No. 16. 1937

Geodætisk Institut
Proviantgaarden, Copenhagen, Denmark.

Bulletin
of the seismological station

SCORESBY-SUND

$\varphi = 70°29'$ N. $\lambda = 21°57'$ W. $h = 69$ m.

Lithologic foundation: Gneiss

No. 16. Jan.—June 1937

Instruments:

Galitzin-Wilip seismographs.

Constants:

Component	l	A_1	T_1		μ^2	T	k
	cm	cm	sec			sec	
N	12.0	100	11.8	$^1/_1$—$^{21}/_4$	0.1	11.9	53
				$^{21}/_4$—$^{30}/_6$	0.1	11.9	102
E	12.0	100	11.9	$^1/_1$—$^{21}/_4$	0.0	11.9	50
				$^{21}/_4$—$^{30}/_6$	0.0	11.9	101
Z	14.9	100	10.02	$^1/_1$—$^{21}/_4$	0.0	$8^1/_2$	58
				$^{21}/_4$—$^{30}/_6$	0.0	$8^1/_2$	106

Time-corrections have been determined daily by means of Nauen scientific time-signals and time is known with an accuracy of about $^1/_{10}$ sec.

Scoresby-Sund.

No.	Date	Hour	Forerunners P	Forerunners S	Forerunners	Forerunners	L	Undefined	△	Remarks
	1937 Jan.		*m s*	*m s*	*h m s*	*m s*	*h m*	*h m*	°	
1	2	23					.2			
2	5	11	*i* 20 33							Japan. Deep focus.
3	5	22					.3			
4	7	6	23 15				.8			*P* quite small, the reading uncer-
5	7	7					35			[tain. Japan.
6*	7*	13	31 18	40 17	34 0	44.4			68	China.
7	19	22					53			
8	23	11			25.1		.8			Pacific Ocean. Strong microseisms.
9	25	7			4.0	10.7	.4			Solomon Islands. » »
10	29	17						.8		
	Febr.									
11	1	9			43.0	49.8	68			
12	1	21					.7			
13	2	16					52			
14	4	10					59			
15	5	6					16			
16	7	5			3.6		.2			
17	10	8					33			
18	12	5					1.0			Small preceding movement.
19	17	9					.8			
20	17	23					.9			
21*	21*	7	13 18	22 6	22 18	23 19	30		66	Pacific Ocean.
22*	21*	7	*i* 37 18							» »
23	21	11					.4			» »
24	21	15					.8			Faint.
25	21	22					1.0			Small preceding movement.
26	22	1					.0			Faint.
27	22	2					.0			»
28	22	3		13 34			.5			East of Japan.
29	22	4					1.2			Faint preceding movement.
30	22	13			43.6		.9			
31	23	0	58 57	67.7			1.3		66	Pacific Ocean.
32	23	14					.4			
	March									
33	5	23					.9			
34	9	6					.1			
35	9	15	51 50	61 14	66				73	Panama.
36	10	5			15.3		19			
37	12	10					.3			
38	14	2					.8			
39	14	12			20 14	22 47				*SS* $27^m.1$. Chile. No *Z* record.
40	15	7					.0			
41	16	15	58 44		69 10	75.1	1.8			*P* quite small, uncertain. Luzon.
42	17	14			20 39		.5			
43	18	2					25			Faint.
44	19	18					1.0			Small forerunners. Chile.
45	20	15					12			Faint.

Scoresby-Sund.

