SAINT LOUIS

SEISMOGRAPHIC STATION, ST. LOUIS UNIVERSITY, ST. LOUIS, MO., U. S. A.

One Wiechert 80 Kg., two Wood-Anderson long-period seismographs, Wiechert clock

Bulletin for 1935

No.	Date	Inst.	C/D	Phase	G.M.C.T.	H--Reamrks
1	Jan. 1	W-A		eP_{EN}	13-33-57	Δ = 95°3
		W-A		epP_{EN}	13-35-11	H = 13h-21m-10s.
		W-A		iPR_{1E}	13-37-50	Epicenter: 14°8 S.,
		W-A		$iSKS_{E}$	13-44-05	175°0 W.
		W-A		eS_{E}	13-44-51	Depth of focus: 300 km.
		W-A		i	13-46-13	by Brunner Depth Chart
		W-A		esS?	13-46-51	
		W-A		F	14-00±	
2	Jan. 2	W-A		eP_{E}	22-46-44	Δ = 26°3
		W-A		eS_{EN}	22-51-21	H = 22h-41m-06s.
		W-A		eM	22-55-55	Epicenter: 40°9 N.,
		W-A		F	23-20±	124°3 W.
3	Jan. 4	W-A		eP_{E}	14-53-57	
		W-A		$eSKS_{E}$	15-04-21	
		W-A		eM_{E}	15-28-00	
		W-A		F	15-50±	
4	Jan. 4	W-A		eP_{E}	16-32-28	
		W-A		eL_{E}(?)	17-06-24	
		W-A		F	17-30±	
5	Jan. 23	W-A		eP_{EN}	07-33-31	Δ = 52°6
		W-A		ipP_{EN}	07-33-40	H = 07h-24m-18s.
		W-A		ePR_{1E}	07-35-26	Epicenter: 52°4 N.,
		W-A		i_{EN}	07-35-49	168.0 W.
		W-A		iS_{EN}	07-41-07	Depth of focus: 38 km.
		W-A		isS_{EN}	07-41-25	by Brunner Depth Chart
		W-A		i_{EN}	07-43-15	
		W-A		eSR_{1E}	07-44-49	
		W-A		eSR_{1N}	07-45-00	
		W-A		eL_{EN}	07-48-35	
		W-A		eM_{E}	07-53-36	
		W-A		F	10-00±	

Minor Seismic Movements: Jan. 3, 2h40m-3h; Jan. 17, 3h30m-4h30m;
Jan. 31, 18h15m-19h15m.

James B. Macelwane, S.J.
Director

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Instructor

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6.	Feb. 6	W-A W-A W-A W-A W-A		iP$_E$ eE eS$_E$ eL$_E$ F	2-01-36 2-02-58 2-07-44 2-14-00 2-30±	Δ = 39°
7	Feb. 13	W-A W-A W-A W-A W-A		eP$_{EN}$ epP$_{EN}$ eS$_{EN}$ esS$_E$ F	17-32-43 17-33-08 17-41-21 17-42-02 17-45±	Δ = 64° Focal depth about 100 kms. by Brunner Depth Chart.
8	Feb. 20	W-A W-A W-A W-A W-A W-A		eP$_{EN}$ eS$_{EN}$ e$_E$ e$_E$ eL$_E$ F	11-31-54 11-36-19 11-36-45 11-37-04 11-32-37 11-50±	Δ = 25°
9	Feb. 22	W-A W-A W-A W-A W-A W-A W-A		eP$_{EN}$ eP$_c$P$_{EN}$ ePR$_1$E eS$_{EN}$ eL$_{EN}$ eM$_{EN}$ F	17-16-22 17-17-04 17-18-45 17-25-01 17-36-30 17-43-30 20-45±	Δ = 63°.2 Epicenter: 50°.5 N, 176°.6 E. H=17h05m59s.
10	Feb. 24	W-A W-A W-A W-A W-A		eP$_E$ eS$_E$ e$_E$ iE F	1-50-02 1-54-12 1-57-12 1-57-49 1-00±	Δ = 23°
11	Feb. 25	W-A W-A W-A W-A W-A		eP$_{EN}$ epP$_E$ iS$_{EN}$ isS$_{EN}$ F	3-03-57 3-04-15 3-14-07 3-14-42 3-50±	Δ = 82°.4 Depth of focus about 75 kms. by Brunner Depth Chart.

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No.	Date	Inst.	C/D	Phase	G.M.C.T.	H--Remarks
12	Feb. 28	W-A W-A W-A W-A W-A		ePEN epPE? iSE isSE F	7-20-45 7-21-30 7-28-58 7-30-13 7-35±	Δ=62° Focal depth about 200 kms. by Brunner Depth Chart.

Minor Seismic Movements: Feb. 4, 18h15m-19h0m.

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No.	Date	Inst	C/D	Phase	G.M.C.T.	Remarks
13	March 1	W-A		iPn_{EN}	11h00m56.2s	$\Delta(S_n-P_n)$ = 4°.65
		W-A		$iPg?_{EN}$	11 01 12.2	H = 10h 59m 45s.
		W-A		iSn_{EN}	11 01 51.4	Tentative Epicenter:
		W-A		$iS*?_{EN}$	11 02 04	40° 13'N, 95°47'W.
		W-A		i_{EN}	11 02 14	Felt in N.W.Missouri,
		W-A		iM	11 02 19	S.W.Iowa, S.E.Nebraska
		W-A		F	11 09±	and N.E.Kansas
14	March 17	W-A		iP_N	21h38m29s	Δ = 25°.0
		W-A		ipP_N	21 38 50	H = 21h.33m.15s.
		W-A		eS_N	21 42 47	Tentative Epicenter:
		W-A		esS_N	21 43 29	13°.9N, 92°.8W. Depth of
		W-A		F	22· 30±	focus = 120 km. by the
						Brunner Depth Chart.
15	March 26	W-A		iP_{EN}	21h37m13s	
		W-A		i_N	21 37 30	
		W-A		$iS?_{EN}$	21 41 16	
		W-A		F	21 50±	
16	March 30	W-A		$eP(?)_E$	21h32m43s	Δ(S-P) = 89°.2
		W-A		$eSKS_{EN}$	21 43 08	H = 21h.19m.49s.
		W-A		iS_{EN}	21 43 33	Tentative Epicenter at
		W-A		F	23 00±	about 39°.5N, 141°E.
						Surface waves very
						small.

Minor Seismic Movements: March 14, 16h25m-16h53m; March 17, 10h12m-10h21m; March 20-21, 23h55m-00h30m; March 29, 13h21m-13h55m; March 31, 4h12m-4h15m.

