International Seismological Centre From the ISC collection scanned by SISMOS

LITTLE ROCK

LITTLE ROCK COLLEGE SEISMOLOGICAL OBSERVATORY, PULASKI HEIGHTS, LITTLE ROCK, ARK., U. S. A.

(In cooperation with St. Louis University, St. Louis, Mo.—Records kept in St. Louis)

Two Wood-Anderson short-period seismographs, Howard clock, time checked by radio signals.

Bulletin for January, 1938

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
1	1	W-A	ePNE	$11^h29^m39^s$	Δ_{S-P} = 20°5
		W-A	i_N	11 30 14	
		W-A	eS_E	11 33 17	
		W-A	eS_N	11 33 27	
		W-A	eL_N	11 37 57	
			F	12 00 ±	
2	2	W-A	ePNE	$22^h31^m40^s$	Δ_{P-H} = 19°1
		W-A	eS_E	22 35 14	H = $22^h27^m17^s$
		W-A	eS_N	22 35 16	
		W-A	eL_N	22 39.2	16°7 N, 98°3 W.
			F	23 30 ±	Normal.
3	3	W-A	ePNE	$20^h48^m11^s$	Δ_{S-P} = 19°8
		W-A	eS_N	20 51 51	
		W-A	eS_E	20 51 53	
		W-A	e_N	20 52 27	
			F	20 54 ±	
4	3	W-A	eP_N	$21^h48^m16^s$	
		W-A	eP_E	21 48 21	
		W-A	$e(S)_{NE}$	21 51 46	
		W-A	eL_N	21 54 31	
5	18	W-A	iP_N	$4^h39^m38^s$	Δ_{S-P} = 18°7
		W-A	eP_E	4 39 38	
		W-A	i_N	4 39 42	
		W-A	i_N	4 40 11	
		W-A	i_E	4 40 24	
		W-A	eS_{NE}	4 43 10	
6	23	W-A	iP	$8^h42^m37^s$	Δ_{P-H} = 57°7
		W-A	i	8 42 45	H = $8^h32^m50^s$
		W-A	ePR_2	8 46 09	21°0 N, 156°2 W.
		W-A	eS	8 50 33	Felt throughout the
		W-A	e	8 50 47	Hawaiian Islands
		W-A	eL	9 00 29	
7	24	W-A	ePR_{1E}	$10^h50^m36^s$	Δ_{SKS-H} = 107°1
		W-A	$eSKS_E$	10 56 39	H = $10^h31^m45^s$
		W-A	$e(PS)_E$	10 59 46	60°4 S, 35°6 W.
		W-A	eL_E	11 01 26	Normal.
			F	12 30 ±	

Minor Seismic Activity: Jan 2, 6h00m to 6h30m; Jan 5, 8h23m to 8h30m; Jan 25, 16h30m to 17^h00^m

J.B. Macelwane, S.J. Dir., Dept. of Geophysics

Rev. Jos. A. Murray Director of the Station

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Two Wood-Anderson short-period seismographs, Howard clock, time checked by radio signals.

