

THE PENNSYLVANIA STATE UNIVERSITY
MINERAL INDUSTRIES EXPERIMENT STATION
GEOPHYSICAL LABORATORY
Project C-19

Seismograph Report XXVIII
September-December 1958
College of Mineral Industries
Department of Geophysics and Geochemistry
University Park, Penna., U.S.A.

Exchange
Locality: The station is located in a vault under the central wing of the School of Mineral Industries Building. The instruments are mounted on a concrete pillar separated from the foundations and anchored to bedrock (dolomite). The geographic coordinates are:

$\phi = 40^{\circ} 48' N$ $\lambda = 77^{\circ} 52' W$ $H = 354 m$

The geocentric coordinates are (courtesy of Gutenberg and Richter):

$A = 40^{\circ} 36' N$ $\lambda = 77^{\circ} 52' W$ $H = + 3 km.$

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During September to December 1958 three seismographs were in continuous operation except for brief intervals during repairs, adjustments and record changing. All components were recorded photographically at a rate of 1.56 cm/min. The east-west component was also recorded by a pen galvanometer at a rate of 1.70 cm/min. The free periods of the instruments when last measured (Seis. 3 June; Galv. 26 Aug.; Damp. 31 Aug. 1958) were:

Component	Seismometer Period	Galvanometer Period	overall damping A_1/A_2 cycle
North-South	11 sec	2.3 sec	1.9
East-West	12 sec	3.65 sec	3.7
Vertical	2.6 sec	4.0 sec	3.1

The time is controlled by a Stromberg clock, which is compared daily with signals from radio station WWV. The time accuracy of the records is estimated to be about ± 2 seconds.

Date	Phase and component		G.M.C.T.	Remarks
2 Sept., 1958	N,E,Z			Seismic activity observed between the hours of 20:21 and 20:42
4 Sept., 1958	iP	N,E,Z	22:02:56	Epicenter 33.5°S, 69.5°W
	iPP	N,Z	22:05:31	Chile-Argentina border
	iS	N,E	22:12:22	O = 21:51:08 Courtesy U.S.C.G.S. $\Delta = 8260$ km.
8 Sept., 1958	iP	N,E,Z	05:37:13	Epicenter 53.5°N, 159°E
	i?	N,E,Z	05:37:28	Near east coast of Kamchatka
	i?	N,Z	05:37:45	O = 05:25:37
	iPP	N,Z	05:40:11	h: slightly greater than normal
	eS	E	05:46:40	Courtesy U.S.C.G.S. $\Delta = 8240$ km.
9 Sept., 1958	E			Seismic activity observed between the hours of 22:59 and 23:20
20 Sept., 1958	E,Z			Seismic activity observed between the hours of 18:01 and 19:14
22 Sept., 1958	eP?	Z	19:24:30	Epicenter 33.5°S, 177.5°W
	iPP	E,Z	19:25:49	Kermadec Islands Region O = 19:05:44 Courtesy U.S.C.G.S. $\Delta = 13070$ km.
24 Sept., 1958	eP	N,Z	03:52:39	Epicenter 59 1/4°N, 143.5°W
	ePP	N,E,Z	03:54:34	Gulf of Alaska
	eS	E	03:59:21	O = 03:44:14 Courtesy U.S.C.G.S. $\Delta = 4900 +$ km.

Date	Phase and component		G.M.C.T.	Remarks
25 Sept., 1958	iP	N,E,Z	07:28:38	Epicenter 9°N, 39.5°W
	iPP	E,Z	07:30:33	Atlantic Ocean
	ePPP	E	07:31:11	O = 07:20:01
	iS	N,E,Z	07:35:46	Courtesy U.S.C.G.S. Δ = 5160 km.
7 Oct., 1958		E		Seismic activity observed between the hours of 13:36 and 14:00
9 Oct., 1958	eSS	E	11:53:38	Epicenter 55.5°S, 27.5°W Sandwich Islands region O = 11:20:17 Courtesy U.S.C.G.S. Δ = 11670 km.
10 Oct., 1958	iP	N,Z	08:41:53	Epicenter 53.5°N, 160.5°E
	eS	E	08:51:16	Near east coast of Kamchatka O = 08:30:26 Courtesy U.S.C.G.S. Δ = 8230 km.
11 Oct., 1958				Seismic activity starting at 01:01:40 Epicenter 65.5°N, 132.5°W Yukon Territory O = 00:41:35 Courtesy U.S.C.G.S. Δ = 4360 km.
28 Oct., 1958		E		Seismic activity observed between the hours of 11:30 and 12:30
29 Oct., 1958		E		Seismic activity observed between the hours of 00:16 and 00:50
29 Oct., 1958	iP	N,E,Z	07:55:02	Epicenter 51.5°N, 179.5°E
	iPP	N,Z	07:57:28	Andreanof Islands,
	eS	E	08:03:46	Aleutian Islands
	eScS	N,E	08:04:57	O = 07:44:10 Courtesy U.S.C.G.S. Δ = 7350 km.
31 Oct., 1958		E		Seismic activity observed between the hours of 07:22 and 08:05
1 Nov., 1958	e?	Z	03:58:07	Epicenter 3°S, 150°E
	e?	Z	03:59:17	Bismarck Sea
	ePP	N,Z	03:59:40	O = 03:38:35
	i?	Z	04:02:11	Courtesy U.S.C.G.S.
	e?	Z	04:07:02	Δ = 13920 km.

