

Meteorological and Geophysical Service
Department of Communications, Power and Mining.

Seismological Bulletin Batavia 1948.

January - March

Request.

Directors of Institutes receiving this Bulletin are kindly requested to send Seismological Bulletins and other papers in the domain of geophysics published by their Institutes in future to:

Director of Meteorological and Geophysical Service
Engelse Kerkweg 3
Batavia, N.E.I.

Introduction.

This Bulletin is the first quarterly bulletin prepared and issued after the war. As the seismologic stations at Medan, Amboina and Koepang were destroyed, this bulletin contains only results of observations made at Batavia. Microseismic disturbances by traffic have severely increased in comparison with prewar conditions. Therefore weak seismic disturbances are often very difficult to read or even practically disappearing in micros.

During these three months the seismographs were not yet in perfect condition. Gradual readjustments were made. As a consequence of this fact the instrumental constants at the end of this bulletin show unusually large deviations from their mean values. In the month of issue of this bulletin (May) the seismographs are again in good working order.

Information.

Batavia

Foundation: River Quaternary.

S.Latitude $6^{\circ}11'0''$; E.Longitude $7^{\text{h}}7^{\text{m}}20^{\text{s}}.3$, $106^{\circ}50'4$

Height above sealevel 8m.

Wiechert Horizontal Pendulum, 1000 kg., NS and EW components,

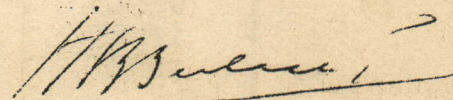
Wiechert Vertical Pendulum, 1300 kg.,

Bosch-Omori seismograph, 25 kg., NS and EW components,

Greenwich Mean Time.

Batavia, May 1948

the Director,



(Dr H.P.Berlage Jr.)

Royal Magnetical and Meteorological Observatory

Batavia - Java

Seismological Bulletin 1948

January - March.

No	Date	Phase	G.M.T.			Distance	Remarks
			h	m	s		
January							
1	3	1PNEZ 1SNEZ	06	53	29	5	
				54	30		
2	4	1PNE 1pPNE 1SNE eSSNE	09	08	11	76	deep focus; depth about 600 km.
				10	01		
				17	01		
				21	41		
3	7	ePNEZ	18	36	00		
4	8	ePNE 1NE eS?NE 1 NE	04	26	52		Z-component no record
				27	25		
				31	30		
				35	32		
5	8	ePNE 1SNE	19	04	50	5	Z-component no record
				05	49		
6	9	1PNE 1SNE	13	20	44	1.0	Z-component no record
				20	57		
7	10	1PNE 1PcPNE PPNE 1SNE 1SKSNE 1SSNE	05	25	50	67	Z-component no record
				26	32		
				27	57		
				34	42		
				35	35		
				38	29		
8	11	1PNE ePPNE 1SNE LNE	16	14	45	16.6	
				14	58		
				18	10		
				21	-		
9	12	1PE 1SNE	10	30	52	66?	very faint
				39	37		
10	13	ePNEZ 1SNEZ 1LNE	03	23	33	2.8	
				24	08		
				24	40		
11	14	1P?E	02	42	18		faint traces in E-com- ponent between 02 ^h 50 02 ^h 51 and between 02 ^h 56 - 02 ^h 59.
12	15	1PNEZ 1SNEZ	13	21	38	2.3	
				22	07		

