No. 10. 1933—34.

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. 10. Dec. 1933—June 1934.

Instruments:

Galitzin pendulums with galvanometric registration.

Constants :

Component	l	A_1		T_1	μ^2	T	k
	cm	cm		sec		sec	
N	12.0	100	$^1/_{12}$—$^{20}/_4$	11.8	0.1	11.8	48
			$^{20}/_4$—$^{30}/_6$	11.8	0.1	11.8	97
E	12.0	100	$^1/_{12}$—$^{20}/_4$	11.9	0.05	11.8	50
			$^{20}/_4$—$^{30}/_6$	11.9	0.0	11.8	91
Z	14.9	100	$^8/_{12}$—$^{19}/_4$	11.6	0.0	9	51
			$^{19}/_4$—$^{30}/_6$	11.6	0.0	9	100

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			L	Undefined	△	Remarks
	1933 Dec.		*m s*	*m s*	*h m s*	*m s*	*h m*	*h m*	°	
1	2	20					1.0			Small preceding movement masked by microseisms
	4									No records 18^h59^m—20^h6^m.
2	9	8					15			
3	12	14			30 53	40 23	1.1			$46^m.7$. New Guinea.
4*	13*	21	34 55	44 26	37.6	48.9	1.0		74	Mexico.
5	14	1					59			
6	14	7					.9			Small preceding movement.
7	14	19			14.6		.4			
8	15	7	45 37	48 39			49		17	Atlantic Ocean south of Greenland.
9	19	5			44 12					
10	19	17			54 23					51^m54^s quite small, not certain.
	1934 Jan.									
11	2	21					.5			
12*	3*	9	*i* 51 47	*i* 59 17	61 7					Kamtchatka
13	14	12					.6		70	
14*	15*	8	54 51*	*i* 64 1	64 28					North Bihar, India
15	16	19					.6			Faint
16	19	10					31			
	19									No records 12^h40^m—16^h52^m.
17	20	18					.6			
18	20	23					.7			Masked by microseisms.
19	28	15						.0		
20	28	19	21 18	30 38	23.8	34.7	.7		72	Mexico. *PPP* $25^m.7$.
21	30	19					.9			
22	30	20			.6		44			
23	31	11					.1			
	Febr.									
24	1	12					15			
25	2	15			.5					
26	2	20					.2			
27	3	14			52 57	62.5	1.5			$69^m.5$. New Britain.
28	4	9					.9			
29	4	13			44 53		1.0			Persia.
30	4	23					.1			Faint preceding movement.
31	9	10					.5			
32	11	9					.9			
33	12	7					.4			
	12									Recording interrupted 12^h7^m—
34*	13*	9	52 23							Greenland Sea. [12^h38^m.
35*	14*	4	12 29		22 56	23 15	.8			Luzon.
36	14	22					.9			
37	19	11					.0			Faint.
38	20	4					.2			
39	21	12					.1			
40	22	8					.6			Masked by microseisms.
41	24	0					57			Masked by microseisms.

Scoresby-Sund.