Bulletin for February, 1938

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
8	1	W-A	iP_{NE}	$19^h10^m38^s$	$\Delta S-P = 13°0$
		W-A	e_E	19 10 44	
		W-A	e_E	19 11 25	
		W-A	eS_E	19 13 13	
		W-A	eL_E	19 14 12	
			F	19 16 ±	
9	1	W-A	e_{NE}	$19^h23^m24^s$	Region of the Banda Sea
		W-A	i_{NE}	19 23 46	Felt in northern Austra-
		W-A	i_{NE}	19 23 57	lia and on the Island of
		W-A	i_{NE}	19 25 54	Ceram. This earthquake
		W-A	i_{NE}	19 26 52	is being studied by Mis
		W-A	i_N	19 28 31	Florence Robertson of S
			F	22 30 ±	Louis University.
10	2	W-A	eP_N	$9^h56^m33^s$	$\Delta S-P = 18°5$
		W-A	eP_E	9 56 35	
		W-A	iP_E	9 56 36	
		W-A	i_N	9 57 04	
		W-A	e_E	9 57 19	
		W-A	eS_N	10 00 03	
			F	10 02 ±	
11	5	W-A	iP_{NE}	$2^h30^m09^s$	$\Delta P-H = 33°4$
		W-A	i_N	2 30 21	$H = 2^h23^m38^s$
		W-A	ipP_N	2 30 50	5°1 N, 75°7 W.
		W-A	i_N	2 30 51	Depth by Brunner Depth
		W-A	i_N	2 30 58	Chart 130 Kms.
		W-A	isP_N	2 31 28	
		W-A	$iPcP_{NE}$	2 32 26	
		W-A	iS_E	2 34 52	
			F	3 35 ±	
12	12	W-A	e_E	$6^h31^m33^s$	Local disturbance?
		W-A	e_{NE}	6 31 36	
		W-A	e_E	6 31 48	
			F	6 33 ±	
13	15	W-A	eP	$3^h37^m51^s$	$\Delta S-P = 59°7$
		W-A	eS	3 46 08	$H = 3^h27^m45^s$
					19°3 N, 26°0 W. Normal.

Minor Seismic Activity: Feb. 8, 8h30m to 9h00m; Feb. 14, 3h12m to 3h20m

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Bulletin for March, 1938

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
14	4	W-A	eP_{NE}	$13^h37^m19^s$	
		W-A	iP_E	13 37 23	
		W-A	e_N	13 38 02	
		W-A	eS_{NE}	13 41 21	
			F	13 52 ±	
15	8	W-A	e_E	$6^h00^m52^s$	
		W-A	e_N	6 00 57	
		W-A	eL_E	6 04 09	
			F	Lost in next earthquake	
16	8	W-A	e_N	$6^h15^m27^s$	
		W-A	eL_N	6 30 44	
			F	7 30 ±	
17	22	W-A	eP_N	$15^h28^m52^s$	$\Delta_{P-H} = 33^\circ.7$
		W-A	eP_E	15 28 53	$H = 15^h22^m08^s$
		W-A	e_N	15 29 04	
		W-A	eS_{NE}	15 34 25	52°.2 N, 133°.1 W.
		W-A	iS_N	15 34 35	
		W-A	i_N	15 36 24	Normal.
		W-A	eL_{NE}	15 36 58	
		W-A	$e(M)_E$	15 39 23	
			F	Lost in changing records	
18	22	W-A	eP_N	$22^h34^m22^s$	
		W-A	eP_E	22 34 23	
		W-A	$e(S)_N$	22 38 55	
		W-A	i_N	22 45 11	
		W-A	iM_N	22 45 46	
		W-A	F	23 15 ±	
19	23	W-A	eP_{NE}	$14^h10^m15^s$	
		W-A	e_E	14 11 23	
		W-A	eS_E	14 13 55	
		W-A	e_N	14 18 00	
		W-A	eM_{NE}	14 19 33	
			F	14 26 ±	

International Seismological Centre From the ISC collection scanned by SISMOS

Little Rock Bulletin for March, 1938

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
20	25	W-A	eP_E	$8^h27^m12^s$	Δp-H = 19.0
		W-A	eP_N	8 27 14	H = $8^h22^m50^s$
		W-A	i_N	8 27 27	
		W-A	i_N	8 28 02	17°0 N, 85°5 W.
		W-A	i_N	8 28 56	
		W-A	e_N	8 29 16	Normal.
		W-A	iS_{NE}	8 30 41	
		W-A	eL_N	8 32 21	
			F	8 42 ±	
21	31	W-A	ePn_N	$10^h13^m36^s$	ΔSn-Pn = 234 miles
		W-A	eSn_N	10 14 17	Near earthquake in New
		W-A	F	10 15 ±	Madrid Region