Date	Phase and component		G.M.C.T.	Remarks
1 Nov., 1958	E,Z			Seismic activity observed between the hours of 12:46 and 14:10
1 Nov., 1958	E			Seismic activity observed between the hours of 16:50 and 17:25
2 Nov., 1958	iP eS	Z N,E,Z	10:55:32 11:03:56	Epicenter 51.5°N, 175°W Andreanof Islands, Aleutian Islands O = 10:44:47 Courtesy U.S.C.G.S. Δ = 7040 km.
6 Nov., 1958	iP or PcP iS	N,E,Z N	23:10:46 23:20:59	Epicenter 44.5°N, 148.5°E Kurile Islands O = 22:58:06 h = about 60 km. Courtesy U.S.C.G.S. Δ = 9500 km.
7 Nov., 1958	E			Seismic activity observed between the hours of 05:45 and 06:20
7 Nov., 1958	E			Seismic activity observed between the hours of 12:07 and 12:40
8 Nov., 1958	iL	N	02:45:27	Epicenter 38.5°N, 88°W Illinois-Indiana border O = 02:41:09 Courtesy U.S.C.G.S. Δ = 905 km.
8 Nov., 1958	iP	N,Z	09:34:37	Epicenter 52°N, 159.5°E Off southeast coast of Kamchatka O = 09:22:53 Courtesy U.S.C.G.S. Δ = 8340 km.
10 Nov., 1958	E			Seismic activity observed between the hours of 10:48 and 10:59
11 Nov., 1958	E			Seismic activity observed between the hours of 11:35 and 11:50

Date	Phase and component		G.M.C.T.	Remarks
12 Nov., 1958	iP	N,E,Z	20:36:10	Epicenter 44.5°N, 148 1/2°E
	e?	N,E	20:30:32	Kurile Islands
	ePP	N	20:39:35	O = 20:23:26
	ePPP	N,E,Z	20:41:28	Courtesy U.S.C.G.S.
	e?	N,Z	20:42:22	Δ = 9500 km.
	iS	N,E,Z	20:46:34	
	e?	N,E	20:50:15	
14 Nov., 1958	iP	N,Z	05:52:38	Epicenter 14.5°N, 91.5°W
	iPP	N	05:53:37	Guatemala
				O = 05:46:34
				h = about 150 km.
				Courtesy U.S.C.G.S.
				Δ = 3200 km.
14 Nov., 1958		E		Seismic activity observed between the hours of 15:32 and 15:54
15 Nov., 1958	iP	N,Z	09:13:30	Epicenter 44°N, 149°E
	iPP	N,Z	09:16:50	Kuril Islands
	eS	N,E	09:23:44	O = 09:00:45
				Courtesy U.S.C.G.S.
				Δ = 9520 km.
16 Nov., 1958		E		Seismic activity observed between the hours of 18:36 and 18:52
16 Nov., 1958		E		Seismic activity observed between the hours of 22:58 and 23:06
17 Nov., 1958		E		Seismic activity observed between the hours of 10:55 and 11:12
18 Nov., 1958		E		Seismic activity observed between the hours of 08:20 and 08:50
19 Nov., 1958	eP	N,Z	09:36:40	Epicenter 44°N, 149°E
				Kuril Islands
				O = 09:23:45
				Courtesy U.S.C.G.S.
				Δ = 9520 km.
20 Nov., 1958		E		Seismic activity observed between the hours of 06:15 and 06:45
1 Dec., 1958	eL	N,Z	03:37:46	Epicenter 32.3°N, 115.8°W
				California-Mexico border
				O = 03:21:17
				Courtesy U.S.C.G.S.
				Δ = 3495 km.

