



Jan-Mar 1937
Ref 3848

Seismological Bulletin 1937.

Royal Magnetical and Meteorological Observatory

Batavia, Java.

B A T A V I A.

Foundation: River Quaternary.

S. Latitude $6^{\circ} 11' 0''$; E Longitude $7^{\text{h}} 7^{\text{m}} 20.3^{\text{s}}$; $106^{\circ} 50'$; Height above sea-level 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 Civil Time.

M A L A B A R.

Foundation: Volcanic.

S. Latitude $7^{\circ} 13'$; E. Longitude $107^{\circ} 37'$; Height above sea-level 1550 m.

Wiechert Horizontal Pendulum 100 kg., NS and EW components. Since July 1911.

Greenwich Civil Time.

Possession Malabar Estate.

A M B O I N A.

Foundation: Quaternary.

S. Latitude $3^{\circ} 42'$; E. Longitude $128^{\circ} 10'$; Height above sea-level 4 m.

Wiechert Horizontal Pendulum 1000 kg., NS and EW components. Since October 1924.

Greenwich Civil Time.

M E D A N.

Foundation: Quaternary.

N. Latitude $3^{\circ} 35'$; E. Longitude $98^{\circ} 41'$; Height above sea-level 25 m.

Wiechert Horizontal Pendulum 1000 kg., NS and EW components. Since July 24, 1929.

Greenwich Civil Time.

S O E N G E I L A N G K A.

S. Latitude $5^{\circ} 24'$; E. Longitude $105^{\circ} 13'$; Height above sea-level 240 m.

Bosch-Omori, NS component. Since September 5, 1931. Greenwich Civil Time.

Remarks. The Seismograph at Amboina was still out of working order during the first quarter of the year. Time service at the Malabar and Soengei Langka seismographic Stations being inaccurate S - P is given only.

Earthquakes recorded at Soengei Langka have been inserted in this bulletin only when they have been recorded at least at one of the other primary stations.

January - March 1937.

January.

No.	Date	Station	Character	Phase	G.M.C.T.			Distance	Remarks
					h	m	s		
1	Jan. 4	Mal	v	P	21	55	90	iS - P = 11 sec.	
2	" 4	Med	Ir	ePNE eSE	22	54	4780		
3	" 5	Bat	Ir	P	00	01	4070	in strong micros.	
		Med	Ir	iSNE ePE ePN iSNE	00	07	4240	in micros.	
4	" 5	Bat	Ir	S?	04	58		in strong micros.	
		Med	Ir	PNE SNE	04	53	4150		
5	" 5	Med	Ir	PNE iSNE	11	16	4230	compare 3	
6	" 5	Med	Ir	PNE iSNE	21	45	4540	remarkable.	
		Bat	Ir	iPZN ePE iSN	21	46	4830	remarkable.	
7	" 5	Mal	d	iP			190	iS - iP = 22 sec., felt in Priangan and Banjoemas (W. Java.).	
		Bat	Iv	iPZ iSE	22	28	380		
8	" 6	Med	Ir	ePE ePN iSN?	08	29	1100?		
9	" 6	S.L. Bat	v IIIv	iP iPNEZ iSNE	08	24	160		
		Mal	v	P					
10	" 6	Mal	v	iP	10	07			
11	" 6	Bat	I	PN PE iNE	09	06		in micros.	
12	" 7	Med	I	PE PN eLN eLE	06	21			
		Bat	I	PNE	06	29			
13	" 7	Mal	v	P	12	08		felt on M. Papandajan (W. Java).	