No.	Date	Hour	Forerunners P	Forerunners S	Forerunners		L	Un-defined	△	Remarks
	1937 March		*m s*	*m s*	*h m s*	*m s*	*h m*	*h m*	°	
46	21	16			33 34					
47	21	19					1.1			Small preceding movement.
48	22	10					47			Small.
49	22	11					11			»
50	22	11					35			»
51	22	11					51			»
52	22	13					17			»
53	23	1			14.4		.5			
54	23	19					.5			
55	24	1					.6			
56	24	14					.6			
57	25	17			7.6		.3			
58	26	10						31		
59	26	21					.6			
60	28	17					22			Small.
61	28	18					58			
62	29	6					.9			
63	29	8			13 14	19				
64	29	12					.8			Faint.
	April									
65	1	18					.5			
66	2	6					.1			Faint.
67	3	1					.3			»
68	3	4			22.0	28.7	.8			
69	3	22					.1			
70	3	22					.9			
71	4	1					33			Small.
72*	5*	7	10.9		21 44	24 50	.8			New Guinea.
73	7	18		47 56	51 48	53.0	1.0			*S* small. Iran.
74	13	5					.7			Small preceding movement.
75*	16*	3	17 2		20 12	22 19				Pacific Ocean.
76	20	23					16			
77	21	21	55 8				56			*P* small, the reading not quite certain. Greenland Sea.
78	23	13					4			Recording interrupted 12^h56^m—13^h4^m.
79	24	5					.6			Faint.
80	25	11					.1			
81	25	22					23			
82	28	2					.9			
83	28	20					16			Small.
84	28	20					18			»
85	28	20					34			»
86	29	1					.3			
87*	29*	18	15 5	18 8	15 30		19		17	Atlantic Ocean.
88	29	18					56			
89*	29*	19	*i* 1 45	9 7	4 6	13.9	16		52	Alaska.
90	29	20		36 44	38 1					Japan.

Scoresby-Sund.

No.	Date	Hour	Forerunners P	Forerunners S			L	Undefined	△	Remarks
	1937 May		*m s*	*m s*	*h m s*	*m s*	*h m*	*h m*	°	
91	1	13					.4			
92	1	16					7			
93	2	0					.0			
94	4	5		23 55	27.1		31			Alaska.
95	5	0					54			Small.
96	5	6					22			
97	5	14					.5			Faint.
98	5	21			38 56	40.1				
99	5	22					8			Small.
100	6	15					.3			Faint.
101	7	14			27.7		.6			
102	7	22						45		
103	8	20					.6			Faint.
104	9	3					51			Small.
105	9	14	57 24	66 3	67.2	69.8	76		65	South of Kurile Islands.
106	10	15			46 21	47 23				*e* 49^m38^s.
										No records 11^d15^h—14^d14^h.
107	15	11					.4			Faint.
108	16	7					.0			
109	16	12			1.8		.8			
										No records 16^d17^h—18^d13^h.
	June									No records May 20^d13^h—June 14^d16^h.
110	15	5					36			Small.
111	16	20					.0			
112	17	23					.1			
113	18	9					.6			
114	19	17			25 33	28 6				*e* $31^m.4$; 32^m32^s. $45^m.1$.
115	20	19					.4			Faint.
116	21	2					.4			»
117*	21*	15	*i* 25 51	36 35	36 12	37 31				Peru.
118	21	22					.8			
119	22	6						.0		Faint.
120	24	3					1.0			Faint preceding movement.
121	24	13					74			Recording interrupted 13^h2^m—$[14^h14^m$.
122	24	20	7 1	12 44	8 22	9 7	16		36	*e* 15^m30^s. Atlantic Ocean.
123	24	23					21			
124	25	17					51			
125	25	20						41		
126	25	21						29		
127	26	15						.1		Faint.
128	26	18			30.6					
129	26	19					.7			
130	28	20					.4			
131	29	23					42			Small.
132	30	11					29			»
133	30	14					.8			Faint preceding movement.
134	30	17					58			Small.

Scoresby-Sund.

NOTES

No. 6. Jan. 7. 13h. China. *P* 31m18s, dilatation. *PP* 34m0s ; *PPP* 35m.7. *eS* 40m17s ; iS_E 40m23s. S_cS_N 41m26s. *SS* 44m.4 ; *SSS* 48m, immediately followed by *L*.

No. 21. Febr. 21. 7h. Pacific Ocean. *eP* 13m18s, small, masked by microseisms ; i_N 13m27s ; i_Z 13m46s ; followed by several oscillations, but no clearly marked phases. e_N (P_cS) 17m37s ; e_N 18m.0. eS_E 22m6s ; $e_{N,E}$ 22m18s, large on *E* ; i_N 22m50s, large. e_E 23m19s ; $e_{N,E}$ 23m33s, large. SS_N 26m.0. $e_E L_Q$ 29m.7. L_R 37m.

