Seismological Bulletin 1939.

Royal Magnetical and Meteorological Observatory.

Batavia, Java.

B A T A V I A .

Foundation: River Quaternary.

S. Latitude 6° 11' 0"; E. Longitude 7h 7m 20.3s; 106° 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., NSand EW components,

Greenwich Mean Time

M A L A B A R .

Foundation: Volcanic.

S. Latitude 7° 13'; E. Longitude 107° 37'; Height above sea-level 1550 m.

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

Greenwich Mean Time.

Possession Malabar Estate.

A M B O I N A .

Foundation: Quaternary.

S. Latitude 3° 42'; E. Longitude 128° 10'; Height above sea-level 4 m.

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

Greenwich Mean Time.

M E D A N .

Foundation: Quaternary.

N. Latitude 3° 35'; E. Longitude 98° 41'; Height above sea-level 25 m.

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

Greenwich Mean Time.

Remarks. The siesmograph at Amboina was still out of working order.

The epicentral distances given are those corresponding with superficial focus, unless epicentre and focal depth are given.

January - March 1939.

January.

No	Date	Station	Character	Phase	G.M.T.	Distance	Remarks
					h m s	degrees	
1	Jan. 3	Med	Iv	PE	10 44 14	2.0?	
				ePN	10 44 19		
				iE	10 44 24		
				S?NE	10 44 39		
2	" 4	Bat	Iv	ePE	10 42 16	3.0?	in micros, felt in Palembang (S. Sumatra).
				iE	10 42 34		
				S?NE	10 42 54		
		Mal	v	i	10 43 04		
3	" 4	Mal	d	iPNE	19 26 28	0.9	felt in Priangan, EW pen thrown off.
				iSNE	19 26 40		
		Bat	Iv	iPZNE	19 26 31	1.1	dilatation; deep?
				SN	19 26 45		
				iSNE	19 26 49		
4	" 8	Bat	Iv	PE	04 29 17		faint in strong micros.
		Mal	v	i	04 29 44		
5	" 8	Med		NE	09 34		traces, starting in hour sign.
6	" 9	Bat	Ir	P?E	03 08 39		dubious in very strong micros.
		Med	Ir	PNE	03 11 17	27.0	in strong micros.
				eSE	03 16 00		
				eL?N	03 20		
				eLE	03 22		
7	" 10	Med	Iv	ePNE	01 03 23	1.5	faint in micros, deep?
				iSNE	01 03 42		
8	" 10	Med	IIIv	ePNE	02 52 10	6.0	faint.
				iE	02 52 25		
				SNE	02 53 27		
				iNE	02 53 44		
				iNE	02 54 44		
9	" 10	Med	IIIv	ePE	10 08.6	6.0?	faint in minute eclipse, character and force identical with 8.
				iN	10 08 45		
				S?NE	10 09 54		
				iNE	10 10 12		
				iNE	10 11 06		
10	" 10	Med	Iv	ePNE	12 13 36	6.0	aftershock?
				SNE	12 14 53		
11	" 12	Mal	v	eP?NE	06 11 37	0.7?	faint.
				iSNE	06 11 46		

					h m s	degrees	
12	Jan.13	Bat	Iv	eP?E	11 47 44	4,9?	in strong micros, felt in Palembang and in Benkoelen (S.Sumatra)
				SNE	11 48 44		
				iE	11 49 06		
		Med	Iv	eP?NE	11 49 05		faint in micros.
				P?E	11 49 20		
				P?N	11 49 24		
				iN	11 49 46		
				iE	11 50 54		
				iE	11 51.5		in minute eclipse.
13	" 14	Bat	Iv	PZ	11 17 27	2.0	
				PE	11 17 30		
				sZNE	11 17 53		
				iE	11 18 46		
		Mal	v	ePN	11 17 47	3.1	
				iPE	11 17 49		
				eNE	11 18 18		
				SNE	11 18 26		
14	" 16	Med	Iv	ePNE	06 41 44	1.4	dubious.
				iSNE	06 42 02		
15	" 19	Mal	v	iNE	19 37 05		
16	" 20	Bat	Iu	P?Z	21 00.1		faint in minute eclipse.
				iZE	21 00 20		
				eE	21 00 39		
				iZ	21 01 00		
				iN	21 01 47		
		Med	Iu	P?NE	21 00 41		dubious.
				iN	21 01 37		
17	" 22	Med	I	iE	05 11 24		
				eN	05 11 30		
				eE	05 12 30		
				eE	05 13 45		
18	" 22	Med	Ir	PNE	11 18 25	39.3	
				SNE	11 24 36		
				LE	11 37		
		Bat			11 25		traces.
19	" 22	Bat	Ir	PZE	13 39 38	38.5	in strong micros.
				eSN	13 45 44		
				eLZ	14 00		
				LNE	14 01		
		Med	Iu	PE	13 41 02	49.3	faint.
				SNE	13 48 14		
				eLN	13 57		
				LE	14 07		
20	" 22	Bat	Iu	P			dubious
				iZ	18 49 24		
				iE	18 49 39		
				SN	18 56 13		
		Med	Iu	PN	18 50 45	60.3	
				eE	18 58 45		
				iSN	18 59.1		in minute eclipse.

