P	9	11	33				430.4	SW off the Erimo cap, Hokkaido.	
		S	"	"	58						
		L	"	12	31						
		M _{1E}	"	13	03	4.0	±550				
		M _{1N}	"	"	14	4.0		±540			
		M _{2E}	"	"	34	4.0	±1150				
		M _{2N}	"	"	49	4.0		±817			
		C	"	19	22						
F	9	37	00								
"	C. M. O.	P	9	11	43.7				Ditto.		
		L	"	12	41.5						
		M	"	13	32	4.1		m (1.1)			
		F _Z	"	17	12						
		F	9	27	10						
54	June. 3	P	6	39	52.4				415.5	In the mouth of Ise bay, Mie prefecture.	
		S	"	40	32.0						
		L	"	"	48.4						
		M _{1N}	"	"	54	4.0		+1900			
		M _{1E}	"	41	01	3.7	±1283				
		M _{3E}	"	42	20	4.0	+1367				
		M _{3N}	"	22	"	4.5		+1233			

No.	Date	Phase	Long 135°E Time			Period s	Amplitude			Δ km	Remarks
			h	m	s		A _E μ	A _N μ	A _Z μ		
		C	6	46	52						
		CM _E	"	47	07	4.0	±230				
		eF	7	19	29						
"	Imamura's	P	6	39	53					Ditto.	
		L	"	40	49						
		M	"	42	21	6.0	m (2.8) (S53°W)				
		Fz	"	"	"						
		F	6	56	32						
55	June. 4	eP	0	27	01					Probably in Japan sea.	
		C	"	35	38						
		F	0	46	00						
56	June. 9	P	18	11	05					SE off Iturup ils.	
		eS	"	13	11						
		eL								
		eF	19	30	30						
"	Imamura,s	P	18	13	11						
		F	18	28	40						
57	June. 12	eP	20	51	13				467.5	A distant earthquake.	
		eL	"	52	16						
		C	"	55	52						
		F	21	01	52						
58	June. 13	P	9	16	10				986.9	Phases is uncertain probable. SE off Iturup Islands.	
		eS	"	17	30						
		ePS	"	18	05						
		eL	"	"	23						
		M _{2N}	"	20	29	3.5	±713				
		M _{2E}	"	21	01	3.5	±700				
		C	"	24	28						
		F								
"	Imamura's	P	9	17	44					Phases is uncertain.	
		L	"	18	49					Ditto.	
		Fz	"	21	55						
		F	9	44	25						
59	June. 13	FS							SE off Iturup ils, Kurile Isd.	
		eL	9	31	30						
		M _{3N}	"	34	00	3.5	±700				

No.	Date	Phase	Long 135°E Time			Period s	Amplitude			Δ km	Remarks
			h	m	s		A_E μ	A_N μ	A_z μ		
60	June. 13	M _{3E}	9	34	34	3.5	± 500				
		C	"	39	28						
		eF	10	44	00						
		eP	17	02	16						SE off the Shiriya cape.
		C	"	05	19						Aomori prefecture.
		eF	17	10	00						
61	June. 13	eP	18	31	16.7						A far distant earthquake.
		C	"	37	41						
		eF	19	45	15						
"	C. M. O.	P	18	31	18						Ditto.
		F	18	49	34						
62	June. 14	P	5	23	47.5				256.0		ENE off Shioya cape.
		S	"	24	06						
		L	"	"	22						
		M _{1E}	"	"	35	4.0	± 433				
		M _{1N}	"	"	"	3.5		+340			
		M _{2E}	"	25	29	4.0	± 645				
		M _{2N}	"	"	32	3.8		± 720			
		C	"	28	23						
		F	5	40	59						
"	Imamura's	P	5	24	06						Ditto.
		L	"	"	33						
		Fz	"	29	30						
		F	5	31	36						
63	June. 14	eP	8	08	54						A far distant a earthquake.
		eF	8	44	13						
64	June. 15	iP	9	11	18						On the sea off Kajima.
		C	"	12	13						
		F	9	15	47						
65	June. 17	eP	7	59	51						A far distant earthquake.
		F	9	09	20						Epicenter: New Zealand.
66	June. 24	P	11	05	00.0				319.1		E off Shioya cape.
		PS	"	"	31						An after shock of No 62.
		L	"	"	43						
		M _{1N}	"	"	48	3.4		+160			