No.	Date	Hour	Forerunners P	Forerunners S			L	Undefined	△	Remarks
	1934 Febr.		*m s*	*m s*	*h m s*	*m s*	*h m*	*h m*	°	
42	24	6	36 29		47 0	48 5				e_N 46m50s. *e* 52m. Masked by strong microseisms.
43	24	14			51 39	58 31	1.3			Marianne Islands region. Some preceding movement. New Guinea region.
	March									
44	1	22			21 11					No other phases readable; very [strong microseisms.
45	4	6					.9			
46	4	11		34 31			40			Quite small movement on Z about 27m.2. Bering Sea.
47	5	2					.0			Faint.
48	5	12			6 1	28.7				New Zealand. Recording interrupted 12h9m—12h22m.
49	6	15					.2			Faint preceding movement.
50	7	23			2 13		14			
51	9	14					33			Recording interrupted 12h6m— [14h33m.
52	11	0					55			
53	12	15	14 50	22 16	24 46	26.2	31		53	Near Great Salt Lake, Utah.
54	12	18	29 22				.8			Aftershock.
55	13	13			31 59	42.1	1.0			49.0. Santa Cruz. Pacific Ocean.
56	16	9					19			
57	16	17					.6			
58	18	4			51.4					Masked by microseisms.
59	20	3			7	13.8	.6			
60	22	20					.7			
61	22	23					.5			
62	23	8					.4			
63*	24*	12			24 40		55			Salomon Islands region.
64	29	20	13 53*	18 47	14 32	21.0				*e* 21m22s. Balkans. Deep focus.
65	30	4					.5			
66	30	21					7			Iceland. Small preceding movement. Followed by other quite small shocks.
	April									
67	3	7			48.2	57 48*				
68	3	17			59		1.4			
69	3	22			44 17	54 26				
70	6	11					.6			
71	6	19	20 52	*i* 30 7	34.9				71	Japan. *L* small.
72	7	2					.7			
73	9	2						5		
74	9	15			59 29	66.1	80			
75	10	5			51 28	60.6	1.3			
76	10	10			42 14	48.3	1.4			Java.
77	11	21			32.7					
78	12	3			44.1	49.9	1.1			
79	12	9					.9			
80*	15*	22	28 59		33.1	39.8	1.0			Mindanao.
81	16	4					.9			
82	17	2					.8			

Scoresby-Sund.

No.	Date	Hour	Forerunners P	Forerunners S			L	Un-defined	△	Remarks
	1934 April		*m s*	*m s*	*h m s*	*m s*	*h m*	*h m*	°	
83	18	13					9			
84	19	16	*i* 24 49	*i* 34 12						Japan. Deep focus.
85	24	18			6	14	.5			
86	26	5			52.8	54.5	1.7			
87	26	8			19.9		1.1			
88	26	21			21.1	31.0	1.1			$37^{m}53^{s}$.
89	27	21			9 43	15.8	.9			Some preceding movement.
90	28	16					.1			Faint
91	28	18					.9			New Caledonia.
	May									
92	1	7						.5		Strong microseisms.
93	3	2					.3			
94	3	8						4		Seismic?
95	3	9					22			
96*	4*	4	*i* 44 5	*i* 50 30	*i* 45 46				43	Alaska.
97	5	2					.0			Small preceding movement.
98	5	14			55	73.0	1.8			
99	6	8					37			
100	7	5					.1			
101	9	16					.7			
102*	13*	9			21 34					Pacific Ocean.
103	13	17					.9			Faint.
104*	14*	22	21 19	*i* 28 7	*i* 23 23	31 11	34			Alaska.
105	15	5			1.8	4.0	5			Faint.
106	15	22					7			Small.
107	19	11			3.4	8 16	.4			
108	20	19			6 45		9			
109	21	5					.5			Faint.
110	21	10	9 5*				10			Greenland Sea.
111	22	2					.3			
112	22	11						22		
113	23	22						6		
114	24	0					.2			
115	26	22					.9			
116	27	19					.5			Faint.
117	28	5			43 8	51.5				Faint.
118	28	23					.9			
119	30	12					.5			
120	31	15					.2			
	June									
121*	2*	6	6 6	15 34	6 34					Burma. Deep focus.
122	2	13	*i* 43 49							Iceland. Strong record.
123	2	16	53 35	59 50						Alaska. *P* quite small.
124	2	18					40			
125	2	21	*i* 6 0	13 45			.4		56	Kamtchatka.
126	3	16						37		
127	3	20			33.9		36			

Scoresby-Sund.

