

Geodætisk Institut
Proviantgaarden, Copenhagen, Denmark.

Bulletin
of the seismological station

KØBENHAVN

$\varphi = 55^{\circ}41'N.$ $\lambda = 12^{\circ}26'E.$ $h = 13$ m

Lithologic foundation: chalk



No. 54. Jan.—Dec. 1944.

Instruments:
Galitzin-Wilip seismographs.

Constants:

Component	l	A_1	T_1		μ^2	T	k
	cm	cm	sec			sec	
N	12.5	100	12.59		0	$12\frac{1}{2}$	105
E	12.5	100	12.60		0	13	105
Z	14.5	100	11.52	$\frac{1}{1} - \frac{16}{3}$	-0.1	10	90
				$\frac{16}{3} - \frac{31}{12}$	0.1	7	90

Wiechert 1000 kg. horizontal seismograph.

Wiechert 1300 kg. vertical seismograph.

Constants:

Component	T	ν	ρ	V
	sec		mm	
N	9.0	5	0.8	185
Z	6			

E and Z were not in good working order and repairs could not be made. $\frac{1}{1} - \frac{10}{3}$ E did not record, and on November 24th recording of both N and E was stopped.

Milne-Shaw seismograph, E component, with the approximate constants $T = 12^s$ $\nu = 20$ $V = 300$.

Benioff vertical seismograph, $T_1 = \frac{1}{4}^s$ $T = 1^s$.

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No.	Date	Hour	Forerunners				L	Δ	Remarks
			P or P'	S					
	1944		<i>m s</i>	<i>m s</i>	<i>m s</i>	<i>m s</i>	<i>h m</i>	°	
1	Jan. 2	11	e 4 38	8 20				21	
2	5	5	i e 10 0						
3	5	5	e 10 43	14 12				19	
4	5	7	i i 48 58	52 59					
5	5	21	e 25 49	36 46	e 25 51	29 35		91	Deeper than normal.
6	10	20	e 22 47	33 45	26 12	33 35		91	31 ^m 23 ^s , 36 ^m 22 ^s , 38 ^m 23 ^s . Off Sumatra, Mexico.
7	16	0			8 40	15 42			18 ^m 4 ^s , 23 ^m .5. Destructive in Argentina.
	Febr.								
8	1	3	e e 27 3	i 30 50	i 27 9	i 27 15		21	27 ^m 20 ^s . Turkey.
9	1	5	e e 27 46						Japan.
10	2	3	e 37 40					44	
11	3	12	i 25 23						Canada.
12	3	20	i 47 24						
13	4	23	i 49 21						
14	5	17	e 32 19	42 30	35 26			55	
15	10	12	i 9 53	13 42				81	Formosa.
16	11	9	i 49 15					21	Turkey.
17	15	5	i e 45 4	49 37					North Atlantic.
18	18	9	i - 30 48					26	
19	18	19	i 29 51						
20	19	11	e e 40 30	44 20	44 30			21	North Atlantic.
21	19	13						57	
22	20	19	e 36 43					42	
23	20	19	i 40 50						
24	21	15	e e 31 11					36	
25	21	17	e 38 25	42 18				44	
26	23	1	e e 33 58	37 52				39	
27	23	12	e 36 38						
28	29	3	i - 55 14	i 66 26	59 44	64 15			
29	29	16	i i 39 47	i 49 22	40 30	42 40		75	i 65 ^m 35 ^s , 67 ^m 45 ^s , 73 ^m 16 ^s . Depth 200 km. Peru. No G. Z record. 43 ^m 21 ^s , 49 ^m 43 ^s , 54 ^m .2. Indian Ocean. No G. E and Z records.
30	March 5	17	i 29 16					63	
31	6	20			30 41			40	
32	6	23			38 0			48	
33	7	5	i 1 8						
34	8	23			20 25			86	
35	9	22	e e 12 5 +	18 51	i 12 7	14 7			
36	9	22	e i 21 10 -		i 21 12	i 23 5		46	Turkistan.
37	10	6	- i 51 40 +	61 17	54 27	61 41	1.3	75	e i 23 ^m 21 ^s . Superposed on preceding shock. Turkistan.
38	15	5	- i 11 50	18 13	13 26			43	Off Japan.
39	15	9	- i 8 57 -						
40	21	22	e e 21 33 +		24 21				Japan.