J.B.Macelwane, S.J.
Director

C.G.Dahm, Instructor
R.D.Huber, Assistant

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No.	Date	Inst.	C/D	Phase	G.M.C.T.	Remarks
17	April 1	W-A		eP_E	9h21m53s	
		W-A		eS_N	9 26 15	
		W-A		eL_{EN}	9 29 30	
		W-A		F	9 45 ±	
18	April 3	W-A		eP_{EN}	8h46m18s	
		W-A		$eS_{E?}$	8 50 40	
		W-A		F	8 55 ±	
19	April 3	W-A		e_{EN}	11h35m53s	
		W-A		eL_E	11 58 15	
		W-A		F	12 50 ±	
20	April 5	W-A		eP_{EN}	17h53m40s	No surface waves $\Delta = 21.^{\circ}9$ Depth of focus 100 km by Brunner Depth Chart.
		W-A		ipP_{EN}	17 53 58	
		W-A		eS_N	17 57 39	
		W-A		iS_{EN}	17 57 43	
		W-A		isS_{EN}	17 58 08	
		W-A		F FF	18 15 ±	
21	April 11	W-A		ePR_{1EN}	23h32m28s	$\Delta_{meas} = 97.^{\circ}5$ Tentative Epicenter: $37.^{\circ}2$ N. $53.^{\circ}5$E. Destructive in Mazandaran Province in Northern Persia.
		W-A		$eSKS_E$	23 39 02	
		W-A		iPS_{EN}	23 41 14	
		W-A		iSR_{1E}	23 46 11	
		W-A		eL_E	23 57 14	
		W-A		eM	24 07 45	
		W-A		F	25 00 ±	
22	April 18	W-A		eP_N	22h22m13s	$\Delta = 42.1$
		W-A		eS_E	22 28 40	
		W-A		eL_E	22 32 47	
		W-A		F	22 50 ±	
23	April 19	W-A		eP_{EN}	15h35m42s	$\Delta_{P-H} = 81.^{\circ}4$ Tentative Epicenter: 32°N. 15°E. Depth of focus 40 km. by the Brunner Depth Chart. H = 15h23m32s
		W-A		epP_{EN}	15 35 51	
		W-A		iPR_{1EN}	15 38 42	
		W-A		$isPR_{1EN}$	15 39 59	
		W-A		iPR_{2E}	15 40 44	
		W-A		iS_{EN}	15 45 50	
		W-A		isS_E	15 46 08	
		W-A		iPS_E	15 46 47	
		W-A		iSR_1	15 51 33	
		W-A		iSR_2	15 54 44	
				Several aftershocks mask the end of this earthquake. Seismic activity ceased at about 19 hours.		

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No.	Date	Inst.	C/D	Phase	G.M.C.T.	Remarks
24	April 20	W-A		eP_E	5h23m13s	$\Delta S-P = 8°.7$
		W-A		ipP_E	5 23 21	Aftershock of earth-
		W-A		ePR_1	5 33 26	quake of April 19th
		W-A		eS_{EN}	5 33 23	at 15 hours.
		W-A		isS	5 33 37	H = 5-11-04
		W-A		eSR_1	5 39 01	Focal depth 35 km
		W-A		eL	5 50 49	by Brunner Depth
		W-A		F	7 00 ±	Chart
25	April 20	W-A		ePR_1EN	22h21m08s	$\Delta S-H = 111°$
		W-A		eS_{EN}	22 28 58	Tentative Epicenter:
		W-A		eSR_1E	22 36 45	24°.2N. 120°.8E.
		W-A		eL_{EN}	22 51 12	H = 22-01-55
		W-A		eM_{EN}	22 59 45	Destructive in
		W-A		F	24 30 ±	Formosa
26	April 24	W-A		iP_{EN}	18h56m49s	$\Delta S-P = 23°.8$
		W-A		epP_{EN}	18 56 59	H = 18-51-41
		W-A		eS_E	19 01 02	Epicenter: 5°.6N.
		W-A		esS_{EN}	19 01 21	82°W. Focal Depth
		W-A		F	19 30 ±	60km. by Brunner
						Depth Chart
27	April 29	W-A		iP_{EN}	20h13m07s	
		W-A		eL_E	20 19 52	
		W-A		F	20 30 ±	

Minor Seismic Movements: April 11, 3h10m to 3h40m.
April 17, 4h45m to 5h.
April 19, 20h50m to 21h35m.

James B. Macelwane, S.J.
Director

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Instructor

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28	May 1	W-A		$eSKS_E$	10h48m18s	$\Delta S-H = 90°.5$
		W-A		eS_N	10 48 43	$\Delta meas = 90°.6$
		W-A		ePS_E	10 49 37	H = 10h24m44s
		W-A		eL_E	11 05 40	Epicenter: 40°.7N,
		W-A		F	11 50 ±	42°.6E.
29	May 14	W-A		eP'_N	23h41m32s	$\Delta PR_1-H = 111°.7$
		W-A		ePR_{1EN}	23 42 06	$\Delta meas = 111°.3$
		W-A		$eSKP_E$	23 42 48	H = 23h23m00s
		W-A		$e(SKKS)_{EN}$	23 49 29	Epicenter in the
		W-A		ePS_N	23 51 30	vicinity of 58°.5S
		W-A		$ePPS_N$	23 52 30	25°W, East of the
		W-A		iSR_{1E}	23 57 08	South Sandwich Is-
		W-A		eL_E	24 08 00	lands in the South
		W-A		F	26 00	Sandwich Trench.
30	May 23	W-A		eP_E	18h06m48s	$\Delta S-P = 40°.0$
		W-A		eS_{EN}	18 13 02	$\Delta meas = 40°.0$
		W-A		eSR_{2EN}	18 16 06	H = 17h59m13s
		W-A		eL_E	18 19 14	Epicenter: 24°.5N,
		W-A		F	19 00 ±	46°W.
31	May 24	W-A		ePR_{1EN}	5h56m48s	$\Delta S-H = 118°.9$
		W-A		$eSK[illegible]S_{EN}$	6 03 43	$\Delta meas = 119°.1$
		W-A		eS_E	6 04 42	H = 5h36m42s
		W-A		iPS_{EN}	6 06 38	Tentative Epicenter
		W-A		eSR_{1E}	6 13 06	12°.8N, 12°.5E.
		W-A		eL_E	6 36 22	North of Samar Is-
		W-A		F	8 30 ±	lands, Philippines
32	May 30	W-A		ePR_{1N}	21h51m45s	$\Delta SKS-PR_1 = 108°.2$
		W-A		$eSKS_{EN}$	21 57 58	$\Delta meas = 108°.0$
		W-A		$iSKKS_E$	21 58 22	H = 21h32m58s
		W-A		iS_{EN}	21 59 26	Epicenter:in vicinity
		W-A		ePS_{EN}	22 00 57	of 30°.2N, 66°.9E.
		W-A		$ePKKP_N$	22 02 45	Destructive at Quetta
		W-A		eSR_{1E}	22 07 07	British Baluchistan.
		W-A		eSR_{2E}	22 11 15	
		W-A		eL_{EN}	22 24 22	
		W-A		eM_{1N}	22 29 44	
		W-A		iM_{2N}	22 33 26	
		W-A		F	26 30 ±	

No.	Date	Inst.	C/D	Phase	G.M.C.T.	Remarks
33	May 31	W-A		ePR_{1EN}	8h34m50s	Δmeas = 93°6
		W-A		$iSKS_{EN}$	8 40 52	H = 8h18m35s
		W-A		iS_{EN}	8 41 30	Focal Depth according to the Brunner Depth Chart = 480km
		W-A		$esSKS_{E}$	8 44 08	
		W-A		esS_{E}	8 44 32	
		W-A		F	9 30 ±	Epicenter:37°3N, 134°2E.Japan Sea.

Minor Seismic Movements: May 2, 21h23m to 21h33m; May 7, 7h 01m to 7h05m; May 12, 20h43m to 21h25m; May 1[illegible] 20h49m to 21h32m; May 14, 0h31m to 1h 10m; May 15, 2h54m to 3h35m; May 16, 5h 24m to 5h40m; May 16, 21h04m to 22h35m; May 17, 12h39m to 13h00m; May 18, 17h38m to 18h05m; May 18, 22h30m to 22h55m; May 19, 17h16m to 17h35m; May 20, 6h35m to 6h 40m; May 21, 7h18m to 8h55m; May 25, 0h 38m to 1h50m; May 26, 22h39m to May 27 0h; May 27, 4h to 4h50m.