No.	Date	Station	Character	Phase	G.M.C.T.			Distance	Remarks
					h	m	s		
14	Jan. 7	Med	IIIr	iP iE	13	27	06	3530	
				iSNE	13	32	26		strong waves.
				LE	13	36			
				LN	13	38			
		S.L. Bat	r IIIr	eP PN	13	28	33	4750	iS - eP = 6 ^m 30 ^s .
				PE	13	28	36	4780	
				PZ	13	28	36		
				iPNEZ	13	28	43		
				iNE	13	30	24		
				iSN	13	35	05		
				LE	13	41			strong waves.
				LZ	13	42			
				LN	13	43			
		Mal	r	eP					i - eP = 1 ^m 44 ^s , L.
15	" 7	Med	Iu	ePE eSE	17	55	43	5530	
16	" 8	Mal	v	P	21	47			
17	" 10	Bat	Iv	PE iE	02	27	10		felt in Palembang and Benkoelen (S. Sumatra).
		Med	I	ePNE	02	28	29		
18	" 10	Mal	v	P	10	00		110	iS - P = 13 sec., felt at Djaja- sana (W. Java).
19	" 10	Mal	v	i	17	27			
20	" 10	Mal	v	i	17	29			
21	" 11	Med	Iv	PNE iSNE	03	31	05	430	
22	" 11	Mal Bat	v Iv	iP iPZ iPNE iSN	16	55	29	110 250	iS - iP = 13 sec.
23	" 11	Mal	v	P	17	34			
24	" 11	Med	Iv	iPNE	18	42	02		
25	" 12	Med	IIv	iPNE iN iN iE	05	07	00		
26	" 14	Mal	d	iP	06	30		40	iS - iP = 5 sec., felt at Malabar (W. Java).
27	" 15	Bat	Ir	PN?	05	14	40		micros.
				PE?	05	16	09		micros.
				SN	05	19	42		
				PE	05	16	36		
		Med	Ir	ePN	05	16	52		





No.	Date	Mag.	Type	Station	4.			km	Remarks
					h	m	s		
28	Jan. 15	Med	Iv	PN	09 56 24		750?	felt Sum. Westcoast.	
				iN	09 57 28				
				iN	09 57 46				
				iSE?	09 57 51				
				iN	09 57 58				
		Bat	Iv	PN	09 58 43			micros.	
29	" 16	Med	Iv	PNE	02 09 32			micros.	
				iN	02 10 31				
				iE	02 10 39				
30	" 16	Bat	Ir	iPZ	20 18 05		2340	dilatation, felt at Laiwoei (Obi Island).	
				iPE	20 18 06				
				iSN	20 21 59				
51	" 18	Mal	v	i	13 15				
32	" 19	S.L	v	iP			280	iS - iP = 32 sec.	
		Bat	Iv	iPZ	19 25 41		420		
				iPE	19 25 42				
				iSN	19 26 28				
		Mal	v	P			470	iS - P = 52 sec,	
33	" 20	Med	Iv	PE	00 16 43		80		
				iSN	00 16 52				
34	" 22	Med	I	PE	04 35 34				
				PN	04 35 37			micros.	
		Bat	I	PE	04 35 40				
35	" 22	Mal	v	P	06 22				
36	" 22	Mal	v	i	06 24				
37	" 23	Med	Iv	PE	02 45 09				
				iN	02 45 31				
				iE	02 45 35				
38	" 23	Mal	r	iP			4800	iS - iP = 6 ^m 33 ^s	
		Bat	II	ePZ	11 04 18				
				iPZ	11 04 23		5000		
				iPE	11 04 25				
				iN	11 04 48				
				iN	11 09 48				
				iSN	11 11 08				
				iSE	11 11 18				
				L	11 18				
		Med	IIu	ePN	11 05 17		5150		
				PE	11 05 29				
				iE	11 06 13				
				iN	11 06 19				
				iSNE	11 13 10				
				iE	11 13 54				
39	" 24	Mal	d	iP			90	iS - iP = 10 sec., felt in Priangan (W. Java).	
		Bat	Iv	PE	22 16 30				
				iPZ	22 16 32		250	dilatation.	
				PN	22 16 34				
				iSNE	22 17 00				
				iE	22 17 57				