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No.	Date	Inst.	Phase	G.M.C.T.	Remarks
22	Apr 1	W-A	$e(S)_E$	$22^h58^m35^s$	May not be an earthquake.
		W-A	$e(sS)_E$	22 58 53	
			F	23 00 ±	
23	Apr 4	W-A	eP_N	$21^h27^m34^s$	
		W-A	iP_N	21 27 36	
		W-A	eP_E	21 27 37	
		W-A	eS_E	21 30 26	
		W-A	iS_N	21 30 26	
		W-A	i_N	21 30 50	
		W-A	i_N	21 31 04	
			F	21 37 ±	
24	Apr 5	W-A	$(eP)_E$	$11^h15^m22^s$	
		W-A	eP_N	11 15 34	
		W-A	iS_E	11 21 13	
		W-A	iS_N	11 21 14	
		W-A	isS_E	11 21 36	
		W-A	e_E	11 21 56	
		W-A	e_E	11 22 43	
			F	11 30 ±	
25	Apr 10	W-A	eP_E	$19^h34^m53^s$	
		W-A	e_E	19 35 25	
		W-A	e_E	19 35 53	
		W-A	e_E	19 36 09	
		W-A	eS_E	19 38 47	
		W-A	e_E	19 39 32	
			F	19 47 ±	
26	Apr 12	W-A	eP_N	$11^h07^m25^s$	$\Delta_{S-P} = 21^\circ.0$
		W-A	iP_N	11 07 31	
		W-A	e_E	11 07 32	
		W-A	i_N	11 07 56	
		W-A	e_E	11 08 01	
		W-A	eS_{NE}	11 11 17	
		W-A	e_E	11 11 45	
			F	11 30 ±	

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No.	Date	Inst.	Phase	G.M.C.T.	Remarks
27	Apr 12	W-A	eNE	$16^h34^m51^s$	
		W-A	i_N	16 35 24	
		W-A	e_N	16 35 48	
		W-A	eL_N	16 38.1	
		W-A	F	16 41 ±	
28	Apr 13	W-A	eP_{NE}	$2^h57^m31^s$	$\Delta_{P-H} = 80^\circ.6$
		W-A	iP_{NE}	2 57 32	$H = 2^h45^m54^s$
		W-A	$iPcP_{NE}$	2 57 41	Epicenter:
		W-A	i_{NE}	2 58 37	$39^\circ.4$ N, $15^\circ.0$ E.
		W-A	iS_E	3 07 13	Depth by the
		W-A	e_E	3 09 00	Brunner Depth
		W-A	e_E	3 10 08	Chart about
			F	3 45 ±	300 km.
29	Apr 13	W-A	e_N	$12^h38^m56^s$	
		W-A	e_N	12 39 12	
		W-A	i_N	12 39 42	
		W-A	i_N	12 39 53	
			F	12 45 ±	
30	Apr 13	W-A	e_N	$14^h00^m37^s$	
		W-A	e_N	14 01 13	
		W-A	e_N	14 01 56	
			F	14 08 ±	
31	Apr 14	W-A	iP_N	$1^h35^m19^s$	
		W-A	e_N	1 36 50	
		W-A	$e(S)_E$	1 40 36	
			F	2 00 ±	
32	Apr 16	W-A	eP_E	$20^h21^m47^s$	
		W-A	e_E	20 22 08	
		W-A	iS_E	20 25 30	
		W-A	i_E	20 26 17	
			F	20 45 ±	
33	Apr 17	W-A	eP_E	$14^h49^m29^s$	$\Delta_{P-H} = 58^\circ.3$
		W-A	e_E	14 49 42	$H = 14^h39^m42^s$
		W-A	e_E	14 50 05	Epicenter:
		W-A	e_E	14 52 08	$18^\circ.5$ S, $69^\circ.0$ W.
		W-A	iS_E	14 57 27	Depth by the
		W-A	i_E	14 57 43	Brunner Depth
		W-A	i_E	14 57 53	Chart: 50+ km.
			F	15 08 ±	
34	Apr 17	W-A	e_N	$21^h39^m54^s$	
		W-A	e_E	21 40 38	
			F	21 45 ±	