					h m s	degrees	
21	Jan.25	Mal	u	PNE	03 51 12		
				iNE	03 54 46		
				eLN	04 36		faint.
				LNE	04 43		
		Bat	IIu	ePZ	03 51 30		
				iE	03 51 43		
				iE	03 55 50		
				iE	04 12 27		
				eLZ	04 20		
				LE	04 28		
				LZNE	04 38		
				LZNE	04 42		strong.
		Med	IIIu	PNE	03 51 54		
				iPNE	03 51 57		
				LN	04 41		
				LE	04 43		
				LN	04 46		strong.
22	" 25	Bat			10 38		traces.
23	" 25	Bat	I	ePNE	17 26 47		faint in micros.
				iE	17 28 15		
24	" 25	Bat	Iv	iPZ	20 37 34		
				PNE	20 37 36		
				iN	20 38 17		
25	" 26	Bat	Ir	ePZE	17 31 52	26.6?	faint.
				iN	17 36 14		
				S?E	17 36 32		
		Med	Ir	P?NE	17 31.9		extremely faint in minute eclipse.
				iE	17 42 26		
				eLNE	17.49		
26	" 27	Bat			05 51		traces.
27	" 28	Bat			05 59		traces.
28	" 28	Med	Iv	P?NE	15 02.8	1.5?	faint in minute eclipse, felt at Koeala Bhee (N.Sum.).
				iSE	15 03 14		
29	" 28	Med	Iv	iE	18 10 55		
30	" 29	Med	IIIv	iPNE	15 26 47		pens thrown off, felt in A-tjeh, Wé and Simeuloeë Island (N.Sum.).
				S?NE	15 27 28		
				iN	15 27 41		
		Bat	Ir	iPZ	15 29 32		
				iPN	15 29 34		
31	" 30	Mal	u	ePE	02 27 02	46.7	
				iPNE	02 27 06		
				iSNE	02 33 57		
				iE	02 37 07		
				eINE	02 39		
				LNE	02 43		strong.

					h m s	degrees	
31	Jan.30 (cont.)	Bat	IIIu	iPZNE	02 27 08	47.1	in minute eclipse.
				iE	02 33 55		
				SNE	02 34 04		
				LE	02 41		
				LZ	02 42		
				LZNE	02 43		strong.
		Med	IIIu	ePNE	02 28 18	57.6	NS pen thrown off.
				iNE	02 29 06		
				iN	02 32 00		
				iE	02 32 08		
				SE	02 36 23		
				LN	02 52		
32	" 30	Bat	Iu	eP?Z	05 32 24	46.9?	in previous.
				iN	05 33.1		in minute eclipse.
				SN	05 39 20		
				eLE	05 52		
		Med	Iu		05 33		traces in previous, in hour mark.
				S?E	05 41 39		
				iE	05 42 10		
				eLE	02 52		
33	" 30	Bat	Iv	ePE	07 58 00		
				iE	07 58 19		
		Mal	v	eP?NE	07 58 07	1.1?	
				iSNE	07 58 21		
34	" 30	Mal	v	iNE	09 11 49		
35	" 30	Bat	Iu	eP?Z	23 57 38		
				PNE			in change of papers.
				iZ	23 58 23		
		Med	IIu	PNE	23 59.7	52.5	in minute eclipse.
				SNE	00 07 15		

February.