No.	Date	Phase	Long 135°E Time			Period	Amplitud.			Δ	Remarks
			h	m	s		μ _E	μ _N	μ _Z		
		M _{2E}	11	06	12	3.4	+1473				
		M _{2N}	"	"	19	3.4		+1433			
		C	"	10	57	4.0					
		F	11	22	12						
"	C. M. O.	P	16	05	02						Ditto.
		L	"	"	45						
		M	"	06	16	3.4		m (1.2)			
		Fz	"	10	18						
		F	16	16	34						
-67	June. 27	P	1	49	52.2				261.2		NE off the Inuboe cape.
		S	"	50	10.2						Tiba prefecture.
		L	"	"	27.4						
		M _{1E}	"	"	39	4.0	-2700				
		M _{1N}	"	"	"	4.0		+1700			
		C	"	59	05						
		CM	"	"	23	4.0		±335			
		F	2	17	08						
"	C. M. O.	P	1	49	53						Ditto.
		L	"	50	28						
		M	"	51	24	5.8		m (5.2) (S40°W)			
		Fz	"	58	25						
		F	2	10	07						
-68	June. 27	P	22	07	15.3				513.5		A far distant earthquake.
		S	"	"	36.8						
		L	"	08	24.5						
		M _{1E}	"	"	53	3.4	+267				
		M _{1N}	"	"	"	3.4		±450			
		C	"	15	01						
		eF	22	52	06						
"	Imamura's	P	22	07	17						Ditto.
		L	"	08	24						
		eF	22	27	10						
-69	June. 30	P	11	52	52.3						A far distant earthquake.
		ePR ₁	"	53	22						
		ePR ₂	"	55	10						
		S	"	57	55						
		eSR ₁	"	59	40						
		eRR ₂	12	02	"						

No.	Date	Phase	Long 135°E Time			Period	Amplitude			Δ	Remarks
			h	m	s		A _E	A _N	A _Z		
			h	m	s	s	μ	μ	μ	km	
		ePS	12	04	38						
		eL	"	06	51						
		eF	12	33	45						
70	June. 30	eP	12	42	19						NE off the Inuboe cape.
		F	12	46	54						
71	July. 4	eP	5	04	12.4	(2.1)	1.8	1.6	1.8	483.8	
		eS	"	"	45.3						
		eL	"	05	17.6						
		eC	"	08	40						
		eF	5	13	43						
72	July. 5	eP	23	25	53						Near Kamchatka.
		eF	0	58	55						
73	July. 6	eP	11	10	52						Ditto.
		eF	11	32	01						
74	July. 8	P	6	29	53						Ditto.
		PR ₁	"	30	18						
		PR ₂	"	31	37						
		S	"	34	44	(2.2)	2.2	2.2	2.2		
		SR ₁	"	36	38	(2.0)	2.0	2.0	2.0		
		SR ₂	"	40	20						
		IS	"	44	14						
		L	"	48	56						
"	Imamura's	eF	8	00	45						
P		6	30	03						Ditto.	
75	July. 9	eF	6	56	15						
		eP	5	50	49						Local shock at Niigata, No felt.
76	July. 13	eF	5	54	06						
		P	23	58	50.7						A far distant earthquake.
		eL								
		C	0	03	01						
77	July. 14	eF	0	13	12						
		eP	18	40	21.6					351.7	Near Kamchatka.
		eS	"	41	09						
		eL	"	"	37						
		M _{1E}	"	41	58	3.3	±230				