J. B. Macelwane, S.J.
Director

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34	June 2	W-A W-A W-A W-A W-A		epP$_{EN}$ eS$_{EN}$ isS$_{EN}$ eL$_{E}$ F	11-03-01 11-11-41 11-11-59 11-18-27 12-00±	Δ = ca. 66°5
35	June 5	W-A W-A W-A W-A W-A		iP$_{EN}$ epP$_{EN}$ iS$_{EN}$ isS$_{E}$ F	6-29-58 6-30-16 6-33-58 6-33-30 6-40±	Δ$_{S-P}$ = 22°5 Depth of focus about 100 km. by Brunner Depth Chart.
36	June 11	W-A W-A W-A W-A W-A		eP$_{N}$ epP$_{N}$ i$_{E}$ i$_{E}$ F	22-02-53 22-04-15 22-08-27 22-11-03 23-00±	Depth of focus about 420 km. by Brunner Depth Chart
37	June 24	W-A W-A W-A W-A W-A W-A W-A W-A W-A W-A W-A		eP$_{E}$ e[illegible] e[illegible] iPR$_{1}$E iSKS$_{E}$ e[illegible] i$_{E}$ isS$_{N}$ iPS$_{E}$ iSPP$_{E}$ iSR$_{1}$E F	23-37-26 23-38-00 23-40-53 23-41-58 23-48-59 23-49-29 23-49-51 23-50-28 23-51-25 23-52-06 23-57-42 36-35±	Δ$_{S-P}$ = 110°3 Epicenter 19° S 168°5 E. H = 23h23m06s. Depth of focus about 140 km. by Brunner Depth Chart.
38	June 25	W-A W-A W-A W-A W-A W-A		eP$_{N}$ eS$_{E}$ ePS$_{E}$ eL$_{E}$ eM$_{E}$ F	12-45-49 12-55-50 12-56-36 13-11-45 13-17-55 14-20±	Δ$_{S-P}$ = ca. 79°
39	June 28	W-A W-A W-A W-A		eP$_{N}$ i$_{N}$ iS$_{N}$ F	02-12-10 02-12-12 02-21-53 03-00±	Δ = ca. 76°

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40	June 29	W-A		iP_{EN}	06-53-59	Δ_{S-P} = 23°1
		W-A		iPR_{1EN}	06-54-31	Epicenter: 18°2 N
		W-A		iS_{E}	06-58-10	103°3 W.
		W-A		iSR_{1E}	06-58-46	H = 06h48m53s.
		W-A		eL_{EN}	07-00-55	
		W-A		iM_{1E}	07-01-17	
		W-A		iM_{2E}	07-01-27	
		W-A		iM_{3E}	07-03-25	
		W-A		F	10-30±	

Minor Seismic Movements: June 19, 23h-24h.

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41	July 5	W-A		e_E	18h17m25s	
		W-A		$e(SKS)_E$	18 17 44	
		W-A		$e(SKKS)_F$	18 18 24	
		W-A		eL_E	18 41 30	
		W-A		eM_E	18 51 30	
		W-A		F	19 30±	
42	July 6	W-A		e_E	3h48m18s	
		W-A		e_E	3 50 16	
		W-A		e_N	3 50 43	
		W-A		e_E	3 50 54	
		W-A		i_E	3 51 58	
		W-A		F	4 15±	
43	July 7	W-A		e_E	13h59m13s	
		W-A		eL_E	14 15 30	
		W-A		F	15 00±	
44	July 9	W-A		iP_N	6h52m01s	$\Delta S-p=66°3$
		W-A		eS_E	7 00 57	No surface waves.
		W-A		e_E	7 01 53	
		W-A		F	7 10±	
45	July 9	W-A		eP_N	12h32m27s	$\Delta = 67°1$
		W-A		iS_E	12 41 27	
		W-A		i_E	12 42 28	
		W-A		eSR_{1E}	12 45 47	
		W-A		eL_E	12 54 50	
		W-A		F	14 00±	
46	July 10	W-A		iP_{EN}	9h46m37s	$\Delta S-P = 25°3$
		W-A		eS_E	9 51 07	
		W-A		iL_E	9 54 22	
		W-A		F	10 10±	
47	July 16	W-A		ePR_{1E}	16h38m07s	Felt in Formosa.
		W-A		eL_E	17 14 56	Δ = ca 112°
		W-A		eM_E	17 21 21	
		W-A		F	18 00±	

No.	Date	Inst.	C/D	Phase	G.M.C.T.	Remarks
48	July 17	W-A		e_{EN}	0h32m19s	Surface waves very small.
		W-A		i_{EN}	0 40 12	
		W-A		e_E	0 42 07	
		W-A		e_E	0 46 19	
		W-A		eL_E	0 53 25	
		W-A		F	1 55±	
49	July 17	W-A		ePR_{1E}	11h05m20s	Δ = ca 111°
		W-A		$eSKS_{EN}$	11 11 33	
		W-A		$eSKKS_N$	11 12 30	
		W-A		eS_E	11 13 08	
		W-A		ePS_E	11 14 56	
		W-A		eSR_1	11 21 02	
		W-A		eL_E	11 36 00	
		W-A		eM_E	11 42 00	
		W-A		F	13 20±	
50	July 19	W-A		ePE_N	1h02m50s	Δ = 92°5 H = 00h49m56s. Depth of focus 180 km. by Brunner Depth Chart. Japan
		W-A		epP_E	1 03 31	
		W-A		$eSKS_E$	1 13 24	
		W-A		eS_E	1 13 42	
		W-A		i_E	1 13 49	
		W-A		$esSKS_E$	1 14 31	
		W-A		esS_E	1 14 54	
		W-A		eSR_{1E}	1 19 53	
		W-A		eL_E	1 30 40	
		W-A		eM_E	1 37 00	
		W-A		F	3 30±	
51	July 26	W-A		ePN	4h49m49s	Δ_{S-P} = 30°7 Depth of focus probably about 100 km. by Brunner Depth Chart.
		W-A		eS_E	4 54 53	
		W-A		esS_E	4 54 27	
		W-A		iSR_{1E}	4 56 49	
		W-A		$isSR_{1E}$	4 57 22	
		W-A		F	Lost	
52	July 26	W-A		ePE_N	8h15m03s	Δ_{S-P} = 72°4 No surface waves.
		W-A		iSE_N	8 24 31	
		W-A		F	8 30±	

No.	Date	Inst.	C/D	Phase	G.M.C.T.	Remarks
53	July 29	W-A		ePE	7h51m56s	$\Delta P\_H = 102°6$
		W-A		$epPE$	7 53 43	$H = 7h38m47s.$
		W-A		ePR_{1E}	7 56 05	Epicenter 22°9 S,
		W-A		ePR_{2E}	7 58 38	178°2 W.
		W-A		$iSKS_E$	8 01 45	Focal depth 490 km.
		W-A		$iSKKS_E$	8 02 26	by Brunner Depth
		W-A		iS_N	8 02 58	Chart.
		W-A		$iSP?_E$	8 04 39	
		W-A		$isSKS_E$	8 05 11	
		W-A		esS_N	8 06 11	
		W-A		eSR_{1EN}	8 09 35	
		W-A		eSR_{2EN}	8 13 51	
		W-A		F	10 45±	

Minor Seismic Movements: July 5, 3h27m-3h30m; July 11, 13h50m-14h25m; July 13, 15h43m-16h30m.