36	Feb. 1	Mal	v	iNE	01 32 10		faint traces.
37	" 1	Mal	r	ePNE			too faint to be measured.
				SN	01 47 56		
		Bat	Ir	PZ	01 44 05	21.3	felt on the Sangir and Talaud Islands.
				iE	01 45 15		
				SNE	01 48 01		
		Med	Ir	ePE	01 45 18	25.5?	extremely faint.
				SE	01 49 49		
				iE	01 51 13		
38	" 2	Bat	Ir	ePZNE	07 13 50	31.5	dubious in strong micros.
				SN	07 19 07		
		Med	Ir	eP?E	07 15 01	39.5?	
				SE	07 21 13		

					h m s	degrees	
39	Feb. 2	Med	IIIv	PNE	14 06 52		
				iS?N	14 08 04		
				iS?E	14 08 31		
		Bat	Ir	PE	14 09 44		faint in micros.
40	" 2	Med	I	ePNE	23 27 52		faint.
				iE	23 35 18		
41	" 3	Mal	u	PNE	05 35 34	49.6	
				SNE	05 42 48		
				iNE	05 45 55		
				LNE	05 54		
		Bat	IIu	iPZNE	05 35 39	50.0	
				SE	05 42 51		
				iSN	05 42 55		
				LZ	05 50		
				eLN	05 51		
				eLE	05 52		
				LNE	06 02		
		Med	IIu	PE	05 36 50	58.9	
				iE	05 44 52		
				iSN	05 45 03		
				iE	05 45 28		
				iE	05 46 07		
				LE	06 01		
				LN	06 04		
42	" 3	Med	Iv	iE	08 41 45		faint.
43	" 3	Med	Iv	ePE	18 57 59	2.0?	
				S?E	18 58 24		
44	" 3	Med	I	eE	20 26 13		traces.
45	" 4	Med	I	eE	05 30 50		traces.
		Bat			05 33		in very strong micros.
46	" 4	Med		L?	08 35		
47	" 4	Mal	v	iNE	10 19 51		
48	" 4	Bat	Ir	PZ	11 39 10	23.2	in very strong micros.
				iE	11 39 34		
				SNE	11 43 22		
		Med	Ir	PE	11 39 59		
				iN	11 44 13		
				iE	11 45 20		
49	" 5	Med	Iv	iE	11 03 53		faint traces
50	" 6	Mal	v	iSNE	07 32 13		
51	" 8	Med	Ir	eP?NE	10 33 38	35.1?	
				S?E	10 39.3		in minute eclipse.
				eLE	10 44		
		Bat	Ir	eE	10 34 08		faint.
52	" 9.	Bat	I	P?E	02 38 58		in micros.
				iE	02 49 00		

					h m s	degrees	
53	Feb. 9	Mal	v	iPNE	11 36 15	0.9?	
				S?NE	11 36 27		
		Bat	Iv	PZNE	11 36		in hour sign.
				iSZE	11 36 55		
54	" 9	Med	IIIv	iPNE	11 46 25	3.6	pens thrown off, felt in Sum. West Coast.
				iE	11 46 53		
				iSNE	11 47 10		
		Bat	IIv	PNE	11 47 52		
				iN	11 48 41		
				iN	11 49 42		
				iNE	11 50.4		in minute eclipse.
				iN	11 50 31		
				iNE	11 51 32		
		Mal	v	ePNE	11 48 01		faint.
				S?E	11 49 55	9.1?	
				S?E	11 50 02	9.7?	
55	" 9	Mal	v	PNE	11 59 38	1.2	
				iSNE	11 59 53		
		Bat	Iv	PN	11 59 54		dubious in previous.
				iSNE	12 00 17		
56	" 9	Mal	v	PNE	12 18 28	1.2	
				iSNE	12 18 44		
		Bat	Iv	iNE	12 19 02		in previous.
57	" 9	Mal	v	iSNE	12 23.18		
58	" 9	Mal	v	iSNE	12 28 03		
59	" 9	Mal	v	iSNE	13 51 40		
60	" 9	Mal	v	PN	15 38 30	1.1	
				iSNE	15 38 45		
		Bat	Iv	iE	15 39 11		
61	" 9	Mal	v	iSNE	16 35 25		
		Bat	Iv		16 35		traces.
62	" 9	Mal	v	eP?NE	22 38 08	1.2?	
				iSNE	22 38 24		
63	" 10	Med			07 49		faint traces.
64	" 13	Mal	v	iN	10 21.5		traces in minute eclipse.
65	" 13	Mal	v	ePNE	12 31 12	1.0	faint.
				SNE	12 31 25		
66	" 13	Bat	IIv	iPZ	22 54 49	2.3	Dilatation from West, felt in S.Sumatra and in Bantam (W. Java).
				iPNE	22 54 52		
				iSZNE	22 55 18		
		Mal	v	iPNE	22 55 05	3.3	
				SNE	22 55 46		
		Med	Ir	ePE	22 57 19		extremely faint.
				iE	23 00 27		
				iN	23 00 33		