No.	Date	Mag.	Type	Station	5.			km	Remarks
					h	m	s		
40	Jan. 25	Bat	IIu	iPZ	06 43 36			compression.	
				iPE	06 43 38				
				eLNZ	07 02				
				LE	07 04				
				P			5960	S - P = 7 40, eL.	
		Mal	u	PNE	06 44 46				
		Med	IIu	eL					
		S.L	u						
41	" 27	Mal	d	iP			90	iS - iP = 11 sec., felt in Priangan (W. Java).	
		Bat	Iv	iPZ	00 41 58		160		
				iE	00 42 09				
				iS	00 42 16				
42	" 28	Mal	v	eP			260	iS - eP = 30 sec.	
		Bat	Iv	iPN	15 19 17		300		
				iE	15 19 43				
				iSN	15 19 51				
45	" 30	Bat	Iu	iPZ	17 33 56		5070	remarkable.	
				iPE	17 34 00				
				iSNE	17 40 44				
February.									
44	Feb. 1	Med	I	eP	00 03 13				
45	" 1	Bat	IIv	iPZ	00 52 00		230	remarkable.	
				iSNE	00 52 26			remarkable.	
		Mal	v	iP			270	iS - iP = 31 sec.	
		Med	Ir	eP	00 54 26			in micros.	
46	" 2	Mal	v	i	14 00				
47	" 3	Med	I	eP	11 54 08				
48	" 5	Mal	v	i	03 45				
49	" 5	Bat	Iv	iPN	22 35 10		290		
				PZ	22 35 13				
				iSE	22 35 43				
50	" 8	S.L	v	eP			310	iS - eP = 35 sec.	
		Bat	IIv	PZ	08 37 29		580		
				iSN	08 38 36				
				iN	08 39 08				
		Mal	v	eP					
		Med	Ir	PNE	08 38 59		1100		
				eSNE	08 41 03				
51	" 9	Med	Iv	P	01 57			no time eclipses.	
52	" 11	Bat	Iv	PN?	05 09 56		70	traffic disturbance.	
				iSN	05 10 04				
		Mal	v	P			110	iS - P = 13 sec.	
53	" 12	Bat	I	PE	03 45 53			in micros.	
54	" 12	Bat	IIr	PZE	04 59 29				
		Mal	r	P					

					h m s	km	
54	Feb.	12	Med	Ir	eP? eP? eSN eSE	05 01 34 05 01 53 05 05.3 05 05.7	in micros. in micros. approximate. approximate.
55	"	12	Med	I	eP	05 49 14	in previous.
56	"	12	Bat	Iv	ePNE iSNE	15 20 16 15 21 16	520 felt in Benkoelen and Palembang (S. Sumatra).
57	"	12	Med	Iv	P	15 22 41	
58	"	13	Med	I	eP	11 16 38	faint
59	"	14	Med	IIIv	iPNE iS iE iN	02 37 37 02 38 05 02 38 42 02 38 45	330 felt at Koetatjane (N. Sumatra)
60	"	15	Mal	v	P	00 53	140 iS - P = 16 sec.
61	"	17	Med	Iv	iP iSNE	19 23 59 19 24 30	270
62	"	18	Mal	d	iP	11 15	90 iS - iP = 10 sec., felt at Malabar(W. Java).
63	"	19	Mal	v	P	03 46	110 iS - P = 13 sec.
64	"	20	Bat	I	PZ PN iE SNE?	06 01 19 06 01 20 06 04 30 06 05 55	
65	"	21	Bat	IIu	iPZ iSNE eLZ eLE eLN	07 13 10 07 21 40 07 30 07 32 07 34	6860
			Mal	u	eP		
			S.L	u	eP		
66	"	21	Bat	IIu	iPZ iSN?	07 36 59 07 45 33	6930? replica? in previous.
			Mal	u	P		
67	"	21	Bat	I	PZ iE	23 51 12 23 57 04	
68	"	22	Med	Iv	P iS	20 36 35 20 36 53	160
69	"	23	Med	I	eP eE iN	00 14 07 00 20 58 00 23 07	
			Bat	I	eE	00 27 54	
70	"	23	Med	Iu	eP SN L	00 58 26 01 06 40 01 22	6570