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SAINT LOUIS

SEISMOGRAPHIC STATION, ST. LOUIS UNIVERSITY, ST. LOUIS, MO., U. S. A.

One Wiechert 80 Kg., two Wood-Anderson long-period seismographs, Wiechert clock

Bulletin for 1935

No.	Date	Inst. C/D	Phase	G.M.C.T.	Remarks
54	Aug 1	W-A	ePN	16h14m10s	$\Delta S-P = 27°.8$
		W-A	eS_E	16 19 00	$H = 16h08m17s.0$
		W-A	i_E	16 19 33	Epicenter: 11.1 N,
		W-A	iE	16 19 43	86°.1 W.
		W-A	iSR_1E	16 20 27	
		W-A	eL_E	16 22 13	
		W-A	eM_E	16 24 43	
		W-A	F	17 50±	
55	Aug 3	W-A	$e(P')_E$	1h29m34s	$\Delta meas = 136°.1$
		W-A	e_E	1 32 31	$H = 01h10m09s.$
		W-A	$e(SKP)_{EN}$	1 32 57	Tentative Epicenter:
		W-A	eN	1 34 26	4°.7 N, 97°.0 E..
		W-A	$eSKS_{EN}$	1 36 50	
		W-A	e_E	1 40 28	
		W-A	$e(PSKS)_E$	1 42 48	
		W-A	e_E	1 43 47	
		W-A	eSR_1E	1 50 14	
		W-A	eL_E	2 10 14	
		W-A	eM_E	2 21 14	
		W-A	F	4 30±	
56	Aug. 4	W-A	$ePEN$	2h29m24s	$\Delta S-P = 23°.6$
		W-A	$e(S)EN$	2 33 40	
		W-A	eEN	2 33 52	
		W-A	eSR_1E	2 34 11	
		W-A	$(M)E$	2 40 01	
		W-A	F	3 00 00	
57	Aug 4	W-A	ePN	9h44m37s	
		W-A	eM_E	9 59 30	
		W-A	F	10 10 00	
58	Aug 6	W-A	eP_N	0h02m04s	$\Delta S-P = 71°.5$
		W-A	eS_E	0 11 27	No surface waves
		W-A	F	0 20 00	recorded.
59	Aug 6	W-A	ePN	21h54m37s	
		W-A	iS_{EN}	22 02 50	
		W-A	F	22 07±	

Saint Louis Bulletin for 1935

No.	Date	Inst.	C/D	Phase	G.M.C.T.	Remarks
60	Aug 7	W-A		eP_N	9h09m41s	ΔS-P = 39°.3
		W-A		epP_N	9 10 01	H = 09h02m18s.
		W-A		ePR_{1N}	9 11 15	Epicenter: 1°.0 N,
		W-A		$epPR_{1E}$	9 11 35	77°.5 W.
		W-A		iS_{NE}	9 15 44	Depth of focus
		W-A		isS_E	9 16 19	approximately 95 kms.
		W-A		eSR_1	9 18 40	by Brunner Depth
		W-A		F	9 51±	Chart.
61	Aug 10	W-A		eP'_E	17h51m31s	
		W-A		$eSKKS_E$	18 00 56	
		W-A		e_E	18 07 15	
		W-A		$e(SR_1)_E$	18 11 09	
		W-A		$e(L)_E$	18 28 27	
		W-A		F	19 00 00	
62	Aug 11	W-A		e_E	7h47m16s	
		W-A		eE	7 50 42	
		W-A		F	8 33±	
63	Aug 15	W-A		eP_E	15h10m14s	
		W-A		e_E	15 10 59	
		W-A		eM_E	15 15 18	
		W-A		F	15 30±	
64	Aug 17	W-A		e_E	2h01m13s	ΔS-H = 108°.5
		W-A		ePR_{1E}	2 03 36	H = 01h44m57s.
		W-A		e_E	2 04 22	Epicenter: 20°.0 S,
		W-A		$eSKS_E$	2 09 45	171°.5 E.
		W-A		eS_N	2 11 11	Depth of focus 120
		W-A		eS_{EN}	2 11 20	kms. by Brunner
		W-A		$e(PPS)_E$	2 13 40	Depth Chart.
		W-A		$e(SR_1)(E)N$	2 18 58	
		W-A		iSR_{2E}	2 23 09	
		W-A		eL_E	2 36 40	
		W-A		eM_{1E}	2 41 23	
		W-A		eM_{2E}	2 44 40	
		W-A		F	5 18 00	

Saint Louis Bulletin for 1935

No.	Date	Inst.	C/D	Phase	G.M.C.T.	Remarks
65	Aug 20	W-A		ePN	0h04m59s	$\Delta S-P = 23°.7$
		W-A		eN	0 05 05	$\Delta S-P = 24°.4$
		W-A		eE	0 05 16	Probably two shocks.
		W-A		$e(P)EN$	0 06 31	
		W-A		$eSE(N)$	0 09 16	
		W-A		$eSE(N)$	0 10 54	
		W-A		F	0 39±	
66	Aug 22	W-A		iPN	20h37m54s	$\Delta S-P = 36°.5$
		W-A		$e(PR_1)N$	20 39 02	H = 20h30m49s.
		W-A		$e(PR_2)N$	20 39 17	Epicenter: 73.0 N,
		W-A		eN	20 41 10	66.0 W.
		W-A		eN	20 43 10	
		W-A		$eSEN$	20 43 45	
		W-A		eSR_1N	20 45 57	
		W-A		$iScSN$	20 48 18	
		W-A		LEN	20 49 20	
		W-A		iMN	20 52 10	
		W-A		F	21 28±	
67	Aug 23	W-A		ePN	14h17m15s	
		W-A		eN	14 17 28	
		W-A		eE	14 20 30	
		W-A		eEN	14 20 58	
		W-A		F	14 23±	
68	Aug 25	W-A		$e(P)E$	5h17m20s	$\Delta S-H = 52°.5$
		W-A		SE	5 24 40	H = 05h07m59s.
		W-A		LE	5 33 43	Epicenter: 79°.7 N,
		W-A		eME	5 38 18	0°.0 E.
		W-A		F	6 28±	
69	Aug 31	W-A		$e(S)E$	17h02m22s	
		W-A		eLE	17 17 56	
		W-A		eME	18 25±	
		W-A		F	19 00±	

Minor Seismic Movements: Aug. 23, 12h to 12h10m.

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SAINT LOUIS

SEISMOGRAPHIC STATION, ST. LOUIS UNIVERSITY, ST. LOUIS, MO., U. S. A.