					h m s	degrees	
67	Feb.14	Bat	Iv	P?Z	09 26 42	4.9?	faint in micros, felt in Palembang and Benkoelen.
				SN	09 27 41		
				iE	09 28 00		
		Med	Iv	ePE	09 29.1		in minute eclipse.
68	" 15	Mal	v	iNE	22 03 46		traces.
69	" 15	Mal	v	eNE	23 50 12		traces.
70	" 16	Med	Iv	ePNE	18 43 32	0.9	
				iSNE	18 43 45		
71	" 16	Med	Iu	ePNE	19 00 14	50.5	in micros.
				eSE	19 07 34		
				eLE	19 21		
		Bat	Iu	iPZ	19 00 29	52.6	
				SNE	19 08 02		
72	" 18	Mal	v	iNE	00 01 18		
73	" 19	Med	Iv	P?N	21 12.9		in minute eclipse.
				iE	21 13 51		
74	" 19	Mal	v	iNE	23 15 41		
75	" 20	Bat	Ir	ePE	02 46 47	13.6	in micros, felt in C.Celebes.
				SE	02 49 30		
				iE	02 51 46		
		Med	Ir	eNE	02 52.8		traces in minute eclipse.
76	" 20	Bat	Iu	PZ	03 54 08	48.1	
				PE	03 54 12		faint in micros.
				iE	03 55 37		
				eE	04 00 04		
				eSN	04 01 12		uncertain.
		Med	Iu	ePE	03 55 22		extremely faint.
				iE	03 59 11		
				iE	04 04 20		
77	" 21	Mal	v	iNE	06 39 48		
78	" 22	Mal	v	PNE	02 26 21	0.7	
				iSNE	02 26 30		
79	" 22	Med	Iv	PNE	22 18 05	0.7	
				iSNE	22 18 14		
80	" 24	Mal	v	PNE	20 02 09	0.8	
				iSNE	20 02 19		
81	" 26	Med	I	eE	10 34 50		
		Bat	I	ePZ	10 36 30		
				iNE	10 38 41		
				iN	10 45 21		
82	" 26	Mal	d	PNE	20 51 24	1.5	felt in Priangan.(W.Java).
				iSNE	20 51 43		
		Bat	Iv	ePE	20 51 42	2.6	faint in micros.
				iN	20 52 05		
				iSNE	20 52 14		

					h m s	degrees	
83	Feb. 27	Mal	v	PNE	00 11 13	1.6	
				SN	00 11 33		
				iSE	00 11 35		
		Bat	Iv	iPZNE	00 11 17	1.7	dilatation from South
				iSNE	00 11 39		
84	" 27	Bat	Iv	PNE	02 00 40		faint in micros.
				iE	02 01 43		
		Mal	v		02 01		traces.
85	" 28	Bat	I	PZ	02 43 56		dubious in micros.
				iPE	02 44 00		
				iE	02 45 01		
		Med	I	ePE	02 45 03		

March.