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No.	Date	Inst.	Phase	G.M.C.T.	Remarks
35	Apr 19	W-A	eP_N	$11^h12^m25^s$	$\Delta P-H = 90°9$
		W-A	ePR_1N	11 16 04	$H = 10^h59^m23^s$
		W-A	eSKSNE	11 22 50	Epicenter:
		W-A	i_N	11 23 00	39°0 N, 33°1 E.
		W-A	eSKKSN	11 23 20	Destructive in
		W-A	e_N	11 23 22	the central part
		W-A	e_N	11 25 17	of the district
		W-A	eL_N	11 44 25	of Anatolia,
			F	12 15 ±	Turkey, with heavy loss of life
36	Apr 19	W-A	eS_{NE}	$23^h43^m11^s$	
		W-A	e_{NE}	23 44 26	
			F	23 50 ±	
37	Apr 20	W-A	e_E	$12^h45^m14^s$	Weak.
		W-A	e_E	13 06 54	
			F	13 45 ±	
38	Apr 22	W-A	eP_{NE}	$4^h22^m14^s$	
		W-A	e_N	4 22 40	
		W-A	e_N	4 25 33	
		W-A	i_E	4 27 22	
		W-A	e_N	4 28 51	
		W-A	eL_N	4 32.5	
			F	5 10 ±	
39	Apr 25	W-A	eP_N	$17^h12^m53^s$	
		W-A	eP_E	17 12 54	
		W-A	ePR_1N	17 13 14	
		W-A	iPR_2NE	17 13 24	
		W-A	eS_E	17 17 07	
		W-A	e_E	17 17 36	
		W-A	eL_E	17 20 42	
			F	17 45 ±	
40	Apr 25	W-A	$ePnNE$	$23^h42^m38^s$	$\Delta Sn-Pn = 1°06$
		W-A	$iPgNE$	23 42 40	= 73 miles
		W-A	iS_{NE}	23 42 51	$H = 23^h42^m18^s$
		W-A	iSn_E	23 42 53	Felt in the
		W-A	e_N	23 42 55	vicinity of
			F	23 47 ±	Findley, Arkansas

Minor Seismic Activity: April 7, 17h00m to 24h00m; April 1[illegible], 5h00m to 5h15m; April 30, 22h15m to 22h45m.

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Bulletin for May 1938

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
41	May 2	W-A	e_N	$23^h46^m33^s$	
		W-A	i_{NE}	23 47 07	
		W-A	e_N	23 48 22	
		W-A	e_{NE}	23 48 52	
			F	23 54 ±	
42	May 2	W-A	e_N	$21^h19^m57^s$	
		W-A	e_N	21 20 06	
		W-A	e_N	21 20 35	
			F	21 21 ±	
43	May 3	W-A	iP_{NE}	$2^h19^m28^s$	$\Delta_{P-H} = 17^\circ.6$
		W-A	ipP_{NE}	2 19 47	$H = 2^h15^m29^s$
		W-A	iS_E	2 22 47	Epicenter:
		W-A	iS_N	2 22 48	13°.2 N, 99°.1 W.
		W-A	i_N	2 23 04	Depth by Brunner
		W-A	i_E	2 23 55	Depth Chart about
		W-A	i_{NE}	2 24 35	100 km.
		W-A	i_{NE}	2 27 39	Damage reported
			F	2 48 ±	at Igualo, Mexico.
44	May 3	W-A	eP_N	$19^h28^m04^s$	
		W-A	e_N	19 28 43	
		W-A	$e(S)_N$	19 33 21	
		W-A	e_N	19 38 06	
		W-A	e_N	19 38 23	
			F	19 45 ±	
45	May 6	W-A	eP_E	$18^h22^m29^s$	$\Delta_{S-P} = 22^\circ.9$
		W-A	eP_E	18 22 30	$H = 18^h17^m26^s$
		W-A	iP_N	18 22 31	Epicenter:
		W-A	i_N	18 22 50	12°.6 N, 86°.9 W.
		W-A	ePR_{1N}	18 22 57	
		W-A	iS_E	18 26 39	
		W-A	iS_N	18 26 44	
		W-A	eSR_{1E}	18 27 23	
		W-A	eL_E	18 30 03	
			F	19 12 ±	
46	May 8	W-A	e_N	$14^h08^m25^s$	
		W-A	e_{NE}	14 09 14	
			F	Lost in next earthquake	