One Wiechert 80 Kg., two Wood-Anderson long-period seismographs, Wiechert clock

No.	Date	Inst.	C/D	Phase	G.M.C.T.	Remarks
70	Sept 4	W-A W-A W-A W-A W-A W-A W-A W-A W-A		ePE_N e_E eE eS_{EN} eE eSR_1E eLE eM_E F	1h35m50s 1 36 36 1 37 40 1 42 23 1 44 49 1 45 42 1 48 25 1 51 05 5 02±	Δ_{S-P} = 43°.1 H = 01h27m51s. Epicenter: 63°.0 N, 151°.0 W.
71	Sept 9	W-A W-A W-A W-A W-A		ePR_1E $epPR_1E$ ePS_E $ePPS_E$ F	6h37m13s 6 37 49 6 46 52 6 47 55 8 47±	Δ_{PR_1-H} = 116°.7 H = 06h17m40s Epicenter: 5°.8 N, 139°.0 E. Depth of focus 160 kms. by Brunner Depth Chart.
72	Sept 10	W-A W-A W-A W-A W-A		ePE_N $e(PR_1)_N$ S_N eL_N F	6h35m36s 6 35 51 6 40 03 6 43 37 6 56±	Δ_{S-P} = 25°.0 H = 06h30m10s. Epicenter: 17°.5 N, 106°.0 W.
73	Sept 10	W-A W-A W-A W-A W-A W-A		eP_{EN} eN L_N eP_N eS_N $eL(E)N$	7h10m47s 7 15 18 7 18 42 7 40 13 7 44 45 7 48 37	Probably a repetition of preceding earthquake. Two shocks.
74	Sept 11	W-A W-A W-A W-A W-A W-A W-A W-A W-A W-A		iP_{EN} ipP_{EN} eEN e_{EN} iPR_1EN iS_E iSR_1EN L $M(E)_N$ F	14h16m27s 14 16 43 14 17 13 14 17 18 14 19 43 14 26 44 14 32 16 14 42± 14 47 23 (Lost in changing records)	Δ_{S-P} = 82°.7 H = 14h04m12s. Epicenter: 44°.5 N, 147°.0 E. Depth of focus 60 kms. by Brunner De Chart.

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No.	Date	Inst.	C/D	Phase	G.M.C.T.	Remarks
75	Sept 15	W-A		e_E	11h34m55s	Δ_{PS-PR_1} = 114°6
		W-A		ePR_{1E}	11 35 01	H = 11h15m30s.
		W-A		e_E	11 40 51	Provisional epicenter:
		W-A		e_E	11 42 05	5°0 S, 150°0 E.
		W-A		eS_E	11 42 22	
		W-A		ePS_E	11 44 45	
		W-A		L_E	12 09 37	
		W-A		M_E	12 16 37	
		W-A		F	13 00±	
76	Sept 15	W-A		eP_E	14h20m07s	Δ_{P-H} = 70°1
		W-A		pP_E	14 20 35	Δ_{S-P} = 70°1
		W-A		e_E	14 21 35	H = 14h09m10s.
		W-A		eS_E	14 29 13	Tentative epicenter:
		W-A		eSS_E	14 30 04	28°0 S, 133°3 W.
		W-A		$e(SR_1)_E$	14 33 38	Depth of focus approx-
		W-A		$e(SR_2)_E$	14 36 55	imately 110 kms by
		W-A		F	(Lost in changing records)	Brunner Depth Chart.
77	Sept 18	W-A		iP_E	5h04m52s	Δ_{P-H} = 33°7
		W-A		e_E	5 10 18	Provisional H = 04h
		W-A		iS_E	5 10 26	58m07s.
		W-A		e_E	5 15 12	Tentative epicenter.
						in vicinity of 7°0 N,
						77°0 W. Depth of foc
						greater than normal.
78	Sept 18	W-A		eP_E	8h36m33s	Δ_{P-H} = 86°3
		W-A		e_E	8 41 17	H = 08h23m54s.
		W-A		$eSKS_E$	8 46 53	Tentative epicenter:
		W-A		$eS_E(N)$	8 47 06	42°0 N, 142°0 E.
		W-A		eM_E	9 08 38	Depth of focus probabl
		W-A		F	9 22±	greater than normal.
79	Sept 18	W-A		No time marks.		

No.	Date	Inst.	C/D	Phase	G.M.C.T.	Remarks
80	Sept 20	W-A		$e(P')_N$	2h05m36s	ΔPR_1-H = 122°9
		W-A		e_N	2 07 00	New H.= 01h46m34s.
		W-A		ePR_{1EN}	2 07 05	Epicenter: 4°0 S,
		W-A		$eSKS(E)_N$	2 12 32	140°5 E,
		W-A		$eSKKS_E$	2 14 09	
		W-A		eS_N	2 15 08	
		W-A		e_N	2 16 47	
		W-A		$e(PS)_N$	2 17 06	
		W-A		e_{EN}	2 17 14	
		W-A		$eSR_1(E)N$	2 23 48	
		W-A		$eE(N)$	2 24 09	
		W-A		e_N	2 24 20	
		W-A		eSR_2	2 38 00	
		W-A		L_N	2 37 42	
		W-A		M_N	2 45 27	
		W-A		F	4 20±	
81	Sept 20	W-A		$ePR_1(E)N$	11h43m21s	ΔPR_1-H = 123°1
		W-A		e_N	11 47 06	H = 05h22m52s
		W-A		$eSKS_{EN}$	11 48 59	Aftershock of No. 80.
		W-A		$eSKKS_N$	11 50 28	Note: This epicenter
		W-A		eS_N	11 51 15	and origin time are
		W-A		$ePS(E)N$	11 53 00	to replace the epicenter
		W-A		$e(E)N$	11 53 07	and origin time
		W-A		e_N	11 53 22	given in J.S.A. Prel.
		W-A		$e(SR_1)_N$	11 59 21	Bull. No. 27.
		W-A		eL	12 21 27	
		W-A		M	12 24 40	
82	Sept 20	W-A		e_E	21h13m43s	
		W-A		e_E	21 16 48	
		W-A		eL_E	22 00 27	
		W-A		M_E	22 05 42	
		W-A		F	22 47±	
83	Sept 23	W-A		$e(P)_E$	9h33m42s	ΔPR_1-H = 122°7
		W-A		e_{EN}	9 34 06	H = 09h18m04s.
		W-A		$e(P')_E$	9 37 25	Epicenter: 4°0 S,
		W-A		e	9 38 30	140°5 E.
		W-A		$iPR_{1E(N)}$	9 38 33	Aftershock of No. 80.
		W-A		e_N	9 38 54	Note: This epicenter
		W-A		$eSKS_E(N)$	9 44 10	and origin time are
		W-A		$eSKKS(E)$	9 45 34	to replace those given
		W-A		$(S)_{EN}$	9 46 24	in J.S.A. Prel. Bull.
		W-A		iPS_E	9 48 26	No. 28.
		W-A		e_N	9 54 41	
		W-A		eSR_{1N}	9 55 00	
		W-A		eL_{EN}	10 14 10	
		W-A		eM_E	10 18 14	
		W-A		F	12 07±	

No.	Date	Inst.	C/D	Phase	G.M.C.T.	Remarks
84.	Sept 24	W-A		e_E	5h26m20s	Another aftershock of preceding.
		W-A		$eSKS_E$	5h26 51	
		W-A		e_E	5 28 13	
		W-A		ePS_E	5 31 14	
		W-A		M_E	6 01±	
		W-A		F	6 25±	
85	Sept 24	W-A		eP_E	22h18m37s	$\Delta_{S-P} = 29.^{\circ}4$
		W-A		eEN	22h18 30	H = 22h12m21s.
		W-A		ePR_1EN	22 19 18	Epicenter: 50.°0 N,
		W-A		eS_N	22 23 28	129.°0 W.
		W-A		e_E	22 23 30	
		W-A		eL_E	22 26 50	
		W-A		M	22 30 40	
		W-A		F	23 08±	

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One Wiechert 80 Kg., two Wood-Anderson long-period seismographs, Wiechert clock