No. 21. Febr. 21. 7h. Pacific Ocean. Superposed on preceding shock. *P*, as read, large and well defined, but possibly a small beginning a few seconds earlier. *S* in large *L* waves of preceding shock, not readable.

No. 72. April 5. 7h. New Guinea ; △ = ca. 110°. *P* small, 10m.9. *P'* 14m.5, quite small ; increase of movement 15m.2. *PP* 15m45s ; *PPP* 17m.5. SKS_N 21m44s ; e_E 21m53s. *PS* 24m50s, large on *N* ; *PPS* 26m1s. e_N 30m.4 ; *SS* 30m.8. e_E 34m.9 ; SSS_N 35m.4.

No. 75. April 16. 3h. Pacific Ocean. Deep focus. Phases clearly marked. *P* 17m2s, quite small. *P'* 20m3s ; 12s, rather large on *Z*. e_Z 21m.7 ; 21m53s. *PP* 22m19s, large. 22m58s large on *Z*. *e* 23m36s, very large on *N* and large on *E*. e_N 25m10s ; 26m.9 ; 28m42s ; 32m25s. e_Z 33m31s. e_N 34m.3. e_Z 34m52s. *e* 39m6s, large on *N* and *E*. *e* 41m.5.

No. 87. April 29. 18h. Atlantic Ocean. P_Z 15m5s small ; *i* 15m25s, *i* 15m30s larger. *e* 16m.2. S_E 18m8s, clearly marked ; S_N 18m13s smaller. e_N 18m30s, movement of long period. e_E 19m1s. iL_E 19m46s ; iL_N 20m48s.

No. 89. April 29. 19h. Alaska. Superposed on preceding shock. Possibly slightly deeper than normal. *iP*, dilatation, well defined. *iPP* 4m6s. iS_E 9m7s. e_N 9m33s. eS_cS_N 11m.3 ; e_E 11m36s ; e_E 11m59s. eSS_N 13m.1 ; e_E 13m.9. *L* not very large.

No. 117. June 21. 15h. Peru ; △ = ca. 88°. *iP* (— 2.1, — 3.3, — 5.8 ; + 2.7, + 3.7, + 8.7). e_Z 26m4s. e_N 27m3s. e_Z 28m51s. e_N 29m13s ; e_Z 29m26s ; $e_{N,E}$ 29m35s. e_Z 31m.1. e_N 32m33s. $e_{N,E}$ 35m15s. *SKS* 36m12s ; e_Z 36m19s. $S_{N,E}$ 36m35s, very large on *N*. $PS_{E,Z}$ 37m31s, large. $SS_{N,E}$ 42m.2 ; e_Z 42m.9. Large oscillations follow *SS* ; the beginning of *L* not clear.

Seismometric readings: Notation

P — normal first preliminary tremors, longitudinal waves.
P+ — first wave condensational (away from the epicentre).
P— — first wave dilatational (towards the epicentre).
P (±a, ±b, ±c) — a, b and c are trace amplitudes in mm. of first swing on NS, EW and vertical component Galitzin records respectively. + indicates ground motion directed to N, to E or up, — indicates ground motion to S, to W or down. When a second set of amplitudes is given it refers to the second swing. If an amplitude is not measurable the number is replaced by x.
PP... — longitudinal waves reflected at the earth's surface.
S — normal second preliminary tremors, transverse waves.
SS... — transverse waves reflected at the earth's surface.
PS; *PPS*;... — waves reflected at the earth's surface which travel partly as longitudinal, partly as transverse waves.
SKS — waves which traverse the mantle as transverse waves but are refracted through the core with longitudinal oscillation.
PKS — waves which pass the mantle on one side of the core as longitudinal waves, on the other side as transverse waves and are refracted through the core with longitudinal oscillation.
SKKS — waves which traverse the mantle as transverse waves, are refracted through the core with longitudinal vibration and are reflected on its inner boundary.
L — long, or surface, waves; main phase.
M — waves of greatest amplitude in the surface waves.
i — sharply defined beginning of a phase.
e — gradual beginning of a phase.
Δ — arcual distance from the station to the epicentre.
*) affixed to time of phase indicates that the beginning is in a time-mark.
*) affixed to number and date refers to Notes.

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KØBENHAVN