Little Rock Bulletin for May 193

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No.	Date	Inst.	Phase	G.M.C.T.	Remarks
47	May 8	W-A	e_N	$14^h58^m45^s$	
		W-A	eNE	15 01 17	
		W-A	eN	15 07 24	
			F	Lost in microseisms.	
48	May 10	W-A	eP_N	$2^h35^m17^s$	
		W-A	eP_E	2 35 20	
		W-A	e_N	2 35 39	
		W-A	eS_E	2 38 32	
		W-A	iS_{NE}	2 38 33	
		W-A	e_E	2 39 06	
			F	2 42 ±	
49	May 11	W-A	eP_N	14^h49^m12	$\Delta_{S-P} = 19°8$
		W-A	iPR_{2N}	14 49 33	$H = 14^h44^m45^s$
		W-A	i_N	14 49 58	Epicenter:
		W-A	e_E	14 51 56	16°8 N, 100°7 W
		W-A	iS_{NE}	14 53 05	Normal.
		W-A	iSR_{1E}	14 53 51	
		W-A	eL_E	14 55 18	
		W-A	iM_N	14 57 09	
		W-A	iM_N	14 58.2	
		W-A	iM_N	15 02.4	
			F	16 25 ±	
50	May 12	W-A	$(eP')_E$	$15^h57^m47^s$	$\Delta_{P'-H} = 117°4$
		W-A	eP'_E	15 57 49	$H = 15^h39^m02^s$
		W-A	$e(PR_1)_N$	15 59 07	Region of
		W-A	$e(PR_2)_E$	16 01 44	5°0 S, 147°5 E.
		W-A	$e(SKS)_{NE}$	16 04 46	Normal.
		W-A	$e(SKKS)_E$	16 06 05	
		W-A	$e(S)_E$	16 06 43	
		W-A	$e(PS)_N$	16 08 56	
		W-A	$e(SR_2)_E$	16 19.7	
		W-A	eL_N	16 28.3	
		W-A	eM_E	16 35.7	
		W-A	eM_N	16 38.7	
			F	18 00 ±	
51	May 19	W-A	eP'_N	$17^h28^m03^s$	$\Delta_{P'-H} = 133°7$
		W-A	e_E	17 30 25	$H = 17^h08^m46^s$
		W-A	$iSKP_{NE}$	17 31 21	Epicenter:
		W-A	$e(PSKS)_N$	17 40 42	1°0 N, 118°9 E.
		W-A	eNE	17 45 37	Normal.
		W-A	eSR_{1N}	17 48 20	
			F	20 00 ±	

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No.	Date	Inst.	Phase	G.M.C.T.	Remarks
52	May 23	W-A W-A W-A W-A W-A W-A	$e(P)_N$ e_E e_E e_E $iSKS_N$ e_E F	$7^h31^m19^s$ 7 31 23 7 31 36 7 36 38 7 42 20 7 48 32 20 00 ±	$\Delta_{SKS-H} = 92°7$ $H = 7^h18^m43^s$ Epicenter: 36°9 N, 141°1 E. Depth by Brunner Depth Chart: 100 km Felt throughout the main island of Japan.
53	May 26	W-A W-A	iP_{NE} iS_{NE} F	$21^h31^m59.5^s$ 21 32 01 21 33 ±	Blast!
54	May 28	W-A W-A W-A W-A W-A W-A	eP_{NE} iPR_{1N} ePR_{2N} eS_{NE} eL_{NE} eM_{NE} F	$10^h19^m48^s$ 10 20 25 10 20 38 10 24 36 10 28 46 10 30 42 11 30 ±	$\Delta_{P-H} = 26°7$ $H = 10^h14^m06^s$ Epicenter: 43°3 N, 125°0 W. Felt at Marshfield coast of Oregon.
55	May 28	W-A W-A W-A W-A W-A	eP_N e_N $e(S)_{NE}$ e_N eL_N F	$16^h54^m51^s$ 16 55 03 17 05 25 17 06 16 17 24 48 18 15 ±	
56	May 28	W-A W-A	iP_N i_{NE} F	$18^h17^m23.5^s$ 18 17 24 18 18 ±	Blast?
57	May 30	W-A W-A W-A W-A W-A W-A	ePR_{1E} e_N e_E $e(PS)_{NE}$ $e(PPS)_E$ eL_E F	$14^h48^m37^s$ 14 48 55 14 54 46 14 58 00 14 58 17 15 07 42 18 00 ±	$\Delta_{PR_1-H} = 108°7$ Epicenter: 20°4 S, 169°4 E. $H = 14^h29^m48^s$ Normal.
58	May 31	W-A W-A W-A	e_N i_{NE} i_{NE} F	$8^h45^m50^s$ 8 46 21 8 47 23 8 55 ±	