86	Mar. 1	Med	Iv	iE	16 57 08		
				iN	16 57 12		
87	" 2	Bat	Ir	PZ	07 07 23		
				ePE	07 07 25		in strong micros.
				iE	07 08 46		
				iNE	07 15 31		
		Med	Ir	ePE	07 08 37	42.6	faint in micros.
				iPE	07 08 43		
				PN	07 08 45		
				SNE	07 15 06		
88	" 2	Med	Iv	ePE	07 58 05		faint in previous.
89	" 4	Bat	Ir	PZ	20 09 05	23.5	felt at Beo (Talaud Islands).
				PE	20 09 07		
				iN	20 09 29		
				iE	20 09 48		
				S?E	20 12 58		
				SN	20 13 19		uncertain.
		Med	Ir	PNE	20 09 52		faint.
				iPE	20 09 54		
				iE	20 15 15		
				iNE	20 15 47		
				iE	20 16 47		
				iN	20 16 57		
				iE	20 17 25		
90	" 5	Bat	Ir	ePZ	02 18 57	23.5	faint traces in micros, felt at Beo (Talaud Islands); aftershock.
				eSE	02 23 11		
		Med	Ir	iPE	02 19 46		in micros.
				iE	02 26 59		
91	" 6	Med	Iv	PE	00 43 45		
				iN	00 44 05		

					h m s	degrees	
92	Mar. 7	Bat	Ir	ePZ	02 01 46	38.7	dubious in micros.
				iE	02 03 49		
				iSE	02 07 53		
		Med	Iu	ePNE	02 03 15	51.9	
				iSNE	02 10 43		
93	" 7	Bat	Iu	PZ	17 25 34	51.9	faint.
				eSE	17 33 02		faint.
		Med			17 36		traces.
94	" 8	Bat	Iu	ePZE	22 06 57		
				SNE	22 13 44	45.4	
				iSE	22 13 52		
				eLZ	22 22		
		Med	Iu	PNE	22 08.1	55.9	in minute eclipse.
				iSNE	22 15 59		
				eLNE	22 34		
95	" 9	Med	IIv	ePNE	06 26 49		
				iNE	06 27 24		
				iN	06 28 14		
96	" 11	Mal	v	PNE	06 47 54	1.7	
				iSE	06 48 16		
		Bat	Iv	PZNE	06 48 03	2.3	
				iZ	06 48 20		
				iNE	06 48 25		
				SNE	06 48 32		
				iZ	06 49 08		
				iN	06 49 21		
				iN	06 49 42		
97	" 11	Mal	v	P?NE	10 16 09	1.2?	
				iN	01 16 17		
				S?NE	01 16 24		
98	" 12	Med	IIv	ePNE	19 42 21	8.1?	
				iS?NE	19 44 04		
99	" 14	Bat	Iv	iPZE	17 02 29	1.7?	
				S?E	17 02 51		
				iE	17 02 55		
				iNE	17 03 04		
		Mal	v	ePNE	17 02 46	2.8	dubious.
				iSNE	17 03 21		
100	" 15	Bat	Iv	ePZ	22 00 59	1.6?	extremely faint.
				S?NE	22 01.3		in minute eclipse.
				iE	22 01 51		
		Mal	v	iSNE	22 01 22		
101	" 17	Mal	v	iNE	11 53 34		
102	" 17	Mal	v	iNE	14 04 00		
103	" 20	Med	Ir	iPNE	03 30 21	40.5	
				iSNE	03 36 37		
				eLE	03 45		
				LN	03 46		