No.	Date	Inst.	Phase	G.M.C.T.	Remarks
86	Oct 2	W-A	iP_E	5h45m23s	ΔS-P = 82°6
		W-A	e_E	5 45 44	H = 5h32m06s
		W-A	e_E	5 46 04	Epicenter: 43°8 N,
		W-A	iPR_{1E}	5 48 33	146°5 E.
		W-A	iS_E	5 55 38	Depth of focus
		W-A	i_E	5 56 06	approximately 80 km
		W-A	sS_E	5 56 16	by the Brunner Depth
		W-A	M	6 18 34	Chart.
		W-A	F	6 40 ±	
87	Oct 7	W-A	e_E	5h04m16s	ΔS-H = 25°4
		W-A	e_E	5 04 42	H = 4h58m24s
		W-A	eS_E	5 08 24	
		W-A	e_E	5 09 42	
		W-A	eM_E	5 16 40	
		W-A	F	5 23 ±	
	Oct 8 - Oct 12 clock not in operation				
88	Oct 12	W-A	$e(P)_E$	16h58m19s	ΔS-H = 88°4
		W-A	$(SKS)_{EN}$	17 08 43	H = 16h45m18s
		W-A	iS_E	17 08 55	Epicenter: 40°4 N,
		W-A	eSR_{1E}	17 14 33	143°3 E.
		W-A	i_E	17 23 49	Possibly somewhat
		W-A	eL_E	17 25 31	deeper than normal.
		W-A	M_E	17 28 21	
		W-A	F	18 21 ±	
89	Oct 18	W-A	$e(P)_{E(N)}$	0h25m02s	ΔS-H = 83°2
		W-A	e_E	0 25 16	H = 0h12m34s
		W-A	e_E	0 25 49	Epicenter: 43°8 N,
		W-A	e_E	0 35 16	147°0 E.
		W-A	iS_E	0 35 19	Depth of focus 80 km
		W-A	i_E	0 35 36	by the Brunner Depth
		W-A	iPS_E	0 36 12	Chart.
		W-A	iE	0 36 41	
		W-A	eSR_{1E}	0 41 14	
		W-A	eL_E	0 47 41	
		W-A	M_E	1 00 41	
		W-A	F	1 37 ±	

No.	Date	Inst	Phase	G.M.C.T.	Remarks
90	Oct 18	W-A W-A W-A W-A W-A	e_{EN} $e_{(E)N}$ e_{N} e_{N} F	11h23m16s 11 33 41 11 33 49 11 34 08 12 17 ±	Surface waves small.
91	Oct 19	W-A W-A W-A W-A W-A W-A W-A W-A	eP_{EN} iP_{EN} i_{EN} iS_{EN} iSR_{1EN} eL M F	4h52m07s 4 52 14 4 55 12 4 55 36 4 56 11 4 56 57 4 57 25 5 17 ±	Δ_{P-H} = 17°.5 H = 4h48m04s Epicenter: 46°.6 N, 111°.8 W.
92	Oct 24	W-A W-A W-A W-A W-A	iP_{E} eS_{E} eL_{E} M_{E} F	14h53m05s 14 57 13 14 59 15 15 01 24 15 15 ±	Δ_{S-P} = 22°.7
93	Oct 29	W-A W-A W-A W-A W-A	eP_{N} e_{N} $e_{(S)}$ M_{N} F	10h22m43s 10 22 53 10 27 01 10 30 30 10 40 ±	$\Delta_{(S)-P}$ = 23°.8
94	Oct 31	No records			

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No.	Date	Inst	C/D	Phase	G.M.C.T.	Remarks
94	Nov 1	W-A		eP_E	6h06m20s	Δ_{P-H} = 11°4
		W-A		eS_E	6 08 25	H = 06h03m35s
						Epicenter: 46°6 N, 79°3 W.
95	Nov 4	W-A		eP_E	10h17m41s	Δ_{S-P} = 21°0
		W-A		eS_E	10 21 33	H = 10h12m58s
		W-A		eL_E	10 23 45	Epicenter: 25°0 N, 110°0 W. by Florissant and Pasadena.
		W-A		eM_E	10 24 31	
		W-A		F	10 38±	
96	Nov 4	W-A		iP_E	13h57m54s	Aftershock of No. 95.
		W-A		i_E	13 58 01	
		W-A		eS_E	14 01 51	
		W-A		eL_E	14 04 01	
		W-A		F	(Lost in changing record)	
97	Nov 5	W-A		i_E	2h29m55s	
		W-A		e_E	2 34 16	
		W-A		i_E	2 34 38	
98	Nov 10	W-A		eP_{EN}	18h34m13s	Δ_{S-P} = 31°3
		W-A		ePR_1EN	18 35 10	H = 18h27m49s
		W-A		i_E	18 35 16	Epicenter: 18°0 N, 62°8 W.
		W-A		iS_{EN}	18 39 28	
		W-A		eSR_1EN	18 41 04	
		W-A		iL_{EN}	18 42 49	
		W-A		F	18 47±	
99	Nov 14	W-A		eP'_{EN}	20h15m19s	Δ_{meas} = 125°0
		W-A		ePR_1EN	20 19 21	Epicenter: by Manila and Riverview 4°5 S, 137°0 E.
		W-A		$iSKS_E$	20 22 21	
		W-A		i_{EN}	20 22 45	
		W-A		eS_{EN}	20 26 46	
		W-A		eL_N	20 45.0	
		W-A		F	21 34±	
100	Nov 16	W-A		i_E	0h14m24s	
		W-A		i_{EN}	0 14 33	
		W-A		e_E	0 17 27	

No.	Date	Inst.	C/D	Phase	G.M.C.T.	Remarks
101	Nov 23	W-A W-A W-A W-A W-A W-A W-A W-A		ePN epP_N ePR_1N iS_{EN} esS_N eSR_1EN eL_{EN} F	7h59m44s 8 00 20 8 01 12 8 05 32 8 06 39 8 08 14 8 10 48 8 56±	Δ_{S-P} = 38°8 H = 07h52m34s Epicenter: 0°0 N, 86°0 W. Depth 170 kms. by Brunner Depth Chart.
102	Nov 25	W-A W-A		e_N eL_N	10h25m54s 11 18.6	According to Manila in the vicinity of 7°0 N, 94°0 E.
103	Nov 28	W-A W-A W-A W-A W-A W-A W-A		$ePEN$ eE(S?) iEN iEN iEN eLE F	14h45m58s 14 49 24 14 49 53 14 50 00 14 50 25 14 51 30 14 59±	Δ_{S-P} = 18°1 H = 14h41m47s North central Montana
104	Nov 30	W-A W-A W-A W-A W-A W-A W-A W-A W-A W-A W-A W-A W-A		$ePEN$ iP_{EN} ipP_{EN} iPR_1N iS_E i_{EN} isS_{EN} iSR_1EN iL_N iM_1E iM_2E F	3h45m57s 3 46 01 3 46 08 3 46 50 3 50 54 3 50 58 3 51 19 3 52 38 3 54 29 3 57 40 3 58 34 5 10±	Δ_{S-P} = 29°0 H = 03h39m59s Epicenter: 11°0 N, 80°5 W. Depth about 50 kms. by Brunner Depth Chart.

Minor Seismic Activity: Nov. 7, 21h18m to 21h31m;
Nov. 14, 0h07m to 0h12m.

J. B. Macelwane, S.J.
Director

Harold Link
Graduate Assistant

SAINT LOUIS

SEISMOGRAPHIC STATION, ST. LOUIS UNIVERSITY, ST. LOUIS, MO., U. S. A.