Minor Seismic Activity: May 28, 21h30m to 21h39m

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Records read by R. R. Heinrich, Instructor

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LITTLE ROCK

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Bulletin for September 1938

Note: The Little Rock Station, after an interruption, during June, July and August, resumed registration on September 16, 1938, for the second half of the year.

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
59	Sept 17	W-A	eP_{NE}	$17^h23^m34^s$	$\Delta_{J.S.A.} = 13^\circ.8$
		W-A	c	17 23 36	Epicenter: 33°.6 N,
		W-A	eP_N	17 23 24	109°.1 E.
		W-A	eS?	17 26 05	$H = 17^h20^m16^s$
		W-A	eS_{NE}	17 26 17	Depth: normal.
		W-A	iSR_1NE	17 26 45	
		W-A	iL_{NE}	17 27 07	
		W-A	i	17 27 11	
		W-A	M	17 27 32	
		W-A	F	17 40 ±	
60	Sept 20	W-A	e_N	$4^h43^m20^s$	Time uncertain.
		W-A	e_N	4 43 47	
		W-A	i_N	4 46 04	
		W-A	iM?	4 46 16	
		W-A	F	4 49 ±	
61	Sept 29	W-A	iP_N	$23^h36^m02^s$	$\Delta_{S-P} = 14^\circ.1$
		W-A	eS_{NE}	23 38 48	Time uncertain.
		W-A	iS_{NE}	23 38 58	
			F	23 41 ±	
62	Sept 29	W-A	eP_{NE}	$23^h39^m35^s$	$\Delta_{P-H} = 13^\circ.8$
		W-A	i	23 39 45	Time uncertain.
		W-A	eS?	23 41 35	
		W-A	eS_{NE}	23 42 13	
		W-A	L	23 43 19	
			F	23 51 ±	

Minor Seismic Activity:
Strong microseisms September 20 to 21; September 27.

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63	Oct 1	W-A	e	$22^h16^m58^s$	$\Delta_{S-P} = 14^\circ.5$
		W-A	eS_N	22 18 08	Aftershock of
		W-A	i	22 19 08	September 29.
			F	22 22 ±	
64	Oct 10	W-A	eP'_N	$21^h07^m10^s$	Δ J.S.A.= $130^\circ.5$
		W-A	ePR_1NE	21 09 45	Epicenter: = $1^\circ.0$ N.,
		W-A	$eSKP_N$	21 10 33	$125^\circ.0$ E.
		W-A	i	21 13 35	H = $20^h48^m04^s$
		W-A	$eSKS_E$	21 13 55	
		W-A	L	21 49 10	
			F	22 10 ±	
65	Oct 19	W-A	eP?	$4^h44^m46^s$	
		W-A	e	4 54 48	
		W-A	e	4 55 10	
		W-A	e	4 59 16	
		W-A	L	5 00	
		W-A	M	5 26	
		W-	F	5 40	
66	Oct 20	W-A	$ePKP_N$	$2^h38^m46^s$	Δ J.S.A. = $139^\circ.2$
		W-A	$ipPKP_N$	2 38 54	Epicenter:
		W-A	$iSKP_N$	2 42 13	$9^\circ.5$ S., $122^\circ.8$ E.
		W-A	iPR_2NE	2 44 35	H = $2^h19^m15^s$
		W-A	$iSKS_{NE}$	2 44 45	Depth 50 km.
		W-A	$iSKKS_{NE}$	2 48 18	
		W-A	iS?	2 48 39	
		W-A	i?	2 51 10	
		W-A	L	3 00 30	
			F	4 10 ±	

<u>Minor Seismic Activity</u>: Oct. 14, 17h13m to 17h19m; Oct. 23, 5h16m to 5h19m.