No	Date	Phase	G.M.T.	Distance	Remarks
	January		h m s	o	
13	17	iPNE	07 19 29	40	
		PPNE	20 53		
		iSNE	25 33		
		eLN	32.5		
14	18	iPNE	13 50 53	60	
		iSNE	59 04		
15	19	iPNEZ	12 24 44	18.4	
		iSNE	28 07		
16	20	iPNE	09 23 55		
17	20	iPNEZ	09 55 56	76	
		PPNE	58 40		
		i SNE	10 05 36		
		eSSNE	10 34		
		LE	19		
18	22	1 PZ	14 01 49		horizontal components no records
		LZ	19		
19	24	1 PZ	17 51 48	22	horizontal components no records
		iPPZ	53 10		
		1 SZ	55 46		
		iSSZ	56 15		
		1 LZ	18 02		
20	24	1 PZ	19 07 59	24	
		1 SZ	12 13		
21	25	iPNEZ	06 03 46	26	in N.E.ly quadrant
		ePPNEZ	04 26		
		iNEZ	05 01		
		iSNEZ	08 14		
22	26	iPNEZ	14 15 38	22	from N.E.ly direction
		eSNEZ	19 33		
		iSSNE	19 52		
		L	26		
23	26	PEZ	22 32 37	12.3	
		iSEZ	34 55		
		LEZ	37		
24	26	iPEZ	23 05 38	2.2	from W.ly direction
		iSEZ	06 06		
25	27	ePNEZ	12 09 03	72	deep focus, depth about 600 km; from E.S.E.direction.
		iPNEZ	09 05		
		pPNEZ	11 05		
		eSNEZ	17 41		
		SSNE	21 49		
26	27	iPZ	18 59 30		
27	28	ePNEZ	03 52 04	22	from N.E.ly direction
		iSNEZ	56 01		
28	28	ePEZ	16 01 03	57	
		iSEZ	09 04		
		eSSE	12 59		
29	30	ePNE	08 53 06	53	
		iSNE	09 00 36		
		eSSNE	03 39		

No	Date	Phase	G.M.T.	Distance	Remarks
February			h m s	0	
30	4	ePNE	04 53 -		in strong micros
31	6	iPNE	01 41 30	56.7	
		iNE	49 19		
32	9	iPZ	13 10 46	84	PE destroyed acci- dentally
		iPN	10 48		
		iSNEZ	21 09		
		eLNEZ	41 -		
		eMNE	48 -		
33	9	iPZ	14 58 07	17	NS and EW diagrams damaged.
		iNE	58 12		
		iSN	15 01 22		
		eLZ	04 42		
		eMZ	08 12		
34	12	iPN	23 27 02		
		iPZ	27 03		
		iPE	27 04		dubious in micros
35	13	iNE	05 08 02		Z lost in micros
		eLE	26 40		
		eLN	27 30		
		eMNE	31 -		
36	18	iNE	01 32 00		Z lost in micros
37	19	iPZ	20 59 00	3.2	provisional epicentre 8 ^o 7S, 108 ^o 9E
		iPNE	59 02		
		iSNE	59 40		
38	23	iPNEZ	9 33 31		
		iNEZ	35 14		
March					
39	1	iPNEZ	01 17 09	22	epicentre 3 ^o 1S 128 ^o 2E; felt in Moluccas.
		eSN	21 02		
		eSE	21 05		
		eSZ	21 07		
		eLEZ	25.3		
40	1	ePNZ	12 06 27		deep focus?
		ePE	06 29		
		NEZ	06 41		
		iNZ	06 44		
		iZ	07 07		
41	2	ePNZ	06 19 28		
		iZ	19 36		
		eE	19 39		
		iNE	19 41		
		iEZ	20 10		
		iNZ	20 43		
42	3	iNE	06 45		
43	3	iPNZ	09 15 41	27.2	in micros
		iPE	15 46		
		iNEZ	16 29		
		iSNEZ	20 20		partly in hour eclipse
		iSSNE	22 32		
		iLNE	26		

No	Date	Phase	G.M.T.			Distance	Remarks
			h	m	s		
	March					o	
44	6	iPNE	14	06	24		
45	7	iPNE	02	27	04	5.7	
		iSNEZ		28	08		
46	7	ePNE	05	28	15	45?	Z-lost in micros
		eS?NE		34	51		Z-component very weak
47	8	ePNE	16	16	02	48	
		iPPNEZ		17	51		
		iNEZ		20	30		
		iN		21	22		
		iSNEZ		23	01		
		SSNE		25	45		
		eLZ		30			
		eLNE		31			
48	9	ePNZ	18	55	26	47?)dubious in micros
		ePE		55	30)
		iPPNEZ		57	02		
		iNEZ		58	22		
		iNEZ	19	00	01		
		iSNEZ		02	19		
49	10	ePNE	11	36	33	67	Z.component absent.
		iPPNE		38	46		
		eNE		40	29		
		eSNE		45	26		
		eSSNE		49	41		
		eLNE	12	00			
56	10	iPNE	20	08	48	32	deep focus, probable depth 400 km, Z-component absent.
		ePNE		10	01		
		iNE		11	32		
		iSNE		13	50		
		iSSNE		15	15		
		iNE		15	40		
51	11	ePNE	02	54	22		
52	13	iPZ	20	07	18	21	
		iPNE		07	20		
		iSNE		11	04		
		eSSZ		11	22		
53	14	iPNEZ	02	59	28	6.6	
		iNE		59	48		
		iSNEZ	03	00	43		
54	15	ePNEZ	01	36	48		
		iS?NE		41	15		
55	15	ePNE	10	55	39		in
		eS?NE	11	00	56		Z-component lost/mi-
56	15	ePNEZ	11	33	12	54	cross
		iSNEZ		40	44		
57	16	ePNEZ	02	46	46	50?	
		eS?NE		53	53		
58	16	ePNE	17	08	29	73	
		iPPNE		11	12		
		iSNEZ		17	57		
		ePSNE		18	31		