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	1944		<i>m s</i>	<i>m s</i>	<i>m s</i>	<i>m s</i>	<i>h m</i>	°	
41	March 22	0	e e 61 47		57 21	62 49		97	65 ^m 10 ^s , 67 ^m .8, 68 ^m 39 ^s , 69 ^m 13 ^s , 70 ^m 28 ^s , 70 ^m 58 ^s , 71 ^m 24 ^s , 71 ^m 59 ^s . Phases clearly marked. Depth about 220 km. Flores Sea.
42	31	3			10 50	17 43		.8	19 ^m 57 ^s , 26 ^m 14 ^s .
43	31	20			59 14				
	April								
44	5	4	e e 45 5	48 46	i 45 8			51	20
45	5	6	e e 56 35						Turkey.
46	7	13	e e 45 56		55 30	57 16			
47	16	9	i 57 9						
48	16	10	i 37 31						
49	26	2	e e 12 7		8 38	13 6		44	
50	27	14	e 52 35		57 0	63 14		82	19 ^m 16 ^s , 22 ^m 25 ^s , 28 ^m 41 ^s . North of New Guinea. 64 ^m 13 ^s , 64 ^m 38 ^s , 66 ^m 20 ^s , 72 ^m .3, 76 ^m .2. North of New Guinea.
	May								
51	6	0	e e 23 6	30 41				37	54
52	14	9	i 10 13						
53	18	5	e 3 22		3.8	13.6			
54	19	0	e 39.4		39.8	47 3			19 ^m 35 ^s , 49 ^m .2, 55 ^m 36 ^s .
55	20	22	i 41 7					49	
56	20	23	e e 35 54					44	
57	21	0	i i 19 53	23 25				25	20
58	21	0	e 42 22						
59	21	2	e 41 18					57	
60	21	4	e 52 27					70	
61	25	1	i i 25 4 -		27.4	28 21			
62	25	13	i e 17.5		18 10	18 37		48	31 ^m 39 ^s , 46 ^m .5. South of Fiji Islands. Deep focus. eP quite small. 13 ^m .7. SKS 24 ^m 16 ^s , 25 ^m 14 ^s . PS 28 ^m 7 ^s , 30 ^m .5 33 ^m .5. SS 34 ^m 23 ^s , 36 ^m .2, 37 ^m .8. Asia Minor.
63	27	23	e e 57 19	61 19	61 28			64	22
64	29	15	i 46 58						
65	30	10	i e 7 35		i 7 57	17 3			
	June								
66	2	2	- e 38 12		38 27				
67	3	4	- e 22 12	i 31 55					
68	4	13	e e 36 51	46.0				64	70
69	4	17	e 27 20					.9	
70	4	19	e e 47 39					1.2	
71	4	20	i 5 26						
72	5	0	e 55 54					83	
73	6	11	i 59 44		i 59 59			1.4	
74	7	10	i i 26 50	36 35					76
75	9	20			54 22	70 25			
76	10	14			43 8			52	