No.	Date	Phase	Long 135°E Time			Period	Amplitude			Δ	Remarks
			h	m	s		A _E	A _N	A _Z		
		M _{1N}	18	42	17	3.3		±297			
		M _{2E}	"	44	09	3.5	±487				
		M _{2N}	"	"	23	3.5		±333			
		C	"	48	05						
		eF	19	25	±						
"	C. M. O.	P	18	40	42					Ditto.	
		F	18	53	10						
78	July. 16	eP	7	46	39				252.3	Sea off the Inuboe cape.	
		eL	"	47	13						
		C	"	50	16						
		eF	7	57							
79	July. 17	eP	17	44	39					Near Kamchatka.	
		eC	"	48	34						
		eF	18	12	±						
80	July. 17	iP	19	49	52.4					Upper course of the Kinu river.	
		iL	"	50	12.9					Totigi prefecture.	
		M _{1E}	"	51	19	3.2	±400				
		M _{1N}	"	"	26	3.2		±303			
		M _{2E}	"	52	20	3.5	±508				
		C	"	54	11						
		eF	19	01	00						
"	Imamura's	P	19	50	04					Ditto.	
		Fz	"	52	25						
		F	19	55	34						
81	July. 18	eP	7	08	10.2				98.7	E off Todoga cape.	
		eL	"	"	23.5					Iwade prefecture.	
		C	7	09	43					phases is uncertain.	
		F								
82	July. 18	eP	7	13	02.3				123.9	Ditto.	
		eL	"	"	19						
		eC	"	16	30						
		eF	7	23	11						
83	July. 25	eP	16	06	16					Sea off Iwaki,	
		C	"	09	09					Fukushima prefecture.	
		eF	16	14	15						

No.	Date	Phase	Long 135°E Time			Period	Amplitude			Δ	Remarks
			h	m	s		A _E	A _N	A _Z		
			h	m	s	s	μ	μ	μ	km	
84	July. 27	P	7	48	49.6					270.8	Near Mt Tanzawa North western part of Sagami province.
		S	"	49	05.5						
		L	"	"	26.1						
		M _{1E}	"	"	44	4.1	+1307				
		M _{1N}	"	"	46	4.1		-2100			
		M _{2E}	"	50	"	4.1	Extre				
		M _{2N}	"	"	52	4.1		Exl			
		C	8	00	45						
		eF	8	32							
"	C. M. O.	P	7	48	50						Ditto.
		L	"	49	26						
		M	"	50	52	7.0		m (5.62 S87°E)			
		F	8	10	05						
		Pz	7	48	50						
		Lz	"	49	26						
		Mz	"	50	33	2.5		m 0.25			
		Fz	7	35	41						
85	July. 29	P	2	33	55.5					256.0	An after shock of No84.
		eL	"	34	30						
		M _{1E}	"	35	44	4.0	±45				
		C	"	37	36						
		F	2	40	35						
86	July. 30	P	5	08	46					400.7	E off the Esan cape. Hokkaido.
		L	"	09	40						
		C	"	11	44						
		F	5	17	45						
87	Aug. 1	eP	11	00	11.8						Time is uncertain. SE off Idu ils.
		C	"	03	07						
		F	11	05	08						
88	Aug. 1	eP	14	10	50						Very faint record. A far distant earthquake.
		eF	14	26	07						
89	Aug. 1	P	15	00	14.0					372.3	ENE off Miyako, Iwade prefecture.
		L	"	"	50.7						
		M _{1N}	"	01	20	4.0		±400			
		M _{1E}	"	"	22	4.0	±407				
		C	"	05	31						
		F	15	13	09						

No.	Date	Phase	Long 135°E Time			Period s	Amplitude			Δ km	Remarks
			h	m	s		A _E μ	A _N μ	A _Z μ		
"	C. M. O.	P	15	00	28					Ditto.	
		L	"	"	52						
		F	15	07	27						
90	Aug. 5	P	5	30	40.4				30.4	Near Nakajo,	
		L	"	"	44.5					Niigata prefecture.	
		M _N	"	31	16	3.9		±47		Weak shocks felt at	
		C	"	32	11					Murakami, and neighbouring	
		F	5	34	40					Nakajo.	
91	C. M. O. Aug. 16	P	22	22	05					Ditto.	
		L	"	"	25						
		M	"	"	51	4.0		m (0.35)			
		F	"	31	37						
		Pz	"	22	05						
		Fz	22	26	07						
92	Aug. 19	eP	11	48	06.7					Very faint record.	
		eF	12	20	11					East off karengo, Formosa.	
93	Aug. 29	P	3	53	02				326.5	S off the Erimo cape,	
		iS	"	"	23					Hokkaido.	
		iL	"	"	46						
		M _{IE}	"	55	11	7.0		m +8.5			
		M _{IN}	"	"	"	7.2		m -5.8			
		C	"	59	14						
		eF	4	21							
"	C. M. O.	P	3	53	02					Ditto.	
		L	"	"	46						
		M	"	55	11	7.0		m (7.0 N55°E)			
		F	4	21	00						
		Pz	3	53	02						
		Fz	3	59	28						
94	Sep. 2	eP	20	21	44					A far distant earthquake.	
		eF	20	59	40					Near philppin ils.	
95	Sep. 9	P	2	12	30				430.4	NE off Hatijo ils.	
		L	"	13	28						
		M _{IE}	"	14	05	3.5		±83			
		M _{IN}	"	"	10	3.5		-63			
		C	"	16	56						
		F	"	4	54						