No.	Date	Hour	Forerunners P	Forerunners S	Forerunners		L	Undefined	△	Remarks
	1934 June		*m s*	*m s*	*h m s*	*m s*	*h m*	*h m*	°	
128	3	21			28.4		1.0			
129	5	22					.3			
130	6	0					.0			
131	6	3			61.4		1.4			Small preceding movement.
132	6	6			43.6		.9			
133	6	11					.4			Faint.
134	6	12					.4			,,
135	6	17					.2			
136	6	21					.9			
137	7	16			18.5		.6			
138	8	2					.5			
139	8	3					.6			
140	8	4			58.0		61			Not quite certain whether one or two shocks.
141	8	5			6.0		18			
142	8	16					43			
143	8	19					.5			
144	9	2			50.1		1.3			
145*	9*	13			18 11	23 55	.9			New Guinea.
146	9	22						26		Seismic?
147	10	6					.9			Faint.
148	10	9					.1			,,
149	10	16			14.6					
150	10	20			2.8		.7			
151	10	22			12.9					
152	12	2						22		
153	12	9	43 39		52.9		1.2			Mexico.
154*	13*	2	*i* 1 31	*i* 10 7					64	Kurile Islands.
155	13	9					.4			
156*	13*	22	*i* 20 44	29.0	24 35	35 35	41		61	Afghanistan
157	14	22					.1			
158	15	3			.4		.7			
159	15	6			38.5	42 6	44			
160	16	5	21 33	29.8			.7		61	Kurile Islands region.
161	16	19					.6			
162	17	5					.9			
163	17	15					.0			
164*	18*	9	21 56	*i* 28 27	*i* 22 15	*i* 29 0	36		44	Alaska.
165	18	21			8.7		14			
166	19	4						13		
167	19	7						39		Seismic?
168	19	18	51 12	57.5			.1		42	Asia Minor
169	19	23						35		
170	22	18			.4		1.1			
171	23	5	30 49	39.8			47		68	Tibet.
172	23	11					35			Small.
173	24	2					.4			*Z* record only
174	24	3			46 50		1.5			,, ,, ,,
175	24	6	*i* 13 5		*i* 13 33	25 55				,, ,, ,, Chile.
176	24	14					.7			

Scoresby-Sund.

No.	Date	Hour	Forerunners P	Forerunners S	Forerunners		L	Undefined	△	Remarks
	1934 June		*m s*	*m s*	*h m s*	*m s*	*h m*	*h m*	°	
177	24	17					.9			Small preceding movement.
178	26	15					1			Small.
179	27	12					.0			
180	28	1			16.5	22.2	1.0			26m21s. Pacific Ocean.
181	28	6					.3			
182*	29*	8	38 47		*i* 52 9					
	29									No records 12h40m—14h45m.
183	29	22					24			
184	30	0					56			
185	30	9					42			
186	30	10					37			
187	30	12					17			
	30									No records 13h0m—16h23m.
188	30	17			29 24					
189	30	20					.9			

Scoresby-Sund.

NOTES

No. 4. Dec. 13. 21^h. Mexico. *P* clearly marked on *E* and *Z*. eS_E 44^m26^s; e_N 44^m40^s; SS_E $48^m.9$. *L* earliest on *N*.

No. 12. Jan. 3. 9^h. Kamtchatka. Deep focus. *P* large on *N* and *Z*. e_Z 52^m50^s, 53^m25^s. $e_{N,Z}$ 55^m28^s. *S* large. $e_{N,E}$ 1^m6^s, e_E 3^m12^s, e_N 5^m55^s.

No. 14. Jan. 15. 8^h. North Bihar, India. Very strong record. *P* in minute-break; 54^m59^s larger. *PP* $57^m.4$ not large; *PPP* 59^m17^s, larger. e_E 60^m42^s. *iS* 64^m1^s, on *E* preceded by increase of period and amplitude. *iPS* 64^m28^s very large on *N*. $65^m.2$ large on *E*. *SS* $69^m.0$. $72^m.0$, very large on *N*, *SSS* or *L*; SSS_E $72^m.3$.

No. 34. Febr. 13. 9^h, Greenland Sea. $i_E e_Z$ 52^m23^s large on *E*. e_N 52^m27^s. $e_{E,Z}$ 52^m35^s, on *E* followed by large, regular, increasing oscillations. $i_N e_Z$ 52^m50^s large on *N*; $i_{E,Z} e_N$ 55^m7^s, very large.

No. 35. Febr. 14. 4^h. Luzon; $\triangle$ = ca. 90°. Phases clearly marked. *iP*, dilatation, large. *PP* 15^m58^s. $e_N \overline{S_c P_c S}$ 22^m56^s, $e_N i_E S_n$ 23^m15^s; *PS* 24^m27^s. *SS* 29^m3^s; *SSS* 33^m17^s; *e* $36^m.0$.