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			P or P'	S					
	1944		<i>m s</i>	<i>m s</i>	<i>m s</i>	<i>m s</i>	<i>h m</i>	°	
77	June 15	1			26.1		29		
78	16	4	-i 29 12 +	39.0			56	77	Japan. 16 ^m .4. Mexico.
79	16	22	-e 4 30		7 57	15.1			
80	18	2	i 0 28						
81	19	19	e 39 19	49 28			70	81	
82	20	12	ii 28 8—				53		
83	21	11	e 17.9		20 53	30.0	62		Loyalty Islands region.
84	25	4	ei 20 55	24 39	i 20 58		26	21	Turkey.
85	25	7	ee 2 23	6 11			8	21	»
86	25	14	e 37.0		40 11	45 1	80		Loyalty Islands region.
87	25	17	ei 52 44	61.3	54 2	55 5	64		62 ^m 51 ^s . Atlantic Ocean.
88	27	12	ie 31 29						
89	28	8	ee 11 38 +	22 24	22 3	28.3	35	88	31 ^m .9. Central America.
	July								149h-549h no records.
90	5	10			22 41				
91	10	6	e 26 4	30.0			32	22	
92	10	12	i 42 50						
93	10	13	e 44 9		47 32	48 49			
94	10	16	e 7 32		e 7 44	11 26			
95	11	19	ii 50 30						
96	13	10	e 57.8	67 53				80	
97	16	10	ie 37 50		i 40 50				
98	17	10	ie 59 46	64 37	61 10	61 38		28	62 ^m 27 ^s .
99	19	10	e 33 45	43 41			1.1	78	P small, uncertain. Japan.
100	20	10	ie 42 18	46 24			49	23	Asia Minor.
101	20	20	ie 19 31	29 41			.8	81	
102	21	19	i 3 6	13 17			33	81	
103	23	12	ii 5 29		7 2	11 51			
104	23	12	i 9 20						
105	23	13	i 48 55						Seismic?
106	27	0	ii 15 35	24 42	15 53	25 30	38	71	Aleutian Islands. Depth about 70 km.
107	27	0	i 43 29						[P(+1.9, x, -2.1; -2.7, x, +3.9).
108	27	8	ee 30 21—	39 53				74	Bay of Bengal.
109	29	22	i 44 47				1.1		
110	30	4	ii 5 11	8 53	5 27	9 34	11	21	P(-1.2, 0.5, -1.0; 4.5, -2.0, 3.0).
	Aug.								
111	2	23			5 6	13 59			
112	7	3	ee 39 16 +	50 56	43 21	49 57			e _E 52 ^m .5. Off Peru.
113	8	8			52 50	62 21			
114	9	17	ee 41.4	45.8			48		
115	10	2	ee 4 5	13 15	13 22		26	70	Off British Columbia.
116	14	11		26 39	27 47				North of Kodiak Island.
117	14	14			45.0	45 15	1.1		
118	15	1			42.8		1.1		
119	15	12	e 1 15		4 27	5 9			11 ^m 42 ^s . Mariana Islands.

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			P or P'	S					
	1944		<i>m s</i>	<i>m s</i>	<i>m s</i>	<i>m s</i>	<i>h m</i>	°	
120	Aug. 18	10	ii 44 56	i 54 30	i 45 29	47 50	1.2	77	48 ^m 18 ^s . 54 ^m 55 ^s . 55 ^m 26 ^s . 59 ^m .3. Depth ca. 140 km. Japan.
121	21	20	ie 25 6	33 42					Atlantic Ocean.
122	22	19			29 21			65	
123	23	21	e 34 31						
124	24	16	e 3 56	8 9	i 4 2				
125	24	23	e 50 24	60 42	50 48	54 5		84	Off Mexico. Depth ca. 90 km.
126	30	1			37.0				
	Sept.								
127	3	19			31 44				
128	3	23	i 5 5	8 55				12	21
129	11	9	e 59 24		63 39	65 52			SKS 70 ^m 0 ^s . 70 ^m 43 ^s . 71 ^m .0. PS 72 ^m 32 ^s . P small, uncertain. Molucca Islands.
130	14	6			56.9	71.2	1.5		
131	19	13	ee 17 6					41	
132	20	18			e 38 28				
133	23	12	ei 24 19	33 21	34 1	34 35		43	69
134	24	11	ii 6 46	15 50	i 6 49				69
135	25	16	-e 26 41	35 48					69
136	27	16	e 33 9	39 45	i 33 13	34 59		46	45
137	27	17	e 1 5					16	
138	30	4	-e 18 9	21 50					20
	Oct.								
139	2	17	ie 34 21		i 34 59	35 17			44 ^m 41 ^s . 45 ^m 45 ^s . Depth ca. 150 km. Guatemala.
140	2	20	-i 41 19	50 49	i 41 35	i 44 7		75	51 ^m 21 ^s . 51 ^m 43 ^s . 55 ^m 39 ^s . Depth ca. 70 km. Japan.
141	5	17			e 16 15				
142	5	17	ei 47 49		51 4	51 31		89	Southeast of Loyalty Islands.
143	6	2	ee 39 4	i 42 28	i 39 9	39 50		19	Western Turkey.
144	7	15	i 38 26						
145	7	21	ee 38 43	42 12				44	19
146	14	2			48 5			75	Some preceding movement.
147	14	6			14 5				
148	14	20			40 50			1.1	
149	17	18	ie 46 20—	53 53	i 46 22	48 14		62	54
150	18	12	ee 58 41						55 ^m .0. 57 ^m 42 ^s . Western China.
151	22	18	ii 58 27						
152	23	23	e 53 11		56 45	63 43			64 ^m 8 ^s . 65 ^m 21 ^s . Ecuador.
153	24	17			49 36				
154	29	0	ie 20 59	28 32	23 3	24 10		37	54
155	30	18			32 35			37	
156	31	14	ii 47 48	51 50	52 10			55	23