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67	Nov 5	W-A	eP_N	$8^h56^m34^s$	Δ J.S.A. = 93°.9
		W-A	$iSKS_{NE}$	9 07 36	Epicenter:
		W-A	$iSKKS_{NE}$	9 08 14	36°.8 N., 139°.6 E.
		W-A	eS_{NE}	9 08 24	$h = 8^h43^m18^s$
		W-A	ePS_{NE}	9 09 24	Depth normal.
		W-A	eSR_1	9 13 39	
		W-A	L	9 24 00	
		W-A	M	9 31 00	
			F	11 ±	
68	Nov 6	W-A	eP_N	$9^h07^m00^s$	Δ J.S.A. = 91°.3
		W-A	iP_N	9 07 04	Epicenter:
		W-A	iPR_{1NE}	9 10 37	37°.0 N., 143°.7 E.
		W-A	ePR_2	9 12 39	$H = 8^h53^m58^s$
		W-A	eS_{NE}	9 17 55	Depth normal.
		W-A	iS_{NE}	9 18 00	Very strong
		W-A	$iSKKS_N$	9 18 00	quake.
		W-A	iPS_N	9 19 00	
		W-A	iPPS	9 14 45	
		W-A	iScS	9 21 53	
		W-A	SR_{1NE}	9 24 10	
		W-A	SR_{2NE}	9 27 40	
		W-A	i	9 36 40	
		W-A	L	9 37 40	
		W-A	M	9 44 29	
			F	11 15 ±	
69	Nov 6	W-A	eP_N	$21^h52^m01^s$	Δ_{S-P} = 90°.1
		W-A	ePR_{1N}	21 55 29	$H = 21^h39^m03^s$
		W-A	ePR_{2N}	21 57 01	Aftershock of
		W-A	iS_{NE}	22 02 55	the previous
		W-A	ePS_N	22 03 54	quake.
		W-A	$ePPS_N$	22 04 19	
		W-A	$iPPPS_N$	22 04 56	
		W-A	SR_{1NE}	22 09 00	
		W-A	L	22 22 36	
		W-A	M	22 44	
		W-A	F	23 30	

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No.	Date	Inst.	Phase	G.M.C.T.	Remarks
70	Nov 10	W-A	eP_N	$20^h27^m34^s$	Δ_{S-P} = 49°1
		W-A	iP_N	20 27 36.5	Epicenter by
		W-A	i	20 27 42	J.S.A.: 55°6 N.,
		W-A	iPR_{1NE}	20 29 27	157°7 W.
		W-A	iPR_{2NE}	20 30 07	H = $20^h18^m48^s$
		W-A	$iScP_N$	20 32 04	Depth normal.
		W-A	iS_{NE}	20 34 40	
		W-A	iS_{NE}	20 34 43	
		W-A	$iScS_E$	20 37 27	
		W-A	iSR_1	20 37 42	
		W-A	L	20 42	
			F	(Lost in change of records)	
71	Nov 11	W-A	iP_{NE}	$1^h06^m35^s$	Δ_{S-P} = 47°3
		W-A	ePR_{1N}	1 08 14	Epicenter by
		W-A	iS_{NE}	1 13 34	J.S.A. = 54°9 N.,
		W-A	iSP_N	1 13 46	156°0 W.
		W-A	$iScS_N$?	1 16 21	H = $1^h57^m57^s$
		W-A	SR_{1NE}	1 16 36	Aftershock of
		W-A	L	1 19 30	the previous
		W-A	M	1 23 20	quake.
			F	2 10 ±	
72	Nov 13	W-A	eP_E	$13^h26^m02^s$	Δ J.S.A. = 82°3
		W-A	ipP_E	13 26 12	Epicenter:
		W-A	iPR_{1NE}	13 29 17	46°0 N., 149°4 E.
		W-A	iS_{NE}	13 36 15	H = $13^h13^m50^s$
		W-A	isS_{NE}	13 36 40	Depth 50 km.
		W-A	iSP_{NE}	13 37 10	
			F	14 05 ±	
73	Nov 17	W-A	eP_{NE}	$4^h03^m17^s$	Δ J.S.A. = 47°4
		W-A	iP_E	4 03 26	Epicenter:
		W-A	$iPeP_N$ or	4 05 03	52°4 N., 155°0 W.
		W-A	PR_{1N}	4 [illegible] 03	H = $3^h54^m49^s$
		W-A	iS_{NE}	4 10 [illegible]	Depth 50 km.
		W-A	isS_{NE}	4 1[illegible] [illegible]	
		W-A	isP_{NE}	4 11 [illegible]	
		W-A	iPS_N	4 1[illegible] 24	
		W-A	i	4 12 24	
		W-A	$iScS_N$	4 13 08	
		W-A	SR_1	4 13 26	
		W-A	X?	4 13 51	
		W-A	iSR_2?	4 14 12	
		W-A	L	4 17 50	
		W-A	iScPPcS	4 20 27	
		W-A	M	4 21 46	
			F	5 20 ±	