No.	Date	Phase	Long 135°E Time			Period	Amplitude			Δ	Remarks
			h	m	s		A _E	A _N	A _Z		
96	Sep. 18	eP	1	09	50					The volcano Asama-yama was just in eruption.	
		eF	1	15	52						
97	Sep. 28	P	23	59	09				816.2	SE off Otiesh, Hokkaido.	
		L	24	00	59						
		C	"	03	57						
		F	24	09	32						
"	Imamura's	P	24	00	04					Ditto.	
		F	24	05	07						
98	Oct. 4	P	3	34	04				170.7	Near Karenko, Fromosa.	
		L	"	"	27						
		C	"	36	00						
		F	3	39	02						
99	Oct. 4	P	10	48	00.5				415.5	ENE off the cape Kinkasan, Miyagi prefecture.	
		L	"	"	56.5						
		C	"	50	06						
		eF	10	54	20						
100	Oct. 6	eP	2	04	42					Very faint record. In the sea of Okhotsk.	
		eF	2	23							
101	Oct. 6	P	4	03	35.4				497.1	S off Otiesh.	
		S	"	04	27.3						
		L	"	"	42.5						
		M _{1N}	"	05	31	3.5		±217			
		M _{1E}	"	"	34	3.6		±267			
		M _{2E}	"	06	15	3.6		±383			
		M _{2N}	"	"	18	3.6		±167			
		C	"	08	"						
		F	4	16	05						
		"	Imamura's	P	4	03	37				
"	Imamura's	F	"	12	55						
		Pz	"	03	40						
		Fz	4	07	45						
102	Oct. 6	eP	17	02	07.5					A far distant earthquake. In Alaska.	
		eF	17	30	30						
103	Oct. 19	P	19	32	51				348.7	E off Hatijo ils.	
		eL	"	33	38						

No.	Date	Phase	Long 135°E Time			Period	Amplitude			Δ	Remarks	
			h	m	s		A _E	A _N	A _Z			
			h	m	s	s	μ	μ	μ	km		
		M _{1E}	19	35	05	3.5	±340					
		M _{2N}	"	"	52	3.5		±208				
		eC	"	38	36							
		eF	19	50	22							
"	Imamura's	P	19	32	51						Ditto.	
		F	"	43	12							
		Pz	"	32	51							
		Fz	19	35	35							
104	Oct. 24	P	2	49	09				296.8		E off Inuboi.	
		L	"	"	49						Tiba prefecture.	
		C	"	51	11							
		F	2	56	03							
105	Oct. 24	eP	15	39	06						A far bistant earthquake.	
		eF	16	00	24							
106	Nov. 6	eP	8	33	53				282.0		Near Hatijo ils.	
		eL	"	34	31							
		C	"	37	07							
		F	8	39	48							
107	Nov. 12	eP	4	12	38						Lower basin of the Kiyoto	
		eF	4	16	20						river, Iwaki province.	
108	Nov. 16	eP	3	56	57				4297.4		A far distant earthquake.	
		P̄	"	57	46						South pacific Ocean.	
		PR ₁	4	01	"							
		S	"	04	00							
		SR ₁	"	"	58							
		L	"	06	04							
		M _{1E}	"	08	"	7.0	±90					
		M _{1N}	"	"	06	7.0		±97				
		C	"	20	28							
		F	5	29	15							
"	C. M. O.	P	3	57	14						Ditto.	
		eF	4	40	14?							
109	Nov. 17	P	12	51	21						A far distant earthquake.	
		eL									South pacific Ocean.
		C	12	59	47							
		eF	13	23								