No	Date	Phase	G.M.T.			Distance	Remarks
			h	m	s		
March			h m s			°	
58	16	1SSNE	17	22	03		
		eLNE		33			
59	17	1PNE	19	49	57		very weak
		1S?NE		57	01		
60	19	1PNEZ	08	56	23	1.6	
		1SNEZ		56	43		
61	20	1PNEZ	22	50	14	8.5	very weak
		1SNEZ		51	55		
62	23	1PNEZ	18	22	31	67	deep focus; depth about 250 km.
		1PNEZ		23	20		
		1SNE		31	25		
63	24	1PNEZ	05	20			Starts in hour eclipse; all pens thrown off. P between 05 ^h 20 ^m 00 ^s and 05 ^h 20 ^m 14 ^s . Distance between 400 and 450 km, SE of Batavia. Moderately felt at Batavia, Bandoeng and other places. epicentre 6°7S, 108°5 E
64	25	1PNEZ	07	57	10	1.8	
		1SNEZ		57	33		
65	26	1PNEZ	13	27	01	28	
		1NEZ		29	52		
		eNZ		30	49		
		1SNEZ		31	45		
		1SSNEZ		32	46		
		1NEZ		36	06		
66	29	eP?NE	10	22	31		
		1SNE		32	15		
67	29	1PNEZ	11	57	19	65	deep focus; focal depth about 200 km.
		1pPNEZ		57	57		
		ePPNEZ		59	29		
		1SNEZ	12	05	50		
69	30	1PNEZ	21	16	39	5.9	from S.W.ly direction.
		1NEZ		16	49		
		1SNEZ		17	49		

CONSTANTS WIECHERT SEISMOGRAPHS

BATAVIA

	EW Component			NS Component			Z Component			EW comp.		NS comp.	
	V	T ₀	r	V	T ₀	r	V	T ₀	r	e ₀	r	e ₀	r
Jan	222	8.3	3.1	240	8.1	3.0				1.15	0.11	1.12	0.17
Feb	239	8.2	2.8	236	8.2	3.4				1.25	0.14	1.13	0.12
Mar	222	8.2	2.7	212	8.2	3.0				1.09	0.14	1.09	0.15



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During these three months the seismographs were in good working condition.

For earthquakes of normal focal depth the travel-time tables of Jeffreys and Bullen are used; for those with focal depths deeper than normal the tables of Brunner are used.

Information.

Batavia.

Foundation : River Quaternary
S. Latitude $6^{\circ}11'0''$; E. Longitude $7^{\text{h}}7^{\text{m}}20^{\text{s}}.3$, $106^{\circ}50'$;

Height above sealevel 8 m.
Wiechert Horizontal Pendulum, 1000 kg, NS and EW components,
Wiechert Vertical Pendulum, 1300 kg.,
Bosch-Omori seismograph, 25 kg., NS and EW components,
Greenwich Mean Time.

Batavia, August 1948

The Director,

(Dr H.P. Berlage Jr.)