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No.	Date	Inst.	Phase	G.M.C.T.	Remarks
74	Nov 22	W-A W-A W-A W-A -- --	eP_N epP_N eS_E iS_N F	$1^h27^m12^s$ 1 27 22 1 38 14 1 38 22 3 00 ±	Δ J.S.A. = 93°2 Δ_{S-P} = 93°5 Epicenter by J.S.A.: 36°3 N. 141°6 E. H = $1^h14^m06^s$ Depth about 60 km.
75	Nov 30	W-A W-A W-A W-A W-A W-A W-A W-A	eP_{NE} eP_N $iSKKS_{NE}$ iS_E iPS_N $ePPPS_N$ L M F	$2^h43^m01^s$ 2 43 10 2 54 02 2 54 14 2 54 55 2 55 55 3 13 24 3 20 4 15	Δ J.S.A. = 92°7 Epicenter: 37°5 N., 141°3 E. H = $2^h28^m52^s$ Depth normal.

Minor Seismic Activity: Nov. 9, 8h59m to 9h40m; Nov. 10, 15h29m to 15h31m; Nov. 10, 15h35m to 15h40m; Nov. 11, 9h01m to 9h45m; Nov. 12, 9h01m to 9h16m; Nov. 13, 23h06m to 24h10m.

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No.	Date	Inst.	Phase	G.M.C.T.	Remarks
76	Dec 9	W-A	ePN	$4^h03^m56^s$	
		W-A	eN	4 04 57	
		W-A	eN	4 08 50	
		W-A	eN	4 11 08	
		W-A	eN	4 20 06	
		W-A	eN	4 21 28	
		W-A	L?	4 22 21	
			F	4 46 ±	
77	Dec 12	W-A	eN	$3^h22^m53^s$	
		W-A	eN	3 23 45	
		W-A	iNE	3 23 55	
		W-A	iNE	3 24 01	
		W-A	iNE	3 24 33	
		W-A	iNE	3 25 12	
		W-A	iNE	3 26 28	
			F	3 32 ±	
78	Dec 13	W-A	eNE	$9^h27^m20^s$	
		W-A	eNE	9 28 22	
		W-A	eNE	9 29 43	
		W-A	iNE	9 30 38	
		W-A	iNE	9 31 47	
		W-A	iNE	9 31 55	
		W-A	iNE	9 32 04	
		W-A	F	10 40 ±	

Minor Seismic Activity: Dec. 3, 17h57m to 18h1m; Dec. 7, 14h43m to 14h47m; Dec. 15, 18h18m to 18h55m; Dec. 16, 19h29m to 19h55m; Dec. 17, 0h15m to 0h40m; Dec. 19, 18h35m to 18h42m.

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