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			P or P'	S					
	1944		<i>m s</i>	<i>m s</i>	<i>m s</i>	<i>m s</i>	<i>h m</i>	°	
157	Nov. 6	5	<i>ee</i> 58 32	66 11				55	
158	10	13			36 57				
159	14	23	<i>ee</i> 25 50		28 34	32 3			33 ^m 18 ^s , 35 ^m 20 ^s .
160	15	21	<i>i</i> 0 53		4 54	11 29			12 ^m 23 ^s , 13 ^m 41 ^s . Off Mindanao.
161	16	12	<i>e</i> 30 13		32 35	33 45	70		35 ^m 42 ^s , 37 ^m 37 ^s , 42 ^m 45 ^s , 44 ^m 22 ^s . Queen Charlotte Islands region.
162	24	5	<i>ee</i> 8 8		8 14	<i>i</i> 8 53			<i>i</i> 11 ^m 35 ^s , 11 ^m 50 ^s , 12 ^m 35 ^s , 23 ^m 53 ^s , 29 ^m 4. Depth ca. 170 km. New Hebrides Islands region.
163	30	2	<i>i</i> 5 14						
	Dec.								
164	1	4	<i>ii</i> 18 56						
165	7	4	<i>-e</i> 47 41 +	<i>i</i> 57 59	<i>i</i> 47 58	50 59		83	53 ^m 0 ^s , 54 ^m 11 ^s . Destructive in Japan.
166	8	6			58 10	61 32			
167	8	18			43 10	43 22	62		Japan.
168	10	5	<i>ei</i> 24 35		28 18	35 3			35 ^m 33 ^s , 36 ^m 45 ^s , 41 ^m 30 ^s . Indian Ocean.
169	10	16	<i>ee</i> 44 20		47 5	47 58			60 ^m 42 ^s , 65 ^m 21 ^s . New Hebrides Islands.
170	12	4	<i>-i</i> 28 39 +	38 3	33 5			73	Aleutian Islands.
171	12	10	<i>ee</i> 37 14	47 14			1.1	79	
172	17	7			40 54		1.0		
173	19	14	<i>ee</i> 20 3	29 5	<i>i</i> 20 6	36 48	43	69	
174	19	20			<i>i</i> 48 48				Seismic?
175	20	0					40		
176	20	21	<i>ie</i> 4 58						
177	21	20	<i>ee</i> 33 35		58.0	67 30			
178	21	22	<i>ie</i> 47 39						
179	22	16	<i>ie</i> 8 23						
180	22	22			57 1	57 50			59 ^m 43 ^s , 60 ^m 2 ^s . Chile.
181	24	14	<i>i</i> 57 18						
182	29	11	<i>i</i> 14 36						
183	30	0	<i>i</i> 37 35						