1900-1900



1900-1900

1900-1900

1900-1900

1900-1900

1900-1900

1900-1900

1900-1900

No.	Date	Phase	G.M.T.	Dist.	Remarks.
	April		h m s		
70	1	iPNEZ	19 59 04	1.7	
		iSNEZ	59 25		
71	2	ePNEZ	17 15 00	23	
		iPPNEZ	15 22		
		eSNE	18 56		
		iSSNE	19 44		
72	3	iPNEZ	07 47 25	22.0	deep focus; probable depth 200 km. provisional epicenter 3.2 NL, 126.6 EL
		iPPEZ	48 04		
		i NEZ	48 49		
		iSNE	51 13		
73	4	iPNEZ	17 18 22	20 ?	
		iS?NEZ	21 57		
74	4	iPNEZ	18 32 00	0.8	
		iSNEZ	32 10		
75	6	iPNEZ	02 28 52	3.8	from NW by direction
		iSN	29 39		
		iSEZ	29 40		
		eLNE	33		
76	7	ePNEZ	01 02 30	2.3?	P-phase starts in micros; S phase difficult to trace
		iS?Z?	02 59		
		i Z	03 31		
		i NE	03 34		} long waves
77	12	ePNEZ	08 57 26	40.3	
		iPcPNEZ	59 35		
		iSNEZ	09 03 32		
		eSSNE	06 18		
78	15	iPNEZ	19 43 07	47.9	from easterly direction
		iSE	50 03		
79	17	iPNEZ	16 20 09	48.7	
		iPPEZ	21 59		
		iSNEZ	27 10		
		LZ	35		
		LNE	37		
80	18	iPNEZ	12 26 20	30.6	from E to ENE-ly direction
		iPPNEZ	27 17		
		iSNEZ	31 23		
		LN	42		
		LE	43.5		
81	20	ePNEZ	11 52 35	25.5	very weak.
		SNE	57 00		
82	21	iZ	20 42 11		clock horizontal records stopped
83	21	iPZ	21 19 17		clock horizontal records stopped
84	22	iPZ	10 55 43		clock horizontal records stopped
		LZ	11 07		
85	24	iPNEZ	07 48 57	0.9	very weak
		iSNEZ	49 08		
86	25	ePNEZ	03 03 43	3.2	
		iSNE	04 19		
		iSZ	04 20		
87	25	PNEZ	16 16	+ 2	in minute eclipse between 16 ^h 16 ^m 13 ^s and 16 ^h 16 ^m 16 ^s long waves
		iSNEZ	16 37		
		eNEZ	18.2		
	May.				
88	2	ePZ	19 07 36	2.1	weak
		ePNE	07 38		
		iSNEZ	08 00		
89	6	ePNEZ	06 52 10	22	weak
		ePPNE	52 26		
		eSNE	56 06		
		iSSNE	56 30		
90	7	iPNEZ	07 27 23		very weak
		iNEZ	29 38		

No.	Date	Phase	G.M.T.			Dist.	Remarks.
			h	m	s		
91	8	ePEZ	13	20	32		very weak.
		ePN		20	35		
92	9	ePNEZ	02	17	20	45.5	
		iPPNEZ		18	57		
		iSNE		24	00		
		LNE		38			
93	10	iPZ	09	14	12		deep focus? Clock horizontal components stopped.
		i Z		14	59		
94	11	ePNEZ	03	55	27	3.7	
		iZ		56	09		
95	11	iP ₁ Z	09	15	35	170-175?	depth somewhat more than 100 km.
		ipP ₁ Z		16	02		Both phases very sharply defined Clock horizontal components stopped.
96	12	ePNEZ	01	06	26	54.8	
		iPPNE		08	18		
		iSNEZ		14	06		
		L NE		25	.5		
97	13	ePNEZ	06	08	59	7.6?	P-phase dubious in micros
		iSNEZ		10	26		
		LNEZ		13	.5		
98	13	ePNEZ	09	39	40	2.6	
		iSNEZ		40	09		
99	14	iPZ	23	54	05	19.0	No horizontal record, change of papers. Felt at Ternate, North Moluccas.
		eSZ		57	34		
100	14	ePNEZ	13	28	51	53?	dubious micros
		iSNE		36	18		
101	14	ePNE	22	46	09	108	Z-component too weak to read
		iP ₁ NE		50	00		
		SKSNE		56	47		
		SSNE	23	05	40		
		LNE		20			
102	15	iPNEZ	03	10	01	0.7	very weak
		iSNE		10	09		
		iSZ		10	12		
103	15	ePNEZ	06	13	12	1.0	from S-ly direction
		iSNZ		13	24		
104	15	ePNEZ	06	34	02	2.2	from SSWly direction
		iSEZ		34	26		
105	15	iPZ	20	44	52		Clock horizontal components stopped
106	16	iPZ	01	24	06		
107	17	ePNEZ	13	41	52	50.5	
		eSN		49	05		
108	17	ePNEZ	16	11	57		
109	20	ePNEZ	15	23	01		
110	22	ePNEZ	19	32	27		very weak shock
		eS?NE		41	27		
		LNE		59			
111	23	ePNEZ	04	22	25	58.7	
		ePPNEZ		24	24		
		iSNEZ		30	29		
		iSSNEZ		34	22		
		LNE		43			
112	25	ePNEZ	07	18	29	38.2	from NNWly direction
		ePPNEZ		19	54		
		iSEZ		24	21		
		iSSNE		27	03		
		LEZ		31			
		LN		32			
113	31		08	44			traces of S phase in horizontal components