					h m s	km	
70	Feb.	23	Bat	Iu	iPZ iPN iSNE	00 58 42 00 58 45 01 07 16	6940 compression.
71	"	23	Med	I	eP	01 59.1	
72	"	23	Med	I	ePN PE	09 06 54 09 07 20	
73	"	23	Mal	v	P	17 31	90 iS - P = 10 sec.
74	"	24	Mal	v	P		530 iS - P = 58 sec., felt in East Java.
			Bat	IIv	PNE SN iE	15 49 59 15 51 10 15 51 46	610
75	"	24	Med	Iv	ePE iN iN	19 00 57 19 01 34 19 01 48	felt in Tapanoeli (W. Sumatra).
76	"	25	Mal	v	P	08 27	iS - P = 7 sec.
77	"	25	Med	IIIv	iP iS eP	19 56 01 19 56 31	260 felt in Tapanoeli (W. Sumatra).
			S.L				
			Bat	IIr	PZNE SNE iN iE iE iN	19 58 14 20 00 37 20 01 45 20 01 54 20 02 14 20 03 31	1290
78	"	27	Bat	I	ePZ ePE	01 31 01 31 45	uncertain. in micros.
79	"	28	Mal	v	i	01 17	
80	Mar.	1	Mal	v	i	19 21	
81	"	2	Med	Iv	P iS	12 11 14 12 12 20	570 felt Sum. Westcoast
82	"	3	Mal	v	i	17 11	
83	"	3	Med	Iv	P	23 38 47	
84	"	4	Mal	v	iP		290 iS - iP = 33 sec., felt at Java's First Point (W. Java).
			Bat	Iv	iPZ iSE	17 50 21 17 51 02	360 compression from S.
85	"	5	Med	Iv	P iS	04 53 00 04 53 28	250

March.

					h m s	km	
86	Mar	5	Bat	Ir	ePN ePE iE eSN? SE?	13 22 35 13 22 39 13 23 06 13 25 50 13 25 58	1880? in micros. in micros.
87	"	6	S.L Bat	v IIv	iP iPZ iS	170 240 17 42 06	iS - iP = 20 sec. felt at Menes (W. Java).
			Mal	v	P	260	iS - P = 29 sec.
88	"	9	Bat Mal	Iv v	iPNE P	00 10 21 80	iS - P = 9 sec.
89	"	9	Bat	Iu	PZ ePN ePE	16 00 28 16 00 47 16 01 23	in micros. in micros.
			Med	Iu	eP eL	16 00 32 16 55	
90	"	10	Bat	I	ePN ePE	11 15 26 11 15 58	faint. in micros.
			Med	I	ePN	11 15 33	
91	"	10	Mal	v	P	23 38	50 S - P = 6 sec.
92	"	11	S.L	v	eP	290	iS - eP 33 sec., felt at Tandjong Keling (S. Sumatra).
			Bat	IIv	iPZ iPE iSN iNE	07 56 39 07 56 40 07 57 27 07 57 38	430
			Mal Med	v I	ePN ePE	07 57 52 07 58 00	490 S - P = 54 sec.
93	"	12	Med	IIIv	eP iN iE iE iE	09 26 29 09 27 16 09 27 25 09 27 38 09 27 42	felt at Koetatjane (N. Sumatra).
			Bat	Ir	PN PZ PE	09 31 22 09 31 25 09 31 30	faint in micros.
94	"	13	Med	Iv	P	11 22 29	felt in Tapanoeli (W. Sumatra).
95	"	14	Bat Mal Med	I v I	iPZ P ePNE i	12 15 33 12 15 50 12 16.3	in minute eclipse. iS - iP = 20 sec.
			S.L			170	
96	"	15	Bat	IIIv	iPZE iSN	05 56 14 05 56 50	320 from W. felt in S. Sumatra.
			Mal Med	v I	iP eP	05 58 19	360 iS - iP = 41 sec.
97	"	16	Bat	Iv	iPZ	03 58 44	compression, felt in Benkoelen and Palembang (S. Sumatra).