					h m s	degrees	
103	Mar.20 (cont.)	Bat	Ir	PZ	03 30 38	44.3	
				PNE	03 30 41		
				iN	03 30 44		
				iSZN	03 37 18		
				iSE	03 37 21		
				eLZ	03 46		
104	" 20	Med	II	ePNE	03 47 02		faint in previous.
				iE	03 48 26		
				iE	03 54 35		
		Bat	I	eP?Z	03 47 37		dubious in previous.
105	" 21	Med	IIIv	iPNE	01 13 44		pens thrown off, azimuth 255°.
				iE	01 13 49		
				iN	01 13 59		
		Bat	IIIr	iPZ	01 15 21	18.0	dilatation.
				iPZ	01 15 23		
				PE	01 15 23		
				iPNE	01 15 25		
				SN	01 18 47		
				iE	01 19 27		EW and NS pen thrown off.
				iZ	01 19 58		
		Mal	r			18.8	iS-P= 3^m33^s; no minute eclipses.
106	" 22	Mal	r	iSNE			no hour marks.
		Bat	Ir	PZ	03 53 03		compression from NE.
				iPNE	03 53 05		
				iE	03 54 31		
				iN	03 54 35		
				iN	04 01 54		
				eLZ	04 12		
		Med	IIr	iPNE	03 54 18		in micros.
				SNE	04 01 20	47.7	
				iSE	04 01 26		
				iN	04 04 44		
				iE	04 06 44		
107	" 22	Mal	v				no minute eclipses.
108	" 22	Bat	Iu	PZ	07 33 17	76.9	
				iPZNE	07 33 18		compression.
				SNE	07 43 09		
				iSE	07 43 12		
		Med	Iu	PNE	07 34 02	85.5	
				SE	07 44 37		
				eLN	08 11		extremely faint.
				eLE	08 13		
109	" 23	Med	Ir	P?NE	10 33 29	23.8?	faint traces.
				iSNE	10 37 46		
		Bat	I				traces.
110	" 23	Bat	Iu	iPZ	16 32 11	77.9	
				PNE	16 32 12		
				iE	16 36 02		
				SE	16 42 08		
				iN	16 43 10		

					h m s	degrees	
110	Mar.23 (cont.).	Med	Iu	ePE	16 33 14	88.5	extremely faint.
				PNE	16 33 27		
				iNE	16 37 21		
				SE	16 44 03		
111	" 25	Bat	Ir	ePZ	01 46 38		uncertain, felt at Goenoeng Damar (N.Celebes).
				L?Z	01 55		
		Med	Ir	PE	01 47 41	23.9	in strong micros.
				SNE	01 51 59		
112	" 25	Bat	Ir	ePZ	05 43 52	25.9	
				eSN	05 48 26		
				iE	05 50 00		
				L?Z	05 52		
		Med	Ir	PNE	05 45 05	35.0	
				iE	05 49 25		
				iSN	05 50 47		
113	" 25	Mal	v	ePE	16 57 25	1.2	
				iSNE	16 57 41		
114	" 26	Bat	Ir	PZ	04 03 32	37.1	
				ePNE	04 03 34		faint.
				iSN	04 09 28		
		Med	Iu	PNE	04 05 23	50.6	extremely faint.
				eSE	04 12 43		
115	" 27	Med	Iv	P?E	09 15 15	1.4	
				iSNE	09 15 33		
116	" 27	Med	IIIv	ePE	14 38 56	3.9	felt in Sum. W. Coast.
				PNE	14 38 58		
				iSNE	14 39 44		
		Bat					traces.
117	" 29	Bat	Ir	iPZ	00 22 32		
				PE	00 22 34		in strong micros.
				iN	00 25 18		
				iN	00 25 56		
		Med	Ir	PNE	00 23 59		faint in micros.
				iN	00 29 21		
				iE	00 29 52		
118	" 29	Bat	Ir	iPZE	02 34 21	24.1?	in micros.
				S?E	02 38 41		
				iS?NE	02 38 53		
		Med	Ir	PE	02 34 51	26.9	
				SE	02 39 33		
				eLN	02 44		
119	" 30	Med	Iv	ePE	06 46 09	1.2	
				iSN	06 46 25		

CONSTANTS WIECHERT SEISMOGRAPHS.

BATAVIA.

	EW Component.			NS Component			Z Component		
	V	T_o	ε	V	T_o	ε	V	T_o	ε
January	226	7.3	3.4	203	7.4	3.4	300	4.4	3.6
February	226	7.4	3.5	203	7.4	3.4	300	4.3	3.5
March	226	7.3	3.5	203	7.4	3.4	300	4.4	3.6

	e_o	r	e_o	r	e_o	r
January	1.09	0.76	1.09	0.42	1.14	0.14
February	1.09	0.73	1.08	0.45	1.14	0.05
March	1.08	0.81	1.09	0.50	1.14	0.02

MEDAN.

EW Component					NS Component				
V	T_o	ε	e_o	r	V	T_o	ε	e_o	r
219	5.2	3.8	1.07	1.0	228	4.3	2.3	1.11	0.9