No.	Date	Phase	G.M.T.			Dist.	Remarks.
			h	m	s		
	<u>June</u>						
114	1	iPNE eSNEZ iLNEZ	03	23	34	16.2	felt at Sabang
115	1	ePNEZ iSNEZ iLNE iLZ	18	59	23	17.0	seismic seagwave felt about 20 miles off Sabang. seismic seagwave felt about 20 miles off Sabang.
116	2	ePNEZ iSNEZ	06	28	23	3.6	
117	2	iPNEZ iSNEZ	07	44	40	2.0	
118	2	iPNEZ iSNEZ	16	47	02	1.8	from SSE ly direction
119	3	ePNEZ eSNEZ	23	38	42	2.8	
120	4	ePNE iSNE	13	22	55	2.2	
121	8	iP?E i NE i NE	03	21	09		
122	9	ePNEZ iSNEZ	05	28	35	8.4	
123	12	iPNEZ iSNEZ iLNE	22	53	21	6.0	
124	14	ePNEZ iPPNE iSSNE	10	05	35	41.1	
125	15	iPNEZ eSNEZ iSSNE LNE	11	53	26	44.8	
126	18	ePNE ePPNE eSNE iSSNE eSSSNE	01	02	19	49.1	small surface waves, probably deep focus.
127	18	eLNE eLZ	07	47			visible till 07h 56m
128	21	iPNEZ eSNZ eSE LZ LN LE	12	10	07	22.8	provisional epicenter 0°6N, 128°6E.
129	21	iPNE eSNE LN LE	14	02	25	22.8	aftershock of previous one Z.component practically invisible.
130	26	ePNE eSNE	00	00	03	6.3	very weak
131	27	iPNE eSNEZ eSSNE LEZ LN	00	15	02	31.8	
132	27	ePNEZ iSNEZ	17	13	34	2.0	very weak
133	28	iPZ iPPZ eSZ	07	22	25	49.9	clock horizontal components stopped

No.	Date	Phase	G.M.T.			Dist.	Remarks.
			h	m	s		
	<u>June</u>						
		eSSZ		32	57		
		LZ		40			
		RZ		49			
134	29	ePNEZ	10	40	40	77	small surface waves; focus deeper than normal?
		ePPNEZ		43	24		
		eSNEZ		50	32		
		iPSNEZ		51	04		
		iSSNE		55	15		
		LNE	11	2	5		
135	29	iPNE	12	15	41	5.9	
		iSNE		16	48		
136	29	eP?NEZ	16	14	22		P-Phase may occur earlier in micros
		iSNEZ		18	51		
		LNE		27			
		LZ		28			
137	30	eP?NE	12	34	11	.86?	
		eSNE		45	15		
		eSS?NE		50	37		
		LNE		56			

Constants Wiechert Seismograph's Batavia

	E - W Component					N - S Component				
	V	T ₀	e ₀	r		V	T ₀	e ₀	r	
April	244	7.8	2.7	1.14	0.12	205	8.5	3.4	1.11	0.12
May	233	7.9	2.8	1.14	0.12	201	8.6	3.4	1.13	0.14
June	226	8.0	3.2	1.12	0.10	200	8.5	3.5	1.12	0.11

Z - Component

	V	T ₀	e ₀	r
April	-	-	-	-
May	-	4.3	2.5	1.18 0.18
June	-	4.2	2.6	1.16 0.13