One Wiechert 80 Kg., two Wood-Anderson long-period seismographs, Wiechert clock

Bulletin for 1935

No.	Date	Inst.	C/D	Phase	G.M.C.T.	Remarks
105	Dec 3	W-A		eP_E	2h23m06s	$\Delta S-P = 21^\circ.3$
		W-A		eS_N	2 27 01	Florissant and Pasadena
		W-A		eL_{EN}	2 29 26	give: H = 02h18m19s.
		W-A		iM_{EN}	2 30 30	Vicinity 26°.5 N, 111°.0 W.
		W-A		F	2 40±	
106	Dec 3	W-A		eP_E	6h00m13s	Aftershock of No. 105.
		W-A		eL_{EN}	6 06 27	Florissant: H = 5h55m
		W-A		eM_{EN}	6 07 36	26s.
		W-A		F	6 14±	$\Delta P-H = 21^\circ.2$
107	Dec 14	W-A		eP_{EN}	1h39m20s	$\Delta S-P = 46^\circ.9$
		W-A		iP_{EN}	1 39 22	H = 01h31m24s
		W-A		ipP_{EN}	1 40 30	Epicenter: 5°.5 S,
		W-A		iPR_{1E}	1 40 57	73°.3 W.
		W-A		$iScP_E$	1 44 26	Depth about 350 Km.
		W-A		iS_{EN}	1 45 45	by the Brunner Depth
		W-A		iE_N	1 45 52	Chart.
		W-A		esS_E	1 47 58	
		W-A		isS_{EN}	1 48 03	
		W-A		iSR_{1N}	1 48 59	
		W-A		F	2 35±	
108	Dec 14	W-A		eP_N	22h10m32s	$\Delta S-P = 23^\circ.7$
		W-A		iP_{EN}	22 10 39	H = 22h05m20s.
		W-A		iPR_{1N}	22 11 10	Epicenter: 15°.0 N,
		W-A		iPR_{2N}	22 11 21	92°.9 W.
		W-A		iS_{EN}	22 14 49	Normal depth.
		W-A		iSR_{1N}	22 15 51	
		W-A		iL_N	22 17 14	
		W-A		$iScP_N$	22 18 12	
		W-A		iM_{1N}	22 19 48	
		W-A		iM_{2N}	22 23 15	
		W-A		F	25 07±	
109	Dec 15	W-A		eP_E	7h26m07s	$\Delta SKS-H = 111^\circ.7$
		W-A		ePR_{1E}	7 27 03	Florissant: H = 07h07m
		W-A		$eSKS_{EN}$	7 32 59	45s.
		W-A		eS_E	7 34 33	Epicenter: 10°.6 S,
		W-A		ePS_E	7 36 39	160°.7 E.
		W-A		eL_N	7 55.9	Solomon Islands.
		W-A		F	8 59±	

No.	Date	Inst	C/D	Phase	G.M.C.T.	Remarks
110	Dec 16	W-A W-A W-A W-A W-A W-A W-A		iP_{EN} i_E ePR_{1E} iS_{EN} isS_E eSR_{1E} F	17h05m31s 17 06 24 17 07 17 17 11 58 17 14 10 17 15 17 17 48±	Δ_{S-P} = 47°.3 St. Louis, Florissant and Pasadena give: H = 16h57m29s. Epicenter: 5°.5 S, 72°.2 W. Aftershock of No. 108. Depth about 350 Km by Brunner Depth Chart.
111	Dec 17	W-A W-A W-A W-A W-A W-A W-A W-A W-A W-A W-A		ePR_{1EN} i_E eS_E iPS_{EN} eSR_{1E} iSR_{1E} iSR_{1N} iSR_{2N} eL_E F	19h36m43s 19 37 07 19 44 28 19 46 20 19 52 15 19 52 23 19 52 26 19 56 41 20 02 35 21 19±	Δ_{S-H} = 111°.8 Florissant: H = 19h17m 25s. Vicinity of 21°.0 N, 126°.5 E, east of Formosa. Felt in Luzon.
112	Dec 19	W-A W-A W-A W-A W-A W-A		e_{EN} e_{EN} i_N i_N iL_N F	2h03m21s 2 03 53 2 04 04 2 04 13 2 04 23 2 05±	Pasadena and Florissant give: H = 01h56m32s. Northern Mexico.
113	Dec 20	W-A W-A W-A W-A W-A W-A		eP_E eS_N eL_N i_N i_N F	7h50m28s 7 54 32 7 56 17 7 56 54 7 57 51 8 10±	Δ_{S-P} = 22°.3 H = 07h45m31s Region: 33°.2 N, 115°.5 W Felt in Imperial Valley.
114	Dec 20	W-A W-A W-A W-A W-A W-A W-A W-A W-A W-A W-A		ePR_{1E} $eSKS_E$ $eSKKS_E$ eS_E iPS_E $iPPS_E$ eSR_{1E} eSR_{2E} eL_E eM_E F	18h56m15s 19 02 06 19 03 16 19 03 49 19 05 41 19 06 59 19 12 01 19 17 16 19 28 25 19 36 52 21 08±	Florissant gives: H = 18h36m56s. Δ_{PS-H} = 112°.0 Region: 10°.0 S, 160°.0 E

No.	Date	Inst.	C/D	Phase	G.M.C.T.	Remarks
115	Dec 21	W-A		iP_N	7h29m10s	
		W-A		i_EN	7 29 28	
		W-A		iL_N	7 29 52	
		W-A		$e(S?)_N$	7 33 27	
		W-A		eL_N	7 40.0	
		W-A		F	7 47±	
116	Dec 21	W-A		eP_N	11h56m25s	Δ_{S-P} = 25°.9
		W-A		ipP_N	11 56 46	H = 11h50m51s.
		W-A		i_N	11 56 57	Off western Guatemalan
		W-A		iPR_1EN	11 57 03	Coast.
		W-A		eS_E	12 00 53	Depth about 100 km by
		W-A		eS_N	12 00 55	the Brunner Depth
		W-A		isS_N	12 01 37	Chart.
		W-A		i_EN	12 01 52	
		W-A		iSR_1N	12 02 07	
		W-A		eL_N	12 06 12	
		W-A		F	12 28±	
117	Dec 22	W-A		e_N	2h02m45s	
		W-A		i_EN	2 02 50	
		W-A		i_N	2 02 59	
		W-A		F	2 04±	
118	Dec 24	W-A		eP_N	12h31m18s	Δ_{S-P} = 37°.1
		W-A		iP_N	12 31 23	St. Louis, Florissant,
		W-A		i_EN	12 31 30	Tucson and Pasadena
		W-A		iPR_1N	12 32 49	give: H = 12h24m10s.
		W-A		iPR_2N	12 33 13	Region: 4°.0 N, 77°.5 W.
		W-A		i_N	12 36 58	
		W-A		iS_N	12 37 13	
		W-A		$iScP_N$	12 37 39	
		W-A		iSR_2N	12 40 27	
		W-A		iL_N	12 42 03	
		W-A		F	13 21±	
119	Dec 28			Quake at	02h	Clock Stopped. Florissant: H = 02h35m 20s. Vicinity 2°.5 S, 99°.5 E.
120	Dec 28			Quake at	04h	Clock Stopped. Probably deep.

No.	Date	Inst.	C/D	Phase	G.M.C.T.	Remarks
121	Dec 28	W-A		e_{EN}	19h03m14s	Time correction doubtful.
		W-A		i_{E}	19 03 38	
		W-A		i_{E}	19 04 00	
		W-A		i_{EN}	19 13 54	
		W-A		i_{E}	19 14 36	
		W-A		F	19 18±	

Minor Seismic Activity: Dec. 2, 00h40m to 00h58m; Dec 2, 17h38m to 17h57m; Dec 4, 10h49m to 10h59m; Dec 5, 18h32m to 19h20m; Dec 9, 08h07m to 09h07m; Dec 30, 00h00m to 00h55m.