No. 63. March 24. 12^h. Salomon Islands region. $\triangle$ = ca. 125°. Phases not very clearly marked. Small movement precedes *PP* 24^m40^s; *e* 25^m1^s. e_N $29^m.3$; e_N 30^m20^s. e_E $32^m.6$. $34^m.4$; $35^m.6$. *SS* $41^m.1$. *L* regular, earliest on E.

No. 80. April 15. 22^h. Mindanao; $\triangle$ = ca. 100°. *PP* $33^m.1$. $e_{N,E}$ 33^m26^s. *e* $37^m.1$. $(\overline{S_c P_c S})$ $39^m.8$; (*PS*) $42^m.4$. *SS* $47^m.7$. *SSS* $51^m.3$.

No. 96. May 4. 4^h. Alaska. Strong microseisms. No *Z* record. Forerunners very large; much oscillatory movement. *i* 45^m46^s, 46^m8^s; i_E 46^m28^s; i_N 46^m41^s. e_E $53^m.6$; i_N 53^m47^s; e_E $53^m.9$. *L* not very large.

No. 102. May 13. 9^h. Pacific Ocean; $\triangle$ = ca. 110°. Probably some depth of focus. PP_N 21^m34^s, e_Z 21^m43^s. $\overline{S_c P_c S_N}$ $27^m.4$; $\overline{S_c P_c P_c S_N}$ 28^m34^s; i_E (S_n) 29^m19^s. *iPS* 31^m19^s. *SS* $37^m.4$; 37^m35^s. *SSS* $41^m.8$; 42^m47^s. L_E 50^m; L_N 55^m; regular, not very large.

No. 104. May 14. 22^h. Alaska. Deep focus. *P* small. *pP* 21^m31^s larger. *S* large. *sS* 28^m34^s. *SS* 31^m11^s; $31^m.7$. *L* not large.

No. 121. June 2. 6^h. Burma. Deep focus. *P* small. *pP* 6^m34^s larger. *PP* 9^m27^s. *S* clearly marked; e_N 16^m2^s, $16^m.6$. *SS* $20^m.5.37^m$ *L* of long period, possibly another shock.

No. 145. June 9. 13^h. New Guinea; $\triangle$ = ca. 115°. P'_Z $17^m.1$ preceded by faint movement. *PP* 18^m11^s, *e* 19^m0^s. $\overline{S_c P_c S_N}$ 23^m55^s. *PS* $28^m.2$. *SS* $34^m.1$.

No. 154. June 13. 2^h. Kurile Islands. *P* and *S* large; *iP* dilatation. *PPP* $11^m.2$. eS_E 15^m30^s; iS_N 15^m35^s. *i* $(S_c S)$ 16^m42^s, large and clearly marked.

No. 156. June 13. 22^h. Afghanistan. Depth of focus greater than normal. *iP*, dilatation. *i* 21^m0^s. *PPP* 24^m35^s; 24^m55^s. eS_N $29^m.0$; iS_E 29^m6^s, large; $e_{N,Z}$ 29^m10^s. $i(S_c S)_E$ 30^m36^s large. *SS* $33^m.6$, not large; *SSS* 35^m35^s large. *L* not large.

No. 164. June 18. 9^h. Alaska. Focus deeper than normal. *P* quite small; *i* 22^m15^s large. PP_Z 23^m52^s. *iS* small; *i* 29^m0^s large. *iSS* 31^m49^s; *i* 32^m26^s. *L* small.

No. 182. June 29. 8^h. According to J.S.A. epicentre 6°.2 *S* 123°.3 *E*, depth 700 km. $\triangle$ = ca. 110°. *P* small, condensation. i_Z 42^m39^s, small. *PP* 43^m31^s. *e* $46^m.8$. e_N 49^m31^s. $i_Z e_{N,E}$ 52^m9^s, *e* 53^m23^s. $56^m.3$. *L* small.