Date	Phase and component		G.M.C.T.	Remarks
4 Dec., 1958	E			Seismic activity observed between the hours of 19:30 and 19:45
6 Dec., 1958	iP eS	N,Z E	09:40:37 09:46:00	Epicenter 6.5°N, 83°W South of Panama O = 09:33:45 Courtesy U.S.C.G.S. Δ = 3830 km.
7 Dec., 1958	iP eS	N,Z E	18:04:36 18:09:59	Epicenter 18°N, 105°W Off coast of Mexico O = 17:58:08 h = about 100 km. Courtesy U.S.C.G.S. Δ = 3620 km.
10 Dec., 1958	iP ePP	N,Z N,E,Z	07:21:26 07:23:12	Epicenter 37°S, 176.5°E Off North Island, New Zealand O = 07:02:59 h = about 300 km. Courtesy U.S.C.G.S. Δ = 13740 km.
10 Dec., 1958	eS?	E	22:01:18	Epicenter 24.5°N, 109°W Gulf of California O = 21:49:20 Courtesy U.S.C.G.S. Δ = 3400 km.
10 Dec., 1958	i i i	E,Z N,E,Z N,E	22:25:49 22:26:24 22:26:40	
10 Dec., 1958	N,E			Seismic activity observed between the hours of 23:31 and 23:37
11 Dec., 1958	N,E,Z			Seismic activity observed between the hours of 08:38 and 08:47
14 Dec., 1958	E			Seismic activity observed between the hours of 07:48 and 08:10
14 Dec., 1958	E			Seismic activity observed between the hours of 13:42 and 13:58
18 Dec., 1958	E			Seismic activity observed between the hours of 20:18 and 20:26

Date	Phase and component		G.M.C.T.	Remarks
19 Dec., 1958	i	N,Z	11:24:22	
	e	N,E	11:32:15	
19 Dec., 1958	E			Seismic activity observed between the hours of 19:08 and 20:00
21 Dec., 1958	E			Seismic activity observed between the hours of 06:26 and 07:20
25 Dec., 1958	E			Seismic activity observed between the hours of 09:08 and 09:52
28 Dec., 1958	E			Seismic activity observed between the hours of 06:30 and 07:00

We acknowledge with thanks receipt of the following bulletins and other publications between 14 October 1958 and 10 April 1959.

Athens, Prelim. Bull., Nov.-Dec., 1958; Feb. 1959
 Seis. Bull., 1957
 Bucarest, Bull. Seis. Prov., Oct.-Dec., 1958
 Cartuja, Prov. Seis. Bull., Dec., 1958; Jan., 1959
 Cheb, Seis. Bull., Aug.-Nov., 1958
 Coimbra, Sumario, 1957
 Djakarta, Prelim. Seis. Bull., Nov., 1958
 Dublin, Seis. Bull., May-Aug., 1958
 Japan, Geophys. Mag., Vol. 29(1)
 Records of Oceanographic Works, Vol. 4(1)
 Jerusalem, Bull., 54-56
 Jesuit Seis. Assoc., Prelim. Bull., Nov.-Dec., 1957
 Kobe, Jour. Ocean., Vol. 9(2), Vol. 10(1)
 Kobenhavn, Seis. Bull., 74
 Kuyper, Mag. Bull., Nov.-Dec., 1958
 La Plata, Seis. Bull., Jan.-Mar., 1958
 Macquarie, Prov. Seis. Bull., Dec., 1958
 Manila, Seis. Bull., 118-120
 Matsushiro, Seis. Bull., Mar.-June, 1958
 Melbourne, Prov. Seis. Bull., Nov., 1958
 Morgantown, Seis. Rpt., XV
 Nord, Seis. Bull., 2
 Ottawa, Seis. Bull., July-Sept., 1957
 Prague, Agit. Micro., Oct.-Nov., 1958
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 Prelim. Bull., Oct.-Nov., 1958
 Port Moresby, Seis. Bull., July, 1958
 Pruhonice, Prelim. Bull., Oct.-Nov., 1958
 Rome, Seis. Bull., June-Sept., 1958
 Strasbourg, Bull. Men., Feb., Apr., 1958
 Seis. Bull., June, Oct., 1958

Switzerland, Seis. Bull., Nov., 1958; Jan., 1959
Tacubaya, Seis. Bull., Dec., 1958
Tannarive, Bull. Seis., 1957
U.S.C.G.S., Blast Announcements, 13 Oct., 1958
Prelim. Det. Epic., 80-58 to 100-58, 102-58 to 106-58, 1-59 to 27-59
Seis. Bull., July-Oct., 1958
Vedurstofa Islands, Prelim. Seis. Bull., Nov.-Dec., 1958
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