					h m s	km	
98	Mar.	16	Med Bat	Ir Ir	iP iPZ iPN SN	15 51 11 15 51 28 15 51 30 15 56 02	2560 SW - NE
99	"	16	Mal	r	P	2380	m s S - P = 3 56, felt at Taroena (Sangir Island).
			Bat	IIr	PZ iPZ iPE iSN iPE iN	22 36 02 22 36 07 22 36 08 22 40 02 22 37 06 22 37 14	2410 remarkable compression from E.
100	"	17	Mal	v	P	11 39	50 iS - P = 6 sec.
101	"	18	Mal	v	i	10 48	
102	"	20	Med	IIv	P	14 32	in hour mark.
103	"	20	Mal	v	i	21 42	
104	"	21	Med	IIr	iP iS? i ePN PNE	16 16 56 16 20 56 16 24 58 16 18 56 16 19 14	uncertain faint. also possible.
105	"	21	Bat	I	PE eSN?	18 13 21 18 24 39	
106	"	21	Med	Iv	P iS	20 08 30 20 08 48	160
107	"	22	S.L Bat	v IIIv	iP iPZ iPE iSNE iN iN iN	05 03 35 05 03 36 05 03 56 05 04 20 05 04 54 05 05 58	180 compression from WSW.
			Mal Med	v Ir	iP PE ePN iE	05 05 59 05 06 01 05 10 06	
108	"	23	Bat	I	PN PE	01 07 05 01 07 08	in micros. in micros.
109	"	23	Mal	d	iP	150	iS - iP = 17 sec., felt at Malaba (W. Java).
			Bat	Iv	iP iSNE	15 43 02 15 43 26	210
110	"	23	Mal Bat	v Iv	iP iPZ iSNE	18 44 09 18 44 33	140 210 iS - iP = 16 sec.
111	"	23	Med	I	eP	21 23 15	

No.	Date	Station	Type	Code	h m s			km	Remarks
					h	m	s		
112	Mar 24	Mal	d	iP			110	iS - iP = 13 sec., felt in Priangan (W. Java).	
		Bat	Iv	iP	20	26	52	170	
				iSNE	20	27	12		
113	" 26	Mal	v	iS	08	24			
114	" 26	Med	I	ePNE	09	56	04	faint.	
		Bat	I	ePN	09	56	48	in micros.	
				eE	10	04	26		
115	" 26	Bat	Ir	PZ	15	48	07	2510	
				S	15	52	14		
		Med	Ir	eP	15	48	38	faint.	
116	" 26	Mal	v	i	21	11			
117	" 27	Mal	v	i	10	28			
118	" 27	Med	I	ePNE	22	44	06	extremely faint.	
				iE	22	46	16		
				iN	22	46	31		
				iE	22	46	34		
				iN	22	47	00		
		Bat	I	eN	22	51	49	in micros.	
				eE	22	52	39	in micros.	
119	" 29	Bat	Ir	PE	05	43	36	2780	
				PZ	05	43	38		
				NS	05	48	03		
120	" 29	Med	I	eP	19	54	25		
121	" 31	S.L	v	iP				180	
		Bat	Iv	iPE?	13	54	31	iS - iP = 21 sec.	
				iSN	13	54	49	uncertain in micros.	

CONSTANTS WIECHERT SEISMOGRAPHS.

BATAVI.

Year	EW Component			NS Component			Z Component		
	V	T ₀	ε	V	T ₀	ε	V	T ₀	ε
1937									
January	220	7.2	3.5	190	7.2	3.3	300	4.5	3.7
February	220	7.2	3.5	190	7.3	3.4	300	4.6	3.9
March	220	7.3	3.4	190	7.3	3.4	300	4.6	3.7
	e ₀	r		e ₀	r		e ₀	r	
January	1.09	0.6		1.10	1.2		1.16	0.5	
February	1.08	0.6		1.09	1.2		1.14	0.5	
March	1.09	0.5		1.08	1.2		1.16	0.3	

EW Component					NS Component				
V	T ₀	ε	e ₀	r	V	T ₀	ε	e ₀	r
230	5.1	3.5	1.04	1.2	240	4.4	2.5	1.10	1.3