No.	Date	Phase	Long 135°E Time			Period s	Amplitude			△ km	Remarks
			h	m	s		A _E μ	A _N μ	A _Z μ		
"	C. M. O.	P	12	51	24					Ditto.	
		eF	13	07							
110	Nov. 20	eP	1	32	37				155.8	Middle course of the river Ido, Musasi province.	
		eL	"	"	58						
		C	"	34	15						
		eF	1	37	44						
111	Nov. 21	eP	7	36	22				148.4	Probably in the sea of Japan.	
		eL	"	"	42						
		C	"	40	16						
		eF	7	44	05						
112	Nov. 20	eP	14	56	24				422.9	Lower basin of the Arita river.	
		eL	"	57	21						
		M _{1N}	"	59	09	3.5		±177			
		M _{1E}	"	"	18	3.5		±310			
		C	15	01	59						
		eF	15	08	27						
"	C. M. O.	P	14	56	27					Ditto.	
		F	15	02	57						
113	Dec. 6	eP	13	16	48					E off Chosi.	
		L	"	17	14						
		M _{1N}	"	"	50	3.5		±117			
		C	"	20	56						
		eF	13	25							
"	Imamura's	P	13	16	48					Ditto.	
		F	"	22	39						
		P _Z	"	16	48						
		F _Z	13	17	58						
114	Dec. 9	P	15	59	47				8483.0	A far distant earthquake. Near philipin ils.	
		eL	16	19	27						
		eF	16	39	20						
115	Dec. 17	P	20	04	30.5				3306.0	A far distant earthquake. E off Kamchatka.	
		PR ₁	"	06	29.0						
		PR ₂	"	08	"						
		SR ₁	"	09	41						
		L	"	11	06						
		M _{1N}	20	15	41	10.0		-227			

No.	Date	Phase	Long 135°E Time			Period	Amplitude			Δ	Remarks
			h	m	s		s	A_E	A_N		
							μ	μ	μ	km	
115	C. M. O. Dec. 17	M_{1E}	20	20	02	12.7	± 127				Ditto.
		C	"	25	32						
		eF	20								
		P	20	04	32						
116	Dec. 17	L	"	11	11					3486.4	Ditto.
		F	22	10	50						
		P	21	18	12.5						
		PR_1	"	19	23						
		S	"	20	30						
		SR_1	"	22	04						
117	Dec. 13	PS	"	23	20						Very faint record. Probably in the south Ocean.
		L	"	25	16						
		eF	21	57	28						
		eP	10	10	06						
		F	10	27	35						

記事文の取消し

昭和四年新潟縣氣象報告書第七頁「天氣豫報の批評」と題する雜報記事中終りの二行目の「尙ほ新聞記事はウソを書くもので」以下終りまでの約二行は削除し、該雜報記事の取消しを致して置きます。(昭和五年六月十五日印刷發行)

第二回正誤

昭和四年新潟縣氣象報告書中

頁	行	誤	訂	正
1	6	The suthers	The authers	
30	上段14	42 III6	42 V III6	
57	鍵取 一月 年合計	291.1 2302.4	345.1	2356.4
	新飯田 四月 年合計	86.7 1777.1	81.7	1773.0
	堀ノ内 四月	93.8	98.4	
	水原 九月	168.7	204.2	
	赤谷 十月 年合計	273.5 2535.0	268.5	2530.0
	新飯田 十一月 年合計	210.6	211.6	
	六日町 十二月 年合計	149.3 2163.8	164.3	2178.8
	卷 八月	124.4	134.4	
57	降水 日數			
	新飯田 十月 及 年合計	15 164	16	165
	村上 全 上	17 175	18	176
	大川谷 八月	15	14	
	長岡 三月 年合計	15 194	16	195
	六日町 十二月 年合計	16 181	17	182
	浅貝 八月 年合計	11 155	12	156
	栃尾又 六月、八月、九月、合計	6. 11. 19. 203.	9. 12. 20. 208.	

以上57頁訂正ノ爲メ同様ニ關係アル70頁 73頁 77頁 78頁 79頁 80頁ハ訂正セラレタシ
81頁第一回正誤表中芦ヶ崎ノ22日トアルハ高田ノ22日ト訂正ス

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