J. B. Macelwane, S.J.
Director

Harold Link
Graduate Assistant

OF THE JESUIT SEISMOLOGICAL ASSOCIATION

15 NORTH GRAND BOULEVARD, ST. LOUIS, MO., U.S.A.

PRELIMINARY BULLETIN

IN COOPERATION WITH SCIENCE SERVICE AND THE UNITED STATES COAST AND GEODETIC SURVEY

EARTHQUAKE OF DECEMBER 28, 1935

Tentative Epicenter in general vicinity of 2°.5 S, 99°.5 E. Provisional H = 02h35m20s. Depth of focus probably normal.

Stations of the Jesuit Seismological Association

Florissant,

eP	2h52m26s	Δ_{P-H} = 143°.0
iP'	2 54 53	$\Delta_{P'-H}$ = 143°.0
iPR_1	2 57 57	Δ_{PR_1-H} = 143°.0
i	2 58 05	Δ_{meas} = 143°.0
i	2 58 50	
iPR_2	3 01 10	
i	3 03 07	
i	3 05 20	
iS	3 06 46	
iPSKS	3 08 16	
i	3 10 16	
iPPS	3 10 46	
iSR_1	3 16 10	

Weston, (By mail, courtesy Thos. McDermott, S.J.)

$e(PR_1)$	2h57m46s	Δ_{PR_2-H} = 139°.6
i	2 58 33	Δ_{meas} = 139°.6
PR_2	3 00 43	
PSKS	3 07 40	

Loyola, (Chicago) (By mail, courtesy A. R. Schmitt, S.J.)

eP'	2h54m55	Δ_{PR_1-H} = 140°.2
iPR_1	2 57 40	Δ_{meas} = 140°.6
i	2 58 32	
iPSKS	3 07 51	
iPPS	3 09 58	
eSR_1	3 15 50	
i	3 22 56	

Cincinnati, (By mail, courtesy V. S. Stechschulte, S.J.)

e?	2h52m01s	Δ_{PR_1-H} = 143°.6
e(P)	2 52 37	Δ_{meas} = 143°.6
iP'	2 54 47	
iPR_1	2 58 01	
i(SKP)	2 58 39	
i	2 59 01	
i	3 00 20	
iSKS	3 02 04	
	3 04 04	
	3 07 10	
PSKS	3 08 09	
	3 10 05	

EARTHQUAKE OF DECEMBER 28, 1935 (continued)

Stations of the United States Coast and Geodetic Survey

Honolulu, (By mail, courtesy U. S. C. and G. S.)

e(PR_1)	2h53m08s	$\Delta_{SR_1-H} = 104°.0$
i	2 53 42	$\Delta_{meas} = 102°.9$
iSKS	3 00 12	
iPS	3 03 05	
iSR_1	3 08 34	

Sitka, (By mail, courtesy U. S. C. and G. S.)

PR_1	2h54m18s	$\Delta_{PR_1-H} = 109°.8$
		$\Delta_{meas} = 110°.7$

Tucson, (By telegram, courtesy Science Service)

e(P')	2h54m37s	$\Delta_{PSKS-H} = 139°.7$
i	2 54 58	$\Delta_{meas} = 139°.4$
ePR_1	2 57 26	
e	2 58 39	
ePSKS	3 07 40	
e	3 15 06	
eL	3 41 26	

Chicago, (By telegram, courtesy Science Service)

(P')	2h54m52s	$\Delta_{meas} = 140°.6$
(S)	3 06 09	
e(SR_1)	3 15 07	

San Juan, (By mail, courtesy U. S. C. and G. S.)

(P')	2h55m24s	$\Delta_{PR_1-H} = 159°.6$
PR_1	2 59 30	$\Delta_{meas} = 158°.9$

Other Stations

Phu Lien, (By mail, courtesy U. S. C. and G. S.)

P	2h40m23s	$\Delta_{S-P} = 22°.9$
S	2 44 33	$\Delta_{meas} = 24°.3$

Manila, (By telegram, courtesy Science Service)

iP	2h41m06s	$\Delta_{P-H} = 27°.3$
iS	2 46 09	$\Delta_{meas} = 27°.3$

EARTHQUAKE OF DECEMBER 28, 1935 (continued)

Other Stations

Kew, (Data taken from station bulletin)

iP	2h48m56s	$\Delta_{P-H} = 97°.8$
$i(PR_1)$	2 52 55	$\Delta_{meas} = 97°.8$
iPR_2	2 54 57	
iSKS	2 59 39	
iSKKS	2 59 55	
$i(SR_1)$	3 05 55	

College (Fairbanks), Alaska (By mail, courtesy U.S.C. and G.S.)

(P)	2h49m24s	$\Delta_{PR_1-H} = 101°.8$
PR_1	2 53 18	$\Delta_{meas} = 101°.8$
SKS	2 59 42	

Berkeley, (By telegram, courtesy Science Service)

ePR_1	2h56m37s	$\Delta_{PR_1-H} = 129°.6$
e(SKP)	2 57 53	$\Delta_{meas} = 128°.5$
e(PS)	3 06 19	
i	3 11 14	
i	3 16 30	
e	3 30 46	
eL	3 36 36	

Bozeman, (By mail, courtesy U. S. C. and G. S.)

PR_1	2h56m38s	$\Delta_{PR_1-H} = 129°.8$
(SKP)	2 57 56	$\Delta_{meas} = 129°.4$
SKKS	3 03 30	
SR_1	3 14 08	
SR_2	3 19 03	
L	3 35 28	

Pasadena, (By mail, courtesy C. F. Richter)

eP	2h51m46s	$\Delta_{P-H} = 134°.0$
eP'	2 54 42	$\Delta_{meas} = 133°.6$
iPR_1	2 57 08	
iPKS	2 58 17	
eSKKS	3 04 02	
ePSKS	3 06 48	
i	3 07 28	
iPPS	3 09 11	
iSR_1	3 15 04	
i	3 15 29	
$e(SR_2)$	3 21 22	
eL	3 37 00	

EARTHQUAKE OF DECEMBER 28, 1935 (continued)

Other Stations

Ottawa, (By telegram, courtesy Science Service)

eP'	2h54m42s
PR_1	2 57 24
(SKP)	2 58 22
SKKS	3 04 16
iPPS	3 09 20
(SR_1)	3 15 14
L	3 32 14

$\Delta_{PR_1-H} = 137°.5$
$\Delta_{meas} = 137°.8$

Burlington, (By mail, courtesy U. S. C. and G. S.)

(P')	2h54m30s
PR_1	2 57 32
(SKKS)	3 04 44
PSKS	3 07 27
(SR_1)	3 15 20
SR_2	3 20 41
	3 28 00
L	3 33 30

$\Delta_{PR_1-H} = 138°.8$
$\Delta_{meas} = 138°.8$

Des Moines, (By mail, courtesy M. M. Seeburger)

e(SKP)	2h58m03s
ePSKS	3 07 37
eSR_2	3 20 37
e	3 28 27
eL	3 30 27

$\Delta_{PSKS-H} = 139°.3$
$\Delta_{meas} = 139°.3$

Ann Arbor, (By telegram, courtesy Science Service)

PR	2h57m48s
	3 02 36
i(PSKS)	3 08 06
i	3 11 36
(SR_2)	3 22 12
	3 28 54
L	3 39 24

$\Delta_{PR_1-H} = 141°.4$
$\Delta_{meas} = 140°.5$